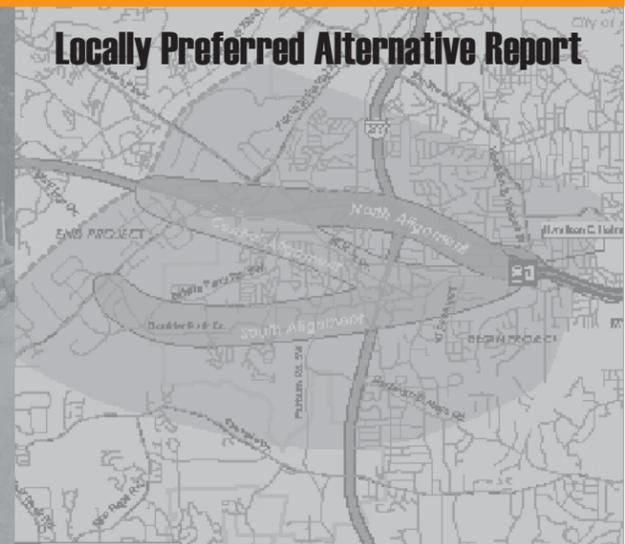




CHAPTER THREE: IDENTIFICATION AND DEVELOPMENT OF ALTERNATIVES



Locally Preferred Alternative Report

CHAPTER THREE: IDENTIFICATION AND DEVELOPMENT OF ALTERNATIVES



Alternatives for the study were developed through a two-tiered analysis and development process. Initially, 24 build alternatives and the TSM alternative were developed based on prior study and public stakeholder input. The build alternatives fall into three general areas outlined below:

- Northern Corridor (generally along I-20): suggested by local officials and stakeholders to take advantage of the existing I-20 transportation corridor.
- Central Corridor (generally along MLK Jr. Drive): identified in the 2025 Regional Transportation Plan and studied extensively, most recently in the MARTA Three Corridors Study.
- Southern Corridor (generally along the CSX rail line and Boulder Park Drive): the original corridor envisioned under the MARTA Referendum proposed system with an extension directly to Fulton Industrial Boulevard.

The original set of alternatives was reduced to 9 during the Basic Screening Evaluation. The basic screening process used 14 qualitative and quantitative performance measures to evaluate all alternatives. This evaluation, along with the resulting ratings for each of the alternatives, are described further in the Basic Screening Report.

Once the basic screening was concluded, a more detailed evaluation of the 9 alternatives including conceptual layouts of alignments and identification of potential station locations, were decided for each alternative. This process resulted in the creation of 6 sub-alternatives. The sub-alternatives are described briefly below:

- For heavy rail in the Northern Corridor, two alternatives (HRT1 and HRT2) were identified in an effort to possibly reduce impacts to a residential area.
- The Central Corridor generally runs along MLK Jr. Drive. For heavy rail, the initial alignment identified two distinct options, one north of MLK Jr. Drive (HRT 3a) and one to the south (HRT 4a).
- Two different configurations were identified along MLK Jr. Drive for BRT: one using curb bus lanes (BRT 2), and the other using median bus lanes (BRT 3).
- The initial set of alternatives had a maximum of two intermediate stations. However, due to the nature of BRT operations, and the resulting small station size, an alternative with three intermediate stations was added to the evaluation.

Table 3.1 provides a list of all alternatives with a breakdown of those eliminated during the basic screening as well as those that advanced to detailed screening. The Southern Corridor alternatives were eliminated from further consideration due to the likelihood of environmental impacts, while all LRT alternatives were removed due to incompatibilities with the existing transit system and costs. Figures 3.1- 3.3 graphically illustrate the primary 15 build alternatives and the general corridors.

The intent of this section is to provide detailed descriptions of the physical features of all 15 build alternatives and the TSM, including alignment and stations and the proposed rail and bus operating plans. Information for both the highway and transit networks will also be discussed in an effort to show how needed and planned improvements can potentially impact this study. Aerial views of each alternative are provided in the end of this chapter as Plans A to O.

Table 3.1 : Alternatives Considered

Corridor	Mode	Station Locations	Map Color	Source			Advance Detailed Eval.	Alignment Variations Added	Alt. Designation					
				Proj. Team	Public	Prev. Study								
North Corridor	LRT	FIB Only	Yellow		X		No							
		MLK/I-20 & FIB	Yellow		X		No							
	HRT	FIB Only	Orange		X		Yes							
		MLK/I-20 & FIB	Orange		X		Yes	Line Under Linkwood Dr.	HRT 1					
		Relocate Holmes Station & use north side of I-20	Not on map		X		No	Line over Linkwood Dr.	HRT 2					
	BRT	MLK/I-20 & FIB	Red	X			Yes	HOV: FIB Station Only	BRT 1					
HOV: FIB & MLK Stations								BRT 1a						
South Corridor	LRT	FIB Only	White	X			No							
		MLK/I-20 & FIB	White	X			No							
	HRT	FIB Only	Lt. Blue	X			No							
		MLK/I-20 & FIB	Lt. Blue	X			No							
BRT	MLK/I-20 & FIB	Magenta	X			No								
Central Corridor	LRT	FIB Only	Purple	X			No							
		MLK/I-20 & FIB	Purple	X			No							
		MLK/Fairburn & FIB	Purple	X			No							
		MLK/I-285 & FIB	Purple	X			No							
		MLK/I-285, MLK/I-20 & FIB	Purple	X			No							
	HRT	FIB Only	Green				X	No						
											MLK/I-20 & FIB	Green		
		MLK/Fairburn & FIB	Green			X	X	Yes	Line north side of MLK	HRT 3a				
									Line south side of MLK	HRT 4a				
									Tunnel from I-285 to I-20 under MLK	HRT 5				
		MLK/I-285 & FIB	Green				X	Yes	Line north side of MLK	HRT 3				
	Line south side of MLK								HRT 4					
	BRT	MLK/I-20 & FIB	Dk.Blue	X			Yes		BRT 3b					
								MLK/Fairburn & FIB	Dk.Blue	X		Yes		BRT 3d
								MLK/I-285 & FIB	Dk.Blue	X		Yes	Station @ Lynhurst Dr.	BRT 3c
MLK/I-285, MLK/I-20 & FIB		Dk.Blue	X			Yes	BRT	3a						
							Add Fairburn Station, MLK median bus lanes	BRT 3						
							Add Fairburn Station, MLK curbside bus lanes	BRT 2						
TSM	BUS	none					Yes		TSM					

