

## TOWN OF MEDLEY

# NW 107th Avenue to the Palmetto Expressway (SR-826)

## Volume I: Engineering Analysis



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#### **1.0 INTRODUCTION**

NW South River Drive is one of the most important and highly utilized transportation corridors in the Town of Medley. This corridor began as a two-lane service road to the adjacent parallel facility of Okeechobee Road. As the Town developed and industry expanded, more and more traffic was funneled into the Town. In response, NW South River Drive was transformed from a service road to a major collector road carrying very large amounts of traffic. Because of the industrial nature of the Town, a large percentage of the traffic is comprised of large tractor trailer trucks. The presence of these larger vehicles in the traffic stream significantly affects the capacity and long term maintenance of the corridor. The lack of alternative corridors in the Town's roadway grid network and the current severity and duration of the traffic congestion along this facility is significantly impacting the movement of goods and services within the Town. Improving mobility along this corridor will improve the quality of life for the residents that call Medley their home and help ensure sustainable economic development in Medley.

#### 1.1 **Purpose of Study**

The purpose of this study is to provide the Town of Medley and the Miami-Dade County Metropolitan Planning Organization with documented information on the existing conditions along NW South River Drive and the need for improvements. The Study Area limits this discussion of NW South River Drive from NW 107<sup>th</sup> Avenue to the Palmetto Expressway.

#### **1.2 Project Area Description and Background Information**

The Town of Medley is located in the northern center of Miami-Dade County, Florida. It is bordered directly by the Town of Hialeah Gardens on the northwest, by the City of Hialeah on the northeast and by the City of Miami Springs on the southeast. Unincorporated Miami-Dade County lies predominantly to the south and west. Please refer to the Project Location Map (Exhibit 1 on Page 2). The Town of Medley occupies a triangular shaped area approximately 3845 acres in area. It's northern boundary is delineated by NW South River Drive. The Town recently annexed approximately 500 acres of land consisting of the triangular shaped area on the northwest portion of the Town and approximately 280 acres for the section just north of NW 74th Avenue (the latter includes the lake bordered by the future NW 87<sup>th</sup> Avenue on the west). (See Appendix A for a Map reflecting the new Town Limits). According to the Town's Comprehensive Plan (1994-2000) the existing land use in Medley is primarily industrial in nature with 75% of the total area attributed to this end with 1% of the land is for residential uses. According to the 2000 Census, 1098 individuals call Medley their home, however, it is estimated that upwards of 35,000 commuters travel to work in Medley daily. This work force serves a large industrial community whose goods and services are transported to businesses in and out of Miami-Dade County. The Town has experienced an increase in commercial and industrial growth which will be compounded by the recent annexation and planned commercial and industrial developments. A substantial number of new jobs will be created which will directly translate to an increase in industrial and commuter traffic.



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NW South River Drive runs parallel to the Miami River and Okeechobee Road (US-27) to the north. NW South River Drive receives the bulk of the traffic in Medley. This is due in part to the lack of alternate roadways to enter and exit Medley and mostly due to the proximity of Okeechobee Road and the access that it provides from the surrounding cities and major roadways into and out of Medley. Okeechobee Road serves as a major point of access into the Town of Medley from two perspectives. First and foremost, it functions primarily as a commercial and industrial route for the tri-county area extending as far back as Central Florida and points northward. From a local standpoint, Okeechobee Road provides direct access into the Town of Medley via a number of bridge crossings over the Miami Canal.

The following bridges provide that access:

- ✓ NW 138<sup>th</sup> Street
- ✓ NW 107<sup>th</sup> Avenue
- ✓ NW 121<sup>st</sup> Way
- ✓ NW 116<sup>th</sup> Way
- ✓ NW 105<sup>th</sup> Way
- ✓ NW 87<sup>th</sup> Avenue (Planned by FDOT under PD&E study)
- ✓ NW 79<sup>th</sup> Avenue (Recently constructed 2003)
- ✓ NW 72 Avenue (planned by the County)
  ✓ NW 67<sup>th</sup> Avenue (W. 12<sup>th</sup> Avenue)

Okeechobee Road is currently under construction from just east of the Palmetto Expressway to LeJeune Road. This project will expand this facility to three lanes in either direction.

The Palmetto Expressway (SR-826) intersects Medley on the eastern section of the town. The Florida Department of Transportation (FDOT) District Six has systematically been making improvements to this corridor for the past several years. When complete, the Palmetto Expressway expansion project will consists of three through lanes, adequate acceleration/deceleration lanes and a High Occupancy Vehicle Lane dedicated for car pools and ride share programs in either direction. Several interchanges have and will be reconstructed under this expansion program to improve the operation of the roadway crossing underneath and to plan for the future.

In May of this year (2003), a new Metrorail Station was opened to the public. While this station may aid those commuters who live in northern and southern Miami-Dade County and work in Medley, it will increase the number of drivers entering Medley to get to the Metrorail Station and the number of transit vehicles exiting the station to get individuals to their final destination. A



new county bridge from Okeechobee Road across the Miami River at NW 79th Avenue was constructed to provide access to the new Metrorail Station (Palmetto) located at 7701 NW 79 Avenue. This bridge has severely impacted the already overwhelming traffic

situation within the Town. Drivers desperate to avoid the high traffic conditions along Okeechobee Road and those needing to access the Palmetto Expressway are crossing this bridge to access the southbound Palmetto Expressway on-ramp from NW South River Drive. Due to the short bridge length and the traffic backup to the on-ramp, tractor-trailor trucks that attempt this maneuver either block the bridge or block the intersection of NW South River Drive and NW 79<sup>th</sup> Avenue. This Metrorail Station is relatively new, therefore ridership should significantly increase in the future. The larger the increase the greater the impact on the Town and on NW South River Drive making driving conditions in this area even more detrimental.

The Homestead Extension of the Florida Turnpike (HEFT) also plays an important part in the severe traffic congestion within the Town of Medley. In addition to the ongoing expansion of the HEFT, a new interchange was constructed at NW 106<sup>th</sup> Street that provides direct access into Medley. This adds a second point of entry and exit to the already existing indirect access from the Okeechobee Road connection. NW 106<sup>th</sup> Street is a four lane divided road from the Turnpike to where it merges with NW 116 Way. From here, NW 116 way continues as a four lane divided corridor to NW South River Drive, across the Miami Canal and into Hialeah Gardens. NW 106<sup>th</sup> Street becomes a two lane road that terminates at the intersection with NW South River Drive. To cross the Miami Canal, drivers must utilize the bridge at NW 105<sup>th</sup> Avenue. The proximity of the NW 106<sup>th</sup> Street and NW 105<sup>th</sup> Way intersections together with the geometry of these roadways significantly impacts the traffic operation in this area. This will be discussed further in the report.

NW 87<sup>th</sup> Avenue is currently under review by the FDOT District Six Project Development and Environment Study process. The preliminary recommendations from that study are calling for the four laning of NW 87<sup>th</sup> Avenue from NW 58<sup>th</sup> Street to NW 103<sup>rd</sup> Street with a proposed crossing of the Miami Canal (See Appendix B for a copy of the Preferred Alternative under evaluation). A Public Hearing will be held in the late spring or early summer of next year to present the final recommendations to the public.

State Road 836, State Road 112 and State Road 9a (I-95) also serve as vital links from the surrounding areas into and out of Medley. The combination of these major roadways, easily reached from Medley, allows for quick access to and from Miami International Airport, Opa-Locka Airport and the Port of Miami. Additionally, the Florida East Coast Railroad Company (FEC) maintains a railroad line running through Medley that serves several of the businesses in the area. This line runs parallel to NW South River Drive. The diagonal orientation of the railroad significantly impacts the roadway grid network within the Town. The FEC Railroad Company has limited the number of at-grade crossings it will allow within the Town. Earlier coordination with FEC revealed that they would permit one new at-grade crossing. This crossing will be provided as part of the NW 87<sup>th</sup> Avenue project. Developments in the recently annexed northwest quadrant of the Town will necessitate an above grade intersection between NW 122 Street and NW 107<sup>th</sup> Avenue at the FEC railroad. These improvements are currently in the planning stages. The orientation of the railroad together with the restrictions in crossings accounts for the lack of continuity of the roadway grid system thereby placing even more strain on

the major transportation corridors. Miami-Dade County has plans to construct a new bridge over the Miami Canal from Okeechobee Road at NW 72 Avenue (Milam Dairy Road). Although outside of the study limits, this bridge will have significant traffic impacts for the Town. As the situation now stands, drivers utilize NW 72 Avenue as an alternative to reach the Palmetto Expressway northbound on-ramp from NW South River Drive. The new bridge at NW 72 Avenue will bring even more through traffic into the Town and along NW South River Drive to access the Palmetto on-ramps, the new Metrorail Station and Medley overall.

