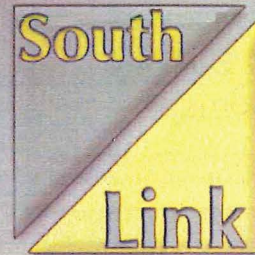




South Miami-Dade Transit Corridor Alternative Analysis Executive Summary



THE SOUTH MIAMI-DADE CORRIDOR ALTERNATIVE ANALYSIS

The Miami-Dade MPO has conducted a study of transit improvements in the US 1 corridor between the Dadeland South Metrorail station and Florida City. The purpose of the study was focused on improvements to transit operations and service in the corridor.

Miami-Dade County's population is projected to grow by 43% by the year 2030. During this same period the southern third of the County is projected to grow by 81% by 2030. The 81% growth in population in South Dade is projected to be accompanied by only a 37% increase in employment. Today, South Dade has 28 % of the County's population and only 25% of the jobs. By 2030 South Dade is projected to have 31% of the County's population and only 25% of the jobs. This situation will require more and more people to drive out of the area to go to work, worsening the commute. To further this problem there are only three through routes between Florida City and the Kendall/Dadeland area – US 1, the Turnpike, and Krome Avenue. The only planned projects for the this area are the extension of the South Dade Busway to Florida City and a possible modification to SW 137 Avenue (recently amended into the Long Range Transportation Plan).

Goals

In order to develop alternatives that responded to the needs of the corridor the following goals and objectives were developed for the corridor.

Goal 1

Improve corridor mobility

Goal 2

Improve citizen access to employment

Goal 3

- (a) Improve corridor safety
- (b) Improve operating efficiencies

Goal 4

Reduce auto dependency

Goal 5

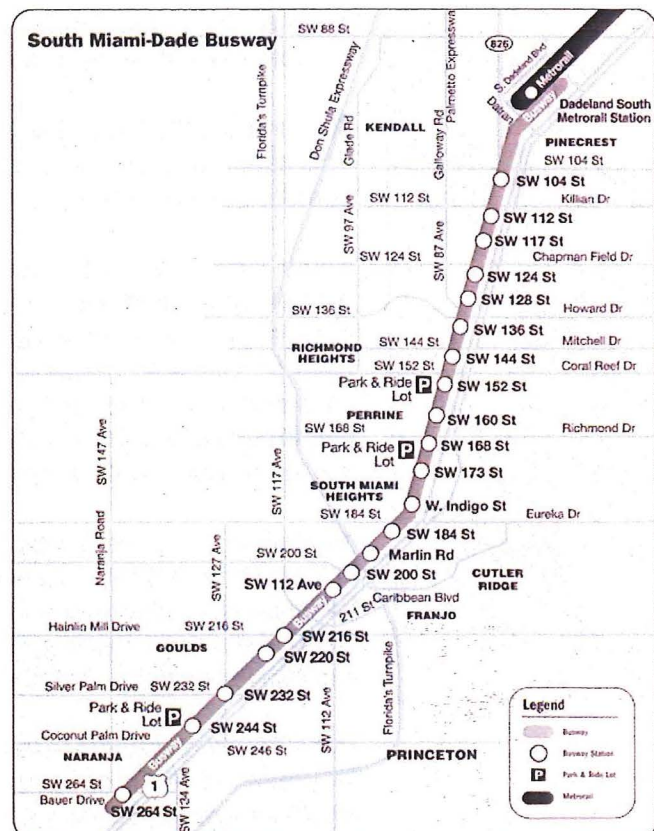
Accommodate future population growth in South Miami-Dade by providing high quality and cost-effective transit service.