Figure 3.1: Light Rail Transit Alternatives

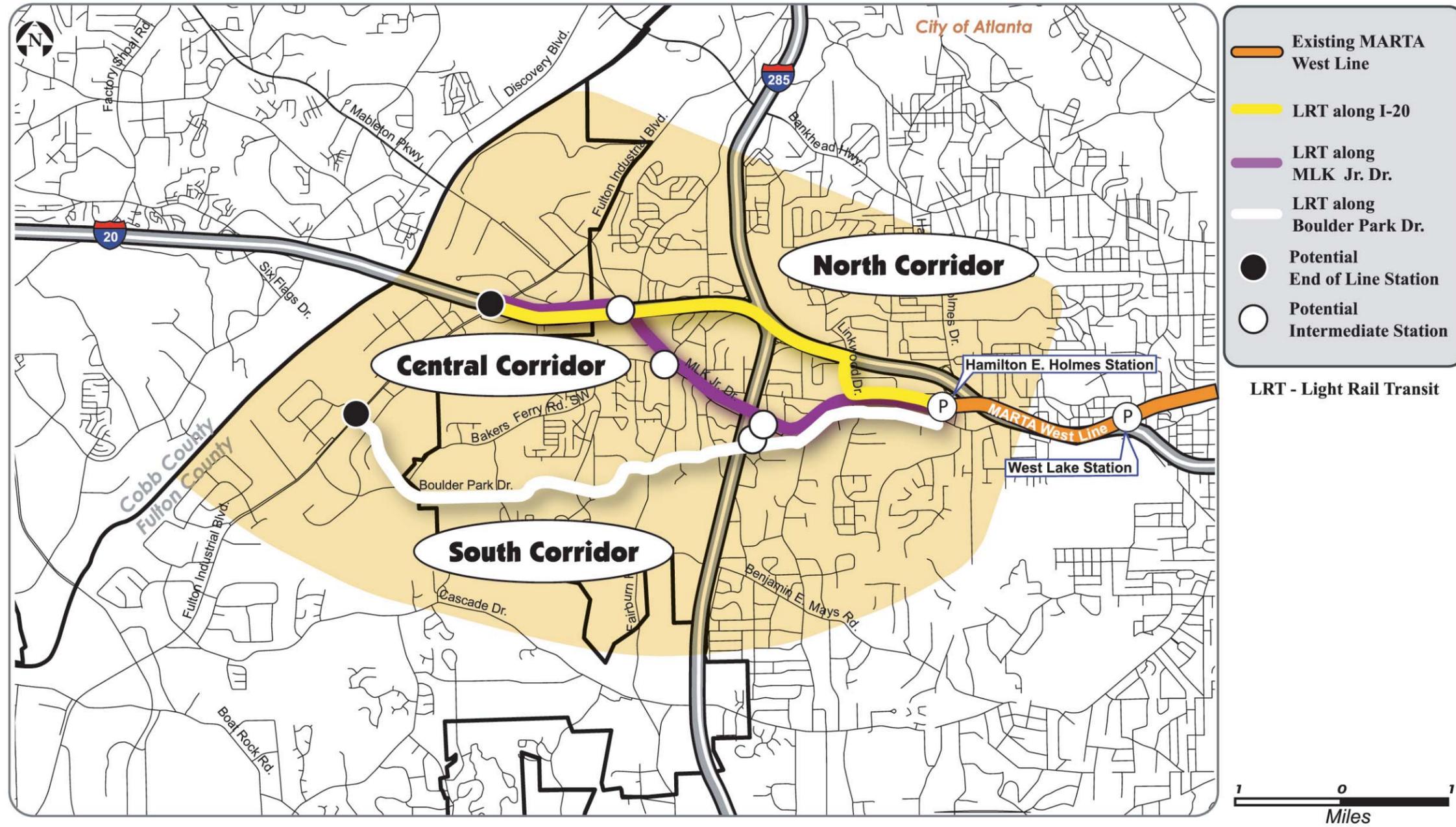


Figure 3.2: Bus Rapid Transit Alternatives

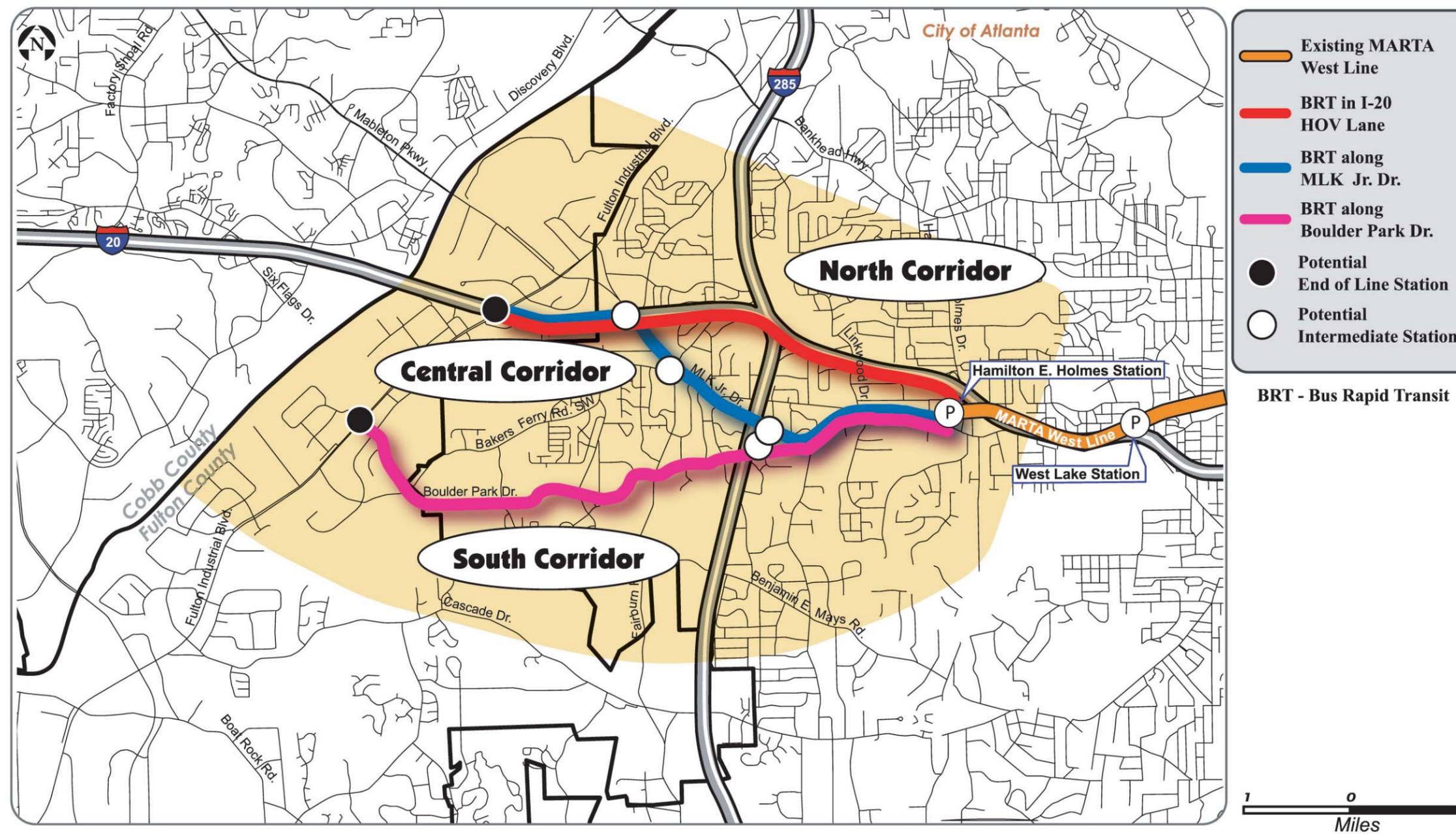
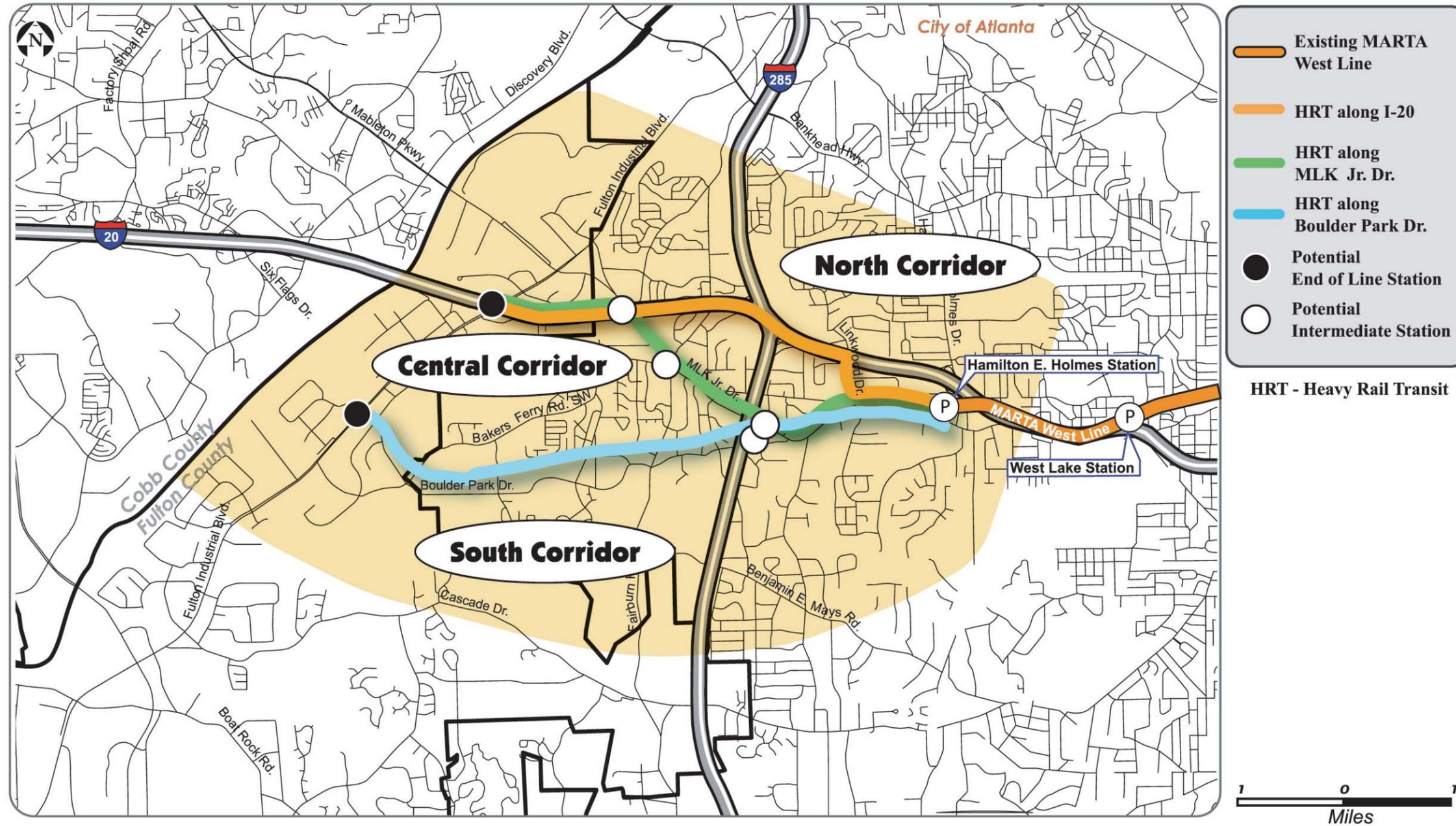


Figure 3.3: Heavy Rail Transit Alternatives



3.1 Bus Rapid Transit (BRT) Alternatives

Eight BRT alternatives have been identified for consideration as the LPA. All of the BRT alternatives are located within the Northern Corridor along the HOV lanes of I-20 and the Central Corridor, primarily along MLK Jr. Drive. This section provides a description of each alternative including proposed alignment, potential station locations, and operating plans.