Miami-Dade County is in a traffic congestion crisis. The recent passing of the <sup>1</sup>/<sub>2</sub> cent sales tax dedicated solely to funding for transportation improvements speaks volumes of our residents overwhelming desire for action. As can be seen above, the major transportation corridors are either being evaluated for capacity improvements or construction is complete on these expansion projects. With most major roadways reaching capacity before improvements can be designed and constructed, a shift to expanding our transit is occurring. It is at this time, that improvements to critical corridors that until now have been overlooked be undertaken. NW South River Drive is one such corridor. Since 1997, it has been listed on the Town of Medley's Trafficways Improvement Program. A program which outlined the various roadway improvement projects necessary to the continued growth and economic vitality for the Town.

NW South River Drive is not the traditional service road that parallels adjacent major corridors nor does it function as a service road to Okeechobee Road. NW South River Drive is unique in that it receives a majority of traffic from Okeechobee Road while at the same time serving as one of the main arterials for the Town. The presence of the adjacent parallel FEC railroad facility further complicates matters. The northwest to southeast orientation of the road, along with the proximity of Okeechobee Road creates additional burden on the corridor from a traffic operational standpoint. The roadways within Medley that follow the conventional grid pattern (north-south and east-west) intersect NW South River Drive at a skew angle. Tractor-trailor truck maneuvers at these intersections are exasperated by this geometry having significant impacts on traffic backup and physical impacts on the bridge guardrails or barriers that protect the bridges crossing the Miami Canal. An entire section of this report is dedicated to the evaluation of truck turning movements at some of these key intersections.

#### 1.3 **Project Limits and Segmental Analysis**

The limits for this project extend from the original Town limits at NW 107<sup>th</sup> Avenue to the Palmetto Expressway. The recent annexation by the Town shifted the Town limits to the eastern limit of the HEFT limited access right-of-way. Analysis of the implications that the planned developments in the annexation will have on NW South River Drive should be evaluated separately. This is necessary to fully comprehend the existing and future impact that traffic congestion along NW South River Drive will have on the Town of Medley.

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To facilitate the analysis of the project issues, this approximately 4 mile corridor has been divided into four segments that contain common characteristics. Each segment is unique with its own operational conflicts, geometric constraints and right-of-way limitations. The following segments were utilized:

Segment 1: from NW 107<sup>th</sup> Avenue to NW 116<sup>th</sup> Way Segment 2: from NW 116<sup>th</sup> Way to NW 87<sup>th</sup> Avenue Segment 3: from NW 87<sup>th</sup> Avenue to NW 90<sup>th</sup> Street Segment 4: from NW 90<sup>th</sup> Street to the Palmetto Expressway (SR-826)

#### 2.0 TRAFFIC ANALYSIS

#### 2.1 Intersection Analysis

Volume II of this report consists of the traffic analysis and report that was performed for this corridor. The traffic study utilized data collected from recent pertinent projects in the area for the various traffic analyses performed. The performance of the corridor and the individual intersections were measured utilizing the Level of Service Concept.

Roadway Level of Service (LOS) is a measure of the quality of service provided by a transportation facility. It consists of Categories "A" through "F" with LOS "A" representing the most favorable driving conditions and LOS "F" the least favorable. The LOS concept is a way of measuring highway performance. It is used by the Florida Department of Transportation and local governments in their planning efforts to project the future needs of transportation corridors and assist in prioritizing the required improvements. The FDOT has adopted Statewide Minimum Level of Service Standards. Pursuant to these requirements, the minimum acceptable level of service for two lane and multi-lane state roadways (that are not limited access facilities) is LOS "D".

Table 2.1.1							
MAJOR STUDY INTERSECTIONS – EXISTING CONFIGURATION							
Intersection	Traffic	Intersection Type	Comments				
	<b>Control Type</b>						
NW 121 <sup>st</sup> Way	Signalized	4 legs-bridge crossing					
NW 116 <sup>th</sup> Way	Signalized	4 legs-bridge crossing					
NW 105 <sup>th</sup> Way	Signalized	4 legs-bridge crossing	Works in				
			combination with				
			NW 106 <sup>th</sup> Street				
NW 87th Avenue	*	*	*Will be signalized &				
	See Comment	See Comment	four legs when				
			completed.				
NW 96 <sup>th</sup> Street	Unsignalized	3 legs – skew					
NW 93 <sup>rd</sup> Street	Signalized	3 legs– skew					
NW 79 <sup>th</sup> Avenue	Signalized	4 legs-bridge crossing					
SB entrance to 826	Signalized	3 legs					

The LOS analysis was performed on the major intersections described in Section 3.4 and shown below in Table 2.1.1:

The intersections chosen for analysis are those which have the greatest impact on the corridor and are currently signalized or will be signalized when improvements are complete. NW 96<sup>th</sup> Street was chosen to ascertain the impact that traffic has on minor intersections.

The analysis performed revealed that all of the intersections are operating at or near capacity. As can be seen in Table 2.1.2, every intersection except NW 121<sup>st</sup> Way & NW 96<sup>th</sup> Street has at least one leg operating at LOS "F" in either the morning or afternoon peak or both.

TABLE 2.1.2EXISTING INTERSECTION LOS (APPROACH)								
Intersection		LOS	(AM)		LOS (PM)			
	EB	WB	NB	SB	EB	WB	NB	SB
NW 121 <sup>st</sup> Way	D	С	А	А	D	С	Α	А
NW 116 <sup>th</sup> Way	С	C	А	А	F	С	Α	D
NW 105 <sup>th</sup> Way	D	F	В	С	В	В	F	D
NW 87th Avenue	-	В	F	-	-	В	С	-
NW 96 <sup>th</sup> Street	-	A	D	-	-	Α	C	-
NW 93 <sup>rd</sup> Street	Α	F	В	-	Α	В	Е	-
NW 79 <sup>th</sup> Avenue	D	Е	D	F	В	В	С	F
SB entrance to 826	A	F	C	-	C	C	F	-

The LOS results do not fully convey the operational problems plaguing NW South River Drive. The close proximity of NW South River Drive to Okeechobee Road creates a situation that severely restricts the storage capacity for all bridge crossings over the Miami Canal (C-6). The situation is worsened by the industrial nature of the corridor which attracts a large percentage of trucks which block the intersections resulting in bottlenecks which drastically reduce the capacity beyond what HCS intersection analyses indicates. During field visits, it was observed that the signals along NW South River Drive are not properly synchronized further diminishing the capacity of the corridor. Based on this, it was determined that an Intersection Delay Study was required. On September 17 and 18, 2003, an Intersection Delay Study was conducted and the results validate our field observations. The average delay for vehicles at the NW 79<sup>th</sup> Avenue intersection was observed to be over 321 seconds for eastbound vehicles and over 256 seconds for northbound vehicles. The large delays along eastbound NW South River Drive are causing the intersections downstream to fail as a result of the queue backup. Furthermore, the recent construction of the Metrorail Station has increased the northbound approach at NW 79<sup>th</sup> Avenue substantially resulting in further degradation of the intersection.

It is standard practice to perform the traffic analysis for a project for the Existing year, Opening Year, Interim Year and the Design Year as follows:

Current year, the year the project is under design
5 years from the existing year – it is assumed that construction will
be complete within five years of the actual design phase
15 years from existing
20 Years – the span of the current Transportation Plan.

This type of analysis was performed on the above eight intersections assuming no improvements were made to the corridor (No Build Alternative). The results for Years 2008 and 2028 are presented in Table 2.1.3 below.