Goal 6

Modify development patterns in the corridor to support transit

Goal 7

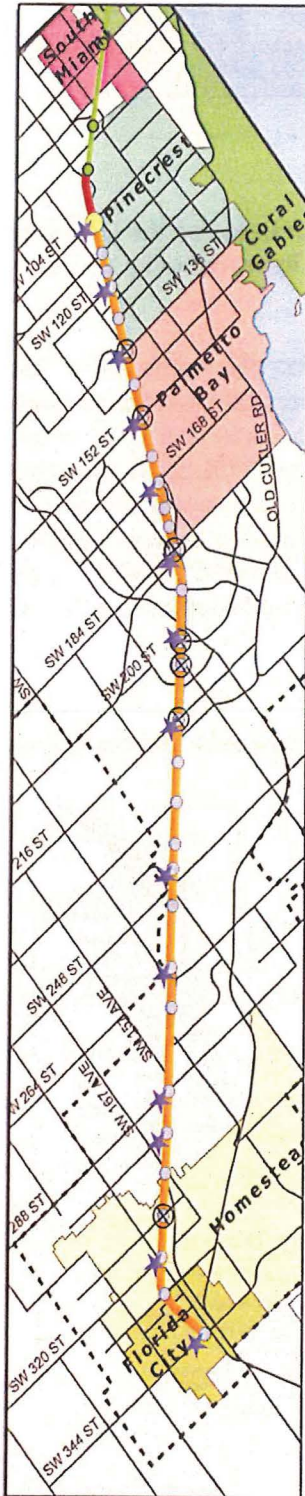
Develop plan for incremental increase of transit infrastructure



Tier I Alternatives

US1 Busway Corridor

Legend: The circles represent bus stops along the bus way. The stars are potential park and ride lots.



TIER I

Seven alternatives were developed during Tier I. On the basis of corridor transportation needs and goals and objectives, the alternatives were identified by the general public with the input from technical committee.

The Tier I Alternatives were:

Alternative 1: No-Build

This alternative is required by law to examine the impacts of not making any improvements in the corridor.

Alternative 2: Transportation System Management (TSM)

The alternative is required by the FTA to see how much improvement can be made in the system short of a major capital improvement.

Alternative 3: Light Rail Transit to Florida City (LRT)

This alternative examined the construction of a 20-mile at-grade rail line with 21 stops.

Alternative 4: Metrorail Extension to Southland Mall

This alternative examined a 10 mile extension of Metrorail terminating at Southland Mall.

Alternative 5: Metrorail Extension to Florida City

This alternative examined the construction of a 20-mile Metrorail extension.

Alternative 6: Upgraded BRT with Metrorail Extension to SW 104th Street

This alternative examined the impact of providing 10 grade separations along the busway plus expanded bus facilities. The alternative also included a ½ mile extension of Metrorail with a major park and ride facility at SW 104th Street.

Alternative 7: Diesel Multiple Unit (DMU) in the CSX Corridor

This alternative examined the impact of a new commuter rail type operation in the CSX corridor between Florida City and Dadeland South.

South Link Corridor transportation needs were analyzed using available secondary data on population and employment, land use, travel patterns and growth trends in the study area. The Tier I analysis of the alternatives resulted in a recommendation by the study's Citizens Advisory Committee (CAC) to drop two alternatives from consideration. The MPO Board supported the CAC recommendations. Alternative 4: Metrorail extension to Southland Mall was dropped from further consideration because this alternative would actually be a phase of the implementation of Alternative 5.

Alternative 7: Diesel Multiple Unit (DMU) in the CSX Corridor was dropped from further consideration because most of the alignment was outside of the Urban Development Boundary and the portion of the project from Miami International Airport to Kendall made more sense for a project and should be considered as a major alternative in the Kendall Corridor Study.

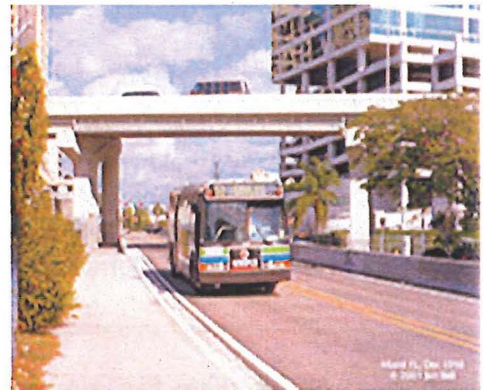
The CAC also recommended that a hybrid vehicle from the existing Metrorail system be examined as an option of Alternative 5. This option would allow the rail system to be constructed at grade saving a substantial amount of capital cost.