3.1.1 Common Elements

The background highway network for all BRT alternatives, and the transit networks outside the study corridor, are the same as the TSM Alternative. Bus operating plans are based on the TSM network, with route modifications to allow many routes to use the proposed BRT facilities for faster and more reliable access to Hamilton E. Holmes MARTA Station. Operating plans for each alternative are described below, however, greater detail is provided in the Transit Operations Plan Report.

3.1.2 BRT North Corridor Alternatives

Two BRT alternatives, BRT 1 and BRT 1a, within the Northern Corridor make use of the proposed HOV lanes on I-20 to link the Fulton Industrial area to Hamilton E. Holmes MARTA Station. New HOV only ramps will be added at either end to facilitate use of the HOV lanes by buses. The alternatives have also been defined for this corridor based on the presence of an intermediate station. Major features are described below.

BRT 1

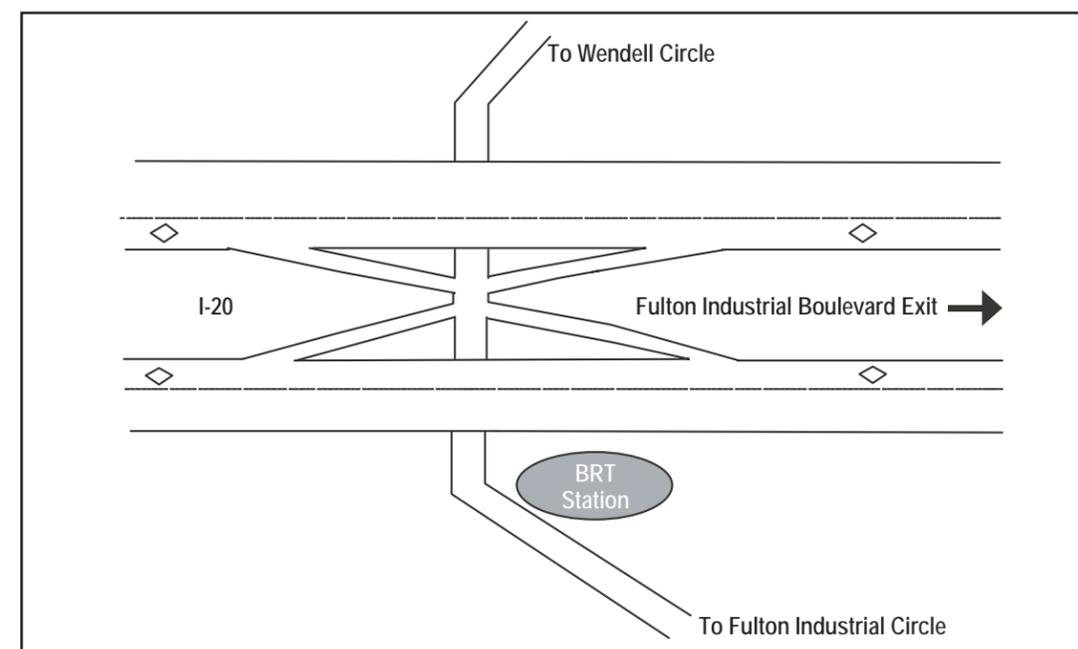
This alternative has one station at the end of the line west of Fulton Industrial Boulevard.

Alignment & Stations

The primary elements of this alternative are the proposed HOV lanes along I-20. HOV lanes west of I-285 have a projected completion date of 2008, whereas, between I-285 and Hamilton E. Holmes MARTA Station the projected completion date is 2016. It is important to note that lanes between I-285 and Hamilton E. Holmes Station could potentially be accelerated if associated with a major transit project. Detailed descriptions of this alternative are provided below. A drawing for this alternative is illustrated as Plan A in the back of this chapter.

A HOV interchange is proposed on I-20, west of Fulton Industrial Boulevard. The RTP already assumes a partial access HOV interchange at this location, with access to and from the west. For this alternative, this would be a bi-directional HOV interchange for buses and carpools, located 1/3 mile west of Fulton Industrial Boulevard with a BRT station immediately adjacent to the interchange. Buses operating along I-20 in either direction would be able to exit via one ramp, make a stop at the station, and then quickly get back on the HOV lanes. Wendell Drive and Fulton Industrial Circle would provide local street access to the HOV interchange from the north and south sides of I-20. A potential configuration for the interchange is shown conceptually in Figure 3.4. The Fulton Industrial Boulevard Station is expected to accommodate 8 bus bays and approximately 600 cars.

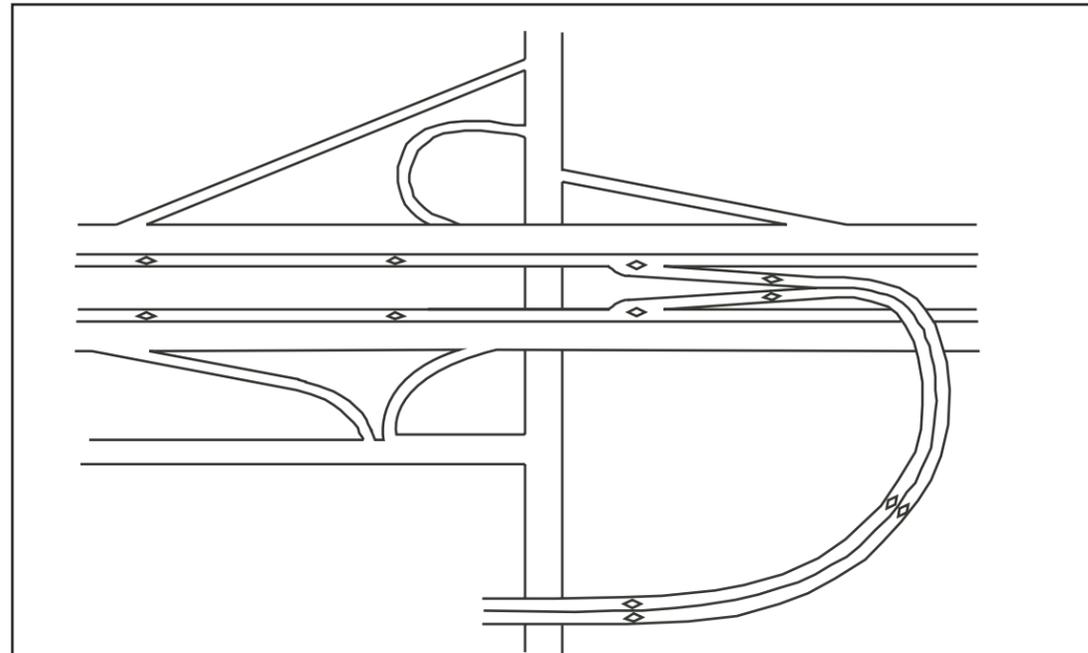
Figure 3.4: BRT Station and Potential I-20/HOV Interchange Configuration West of Fulton Industrial Boulevard



- HOV access ramps are proposed at Hamilton E. Holmes Drive. Figure 3.5 provides a proposal for flyover ramps from the HOV lanes, immediately east of the I-20/Hamilton E. Holmes Drive interchange. These flyover ramps could provide direct grade-separated access to/from the Hamilton E. Holmes MARTA Station bus intermodal area. This would require re-aligning I-20 to provide space in the median for the ramp. Another option includes reconstructing the I-20/Hamilton E. Holmes Drive interchange with a median along I-20 HOV access ramps to and from I-20 West would be constructed in the newly created median for direct access to Hamilton E. Holmes Drive. The increased bus activity at the station would require expansion of the bus intermodal area with 4 new bus bays.
- The alternative assumes signal priority improvements for buses along MLK Jr. Drive as a means to improve transit travel times for those routes that would not use the I-20 HOV lanes. Peak period, peak direction bus travel times are anticipated to degrade by 40 percent between now and 2025. Signal priority improvements will help offset bus travel time impacts resulting from the increased congestion. Bus stop amenity enhancements (i.e. canopied shelters) are also proposed at major stops.
- Signal priority improvements are proposed along Fulton Industrial Boulevard as a means to improve bus travel times, along with bus stop amenity enhancements at major stops. Peak period, peak direction bus travel times are anticipated to worsen by 40 percent on Fulton Industrial Boulevard by 2025 without any signal priority improvements.



Figure 3.5: Potential Interchange Configuration for I-20 and Hamilton E. Holmes MARTA Station



Operations

Bus routes would be modified to take advantage of the faster speeds and higher reliability of the HOV lanes. Bus routes serving Fulton Industrial Boulevard and portions of Cobb and Douglas Counties would get onto the BRT facility, thus avoiding an extra transfer between local and line haul service. The following table lists the routes that would use the BRT/HOV facilities; more details are available in the Transit Operations Plan Report.

BRT 1a

This alternative includes all elements described for BRT 1 with the addition of a full HOV interchange at I-20 and MLK Jr. Drive. The HOV interchange configuration is similar to what is shown in Figure 3.4 for the proposed interchange west of Fulton Industrial Boulevard. A MLK Jr. Drive/I-20 BRT station with 100 parking spaces is proposed at the new interchange, with approximately 100 parking spaces. A drawing for this alternative is illustrated in Plan B.