TABLE 2.1.3NO BUILD FUTURE INTERSECTION LOS					
Intersection		L	OS		
	20	08	20	28	
	AM	PM	AM	PM	
NW 121 <sup>st</sup> Way	А	В	Е	D	
NW 116 <sup>th</sup> Way	В	F	F	F	
NW 105 <sup>th</sup> Way	F	D	F	F	
NW 87th Avenue	F	F	F	F	
NW 96 <sup>th</sup> Street	D	D	F	F	
NW 93 <sup>rd</sup> Street	F	Е	F	F	
NW 79 <sup>th</sup> Avenue	F	F	F	F	
SB entrance to 826	F	F	F	F	

As can be seen above, all of the intersections studied, except for NW 121<sup>st</sup> Way and NW 96<sup>th</sup> Street will fail as early as 2008 if no improvements are made. The analysis on NW 121<sup>st</sup> Way does not consider the planned improvements in the recently annexed area (Pennsuco) of the Town. There are plans currently in place by Pan-American Development Company and by the Town to develop the Pennsuco area. This northwest quadrant is bounded by the HEFT on the west, by the future NW 122<sup>nd</sup> Street on the south and by NW South River Drive on the north (See Appendix A for a Map reflecting the new Town Limits). Since the existing bridge crossings of the Miami Canal at NW 107<sup>th</sup> Avenue and NW 138<sup>th</sup> Street does not connect to NW South River Drive, access to this area will rely heavily on the NW 121<sup>st</sup> Way bridge and indirectly on the future NW 122<sup>nd</sup> Street. **Further study of the annexed area in relation to the roadway network is recommended to fully assess the impacts on NW South River Drive and the Town as a whole.** The fact that NW 96<sup>th</sup> Street reaches capacity in 2008 further exemplifies that even minor intersections will be significantly impacted within five years.

Furthermore, based on the fact that the corridor is currently operating worse than what the traffic tables indicate; the actual field conditions (proximity to Okeechobee Road, short bridge length, truck turning movements, unsynchronized signals, etc.) further diminish capacity. Future conditions will undoubtedly be worse than what the numbers indicate.

#### 2.2 **Corridor Analysis**

A Level of Service analysis was also performed on the corridor as a whole. This analysis was based on the segmental breakdown discussed in Segment 1.3.

- ✓ Segment 1: from NW 107<sup>th</sup> Avenue to NW 116<sup>th</sup> Way
- ✓ Segment 2: from NW 116<sup>th</sup> Way to NW 87<sup>th</sup> Avenue
  ✓ Segment 3: from NW 87<sup>th</sup> Avenue to NW 90<sup>th</sup> Street
- Segment 4: from NW 90<sup>th</sup> Street to the Palmetto Expressway (SR-826)

Although Segment 4 is a very short segment, distance wise, the heavy amount of traffic movements that converge in this portion of the corridor warrants its own segment designation. The results of the traffic analysis on the corridor for the existing conditions are shown on Table 2.2.1.

TABLE 2.2.1 EXISTING CORRIDOR LOS					
Segments	From	То	2003 AADT	LOS	
1	107 <sup>th</sup> Avenue	116 <sup>th</sup> Way	5300	С	
2	116 <sup>th</sup> Way	87 <sup>th</sup> Avenue	9600	D	
3	87 <sup>th</sup> Avenue	90 <sup>th</sup> Street	12700	D	
4	90 <sup>th</sup> Street	SR-826	16100	F	

The existing LOS reflects that the majority of the corridor is already at capacity. However, actual field observations reveal LOS "F" conditions from NW 105<sup>th</sup> Way to SR-826. The Intersection Delay Studies performed confirmed these observations. Please refer to Volume II for the complete report.

A similar traffic analysis for the Existing, Opening, Interim and Design Year was performed on the corridor for the No Build scenario. The results are shown in Table 2.2.2.

TABLE 2.2.2      NO BUILD FUTURE CORRIDOR LOS							
From	From      To      2008      2008      2018      2018      2028      2028        AADT      LOS      AADT      LOS      AADT      LOS      AADT      LOS						
$90^{\text{th}}$ St.	SR-826	17840	F	21300	F	25814	F
87 <sup>th</sup> Ave.	$90^{\text{th}}$ St.	13466	D	15100	Е	18089	F
116 <sup>th</sup> Way	87 <sup>th</sup> Ave.	11321	D	14700	Е	18044	F
107 <sup>th</sup> Ave	116 <sup>th</sup> Way	7971	С	13400	D	16954	F

The results reveal that although the traffic volumes increased, the LOS remained the same through the opening year 2008 with most of the corridor failing in 2018. Since the actual field conditions have shown that failure is already occurring in the corridor from the Palmetto Expressway to NW 105<sup>th</sup> Way, it is reasonable to predict that this

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failure will extend further west and possibly impact the NW 116<sup>th</sup> Way intersection by 2008.

#### 2.3 Build Alternative

A LOS analysis was performed for each of the 8 aforementioned intersections along NW South River Drive. Table 2.3.1 & Table 2.3.2 summarize the intersection LOS analysis along with the resulting intersection geometry requirements for both years 2008 and 2028. By the year 2008 the majority of the intersection improvements involved the addition of left and right turn lanes, as well as signal phasing and cycle optimization. By the year 2028, seven of the eight intersections require two through lanes in each direction along NW South River Drive, in addition to the provision of some dual left-turn and exclusive right-turn lanes.

TABLE 2.3.1 YEAR 2008 DESIGN HOUR INTERSECTION LEVEL OF SERVICE ANALYSIS AND RECOMMENDED IMPROVEMENTS							
Intersection	Recom	mended	Improv	ements		L	DS
	Movement		Appi	roach			
		NB	SB	EB	WB	AM	PM
	Left	1	1	2	1		
NW 116 <sup>th</sup> Way	Through	2	2	2	1	С	D
	Right	1	S	S	1		
	Left	S	N/A	N/A	1		
NW 87 <sup>th</sup> Ave.	Through	N/A	N/A	1	1	В	Α
	Right	S	N/A	S	N/A		
	Left	S	N/A	N/A	1		
NW 93 <sup>rd</sup> Street	Through	N/A	N/A	1	1	В	В
	Right	S	N/A	S	N/A		
	Left	S	N/A	N/A	2		
SR-826	Through	N/A	N/A	1	1	D	В
SB Entrance	Right	S	N/A	1	N/A		
	Left	S	1	1	1		
NW 105 <sup>th</sup> Way	Through	1	1	2	1	В	В
	Right	1	1	S	1		
	Left	1	2	1	1		
NW 79 <sup>th</sup> Avenue	Through	1	1	2	1	C	В
	Right	1	S	S	S		

(S) – Shared Thru and Right Turn Lane or Shared Thru and Left Turn Lane N/A – not applies block turning measurement does not exist.

N/A - not applicable - turning movement does not exist

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TABLE 2.3.2 YEAR 2028 DESIGN HOUR INTERSECTION LEVEL OF SERVICE ANALYSIS AND RECOMMENDED IMPROVEMENTS							
Intersection	Recom	mended	Improv	vements		LOS	
	Movement		Аррі	oach			
		NB	SB	EB	WB	AM	PM
	Left	1	2	2	2	2	
NW 116 <sup>th</sup> Way	Through	4	3	2	2	С	E
	Right	S	1	S	S		
	Left	S	1	1	2		
NW 105 <sup>th</sup> Way	Through	1	1	2	2	В	D
	Right	1	1	S	S		
4	Left	1	1	1	1		
NW 87 <sup>th</sup> Avenue	Through	3	3	2	2	D	D
	Right	S	S	S	1		
	Left	1	N/A	N/A	1		
NW 96 <sup>th</sup> Street	Through	N/A	N/A	2	2	Α	Α
	Right	S	N/A	S	N/A		
	Left	1	N/A	N/A	1		
NW 93 <sup>rd</sup> Street	Through	N/A	N/A	2	2	А	А
	Right	S	N/A	S	N/A		
	Left	1	2	1	1		
NW 79 <sup>th</sup> Avenue	Through	1	2	2	2	Е	D
	Right	1	S	S	1		
	Left	1	N/A	N/A	2		
SR-826	Through	N/A	N/A	2	2	D	D
<b>SB Entrance</b>	Right	1	N/A	1	N/A		

(S) – Shared Thru and Right Turn Lane or Shared Thru and Left Turn Lane N/A – not applicable – turning movement does not exist

#### 2.4 Traffic Recommendations

These improvements and benefits are based on the assumption that the signals along NW South River Drive be properly synchronized. Furthermore that the potential restriction of certain truck turning movements at the intersections with connections to Okeechobee Road be further investigated. The actual operational restriction resulting from the combination of large WB-40 and WB-50 trucks turning at the short bridge crossings leads to extensive vehicular queues. The provision of four (4) lanes along NW South River Drive would dramatically increase the capacity and operation of the facility as well as of the intersections along the corridor. Providing this improvement would maintain all segments evaluated with a LOS D or better by the design year 2028. However, due to the R/W constraints along NW South River Drive and based on the availability of funding, a phasing plan for the implementation of improvements is recommended as follows.