Tier II Alternatives

The Tier II projects being studied for the South Link Corridor include two low cost alternatives and four build alternatives. The No-Build Alternative is required for analysis by the federal government and its purpose is to examine what would happen in the corridor if no new projects were constructed. The TSM Alternative includes those projects in the corridor that would be relatively easy to implement and they include modifications of local bus routes to better feed the busway, the construction of additional park and ride lots and the provision of bus priority signalization along the corridor.

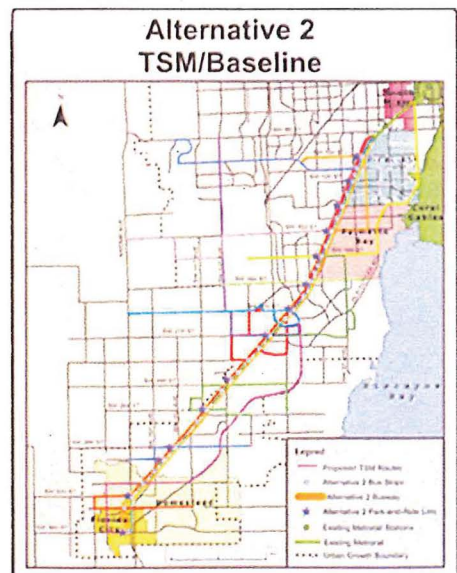
Alternative 1: No-Build

This alternative is required for environmental comparisons of impacts. It measures the impact of growth on the area if nothing beyond what is programmed occurs in the corridor. It provides a benchmark for impacts caused or lessened by building a project. Thus the No-Build Alternative will be analyzed against 2030 population and employment projections and the transportation network that is programmed (funded) to be in place by the year 2030. The No-Build Alternative includes the completion of the busway along US 1 to SW 344th Street in Homestead, the operation of the busway routes on the busway to Florida City, the addition of several additional park and ride lots, the implementation of several community circulators, and a minimum of 15 minute peak hour headways on most bus routes.



Alternative 2: TSM/Baseline

The Transportation System Management Alternative (TSM) is required by the Federal Transit Administration. The TSM alternative includes all of the non-major capital projects that can be implemented in the corridor. It must provide the same quantity of transit service in the corridor that a major build alternative would provide. It forms the "Baseline" for measuring the performance of all the other alternatives. Transit ridership on a major capital project is measured only in terms of above and beyond the ridership estimated for the TSM. The TSM alternative, like all alternatives must use the 2030 population and employment projections as the basis for estimating total travel demand. The TSM network completely reorganizes the existing bus network in South Miami-Dade and is composed of east-west transit routes that directly access the US 1 Busway. Every major section-line arterial would have a bus route. Most routes offer a "one-seat" ride from their origin to the Metrorail Station at Dadeland South. The TSM alternative uses all of the existing busway stations, more park and ride lots than are available in the No-Build Alternative and signal prioritization along the busway to accelerate the trip.