Bus service would be very similar to BRT 1, with the following changes to MARTA routes:

- MARTA routes 73B, 73C, 73D will operate along the I-20 HOV lanes and make a mid-route stop at MLK Jr. Drive/I-20 BRT station. Buses will travel down MLK Jr. Drive via the HOV offramp, make a stop at the MLK/I-20 Station, and then return to I-20 via the HOV on-ramp. MARTA route 73A will provide frequent local stop service on MLK Jr. Drive at the new station.
- MARTA Route 57 – Collier Heights is modified to include a stop at the new MLK Jr. Drive/I-20 BRT Station.

- MARTA Route 162 – Wendell Drive includes a connection to the new MLK Jr. Drive/I-20 BRT Station via a bus stop at MLK Jr. Drive and Bolton Road.

Table 3.2 : BRT 1 Bus Operating Plan

Bus Route		Peak Headway	Notes
Fulton Industrial Blvd. Station			
M73A	Holmes-FIB/Patton via MLK	7.5	Via MLK Dr. to Holmes Sta.
M73B	FIB to Great SW	15	Via I-20 HOV to Holmes Sta.
M73C	FIB to Boat Rock	30	Via I-20 HOV to Holmes Sta.
M73D	FIB to Westgate	30	Via I-20 HOV to Holmes Sta.
M162	Wendell Drive	30	End-of-Line
CO209	Cumberland/Fulton Ind.	20	Via I-20 HOV to Holmes Sta.
CO216	West Cobb	30	Via I-20 HOV to Holmes Sta.
CO217	W. Cobb Parkway/Floyd Rd.	30	Via I-20 HOV to Holmes Sta.
DO150	Douglasville Local	20	End-of-line
GR462	Douglasville Express	60	Via I-20 HOV to Holmes Sta.
GR470B	Douglasville Express	Seasonal	Holmes Sta.
Other Routes Using I-20 HOV lanes:			
M201	Six Flags	60	Via I-20 HOV to Holmes Sta.
CO70	Holmes – Cumberland	60	Holmes Sta.
GR460	Douglasville MMC express	30	Downtown
GR461	Douglasville/Hwy 5 express	30	Downtown
GR470A	Paulding/Hwy 6 express	30	Downtown
Routes Using MLK Drivewith Signal Priority			
M73A	Holmes-FIB/Patton via MLK	7.5	Holmes Sta.
M160	Boulder Park	30	Holmes Sta.
M161	Bakers Ferry Road	30	Holmes Sta.
M165	SW Community Hospital	20	Holmes Sta.

M - MARTA, CO - Cobb Community Transit, DO - Douglas County, GR - GRTA

3.1.3 Central Corridor BRT Alternatives

These alternatives include a combination of a barrier-separated busway and dedicated bus lanes along MLK Jr. Drive and Shirley Drive, between Hamilton E. Holmes MARTA Station and Fulton Industrial Boulevard. Several alternatives are proposed based on the style of dedicated bus lanes and the number and location of intermediate stations.

BRT 2 and 3

These alternatives are significantly similar in both design and operating characteristics. The following sections will discuss these alignment and operating characteristics. Drawings of these alternatives are provided as Plans C and D.

Alignments

Minor differences between BRT 2 and BRT 3 are described below:

- Between the Hamilton E. Holmes Station and Lynhurst Drive, the busway would be constructed north of MLK Jr. Drive (between MLK and the railroad). This may require some reconstruction of MLK Jr. Drive. A BRT station is proposed at MLK Jr. Drive and Lynhurst Drive.

- Between Lynhurst Drive and I-20, exclusive BRT lanes would be constructed along MLK Jr. Drive. In BRT 2, the bus lanes would be curb lanes, which would have to be shared with right-turning traffic. In BRT 3 the bus lanes would be median lanes. The right-of-way for BRT 3 would be slightly larger, due to the need to locate BRT station platforms within the street right-of-way. Signal priority would be used to speed up travel times for buses.
- A BRT station is proposed at Fairburn Road.
- At MLK and I-20, buses would turn onto a widened extension along Shirley Drive. A BRT station is proposed on Shirley Drive, west of MLK Jr. Drive. Buses would operate in reserved bus lanes along Shirley Drive to Fulton Industrial Boulevard.
- A BRT station is proposed at Fulton Industrial Boulevard and Shirley Drive. A bus-only bridge would be provided across Fulton Industrial Boulevard to Fulton Industrial Circle for buses continuing west to Douglas or Cobb Counties via the proposed I-20 HOV interchange.

Signal priority improvements are proposed along Fulton Industrial Boulevard as a means to improve transit travel times, along with bus stop amenity enhancements at major stops.

Stations

Four new stations are proposed for both alternatives including 3 intermediate stations and a final stop at the Fulton Industrial Boulevard Station. The intermediate stations: MLK/Shirley/I-20, Fairburn Road/MLK, and Lynhurst Drive/MLK, would be located along the bus lanes. They would primarily be walk-in stations without parking facilities or provisions for turn-around of feeder buses. The Fulton Industrial Boulevard Station would be located in the southeast quadrant of the I-20 interchange. It would have approximately 600 parking spaces and 8 bus bays, and occupy about 10 acres, which is smaller than the station associated with the HRT alternatives. Demand for parking at a BRT station is expected to be lower since many patrons are expected to continue driving to Hamilton E. Holmes Station in order to avoid making an additional transfer.

- For BRT 2, with curb bus lanes, the stations will consist of canopy structures on widened sidewalks on both sides of the street, with a provision for preboarding fare collection.
- For BRT 3, with median bus lanes, the street will be widened at and near stations to allow boarding platforms with canopies to be built between the bus lanes and regular traffic lanes.
- The Lynhurst Drive/MLK Station would likely be located in the separate busway segment between MLK Drive and the CSX rail line, rather than within MLK Jr. right-of-way.
- Expanded bus facilities at the Hamilton E. Holmes Station will be necessary to accommodate the increased level of bus service and the change in bus arrival patterns.

Operations

Bus routes in the corridor will be modified to take advantage of the above noted facility improvements. Many of the MARTA routes will use the new busway/bus lanes for faster access to Hamilton E. Holmes Station. Routes 73A, 164, and 170 will continue to make local stops along MLK Jr. Drive to provide access to residents living beyond walking distance of the stations.

The Cobb Community Transit and Douglas Transit routes that used Fulton Industrial Station and the I-20 BRT in Alternative BRT 1 will use the Fulton Industrial Station and the MLK busway/bus lanes in BRT 2 and BRT 3. The GRTA routes will continue to use the I-20 HOV lanes to access Hamilton E. Holmes Station or downtown Atlanta.

BRT bus travel times along the busway facility have been estimated for BRT 3 by assuming free-flow speeds, with minimal delay at signalized intersections (due to signal priority) and minimal dwell time at stations (due to preboarding fare collection). The estimated travel time from Hamilton E. Holmes MARTA Station to the proposed Fulton Industrial Station is 10 minutes and 8 seconds, compared to the existing 15 minute travel time on Route 73. Travel times from Hamilton E. Holmes Station to intermediate stations are as follows:

- Lynhurst/MLK Jr. Drive (2:24)
- Fairburn Road/MLK Jr. Drive (5:28)
- MLK Jr. Drive/I-20 (7:41)

Table 3.3 summarizes the bus operating plan in the corridor. Additional details are available in the Transit Operations Plan Report.

Table 3.3 : Bus Operating Plan for BRT 2 & BRT 3

Bus Route	Peak Headway	Notes
Fulton Industrial Blvd. Station		
M-73A	Holmes-FIB/Patton via MLK	7.5 via MLK to Holmes Sta.
M-73B	FIB to Great SW	15 via MLK busway to Holmes Sta.
M-73C	FIB to Boat Rock	30 via MLK busway to Holmes Sta.
M-73D	FIB to Westgate	30 via MLK busway to Holmes Sta.
CO209	Cumberland/Fulton Ind.	20 via MLK busway to Holmes Sta.
CO-216	West Cobb	30 via MLK busway to Holmes Sta.
CO-217	W. Cobb Parkway/Floyd Rd.	30 via MLK busway to Holmes Sta.
DO-150	Douglasville local	20 via MLK busway to Holmes Sta.
Routes Entering MLK Bus Lanes at Intermediate Points:		
M-161	Bakers Ferry Road	30 via MLK busway, Fairburn Rd. to Holmes Sta.
M-165	SW Community Hospital	20 via MLK busway, Fairburn Rd. to Holmes Sta.
M-160	Boulder Park	30 via MLK busway, Brownlee Rd. to Holmes Sta.
Routes Using I-20 HOV lanes:		
CO-70	Holmes - Cumberland	60 Holmes Sta.
GR 460	Douglasville MMC express	30 downtown
GR 461	Douglasville/Hwy 5 express	30 downtown
GR 462	Douglasville express	60 via I-20 HOV to Holmes Sta.
GR 470A	Paulding/Hwy. 6 express	30 downtown
GR 470B	Douglasville express	60 via I-20 HOV to Holmes Sta.