- ✓ Phase I (2003): Synchronization of the South River Dr./NW 79<sup>th</sup> Ave. & SR 826 signals and the Okeechobee Rd./NW 79<sup>th</sup> Ave. signal
- ✓ Phase II (2008): 3-Lane NW South River Dr. from NW 105<sup>th</sup> Way to SR 826; Initial Intersection Improvements
- ✓ Phase III (2018): 3-Lane NW South River Dr. from NW 107<sup>th</sup> Ave. to NW 105th Way. 4-Lane NW South River Drive from NW 105<sup>th</sup> Way to SR 826
- ✓ Phase IV (2028): 4-Lane NW South River Dr. from NW 107<sup>th</sup> Avenue to NW 105<sup>th</sup> Way. Additional Intersection Improvements at NW 79<sup>th</sup> Ave.

The three (3)-lane concept will benefit EB vehicles, by providing more capacity in what was observed to be the most critical travel direction along NW South River Drive. The provision of a three (3)-lane typical section would serve in improving the operation of the roadway and provide temporary relief prior to the ultimate solution being implemented.

#### **3.0 EXISTING TRANSPORTATION INFRASTRUCTURE**

#### 3.1 Roadway Functional Classification

Functional Classifications is defined by the FHWA Urban Boundary and Federal Functional Classification Handbook as "the process [by which] streets and highways are grouped into classes, or systems, according to the character of services they provide. The designation of federal functional classification is made at least once every 10 years following the decennial census taken by the U.S. Bureau of Census..."

According to the 1992 Federal Functional Classification, NW South River Drive, east of NW 89<sup>th</sup> Avenue (to the Palmetto Expressway) is classified as an urban collector and west of NW 89<sup>th</sup> Avenue, as a collector road. These classifications came under review following the 2002 census. The firm of Metric Engineering was hired to perform the 2002 update. The Town of Medley met with representatives of Metric Engineering to review the classifications of the roadways in Medley. The Town made various recommendations for upgrading many of the existing classifications and adding roadways to the system which were currently unclassified. Of utmost importance is the reclassification of NW South River Drive as follows:

- ✓ Urban Collector: from NW 122<sup>nd</sup> Street to NW 116<sup>th</sup> Way
- $\checkmark$  Minor Arterial: from NW 116<sup>th</sup> Way to the Palmetto Expressway
- ✓ Local Road: from the Palmetto Expressway to West  $12^{th}$  Avenue

The current classifications are under review and the final classifications are not available yet. Please refer to Appendix A for a complete listing of the Town's recommendations regarding classifications.

#### **3.2 Posted Speed Limits**

The posted speed limit along NW. South River Drive is 35 mph. Various field visits revealed that the actual speed along this facility is much less with traffic at a standstill during the peak morning and afternoon hours east of NW 105<sup>th</sup> Way.

#### **3.3 Existing Typical Sections**

The existing typical section along NW South River consists of a two lane undivided roadway with lane widths varying from 11 ft. to 12 ft. Florida Power and Light poles run along the west side of the corridor with overhead electric, cable and telephone lines attached. Cobrahead lights are attached to some of these FP&L poles. The west side of the typical section varies from a grassed area, to fencing to large parking lots for existing businesses. Various conditions exist on the east side as well: grassed areas with park benches, fences and building facades. A 130 ft. canal reservation currently exists along NW South River Drive for the Miami Canal. Of this, 60 ft. from the southern reservation line has been dedicated as right-of-way for the Town of Medley.

#### 3.4 Major Project Intersections

The major project intersections that exist along NW South River Drive, in the study corridor, are primarily the signalized intersections, most of which provide access to Okeechobee Road via a bridge crossing of the Miami Canal. These include: NW 121<sup>st</sup> Way, NW 116<sup>th</sup> Street, NW 105<sup>th</sup> Way, NW 93<sup>rd</sup> Street ("T" intersection, no bridge), NW 79<sup>th</sup> Avenue and the future signal and bridge crossing at NW 87<sup>th</sup> Avenue. The intersection at NW 96<sup>th</sup> Street was investigated to review the geometric deficiencies of a skewed unsignalized intersection.

One of the most important aspects of designing proper intersections is choosing the correct design vehicle. As defined by FDOT's "Florida Intersection Design Guide":

"A design vehicle is a selected motor vehicle with the weight, dimensions and operating characteristics used to establish design controls for accommodating vehicles of a designated class. For purposes of geometric design, each design vehicle has larger physical dimensions and a larger minimum turning radius than those of almost all vehicles in its class."

Since the Town of Medley is highly industrial in nature and subjected to constant exposure to large tractor-trailor truck traffic, the design of their intersections should be based on larger design vehicles such as the WB-40 or WB-50. A preliminary analysis of the intersections listed above was performed using a 75' control radius. The control radius refers to the radius that must be considered in establishing the stop bars on undivided highways. According to Table 3-16 listed in the Florida Intersection Design Guide, a control radius of 75 ft. should be used where the predominant vehicles accommodated are WB-40 with an occasional WB-50. This sets the geometry of an intersection to accommodate the left turns of the larger vehicles. Field visits confirmed that many of the major intersections along the NW South River Drive corridor are exposed to the larger tractor-trailor trucks, i.e. WB-50 or even greater. Future analysis of this corridor should evaluate all major intersections for a WB-50 truck. A benefit-cost analysis (WB-40 /WB-50) is recommended to determine what is best for the particular intersection under review.

Equally as important is obtaining adequate right-of-way at the intersection corners. This is governed by providing the proper corner radius for the design vehicle. According to Table 3-12 listed in the Florida Intersection Design Guide, a corner radius of 40 ft. allows for a moderate speed turn for the smaller P vehicles (cars), low speed turn for the SU type vehicles and crawl speed turn for WB-40 or WB-50 vehicle with minor encroachment. A 50 ft radius provides a moderate speed turn for all vehicles up to a WB-50. The speed of the turn affects the capacity of the intersection. Slow moving turns will require longer signal green time to clear the intersection and creates greater traffic backups. The following intersections were analyzed using a WB-40 design vehicle are shown on Exhibit 2 on Page 16). The dimensions of a WB-50 design vehicle are shown on Exhibit 3 on Page 17).



14





TOWN OF MEDLEY

Trailer Track

DESIGN TRUCK PARAMET N.W. SOUTH RIVER DRIVE - CO.

: 8.50

k Time	: 6.00
gle	: 21.30
g Angle	: 70.00

TERS	WB - 40	
RRIDOR STUDY	EXHIBIT 2	

1



25



1AI	R C	0
W	U	00

Tractor Width

Trailer Width

Tractor Track

Trailer Track

feet

: 8.50	Lock to Lock Time	: 6.00
: 8.50	Steering Angle	: 26.10
: 8.50	Articulating Angle	: 70.00
: 8.50		

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DESIGN TRUCK PARAMET N.W. SOUTH RIVER DRIVE - CO.

WB - 50
EXHIBIT 3

1.0

5

#### **Town of Medley**

The turning paths of the WB-40 vehicle were modeled using Autoturn, a computer program that models the front and rear wheel paths of a vehicle. The results of this analysis are presented in Figures 1 through 10. The analysis was performed utilizing uncontrolled aerials provided by FDOT. These aerials were scaled to provide 12 ft. Field measurements were taken at each intersection and applied to each lanes. intersection on the aerial. The location of the existing stop bars and stripping was approximated on the aerial from the field recordings. The analysis shown is for existing conditions only with minor modifications to existing stripping where such measures helped improve the turning maneuvers. The intersections of NW South River Drive and NW 87<sup>th</sup> Avenue & NW 79<sup>th</sup> Avenue could not be modeled using the Autoturn program since the aerial information for these intersections was not up to date. The intersection at NW 87<sup>th</sup> Avenue will be significantly changed with the recommended improvements from the ongoing Project Development and Environment Study including a new bridge crossing. The aerial information for the intersection at NW 79<sup>th</sup> Avenue is obsolete since the road was re-aligned and a bridge crossing was added across the Miami Canal.

#### NW 121<sup>st</sup> Way

#### **Right Turn Analysis:**

At NW 121<sup>st</sup> Way, the existing corner radii were approximated at 40 ft. or 50 The Autoturn analysis shown on ft. Figure 1 for right turns indicates that the intersection can handle the WB-40 design vehicle. The Autoturn analysis conducted assumes that the vehicle making the turn is centered in the lane of travel before beginning to turn. This is not the case for vehicles on the short bridges that cross the Miami Canal. Tractor-trailor trucks that turn onto the bridge from Okeechobee Road (either right turn or left turn) do not have sufficient bridge length to straighten out before making the right turn onto NW South River Drive. Right turning trucks have a tighter corner radius to contend with which forces them to take a wide turn using the adjacent lane to avoid clipping the existing barrier (or guardrail) at the Okeechobee Road side.