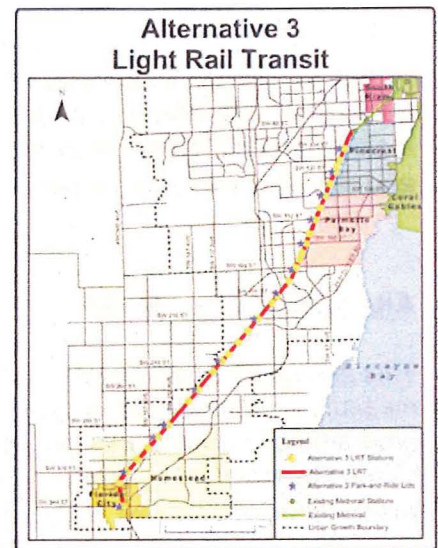


Alternative 3: Light Rail Transit to Florida City

This alternative would provide light rail transit (LRT) service from Dadeland area to Florida City. Success to Metrorail from the proposed South Link LRT service would require a transfer at the existing Dadeland South Station. Light rail transit technology uses electrical power delivered by an overhead contact system. Light rail vehicles would operate in an exclusive right-of-way, at grade. Light rail vehicles can operate at maximum speeds up to 60 miles per hour. Two-car trains would be used in the peak period. Platforms would be 200 hundred feet in length. A new maintenance facility would need to be constructed to accommodate the light rail vehicle fleet. Feeder bus service would be operated at 15-minute intervals (headways) during peak hours. Feeder bus service would be operated at 15-minute headways.

Alignment

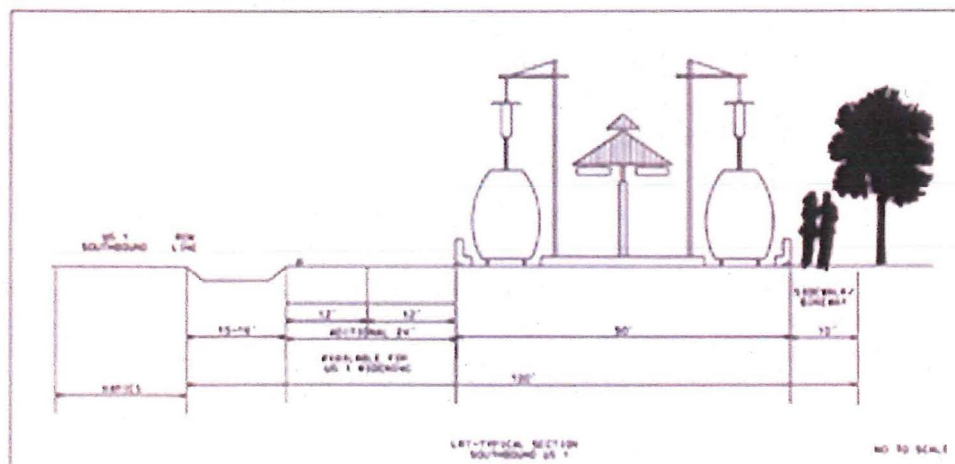
The LRT tracks and stations would be located on the west side of the existing busway right-of-way to allow for future improvements such as the widening of U.S. 1 or managed lanes in the corridor. LRT service would be primarily at-grade. The LRT guideway would be approximately 19 miles long with the distance between stations generally ranging from one-half mile to one mile.



Stations

Stations and parking facilities would be provided at the following locations:

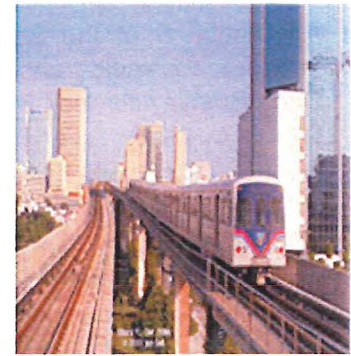
NO	YES	NO	YES
	✓ SW 104 St.	✓ SW 216 St.	
✓	SW 112 St.	✓	SW 232 St.
✓	SW 124 St.	✓	SW 244 St.
✓	SW 136 St.	✓	SW 264 St.
✓	SW 144 St.	✓	SW 272 St.
✓	SW 152 St.	✓	SW 288 St.
✓	Banyan St.	✓	SW 304 St.
✓	SW 184 St.	✓	SW 320 St.
✓	SW 200 St.	✓	SW 328 St.
✓	SW 112 Ave.	✓	SW 344 St.