The bus operating plan results in substantial service along the BRT busway. Ten bus routes will use the busway to reach Holmes Station. The combined schedules of the 10 routes include 25 bus trips in the peak hour with headways averaging 2.4 minutes. During off peak hours, 16 buses per hour, or a bus about every 4 minutes will access Holmes MARTA Station.

BRT 3a, 3b, 3c, and 3d

All alternatives have the same alignment and median bus lanes as BRT 3, but with fewer intermediate station locations. BRT 3a has two intermediate stations, compared to three for BRT 3. The other three alternatives have a single intermediate station, at 3 different locations. Drawings of each alternative are provided in Plans E, F, G, and H.

The operating plans are very similar to the BRT 3 operating plan, with the exception of fewer station stops and faster travel times. The distinguishing features of each of the 4 variations are described below:

- **Alternative BRT 3a** - Two intermediate stations are provided at Lynhurst Drive/MLK, and in the area between Fairburn Road and I-20 along MLK Drive. Although a station is not located at Fairburn Road, it is assumed that buses can still enter/exit the BRT facility at this intersection. This change has a slight impact in BRT bus travel times along the busway facility. The elimination of the station reduces the full busway travel time by 34 seconds.
- **Alternative BRT 3b** - A single intermediate station is located in the area between Fairburn Road and I-20 along MLK Drive. This alternative has a total estimated travel time just over 9 minutes which is approximately 1 minute faster than the estimated time for BRT 3.
- **Alternative BRT 3c** - This alternative has a total estimated travel time of 9 minutes with a single intermediate station at Lynhurst Drive/MLK.
- **Alternative BRT 3d** - This alternative also has a total estimated travel time of 9 minutes with an intermediate station located at Fairburn Road/MLK.

3.2 Heavy Rail Alternatives

Two groups of MARTA heavy rail extension alternatives have been defined following the North Corridor along I-20, and primarily along MLK Drive within the Central Corridor.

3.2.1 Common Elements

The background highway network for all HRT alternatives and transit networks outside the study corridor is the same as the TSM Alternative.

Rail operating plans for all of the heavy rail alternatives are essentially the same. The trains, which currently terminate at Hamilton E. Holmes Station, will continue to Fulton Industrial Boulevard. Station adding about 7 minutes to the run time (run times for each alternative are listed in the individual descriptions below). Therefore, 2 additional 6 car trains are required to operate the service. The 12 additional cars, plus 2 spare cars, will be stored at the existing Avondale Yard.

Bus operating plans will be based on the TSM bus network, with modifications to allow buses to connect to the Fulton Industrial Boulevard Station or an intermediate station as opposed to Holmes MARTA Station. Details are described below, and in the Transit Operations Plan Report. The reduction in bus activity and parking demand at Holmes Station will allow some of those facilities to be reused for other purposes, such as transit-oriented development.

3.2.2 North Corridor HRT Alternatives

Two alternatives, HRT 1 and HRT 2 have been defined based on the profile of the alignment through the Delmar-Westhaven neighborhood. These alternatives follow the Northern Corridor along I-20, with stations at MLK Drive/I-20 and Fulton Industrial Blvd./I-20. Major features of the alternative are described below. Drawings are provided as Plan I and J.

HRT 1

A retained cut section through the Delmar-Westhaven neighborhood distinguishes this alternative from HRT 2. Modest alignment differences also exist between the two alternatives, but they do not affect running time or costs.

Alignments

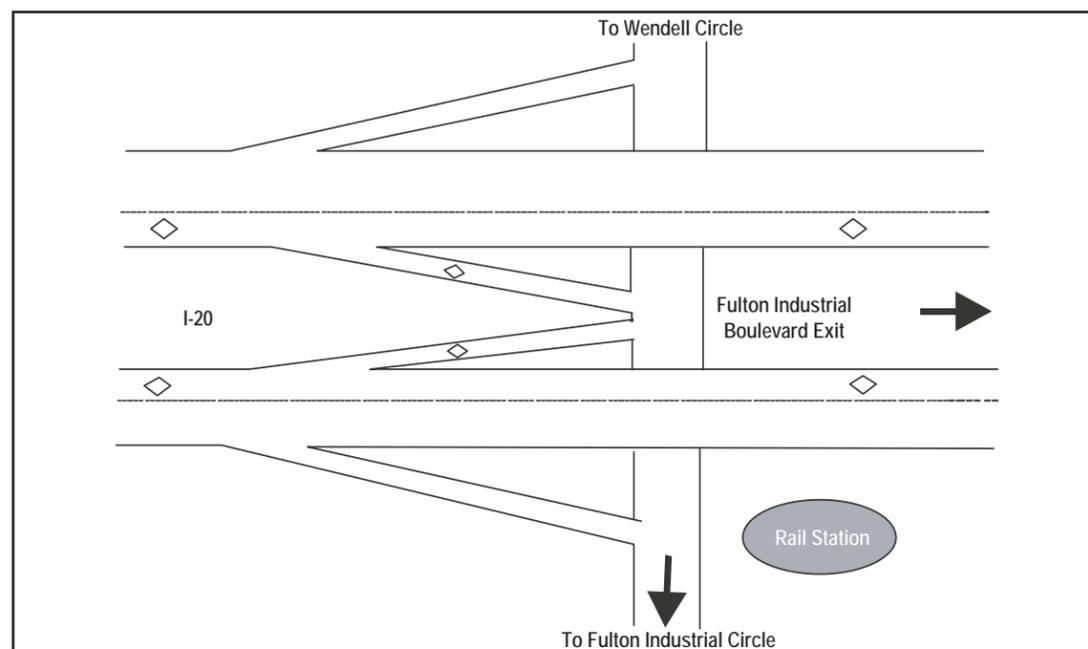
The rail line extends from the existing tail track west of the Holmes MARTA Station. The alignment runs between the CSX freight tracks and Martin Luther King Jr. Drive to Linkwood Road. It then descends and turns to the north, passing under Linkwood, the CSX, and Delmar Lane. The track continues in a retained cut through a wooded area behind the houses on the west side of Linkwood and passes under Tribble Lane. It then turns west along the south side of I-20, crossing over the south legs of the I-285/I-20 interchange on aerial structure, and continuing along the south side of I-20, passing through the yards in back of the houses on the north side of Argus Circle. The alignment in this area provides for the proposed widening of I-20 and additional HOV lanes. The alignment along I-20 includes a combination of cut and fill, and retained cut and fill depending on the topography (see the plan and profile drawings for more details). The line crosses under Fairburn Road and then over MLK Jr. Drive to an intermediate station just west of MLK Drive. The alignment continues between I-20 and Shirley Drive to Fulton Industrial Blvd.

Stations

The MLK/I-20 Station will be located on elevated structure (similar to the Holmes Station) in the vacant southwest quadrant of I-20 and MLK Drive. The station will occupy approximately six acres with 300 parking spaces and nine bus bays. Vacant land would remain available for potential transit-oriented development.

The Fulton Industrial Boulevard Station located in the southwest quadrant of the I-20 interchange, will be elevated station. The station, occupying approximately 39 acres, would have approximately 2000 parking spaces and 12 bus bays (an alternative plan with structured parking and less land could be considered). A partial interchange is proposed west of Fulton Industrial Boulevard for access to and from the station. This interchange will provide access from the I-20 single occupant vehicle (SOV) and HOV lanes. The SOV lanes will be added to the proposed HOV interchange identified in the RTP. A potential configuration for this interchange is shown in Figure 3.6.

Figure 3.6 : Potential Interchange Configuration For Station Access West of Fulton Industrial Boulevard



Operations

The 3.92-mile extension from Holmes Station to Fulton Industrial Boulevard is estimated to add 6.7 minutes to MARTA's current one-way run time on the east-west line. The time from Holmes Station to the MLK/I-20 Station is expected to be 4.6 minutes. The same times apply to Alternative HRT 2. Many bus routes will be modified to feed into the closest rail station. Detailed maps and tables are included in the Transit Operations Plan Report. The following table indicates the routes that feed into each station. The areas covered by most routes would be essentially the same as in the TSM Alternative. This listing also applies to Alternative HRT 2.

HRT 2

This alternative is similar to HRT 1. It follows the Northern Corridor, with stations at MLK Drive/I-20 and Fulton Industrial Drive. The only difference is the profile from just east of Linkwood Drive to west of MLK Drive.