Trucks wishing to turn right from NW South River Drive onto the bridge have also caused some damage to the existing





#### **Town of Medley**

barrier wall. Those trucks that turn right onto the bridge and desire to turn left onto Okeechobee Road encroach on the adjacent lanes and block part of the already minimum storage capacity afforded by the bridge.

Interviews held with Officer Jorge Perez of the Medley Police Department revealed that other issues exist at this intersection and at all intersections with bridge access to Okeechobee Road. He stated that the traffic signals at Okeechobee Road and NW South River Drive are not synchronized and drivers often block the through movement on NW South River Drive trying to beat the signal and not get caught in the next cycle. In this particular intersection, Mr. Perez indicated that some drivers perform illegal maneuvers to avoid the backup for the through movement on the bridge. These drivers get into the left lane of the approaching NW 121<sup>st</sup> Way and then proceed straight instead of making the left onto NW South River Drive. When on the bridge, they attempt to merge back into the through movement lanes.

#### Left Turn Analysis:

The left turn analysis is shown on Figure 2. The critical movements at this intersection occur at two of the four turning movements. The first involves the left turn from NW 121<sup>st</sup> Way to NW South River Drive (northwesterly direction). As can be seen in this Figure, the location of the existing stop bar would have to be pushed back and the chevron striping adjusted to make this turn work in Autoturn with a WB-40 design vehicle. This is not so easily done in reality. Moving stop bar locations can not be done without considering other equally important design issues; for example, intersection sight distance. Will the driver be able to see oncoming traffic to the left and right? Adequate distance must also exist from the stop bar to the existing traffic signal. Furthermore, movement of a stop bar does not guarantee that drivers will stop at the new location. It is important to design with driver expectancy in mind.

Horizontal Clearance, Clear Zone and Control Zones are also important design criteria that must be evaluated when designing roadways and intersections. According to FDOT's Plans Preparation Manual (PPM), Horizontal clearance is defined as the lateral distance from a specified point on the roadway such as the edge of the travel lane or face or curb, to a roadside feature or object. Clear zone is defined as the roadside area available for safe use by errant vehicles. Control zones are defined as areas in which it can be statistically shown that crashes are more likely to involve departure from the roadway with greater frequency of contact with above ground objects. Common examples of control zones include the area within the return radii of an intersecting street and the new construction horizontal clearance distance. For 'T' intersections (on the nonintersection side) control zones are located within the area defined by a line through the center of the return radii and return point of tangent extended across the street to the rights of way limits (See Appendix C for an excerpt from FDOT's PPM for Control Zones).









LEGEN	D
	FRONT WHEEL PATH
, <del></del> ,	REAR WHEEL PATH
	CENTER LINE PATH
	WB-10
	W.D-10





The second left turn movement to consider is the one that begins at the bridge and turns into NW South River Drive (southeasterly direction). Although the maneuver seems to be working, the curb is showing some signs of deterioration. This is one area of concerns for the right turns as discussed above. The existing traffic signal pole at this location is in close proximity to the travel lane.

There is a safety concern for both left and right turning vehicles due to the potential for impact to this signal pole. Additionally, this intersection is showing significant signs of deterioration due to the constant heavy tractor-trailor traffic. The bridge crossing also has no visible pavement markings to delineate the travel lanes.





#### **Recommendations:**

The following recommendations are items that require further study and analysis to determine if they are appropriate measures for improving the operation of this intersection.

- ✓ Synchronize the signals along the NW South River Drive corridor with those along the Okeechobee Road corridor. This can be done immediately.
- ✓ Evaluate intersection for WB-50 design vehicle. Re-stripe the intersection for WB-40 minimum or WB-50 design vehicle (which is the preferred re-stripping).
- ✓ Investigate the right-of-way at the intersections and evaluate obtaining corner clips for proper left and right turn movements. Improving corner radius must consider impacts to NUI City Gas Company's Sub Station #1 located on Miami Canal side. See picture on Page 18 ("Damage to Guardrail).
- ✓ Resurface the roadway. Evaluate the possibility of designing a concrete intersection. In industrial areas the use of concrete intersections has long term serviceability benefits. This is due to their ability to withstand the heavy truck traffic turning movements much better than conventional asphalt pavement.
- ✓ Evaluate improvements to the barriers on the bridge on both the NW South River Drive and Okeechobee Road side. This may require bridge widening.
- ✓ Continue periodic police enforcement by both County or State Police (for the Okeechobee Road side) and Town of Medley Police.

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**Town of Medley** 

**E315** Corzo Castella Carballo Thompson Salman, P.A.

#### <u>NW 116<sup>th</sup> Way</u>

#### **Right Turn Analysis:**

At NW 116<sup>th</sup> Way, the existing corner radii were approximated to be 50 ft. The Autoturn analysis shown on Figure 3 for right turns indicates that the rear wheel path of the WB-40 design vehicle encroaches into the corners. This is evident especially at the two bridge corners where portions of the guardrail are missing from repeated crashes. As can be seen in



this picture and discussed above, trucks turning right onto the bridge from Okeechobee Road must swing out to make the turn. Therefore they are not in a straightened position on the right turn lane when they are starting the turn. This blocks the bridge and decreases the capacity of this very short segment.

The following succession of pictures shows what happens when a truck attempts a right turn from the bridge onto NW South River Drive (northwesterly direction).



The pictures above tell an important story. An approaching truck attempting a right turn has to sweep into the lane of the adjacent and opposing traffic. A car stopped at the stop

bar must backup to allow the truck to clear him. Even with this attempt, the truck is still encroaching onto the curb line and has hit the guardrail. This was witnessed personally by our design team.

The same issues discussed above for the intersection at NW 121<sup>st</sup> Street exist for NW 116<sup>th</sup> Way as well. Here is a picture of how disordered traffic on the bridge can become.









#### Left Turn Analysis:

The left turn analysis for this intersection is shown on Figure 4. The 75' control radius fits in well within this intersection since it is one of the larger ones. This is also a 90 degree intersection (as opposed to the one at NW 121<sup>st</sup> Way which was on a slight skew). The WB-40 design vehicle appears to be making the left turns adequately. The presence of a raised median and adequate striping help make this intersection perform better from a traffic operational standpoint.

#### **Recommendations:**

The following recommendations are items that require further study and analysis to determine if they are appropriate measures for improving the operation of this intersection.

- ✓ Synchronize the signals along the NW South River Drive corridor with those along the Okeechobee Road corridor. This can be done immediately.
- ✓ Evaluate intersection for WB-50 design vehicle. Re-stripe the intersection for WB-40 minimum or WB-50 design vehicle (which is the preferred re-stripping).
- ✓ Investigate the right-of-way at the intersections and evaluate obtaining corner clips for proper left and right turn movements.
- ✓ Resurface the roadway. Evaluate the possibility of designing a concrete intersection. In industrial areas the use of concrete intersections has long term serviceability benefits. This is due to their ability to withstand the heavy truck traffic turning movements much better than conventional asphalt pavement.
- ✓ Evaluate improvements to the barriers on the bridge on both the NW South River Drive and Okeechobee Road side. This may require bridge widening.
- ✓ Continue periodic police enforcement by both County or State Police (for the Okeechobee Road side) and Town of Medley Police.

#### NW 105<sup>th</sup> Way/NW 106<sup>th</sup> Street

The intersections of NW 105<sup>th</sup> Way and NW 106<sup>th</sup> Street with NW South River Drive present a unique condition. NW 106<sup>th</sup> Street has been identified as one of the main east-west roadway corridors that exist in the Town of Medley. With the connection to the HEFT and NW 116<sup>th</sup> Way (Gran Park Blvd.), NW 106<sup>th</sup> Street serves as an important corridor for the Town of Medley. It is currently a two lane roadway bordered on the south side by Pelmad Industrial Park and on the north side by the Russian Colony Canal. NW 106<sup>th</sup> Street forms a skewed unsignalized "T" intersection with NW South River Drive. No direct access to Okeechobee Road is provided. Access across the Miami Canal is provided by the bridge at NW 105<sup>th</sup> Way. NW 106<sup>th</sup> Street traffic can access this bridge by making a right onto NW South River Drive or utilizing NW 105<sup>th</sup> circle and looping around to NW 105<sup>th</sup> Way.















Vehicles traveling along NW South River Drive (northwesterly direction) are allowed to turn left onto NW 106<sup>th</sup> Street. This creates significant operational problems for both intersections. Either the left turning lane backs up onto the NW 105<sup>th</sup> Way intersection, or the queue along the southeasterly lanes of NW South River Drive stack up and block the intersection at NW 106<sup>th</sup> Street.