Alternative 5:

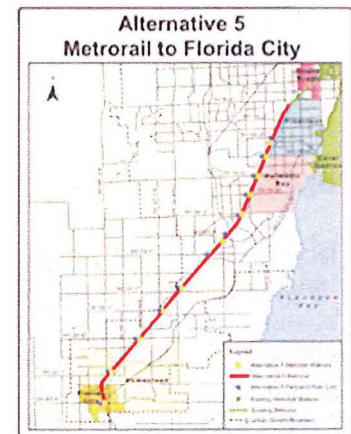
Metrorail Extension from Dadeland South Station to Florida City

This alternative would provide fixed guideway rapid transit service from existing Dadeland South Metrorail station to Florida City. This line is an extension of the Phase I Metrorail and transfer would not be required at Dadeland South for a trip to downtown Miami. The Metrorail vehicles and guideway would be similar to existing services in Miami. Station spacing would be approximately at one-mile intervals with easy access for bus riders, pedestrians, and passengers at stations. Service would be provided by six-car trains operated at six-minute intervals during peak periods to all stations along the alignment. Fifteen (15) minute feeder bus service would also be provided at stations to allow access to the local bus system as well as key connections to activity centers throughout the region.



Alignment

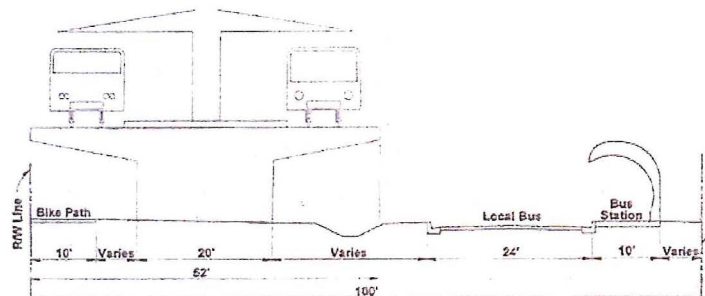
The majority of the alignment would be built at an elevation to provide 16.5' clearance over local streets and roads. The structure would return to the normal Metrorail elevation and would continue at this level until it reached the Homestead Extension of the Florida Turnpike, where the structure would climb over the Turnpike then return to its normal elevation all of the way to Florida City. The structure would be built on the west side of the right-of-way to allow for future improvements such as widening of U.S. 1 or provisions for local bus service in the corridor. All of the stations would be elevated with a center platform and would be accessible by stairs, elevators and escalators. Parking would be provided at every stop. Initially garages would only be constructed at SW 136 St.



Stations

The stations along the South Corridor would match the platform length on the existing system -580 feet. Stations and parking, serving specific areas (named below), would be provided at the following locations:

- SW 124 St. - Pinecrest
- SW 136 St. - Falls
- SW 152 St. - Palmetto Bay
- SW 168 St.
- SW 184 St.
- SW 200 St. - Cutler Ridge
- SW 216 St. - South Dade Government Center
- SW 244 St.
- SW 264 St.
- SW 288 St.
- SW 320 St. - Miami-Dade College
- SW 344 St. - Florida City



Option 5A: Hybrid Vehicle

Option 5A would have the same operating characteristics as the main Alternative 5 with the same frequencies, train lengths, station locations, and platform lengths. This alternative would utilize a hybrid vehicle that could draw power from two different sources. The vehicle would operate in the existing Metrorail facilities drawing power from the electrical third rail. The vehicles would be retrofitted to enable them to draw power from an over head power line, enabling the vehicle to operate at ground level. Thus the track work for the entire South Link corridor could be built at-grade saving millions of dollars.



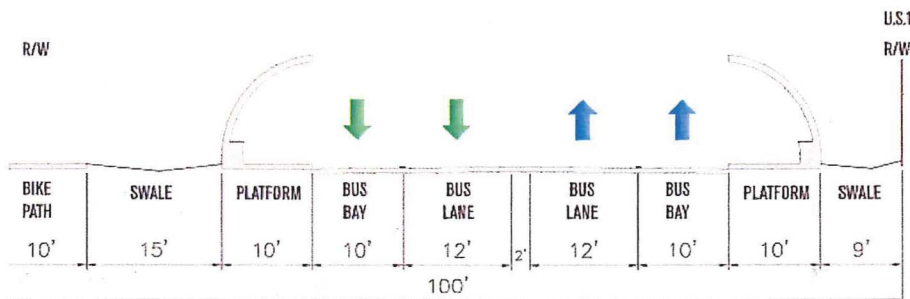
Alternative 6 Bus Rapid Transit (BRT) to Florida City