Instead of crossing under the Linkwood/Delmar/CSX intersection, the line climbs onto elevated structure while turning north, and then crosses over all three facilities. It then continues north behind the houses on the west side of Linkwood on retained fill, and crosses over Tribble Lane. The line then turns west while crossing over the eastbound lanes of I-20, and continues between the eastbound and westbound lanes of I-20. Approaching the I-285 interchange, the line re-crosses eastbound I-20, and then crosses I-285 on elevated structure. It continues along the south side of I-20, passing under Fairburn Road and through the back yards of houses along Argus Circle. It continues in cut and cover and crosses under MLK Drive to a station just west of MLK. West of here

Table 3.4 : Bus Operating Plan for HRT 1& HRT 2

Bus Route	Peak Headway
Fulton Industrial Blvd. Station	
M-73A Holmes-FIB/Patton via MLK	7.5/15
M-73B FIB to Great SW	15
M-73C FIB to Boat Rock	30
M-73D FIB to Westgate	30
M-162 Wendell Drive	30
CO-209 Cumberland/Fulton Ind.	20
CO-216 West Cobb	30
CO-217 W. Cobb Parkway/Floyd Rd.	30
DO-150 Douglasville local	20
GR 460 Douglasville MMC express	30
GR 461 Douglasville/Hwy 5 express	30
GR 462 Douglasville express	60
GR 470A Paulding/Hwy. 6 express	30
GR 470B Paulding/Hwy. 6 express	60
MLK Drive/I-20 Station	
M-56 Adamsville	15/30
M-57 Collier Heights	15
M-73A Holmes-FIB/Patton via MLK	15
M-161 Bakers Ferry Road	30
M-162 Wendell Drive	30
M-165 SW Community Hospital	20
Hamilton E. Holmes Station (study area routes only)	
M-56 Adamsville	30
M-57 Collier Heights	15
M-66 Lynhurst-Greenbriar	30
M-73A Holmes-FIB/Patton via MLK	15
M-160 Boulder Park	30
M-162 Wendell Drive	30
M-164 Kimberly - Country Squire	30
M-170 Brownlee - Ben Hill	30
CO-70 Holmes - Cumberland	60

the alignment is very similar to HRT 1. The stations are identical to Alternative HRT 1, except that the MLK Drive/I-20 Station is in a retained cut (similar to Lindbergh Center Station).

The rail and feeder bus operating plans for HRT 2 are the same as for Alternative HRT 1.

3.2.3 Central Corridor HRT Alternatives

These alternatives generally follow along MLK Drive to the I-20 overpass where they turn west along the south side of the interstate, cross Fulton Industrial Boulevard, and terminate at a station. Four alternatives have been defined based on variations in alignment and the location of the intermediate station. Major features of the alternatives are described below.

HRT 3

This alternative is aligned on the north side of MLK Jr. Drive from the Lynhurst Drive to Adamsville Drive with an intermediate station location at MLK Jr. Drive/I-285. A drawing of this alternative is included as Plan K.

Alignment

The rail line extends from the existing tail track west of Hamilton E. Holmes Station. The alignment

runs between the CSX freight tracks and Martin Luther King Jr. Drive. It ascends to cross over Linkwood Drive and then continues on retained fill between the CSX track and MLK Drive. It then crosses over the CSX near where the railroad crosses over MLK Drive. An elevated station is located on the north side of MLK Drive just east of I-285. The elevated line continues over I-285 and then turns slightly to the northwest, so that it passes behind the buildings on the north side of MLK Drive. It crosses over Delmar Lane, Hemphill School Road, and Fairburn Road. It then turns toward the west and crosses diagonally over MLK Drive near Adamsville Drive, and passes through the large vacant parcel on the southwest quadrant of I-20 and MLK Drive. It then runs along the south side of I-20 before crossing over FIB to the same station location as in HRT 1 and 2.

Stations

The MLK/I-285 Station platforms will be located on elevated structure in the northeast quadrant of I-285 and MLK Drive, directly across from the northbound off-ramp from I-285. The station will have approximately 500 parking spaces and 8 bus bays along 10 acres. Most of the access facilities will likely be in the mostly vacant triangle between I-285, MLK Drive and the CSX track. The elevated Fulton Industrial Station will also be located in the southwest quadrant of the I-20 interchange. The station will occupy approximately 39 acres including 12 bus bays. A partial interchange is proposed west of Fulton Industrial Boulevard for SOV and HOV access to/from station.

Operations

The rail operating plan is essentially the same as the other HRT alternatives. The 3.96 mile extension to Fulton Industrial Boulevard is estimated to add 6.5 minutes to MARTA's current one-way run time on the east-west line. The time from Holmes Station to the MLK/I-285 Station will be 2.7 minutes. The same times apply to Alternative HRT 4.

Many bus routes will be modified to feed into the closest rail station. Detailed maps and tables are included in the Transit Operations Plan Report. Signal priority improvements will be provided for buses along Fulton Industrial Boulevard.

The following table shows the routes that will feed into each station. The areas covered by most routes will be essentially the same as in the TSM Alternative. This table also applies to Alternative HRT 4.

HRT 3a

This alternative follows the same horizontal and vertical alignment as described above for Alternative HRT 3. However, the intermediate station is relocated to MLK Jr. Drive near Fairburn Road in Adamsville, instead of at I-285. A drawing of this alternative is provided as Plan L.

Stations

One potential location for the Adamsville Station is on the northwest corner of the Fairburn Road/MLK Drive intersection. An option exists to shift the station further west, on the southwest side of MLK Drive to connect with the large vacant parcel at I-20/MLK. The elevated station, occupying roughly 6 acres, will have approximately 300 parking spaces and 8 bus bays. The Fulton Industrial Blvd. Station will be identical to the other HRT alternatives.

Table 3.5 : Bus Operating Plan for HRT 3 & HRT 4

Bus Route	Peak Headway
Fulton Industrial Blvd. Station	
M-73A Holmes-FIB/Patton via MLK	7.5/15
M-73B FIB to Great SW	15
M-73C FIB to Boat Rock	30
M-73D FIB to Westgate	30
M-162 Wendell Drive	30
CO-209 Cumberland/Fulton Ind.	20
CO-216 West Cobb	30
CO-217 W. Cobb Parkway/Floyd Rd.	30
DO-150 Douglasville local	20
GR 460 Douglasville MMC express	30
GR 461 Douglasville/Hwy 5 express	30
GR 462 Douglasville express	60
GR 470A Paulding/Hwy. 6 express	30
GR 470B Paulding/Hwy. 6 express	60
MLK Drive/I-285 Station	
M-56 Adamsville	15/30
M-66 Lynhurst-Greenbriar	30
M-73A Holmes-FIB/Patton via MLK	15
M-160 Boulder Park	30
M-161 Bakers Ferry Road	30
M-164 Kimberly - Country Squire	30
M-165 SW Community Hospital	20
M-170 Brownlee - Ben Hill	30
Hamilton E. Holmes Station (study area routes only)	
M-56 Adamsville	30
M-57 Collier Heights	15
M-73A Holmes-FIB/Patton via MLK	15
M-162 Wendell Drive	30
M-170 Brownlee - Ben Hill	30

Operations

The rail operating plan is essentially the same as the other HRT alternatives. The 3.96 mile extension to Fulton Industrial Boulevard is estimated to add 6.6 minutes to MARTA's current one-way run time on the east-west line. The travel time from Holmes Station to the Adamsville Road Station will be 3.7 minutes. The same times apply to Alternative HRT 4a.

Bus routes will be modified as deemed necessary to feed into the closest rail station. Detailed maps and tables are included in the Transit Operations Plan Report. Signal priority improvements will be provided for buses along Fulton Industrial Boulevard.

Table 3.6 identifies which routes would feed into each station. The areas covered by most routes will be essentially the same as the TSM Alternative. This table also applies to Alternative HRT 4a. Table 3.6 - Bus Operating Plan - HRT 3a & HRT 4a

HRT 4

Alternative HRT 4 will follow MLK Jr. Drive, as do HRT 3 and 3a. However, the alignment from Lynhurst Drive to Adamsville Drive is on the south side of MLK Drive, as opposed to the north side. The stations are located at MLK Drive/I-285 and Fulton Industrial Blvd./I-20. A drawing for this alternative is included as Plan M.

Table 3.6 : Bus Operating Plan for HRT 3a & HRT 4a

Bus Route	Peak Headway
Fulton Industrial Blvd. Station	
M-73A Holmes-FIB/Patton via MLK	7.5/15
M-73B FIB to Great SW	15
M-73C FIB to Boat Rock	30
M-73D FIB to Westgate	30
M-162 Wendell Drive	30
CO-209 Cumberland/Fulton Ind.	20
CO-216 West Cobb	30
CO-217 W. Cobb Parkway/Floyd Rd.	30
DO-150 Douglasville local	20
GR 460 Douglasville MMC express	30
GR 461 Douglasville/Hwy 5 express	30
GR 462 Douglasville express	60
GR 470A Paulding/Hwy. 6 express	30
GR 470B Paulding/Hwy. 6 express	60
Fairburn Road Station	
M-56 Adamsville	30
M-73A Holmes-FIB/Patton via MLK	15
M-160 Boulder Park	30
M-161 Bakers Ferry Road	30
M-162 Wendell Drive	30
M-165 SW Community Hospital	20
Hamilton E. Holmes Station (study area routes only)	
M-56 Adamsville	30
M-57 Collier Heights	15
M-66 Lynhurst-Greenbriar	30
M-73A Holmes-FIB/Patton via MLK	15
M-162 Wendell Drive	30
M-164 Kimberly - Country Squire	30
M-170 Brownlee - Ben Hill	30

Alignment

The rail line is extended from the existing tail track west of Hamilton E. Holmes Station. The alignment runs between the CSX freight tracks and Martin Luther King Jr. Drive. It ascends to cross over Linkwood Drive, and continues at grade between the CSX and MLK Drive. It then crosses over MLK Drive just southeast of the CSX overpass. The line then turns northwest and crosses over the CSX track and then over I-285. The elevated line continues behind the buildings on the south side of MLK Drive. It then shifts closer to MLK Drive and crosses over Howell Drive, Fairburn Road, Bakers Ferry Road, and Adamsville Drive. It then turns west and passes through the large vacant parcel on the southwest quadrant of I-20 and MLK Drive. The alignment continues along the south side of I-20 to Fulton Industrial Blvd and then to the same station location as for the other HRT alternatives.