Geometrically, the lanes on the existing bridge are not aligned with the lanes on the NW 105<sup>th</sup> Way approach. Drivers have to cross the intersection at an angle to go through it. NW 106<sup>th</sup> Street was identified as Priority 5 in the Town of Trafficways Improvement Medlev's Program. During the alternatives development process of this program, it was determined that a three-lane roadway typical section would be desirable for NW 106<sup>th</sup> Street.





Several alternatives were proposed for the intersection of NW 106<sup>th</sup> Street with NW South River Drive. The following two options were recommended for further study:

- Alternative 1: Provide a new bridge across the Miami Canal that links the proposed NW 106<sup>th</sup> Street widened typical with Okeechobee Road.
- Alternative 2: Upgrade the existing bridge that ties into NW 105<sup>th</sup> Way.

To date, these two alternatives have not been studied further The evaluation of Alternative 1 should also include an analysis of re-aligning the intersection of NW 106<sup>th</sup> Street with NW South River Drive to remove the skew. This is similar to what was done at the NW 79<sup>th</sup> Avenue intersection when the new bridge was designed at this location. This is needed to allow for proper turning movements.



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An analysis of right and left turns was done at the current intersection with NW 106<sup>th</sup> Street as seen on Figures 5 & 6. This will be discussed below. The evaluation of Alternative 2 should include a Cost Benefit analysis of rehabilitating the bridge versus replacement in addition to the traffic operational concerns. Another Alternative that could be investigated but may have significant negative impacts is creating a one-way pair system by using the bridge at NW 105<sup>th</sup> Way for northbound traffic and a new bridge at NW 106<sup>th</sup> Street for southbound traffic. This concept has serious implications to both NW 106<sup>th</sup> Street, NW 105<sup>th</sup> Way, NW South River Drive and Okeechobee Road. From a permitting standpoint, both FDOT and the South Florida Water Management District (SFWMD) would have critical concerns. Providing two access points so close together on Okeechobee Road violates FDOT's Access Management requirements. Under Florida Statutes 335.18, the Legislature authorized the Department to develop rules to administer the "State Highway System Access Management Act (Rules 14-96 & 14-97). Additional signalization and synchronization of the signals would be required. SFWMD may object to another bridge crossing over the Miami Canal C-6. Heavy public opposition may result from the businesses in this area. All alternatives described above should be studied further for proper consideration of all the design parameters, public involvement and agency coordination required.

#### **Right Turn Analysis:**

At NW 105<sup>th</sup> Way the Autoturn analysis shown on Figure 5 for right turns indicates that the rear wheel path of the WB-40 design vehicle encroaches into the corners as can be seen in the damage to the existing barriers on the bridges. FDOT recently completed construction of barrier improvements to this bridge due to the significant damage they had experienced. Conversations held with the Department's Project Manager revealed that significant utility complications were encountered during the construction of this project, which in turn increased the cost of the project.

This intersection experiences the same issues with right turns as discussed above for NW



121<sup>st</sup> Way and NW 116<sup>th</sup> Way. At NW 106<sup>th</sup> Street, the skewed configuration of the intersection makes it very difficult for a WB-40 design vehicle to make the right turn (from NW South River Drive to NW 106<sup>th</sup> Street). The right turn from NW 106<sup>th</sup> Street to NW South River Drive is not too problematic since the skew angle of the intersection benefits this particular right turn. However, those vehicles that turn right here and then proceed to turn right onto NW 105<sup>th</sup> Way do not have sufficient space to straighten out before making the turn.













![](_page_29_Picture_6.jpeg)

![](_page_29_Picture_8.jpeg)

#### Left Turn Analysis:

The left turn analysis for this intersection is shown on Figure 6. The 75' control radius fits in well within this intersection. The WB-40 design vehicle appears to be making the left turns adequately. A left turn was modeled from NW 106<sup>th</sup> Street to NW South River Drive (northwesterly direction). As can be seen, the design vehicle must significantly maneuver outside of the pavement for NW South River Drive to even attempt this turn. Not to mention the delay that this vehicle would cause on the operation of this intersection. Re-aligning the intersection to meet NW South River Drive at a 90 degree angle would greatly improve the operation of this intersection as discussed above.

Prior to the construction of the NW 79<sup>th</sup> Avenue bridge, NW 105<sup>th</sup> Way was the main entry point into Medley from Okeechobee Road closest to the Palmetto Expressway. This intersection was plagued by heavy traffic. Drivers from Okeechobee Road would use this intersection to turn onto NW South River Drive and access the Palmetto Expressway on-ramp. As discussed in the Traffic Section 2.0, there is a queue of traffic in the morning peak hours on NW South River Drive that extends from NW 79th Avenue to NW 105<sup>th</sup> Way. Drivers that want to access the Palmetto Expressway do not want to sit in this queue of traffic. Therefore, with the construction of the new bridge at NW 79<sup>th</sup> Avenue, the problems that were occurring at the NW 105<sup>th</sup> Way bridge have now shifted to the new NW 79<sup>th</sup> Avenue bridge. Although this shift has occurred, the traffic operation at this intersection is still significantly poor.

#### **Recommendations:**

The following recommendations are items that require further study and analysis to determine if they are appropriate measures for improving the operation of this intersection.

- ✓ Synchronize the signals along the NW South River Drive corridor with those along the Okeechobee Road corridor. This can be done immediately.
- ✓ Evaluate intersection for WB-50 design vehicle. Re-stripe the intersection for WB-40 minimum or WB-50 design vehicle (which is the preferred re-stripping).
- ✓ Investigate the right-of-way at the intersections and evaluate obtaining corner clips for proper left and right turn movements.
- ✓ Resurface the roadway. Evaluate the possibility of designing a concrete intersection. In industrial areas the use of concrete intersections has long term serviceability benefits. This is due to their ability to withstand the heavy truck traffic turning movements much better than conventional asphalt pavement.
- ✓ Continue periodic police enforcement by both County Police (for the Okeechobee Road side) and Town of Medley Police.
- ✓ Evaluate improvements to NW 106<sup>th</sup> Street. Investigate possibility of re-aligning the intersection with NW South River Drive. Investigate a new bridge crossing at NW 106<sup>th</sup> Street versus replacing the existing bridge or rehabilitating it.
- ✓ Evaluate the one-way pair concept further.

![](_page_31_Picture_0.jpeg)

![](_page_31_Picture_1.jpeg)

![](_page_31_Picture_2.jpeg)

![](_page_31_Picture_3.jpeg)

![](_page_31_Picture_4.jpeg)

![](_page_31_Picture_5.jpeg)

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#### NW 87<sup>th</sup> Avenue

The Town of Medley recognized the critical need for improvements to the NW 87<sup>th</sup> Avenue corridor early on in their planning efforts. The Trafficways Improvement Program of 1997 ranked improvements to this corridor as Priority Number 1. This planning effort by the Town was instrumental in setting the course for additional study. As a result, FDOT is currently performing a Project Development and Environment Study for improvements to NW 87<sup>th</sup> Avenue within the Town of Medley. This study will focus on the possibility of extending the existing four-lane divided section of NW 87<sup>th</sup> Avenue presently terminating at NW 58<sup>th</sup> Street. The proposed project would continue the four lane section with a raised median between NW 58<sup>th</sup> Street and NW South River Drive. A new nine lane bridge over the Miami Canal would be provided in conjunction with a new six lane section from Okeechobee Road to the northern project terminus at NW 103<sup>rd</sup> Street. (See Appendix B for a copy of the Preferred Alternative under evaluation) As can be seen on the General Plan and Elevation obtained from the Draft Preliminary Engineering Report performed by Metric Engineering and pursuant to discussions held with Metric Engineering's Engineer of Record, Mr. Raul Driggs, the intersection of NW 87th Avenue with NW South River Drive was designed using a WB-50 as the design vehicle. A radius of 50 ft. was used for right turning vehicles. During final design, the signal poles should be placed to provide proper clearances from the traveled way and to avoid conflicts with the turning movements of these larger vehicles.

#### NW 96<sup>th</sup> Street & NW 93<sup>rd</sup> Street

#### Left & Right Turn Analysis:

NW 96<sup>th</sup> Street and NW 93<sup>rd</sup> Street are both east west roadways that intersect NW South River Drive at a skew angle. The right turn and left turn analysis is similar for both these two intersections (as with all east west roads that intersect NW South River Drive) and can be seen on Figures 7 through 10. The main difference between these two intersections is that NW 93<sup>rd</sup> Street is a signalized intersection and has а separate left turn lane at its approach.