Alternative 6 of the South Miami-Dade Transit Corridor Alternative Analysis provides bus rapid transit (BRT) service to Florida City within the existing South Dade Busway corridor. BRT service would provide a higher level of transit service than is currently experienced within the Busway corridor and would provide the flexibility for buses to leave the BRT line to provide direct service to local neighborhoods and destinations such as the South Dade Government Center. Bus frequency in the northern portion of the corridor is expected to be approximately 90 seconds.

The BRT alignment length is approximately 19 miles for this alternative. Station spacing for alternative 6 is approximately two stations per mile between Florida City and SW 104 Street. To provide additional travel time benefit to the transit corridor and to enhance safety of the transportation system, a series of grade separations are recommended at critical intersections along the corridor as part of Alternative 6.

Stations

BRT stations would be designed for efficient pedestrian access to nearby neighborhoods, shopping centers, and employment areas. Several stations would have dedicated parking lots or parking garages connected to the BRT stations. Stations would be provided at the locations shown in the following graph. The stations that serve grade separation locations would be elevated to adjoin with the BRT alignment. This would provide opportunities to provide elevated pedestrian connections across the major roadways and to make direct pedestrian access connectors to parking garages. Elevated stations would also provide elevators and escalators to access the stations from street level.



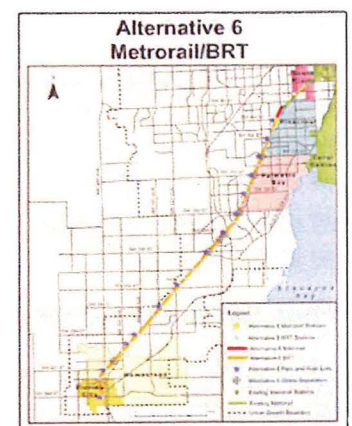
Grade Separation

Grade separation is being studied for the South Link corridor from two perspectives – (1) elevating the BRT line over the surface streets and (2) elevating the surface streets over the BRT line.

Metrorail Extension

A 0.8-mile extension of Metrorail to SW 104 St. is proposed as part of Alternative 6. The SW 104 ST. Station would include a parking garage of approximately 1,000 – 1,500 spaces. The purpose of the Metrorail extension is to provide relief for the existing Dadeland stations that currently have limited accessibility because of constrained parking facilities and traffic congestion.

STATION	PARKING	GRADE SEPARATION
SW 104 St.		
SW 112 St.		
SW 117 St.		
SW 124 St.		
SW 128 St.		
SW 136 St.	✓	✓
SW 144 St.		
SW 152 St.	✓	✓
SW 160 St.		
SW 168 St.	✓	
Banyan St.	✓	
Hibiscus St.		
SW 184 St.	✓	✓
Marlin Road		✓
SW 200 St.	✓	✓
SW 112 Ave.		
SW 216 St.	✓	✓
SW 224 St.		
SW 232 St.		
SW 244 St.	✓	
SW 264 St.	✓	
SW 272 St.		
SW 288 St.	✓	
SW 296 St.		
SW 304 St.		
SW 312 St.	✓	✓
<i>Miami-Dade College South Campus</i>		
SW 320 St.		
SW 328 St.		
SW 336 St.		
SW 344 St.	✓	✓ southern terminus of BRT