Stations

The MLK/I-285 Station platforms will be located on elevated structure between I-285 and MLK Drive, between the CSX tracks and Boulder Park Drive. The station will occupy roughly 10 acres consisting of approximately 500 parking spaces and 8 bus bays. The mostly vacant triangle between I-285, MLK Drive and the CSX would be used for station access facilities.

The elevated Fulton Industrial Station will be located in the southwest quadrant of the I-20 interchange. It would include approximately 2000 parking spaces, 12 bus bays, and would occupy about 39 acres. A partial interchange is proposed west of Fulton Industrial Boulevard for SOV and HOV access to/from the new station.

Operations

The rail operating plan is essentially the same as the other HRT alternatives. The alignment is very similar to Alternative HRT 3, so the same run times are assumed: 2.7 minutes from Holmes Station to the MLK/I-285 Station, and a total of 6.5 minutes travel time to Fulton Industrial Boulevard. Bus routes will be modified as appropriate to feed into the closest rail station. Table 3.5 lists the feeder bus routes at each station for HRT 3 and HRT 4. Detailed maps and tables are included in the Transit Operations Plan Report. Signal priority improvements will be provided for buses along Fulton Industrial Boulevard.

HRT 4a

This alternative follows the same horizontal and vertical alignment as described for Alternative HRT 4. However, the mid-route station is relocated to MLK Jr. Drive near Fairburn Road in Adamsville as opposed to I-285. A drawing of this alternative is provided as Plan N.

Stations

As with HRT 3a, there are several potential locations for intermediate station locations in Adamsville. One possible location is on the southeast corner of MLK Drive and Fairburn Road. Another option is to shift the station to the southwest corner, in the triangle between Fairburn Road and Bakers Ferry Road. A third possibility includes shifting the station west to connect with the large vacant parcel at I-20/MLK. The elevated station would have approximately 300 parking spaces and 8 bus bays. The Fulton Industrial Blvd. Station would be identical to the other HRT alternatives.

Operations

The rail operating plan is essentially the same as the other HRT alternatives. The alignment is similar to Alternative HRT 3a, so the same run times are assumed: 3.7 minutes from Holmes Station to Adamsville Station, and a total of 6.6 minutes to Fulton Industrial Boulevard.

Bus routes will be modified to feed into the closest rail station. Since HRT 4a station locations are very similar to HRT 3a, Table 3.6 lists the feeder bus routes at each station for both alternatives. Detailed maps and tables are included in the Transit Operations Plan Report. Signal priority improvements would be provided for buses along Fulton Industrial Boulevard.

HRT 5

This alternative follows the same alignment as alternative HRT 3. However, this alternative is planned to be constructed both at grade and below grade. This alternative was designed to consider additional alternatives that will reduce impacts to the existing neighborhoods and community resources. A drawing of this alternative is provided as Plan O.

3.3 Transportation System Management (TSM) Alternative

The Transportation System Management (TSM) Alternative (also referred to as the New Starts Baseline alternative) is required as part of the Federal Transit Administration's Alternatives Analysis process. The TSM Alternative is defined by FTA as the "best that can be done" to improve transit service in the corridor without major capital investment in new infrastructure. FTA notes that in most cases, the TSM will be identical to the Baseline Alternative required to establish build alternatives benefits for a New Starts application for Section 5309 funding.

Typically, the adopted Regional Transportation Plan (RTP) is used as a starting point in defining the TSM Alternative. However, in this instance, the RTP includes the extension of the MARTA West Line to Six Flags Amusement Park. The TSM Alternative for this study does not include nor assumes any major new transit capacity enhancements between the Hamilton E. Holmes Station and Fulton Industrial Boulevard. However, the TSM alternative does reflect bus service improvements, (including some already committed in the RTP) and additional improvements designed in such a way that they may provide additional service within the study area in place of one of the build alternatives. The key transit element for the TSM Alternative is restructured MARTA service in the corridor.

3.3.1 Highway Network

The background highway network assumes that all highway projects listed in the 2025 Regional Transportation Plan (RTP) as defined in the Atlanta Regional Commission's (ARC's) RTP Limited 2002 Update will be constructed. Those highway improvements in the West Line Study Area include:

- Add 2 auxiliary lanes on each side plus a highway lane Collector/Distributor (CD) system on I-20, from I-285 to Fulton Industrial Boulevard (programmed for completion in 2007);
- Add HOV lanes on I-20 from Hamilton E. Holmes Dr. to Hwy 5 (Bill Arp Road) (2008);
- HOV access ramp on I-20, west of Fulton Industrial Boulevard, with access to/from the west (2008);
- Widen Hamilton E. Holmes Road from 2 to 4 lanes from I-20 to Bankhead Highway (SR 8) (2008);
- Reconstruct I-285/I-20 interchange with a 6 lane CD from that interchange to Thornton Road (2008);
- Intersection improvements and continuous turn lanes on MLK Jr. Drive, between Hamilton E. Holmes Dr. and Barfield Avenue (2009);
- Widen Fulton Industrial Boulevard from SR 70 Interchange Dr. to US 78/278 (2010);
- Add HOV lanes on I-20 from I-75/85 to Hamilton E. Holmes Dr. (2016);
- Widen I-20 from 6 to 8 lanes and add 6 lane CD system from Fulton Industrial Boulevard to Thornton Road (2015);
- Widen Fairburn Road from Benjamin Mays to Atlanta City Limits (2020);
- Widen Fulton Industrial Boulevard from 4 to 6 lanes from SCL RR to Camp Creek Parkway (2025);

- Widen Fulton Industrial Boulevard from 4 to 6 lanes from SR 154 to north of SCL RR (2025); and
- Add HOV lanes on I-285 from I-75 North to I-20 West (2025).

Transit Network

The background transit network assumes all transit projects outside the West Line Study Area listed in the 2025 Regional Transportation Plan (RTP) as defined in the Atlanta Regional Commission's (ARC's) RTP Limited 2002 Update will be constructed. Major transit projects outside of the corridor in this network include expanded bus service in the 13-county region and the following fixed guideway projects:

- MARTA North Line extension to Windward Parkway;
- MARTA South Line extension to Southern Crescent;
- Northwest light rail line from Arts Center to Town Center (GRTA is currently conducting an Alternatives Analysis that is also considering other modes);
- Commuter Rail in 4 corridors (Bremen, Macon, Athens and Senoia). The commuter rail line to Bremen includes stations in Mableton, Austell and Douglasville; and
- Lindbergh-South DeKalb fixed guideway (MARTA is presently analyzing alternatives in the I-20 East corridor).

The 2025 rail operating plan in the RTP calls for 8-minute headways on each branch, and 4-minute headways on the trunk lines. This increase in service provision implies that service reductions made by MARTA in 2002 will be restored. The new extensions described above would be served as follows: Doraville trains would run to Southern Crescent and Windward trains would operate to the Airport. The Northwest Line would also have 8-minute headways. Holmes MARTA Station is served by one of the east-west branch services, so the weekday headway would be 8 minutes, with 10 and 15-minute service intervals during evenings and weekends. Hours of service would be the same for existing MARTA rail service.

Key bus service improvements in the TSM Alternative are as follows:

1. Route 73 (Fulton Industrial Boulevard) is modified to reflect service frequency improvements and consistent route patterns. Some Route 73 route patterns will operate as an express on I-20.
2. Adjustments are made to other MARTA routes that operate in the corridor. Frequencies are adjusted to obtain clock headways (e.g., 15, 20, 30 minutes) on all routes. Route alignments are modified to provide new connections to the Fulton Industrial Boulevard employment area and to provide more direct routing to/from the Hamilton E. Holmes MARTA station. Two new MARTA routes are also proposed as part of the route restructuring.

3. Expanded Cobb County service is assumed, per current CCT assumptions in the 2025 RTP, but with headway and alignment adjustments.
4. New local Douglas County service is assumed to be in place, per current Douglas County assumptions in the 2025 RTP, but with headway and alignment adjustments.
5. GRTA's 2010 express service plan is assumed to be in place.

Expansion of bus service will require that additional bus bays be added at Holmes MARTA Station. Also, the bus access drive between the intermodal area and Hamilton E. Holmes Drive would be re-opened for buses coming from I-20, Hamilton E. Holmes Drive and Burton Road. This will reduce access time for these routes.

Table 3.7 presents brief descriptions of bus route changes and proposed service frequencies. Figures 3.7 and 3.8 illustrate proposed route alignments. The bus improvements are described in more detail in the Transit Operations Plans Report.

The fare structure that is assumed for the TSM Alternative and all build alternatives is the same as identified in the RTP. No parking charges are assumed at rail stations or park-and-ride lots. The fare structure is based on the current MARTA and CCT fare structure and GRTA fare structure, as listed below (in 2002 dollars). Fares are assumed to increase in the future at rates consistent with inflation. Fares are assumed to be discounted (monthly passes, etc.) at the same level as today.