![](_page_32_Picture_7.jpeg)

The NW South River Drive approach (for northwesterly traffic) also has a separate left turn lane (at NW 93<sup>rd</sup> Street). As can be seen on the "Right Turns" exhibits (Figure 7 & 9), the tight radius between NW South River Drive and westbound NW 93rd or 96<sup>th</sup> Streets significantly impacts the ability of the WB-40 design vehicle to turn right. The left turn from each street to NW South River Drive (northwesterly direction) is virtually impossible. Our design staff witnessed a tractor-trailor attempting this turn. Not only was the driver forced to go outside of the pavement, he also had to stop and backup and then go forward again. This blocks the through movement along NW South River Drive until

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the driver can successfully maneuver this turn. The opposite condition also holds true. At times, the backup of the through movement on NW South River Drive extends across the intersection from drivers trying to beat the signal cycle. This prevents any vehicle from even attempting a left turn and forces them to wait for the next cycle to turn.

![](_page_33_Picture_3.jpeg)

#### **Recommendations:**

The following recommendations are items that require further study and analysis to determine if they are appropriate measures for improving the operation of this intersection.

- ✓ Synchronize the signals along the NW South River Drive corridor with those along the Okeechobee Road corridor. This can be done immediately.
- ✓ Evaluate intersection for WB-50 design vehicle. Re-stripe the intersection for WB-40 minimum or WB-50 design vehicle (which is the preferred re-stripping).
- ✓ Investigate the right-of-way at the intersections and evaluate obtaining corner clips for proper right turn movements.
- Evaluate placing additional pavement adjacent to the northwestern bound lane of NW South River Drive to accommodate a left turning WB-40 minimum or WB-50 preferred design vehicle.
- ✓ Evaluate the possibility of restricting left turns from the minor street to NW South River Drive (during peak periods or altogether).
- ✓ Evaluate all east-west streets that intersect NW South River Drive. Those that provide continuity and connection to the overall roadway network in the Town should be further studied. Consider re-aligning the intersection to intersect at a 90 degree angle.
- ✓ Add chevron pavement marking and raised medians to control the turning movements of the larger tractor-trailors.

![](_page_34_Picture_0.jpeg)

![](_page_34_Picture_1.jpeg)

![](_page_34_Picture_2.jpeg)

![](_page_34_Picture_3.jpeg)

![](_page_34_Picture_4.jpeg)

![](_page_34_Picture_5.jpeg)

INTERSECTION TRUCK - TURNING ANALYSIS N.W. SOUTH RIVER DRIVE - CORRIDOR STUDY N.W. 96th Street FIGURE 7 ( RIGHT TURNS )

![](_page_35_Picture_0.jpeg)

![](_page_35_Picture_1.jpeg)

![](_page_35_Picture_2.jpeg)

LEGEN	7D
	FRONT WHEEL PATH
	REAR WHEEL PATH
	CENTER LINE PATH
	WB-10

![](_page_35_Picture_4.jpeg)

![](_page_35_Picture_5.jpeg)

INTERSECTION TRUCK - TURNING ANALYSIS N.W. SOUTH RIVER DRIVE - CORRIDOR STUDY

FIGURE 8 ( LEFT TURNS )

![](_page_36_Picture_0.jpeg)

![](_page_36_Picture_1.jpeg)

![](_page_36_Picture_2.jpeg)

LEGEN	TD
	FRONT WHEEL PATH
	REAR WHEEL PATH
	CENTER LINE PATH
	WB-40

![](_page_36_Picture_4.jpeg)

![](_page_36_Picture_5.jpeg)

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![](_page_37_Picture_0.jpeg)

![](_page_37_Picture_1.jpeg)

![](_page_37_Picture_2.jpeg)

LEGEN	D
	FRONT WHEEL PATH
	REAR WHEEL PATH
	CENTER LINE PATH
	WB-40

![](_page_37_Picture_4.jpeg)

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## **EBIS** Corzo Castella Carballo Thompson Salman, P.A.

#### NW 79<sup>th</sup> Avenue

The aerials obtained for this project were shot prior to the construction of the new bridge and intersection at NW 79<sup>th</sup> Avenue. Therefore, an analysis of existing truck turning movements was not possible. However, based on field observations and interviews held with both the Town of Medley Police Department and Miami-Dade County Police Department, several traffic and operational issues exist at this intersection.

As was discussed in the section on NW 105<sup>th</sup> Way above, traffic wishing to access the Palmetto Expressway onramp from NW South River Drive are utilizing the new bridge on NW 79<sup>th</sup> Avenue. This together with the additional demand created by the recent opening of the Metrorail Station has created a backup condition on NW South River Drive that extends to NW 105<sup>th</sup> Way. Additional operational issues are affecting this intersection.

![](_page_38_Picture_5.jpeg)

![](_page_38_Picture_6.jpeg)

Trucks turning left from the bridge to NW South River Drive (southeasterly direction) block the intersection and create excessive delays. Additionally, Miami-Dade County Police were ticketing drivers along Okeechobee Road who illegally merge onto the right turn lane (to turn right onto bridge). These drivers do not want to wait in the long queue of the right turn lane along Okeechobee Road, so they get on the adjacent lane and then either attempt to merge into the right turn lane or turn right onto the bridge from the adjacent lane. Those trucks that turn right onto the bridge and then want to turn left onto NW South River Drive take up a lot of space to make this maneuver and block the bridge. To complicate the situation, the signals at Okeechobee Road and NW South River Drive are not synchronized. This is one improvement which can be made immediately.

The Town is concerned with the placement of the new mast arms located on NW 79<sup>th</sup> Avenue and the potential for impact from a right turning large tractor-trailor. As can be seen to the right, these mast arms are located close to the edge of pavement. These locations do not appear to comply with proper horizontal clearance requirements. These locations are also considered critical control zones.

![](_page_39_Picture_3.jpeg)

The mast arm located adjacent to the bridge is protected by a barrier wall but even this barrier is showing some minor signs of damage due to impact.

![](_page_39_Picture_5.jpeg)

#### **Recommendations:**

Since this intersection and bridge was recently completed, only minor improvements are recommended at this time.

- ✓ Synchronize the signals along the NW South River Drive corridor with those along the Okeechobee Road corridor. This can be done immediately.
- ✓ Evaluate intersection for WB-50 design vehicle. Re-stripe the intersection for WB-40 minimum or WB-50 design vehicle (which is the preferred re-stripping).
- ✓ Continue periodic police enforcement by both County or State Police (for the Okeechobee Road side) and Town of Medley Police.
- ✓ Monitor the conditions of the bridge barriers and the mast arms yearly for damage. Monitor and record the crash history at this intersection to determine if safety improvements are warranted in the future.

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#### 3.5 Transit Facilities

The Miami-Dade Transit Authority recently completed the construction of a new Metrorail Station, the Palmetto Station at 7701 NW 79<sup>th</sup> Avenue. Metrobus operates the Okeechobee Connection Route 245 in the Medley area. This route provides weekday service from the Palmetto Station to Wal-Mart Supercenter, BJ's, Hialeah Gardens City Hall, Pal-Med Industrial Park and Grand Park Industrial Park with select trips to the School Bus Depot located on NW South River Drive (See Exhibit 4). This bus route utilizes NW 106<sup>th</sup> Street and loops around NW 105<sup>th</sup> Way to service the Pal-Med area and cross Okeechobee Road. Route 33 also passes through the Town of Medley. This route provides weekday and weekend service to the following destinations: NW 106<sup>th</sup> Street/South River Drive, Lehigh Industrial Park, City of Hialeah Gardens City Hall, City of Hialeah, Westland Mall, West/East 49 Street, NW/NE 95 Street, North Shore Hospital and the City of Miami Shores. The weekend service does not include the Medley area (See Exhibit 5). Any further study of the NW 106<sup>th</sup> Street / NW 105<sup>th</sup> Way corridor must consider the impact to both these Metrobus routes.