Alternative Phasing Plans

LRT	Metrorail or Hybrid	Bus Rapid Transit
1 to 5 years		
Acquire ROW for Parking Expand P&R at 152, 168 New P&R at 200 Reorient Bus Routes Transit Signal Priority New fare collection	EIS for Metrorail to 124 Acquire ROW for Parking Expand P&R at 152, 168 New P&R at 200 Reorient Bus Routes Transit Signal Priority New fare collection	EIS for Metrorail to 104 EIS for BRT Acquire ROW for Parking Expand P&R at 152, 168 New P&R at 200 Reorient Bus Routes Transit Signal Priority New fare collection
6 to 10 years		
New P&R at 104, 124, 344 Expand P&R at 244	Extend Metrorail to 124 (Phase I) New P&R at 124, 344 Expand P&R at 244	Extend Metrorail to 104 New P&R at 104, 124, 344 Expand P&R at 244 Open 152 and 200 grade separations Secure fare area Order low floor buses
11 to 15 years		
Complete EIS for LRT Acquire ROW for Maintenance Facility Open P&R at 136, 184, 320, 216, 288 Order vehicles	Complete EIS for Extension Acquire ROW for Maintenance Facility Open P&R at 136, 184, 320, 216, 288 Order vehicles	Open grade separations at 136, 184, 200, 211/216, 112, 312. Open P&R at 136, 184.
16 to 20 years		
Open LRT to Florida City. Open Maintenance Facility	Open Phase II Metrorail to Southland Mall Open maintenance facility	
21 to 25 years		
	Open Phase III Metrorail to Florida City	

Tier II Screenplay Results

Detailed information was developed for each of the Tier II Alternatives.
The key results are summarized in the following table:

	TSM	LRT	Metrorail	Hybrid	BRT
Capital Cost	\$8.2 mil	\$853.9 mil	\$1,649.8 mil	\$1,208.6 mil	\$423.3 mil
O&M Cost	\$8.2 mil	\$19.2 mil	\$37.5 mil	\$37.5 mil	\$10.8 mil
Transit Trips	304,720	310,592	309,187	309,187	307,879
Travel Time	53 minutes	45 minutes	29 minutes	29 minutes	48 minutes
Time Saved	-	4,300 hrs	4,500 hrs	4,500 hrs	3,100 hrs
Auto Conflicts	45	45	0	32	34
Change in VMT	-	-56,500	-68,000	-68,000	-63,000
Traffic Delays	-	+6.21 hrs	-9.97 hrs	-2.16 hrs	-5.56 hrs
Operating Cost/mile	\$0.96	\$0.65	\$0.97	\$0.97	\$0.41
Cost/New Rider	\$23.56	\$38.36	\$89.70	\$72.98	\$25.94
Cost/Hour User Benefit	-	\$58.14	\$109.88	\$88.30	\$31.83

Public Involvement

Prior to going to the public the initial purpose and need for the study was developed. With this information as a basis three (3) scoping meetings were held along the corridor providing input to the development of the Tier I Alternatives. Once the Tier I Alternatives were developed presentations were given 40 community groups were held to gauge public support for the project and the various alternatives. Also during this time elected officials, public agencies and the various MPO committees were provided with briefings on the status of the project.

After all of the Tier I screening information was developed the Citizen's Advisory Committee (CAC) recommended a set of Build Alternatives to be further considered in Tier II. The recommendations of the CAC were supported by the MPO committee structure leading to the action by the MPO Board support the selection of the Tier II Alternatives.

As the analysis of the Tier II Alternatives was being completed three major corridor meetings were held. 250 individuals provided their input as to the preference for a single Build alternative to be implemented in the corridor. The results were

	Florida City	Southland Mall	Dadeland South	Total
TSM	2	1	9	12
LRT	3	1	8	12
Metrorail	19	9	28	56
Hybrid	21	18	32	71
BRT	12	31	29	72
Total	57	60	106	223

Locally Preferred Alternative

LPA

The CAC was charged with making recommendations to the MPO. They met 9 times between March 2005 and March 2006.

On March 8, 2006 the CAC unanimously recommended the selection of Alternative 5 - Metrorail Extension as the Locally Preferred Alternative (LPA). The recommendation was based upon the long term need of the corridor for a high speed connection along the corridor and to minimize traffic impacts from the busway.

On March 22, 2006 two advertised public meetings were held to provide further recommendations for the MPO. Although opinions were mixed the over all recommendation was that Metrorail should be extended down the corridor in stages as the demand warranted.