- MARTA Rail and Bus - \$1.75
- CCT Local Bus - \$1.25
- Douglas County Local Bus - \$1.25 (assumed to be same as CCT)
- GRTA Express Bus - \$2.00
- Transfers - Free

Table 3.7 : TSM Alternative Bus Operating Plan

Service Prov.	Route	Route Name	Route Pattern	Proposed Freq.		Alignment changes from RTP Coding
				Peak	Midday	
MARTA Local Routes	56	Adamsville	Hamilton E. Holmes Station to Plainview Circle	20	30	Eliminate existing short turn service. Modified alignment in Adamsville neighborhood. Eliminate Argus Circ. Deviation.
	57	Collier Heights	Hamilton E. Holmes Station to Atlanta Indust. Parkway	15	30	Change alignment from Fairlane to Collier Dr.
	66	Lynhurst/Greenbriar	Hamilton E. Holmes Station to Barge Road park-and-ride lot.	30	30	Adjust service frequencies to clock headways.
	73	Fulton Industrial	73A - Holmes to Patton/Wharton via MLK 73B - Holmes to Grt SW/Westpk via MLK 73C - Holmes to Boat Rock via I-20 73D - Holmes to Westgate via I-20	15 15 30 30	30 30 60 60	Restructure into 4 distinct route patterns.
	160	Boulder Park	Hamilton E. Holmes Station to Selig/Fulton Industrial	30	30	Extend to Fulton Industrial. Eliminate Harlan/Payton loop.
	161	Bakers Ferry Rd	Holmes to Bakers Ferry/Fulton Ind.	30	30	Proposed new route.
	162	Wendell Drive	Hamilton E. Holmes Station to Wendell Drive	30	60	Proposed new route that does the #56 Argus Circle deviation.
	164	Kimberly Country Squire	Hamilton E. Holmes Station to Country Squire Apartments	30	30	No proposed changes.
	165	SW Comm. Hospital	Hamilton E. Holmes Station to Barge park-and-ride lot.	20	30	Extend route south to Barge Road park-and-ride lot.
	170	Brownlee/Ben Hill	Hamilton E. Holmes Station to SW Comm. Hospital	30	30	Realign to SW Comm. Hosp. Operates the Harlan/Payton loop.
Cobb Local Routes	CO 199	East-West Connector	Powder Springs to NW Oakdale Station.	20	30	Per NW Connectivity Study plans, realign west end to Powder Spr. and east end to Oakdale Stat.
	CO 209	T.Ctr./Cumberland/Fulton Industrial	Town Center Mall to Fulton Industrial Blvd. via Cumberland/Galleria	20	30	Modify south end of the alignment to provide connection to Fulton Indust. Blvd. service.
	CO 216	West Cobb	Acworth/W. Cobb to Hamilton E. Holmes Station.	30	60	Extend south alignment to connect to Holmes. Use I-20 from Thornton Rd. to Holmes Dr.
	CO 217	West Cobb Pkwy/Floyd Rd.	Wade Green Rd to Holmes Station via Wade Green, Cherokee, Barrett Pkwy, W. Cobb Pkwy, Floyd Rd, Fact. Shoals.	30	60	Extend south alignment to connect to Holmes. Access I-20 via Factory Shoals HOV ramps. Realign mid-section of route to West Cobb Pkwy.
	CO 70	Holmes/Cumberland	Hamilton E. Holmes Station to Cumberland/Galleria	60	60	No proposed changes.
Douglas Local Routes	DO 150	Douglasville/MARTA	Douglasville to Fulton Industrial Boulevard	20	30	Extend east end of route to FIB. Modify routing in Douglasville to connect to Multimodal Center.
	DO 151	S. Douglasville	Douglasville to Fulton Industrial Blvd.	30	60	Extend route to FIB via Riverside and Camp Creek Parkway.
	DO 152	Douglasville/Austell	Douglasville to Downtown Austell via Bankhead Highway	30	60	No alignment change.
GRTA Express Routes	GRTA 460	Douglasville MM Ctr./Atlanta	Douglas MM Ctr. to Downtown Atlanta	30*	n/a	Route to Downtown Atlanta. Peak direction service only.
	GRTA 461	Douglasville Hwy 5/Atlanta	Hwy 5/I-20 pnr to Downtown Atlanta	30*	n/a	Peak direction service only.
	GRTA 462	Douglasville/Holmes	Hwy 5/I-20 pnr, MM Ctr. to Hamilton E. Holmes Station	60	60	Route to Holmes Station. All-day, 2-direction service.
	GRTA 465	Douglasville/Hartsfield	MM Ctr to Hartsfield via I-20 and Camp Creek Parkway	30	60	All-day, 2-direction service.
	GRTA 467	Douglasville/Cumberland	Hwy 5/I-20 pnr, MM Ctr. to Cumberland	30	n/a	Peak direction service only.
	GRTA 470A	Paulding/Hwy 6/Atlanta	Paulding Co. to Downtown Atlanta w/ intermediate stops	30*	n/a	Peak direction service only.
	GRTA 470B	Paulding/Hwy 6/Holmes	Paulding Co. to Holmes w/ intermediate stops	60	60	Per GRTA plans, reverse peak dir. and midday service along Hwy 6.

* indicates peak period, peak direction service only.

Figure 3.7: TSM Bus Routes (MARTA)

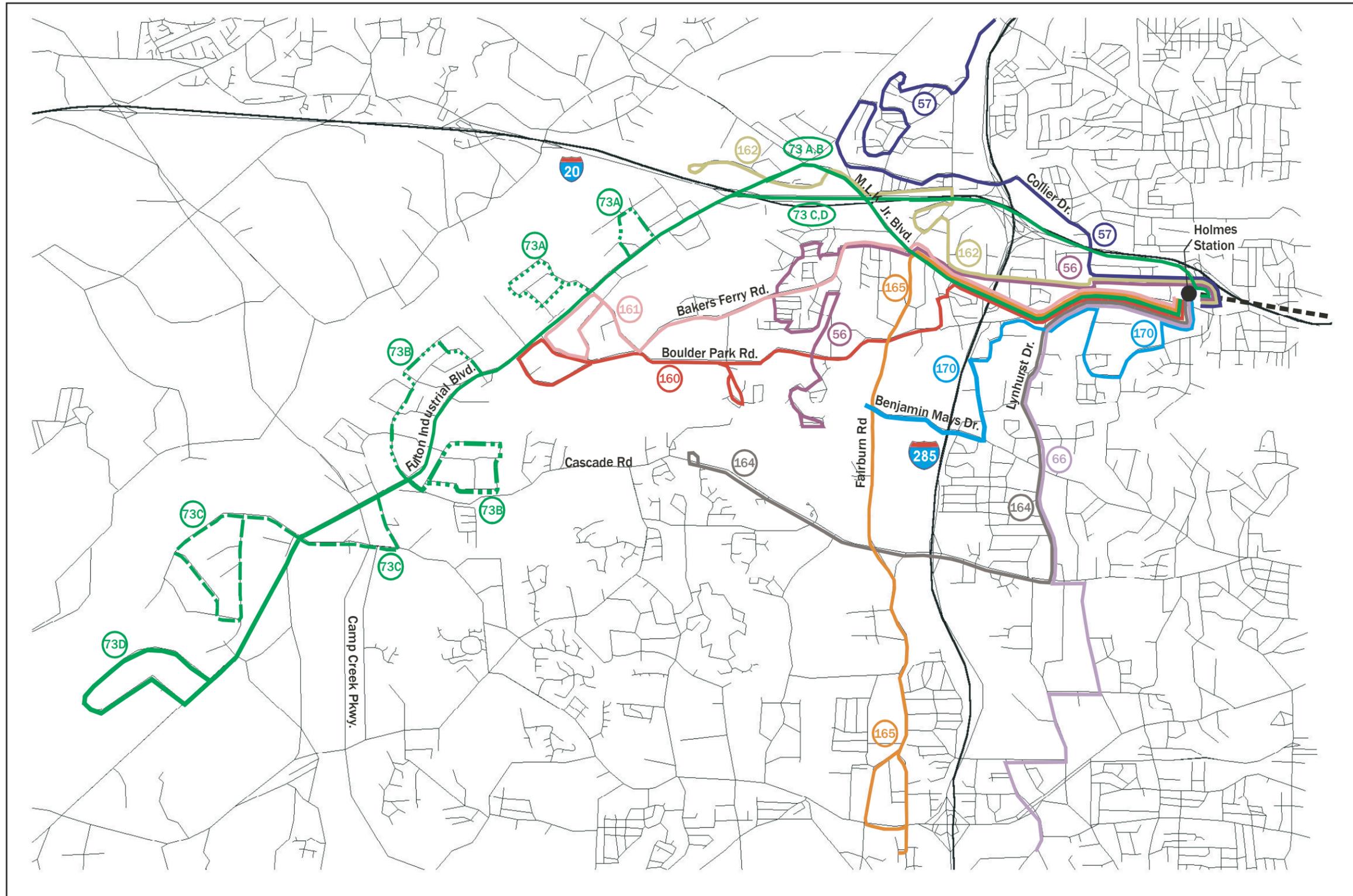


Figure 3.8: TSM Bus Routes (Non-MARTA)