The new Metrorail Station is experiencing an average weekday ridership of 700 people. Mr. Manny Palmeiro of MDT explained that these are preliminary numbers and that the station has capacity for 700 vehicles. When we visited the Metrorail station on a weekday, the parking facility appeared approximately 25% maximum utilized. He stated that it is difficult to project the increased ridership in the future since this station is new. It generally takes 2 to 3 years to establish a better average allowing time for people to get to know that the Station is there. Ridership is also comprised of individuals who walk or ride their bikes to the station. Given that this is a relatively new station, ridership should increase in the future. The larger the increase the greater the impact on the Town and on South River Drive making driving conditions in this area ever more detrimental. At this time, no additional bus routes are planned within the area. However, on November 5<sup>th</sup>, 2002, the People's Transportation Plan was approved by Miami-Dade County voters. This will mean more busses and improvement to the bus system service in general. Further study of Medley's roadway network should consider the need for additional bus routes as a ways to reduce traffic congestion in Medley by getting commuters off the road and into the busses and the Metrorail Station. Due to the geometric implications that the larger vehicles face for turning maneuvers, it is recommended that any additional bus routes planned along the corridor involve the use of smaller "mini" busses.

![](_page_41_Figure_0.jpeg)

![](_page_42_Picture_0.jpeg)

![](_page_42_Figure_1.jpeg)

#### 3.6 Land Use

The Town of Medley is currently in the process of updating their Comprehensive Plan. The existing land use in Medley documented in the 1994-2000 Comprehensive Plan is depicted by Table 3.6.1 below:

TABLE 3.6.1 EXISTING LAND USE						
LAND USE CATEGORY NUMBER OF ACRES PERCENT OF TOTAL						
Residential	29.6	1.1				
Commercial	5.4	.2				
Industrial	1,989.2	75.2				
Parks and Recreation	3.2	.1				
Public Buildings & Facilities	5.2	.2				
Water Areas	382.0	14.4				
Vacant Areas	114.0	4.3				
Railroad R/W	59.9	2.3				
Expressway R/W	57.5	2.2				
TOTAL	2,646.00	100%				

The future land use for the Year 2000 is shown in Table 3.6.2 below:

TABLE 3.6.2    FUTURE LAND USE						
LAND USE CATEGORY NUMBER OF ACRES PERCENT OF TOTAL						
Residential	98.0	3.7				
Commercial	8.0	.3				
Industrial	2,026.0	76.5				
Parks and Recreation	5.0	.2				
Public Buildings & Facilities	7.0	.3				
Water Areas	382.0	14.4				
Railroad R/W	60.0	2.3				
Expressway R/W	60.0	2.3				
TOTAL	2,646.00	100%				

At the time, the vacant land was set aside for industrial or residential uses. This Comprehensive plan also identified the Pennsuco area for future annexation. This annexation has been completed and the new Town Limits are shown on the Town Map included as Appendix A. The Town is also currently investigating the possible annexation of the following sections: 31-52-40 and 6-53-40.

#### **Town of Medley**

#### EIIS Corzo Castella Carballo Thompson Salman, P.A.

#### 3.7 Utilities

A Utility Design Ticket was obtained from Sunshine One Call to determine the extent of utility involvement along NW South River Drive. The following companies were listed as having facilities within or crossing the NW South River Drive corridor:

- ✓ AT&T Broad (Formerly Media One)
- ✓ BellSouth Telecommunications
- ✓ BroadWing
- ✓ City Gas
- ✓ City of Hialeah
- ✓ City of Hialeah Gardens Water and Sewer
- ✓ Dade County Public Works
- ✓ Florida Gas Transmission
- ✓ FP&L Distribution
- ✓ FP&L Transmission
- ✓ FPL Fiber Optic
- ✓ Level 3 Communications
- ✓ Town of Medley Utilities
- ✓ Williams One Call Services
- ✓ XO Communications
- ✓ XSPEDIUS Fiber Group

![](_page_44_Picture_20.jpeg)

![](_page_44_Picture_21.jpeg)

A field visit of the corridor confirmed major overhead utilities running parallel to NW South River Drive on the south side with standard cobrahead lights attached to some of the utility poles. A significant aerial crossing of overhead transmission lines exist just northwesterly of the intersection at NW 79<sup>th</sup> Avenue. These lines cross NW South River Drive, the Miami Canal and Okeechobee Road. Other major utility facilities were found on the Miami Canal side of NW South River Drive. For example, the NUI City Gas Sub Station #1 at the NW 121<sup>st</sup> Way intersection and the pump station (Medley) at the NW 105<sup>th</sup> Way intersection.

All alternatives considered for further design should address the impacts to existing utilities and the associated costs for relocation.

![](_page_45_Picture_0.jpeg)

#### **3.8 Existing Bridge Characteristics**

There are four bridges along NW South River Drive (from NW 107<sup>th</sup> Avenue to the Palmetto Expressway) that cross the Miami Canal. Since the bridge at NW 107<sup>th</sup> Avenue does not connect to NW South River Drive, this bridge was not included in this Corridor Study report. The following bridges were investigated:

- ✓ NW 121<sup>st</sup> Way
- ✓ NW116th Way
- ✓ NW 105<sup>th</sup> Way
- ✓ NW  $79^{\text{th}}$  Avenue (recently completed)

Bridge Maintenance Inspection Records for the first three bridges were obtained from FDOT. The bridge at NW 79<sup>th</sup> Avenue was recently completed and therefore no records are available. Table 3.8.1 below lists summarizes the results of these inspection reports:

TABLE 3.8.1							
EXISTING BRIDGE CHARACTERISTICS							
<b>BRIDGE AT:</b>	NW 121 <sup>st</sup> Way	NW 116 <sup>th</sup> Way	NW 105 <sup>th</sup> Way				
Bridge	876300	876301	876303				
Number							
Year Built	1970/1994	1974	1989				
Type of Bridge	Flat Slab	Flat Slab	Flat Slab				
Pedestrian	5.1 ' Right	5' Left & Right	None				
Features		_					
Number of	$3, \max = 38.4$ '	$3, \max = 40^{\circ}$	3, max = 38.9'				
Spans							
Length of	113.5'	120'	117'				
Bridge							
Sufficiency	96.6	95	78.1				
Rating							
Design Load	5 MS 18	5 MS 18	5 MS 18				
Inventory	50.38 tons	43.54 tons	34.172 tons				
Rating							
Operating	66.58 tons	51.26 tons	45.746 tons				
Rating							
	Left Concrete Barrier	Little or no	Barriers recently				
Guardrail /	has moderate size	deterioration.	repaired under FDOT				
Barrier	cracks. Spalls on the		contract.				
Condition	right inside conc.						
	Approach barrier						
	west side.						

#### 4.0 TRANSPORTATION PLANS

The Miami-Dade County Metropolitan Planning Organization (MPO) is responsible for developing the Long Range Transportation Plan (currently the 2025 Transportation Plan) for the urban area that specifies needed transportation projects for twenty years. They are also in charge of annually updating the Transportation Improvement Program (TIP). The TIP lists projects that are selected from the Transportation Plan to be implemented during a five year cycle.

The FDOT Preliminary Engineering Report for NW 87<sup>th</sup> Avenue conducted by Metric Engineering evaluated the current and potential future roadway network within the Town of Medley. Exhibit 6 lists the related projects in the area currently under construction or planned in the future. The following projects are currently under construction or recently completed:

- ✓ NW 74<sup>th</sup> Street Metrorail Extension and Station
- ✓ NW 74<sup>th</sup> Street widening from west of SR-826 to NW 84<sup>th</sup> Avenue
- ✓ NW 79<sup>th</sup> Avenue from NW 74<sup>th</sup> Street to Okeechobee Road
- SR-826/Palmetto Expressway at NW 25<sup>th</sup> Street HOV & Interchange improvements
  SR-826/Palmetto Expressway at NW 58<sup>th</sup> Street HOV & Interchange improvements
- ✓ SR-826/Palmetto Expressway at NW 103<sup>rd</sup> Street HOV & Interchange improvements
- ✓ SR-826/Palmetto Expressway at Okeechobee Road HOV & Interchange improvements

The 2004 TIP was reviewed for planned projects between the years 2004-2008. The following projects were found in the project area:

- ✓ Project No. 4147721 SR-25 Okeechobee Road at NW 95<sup>th</sup> Street add turn lanes
- ✓ Project No. 2501051 SR-25 Okeechobee Road (east of W. 12<sup>th</sup> Avenue to W. 19<sup>th</sup> Street) -4 to 6 lanes
- ✓ Project No. 2501052 SR-25 Okeechobee Road (from SR-826 to east of W. 12<sup>th</sup> Avenue) -4 to 6 lanes.

The Town of Medley is currently in the Master Plan Stages for a linear park adjacent to NW South River Drive on the Miami Canal side. This park will be located in our Study Segment 1. The park will require a minor re-alignment of NW South River Drive. This should be taken into consideration with any further study efforts.

![](_page_47_Figure_0.jpeg)

![](_page_47_Figure_2.jpeg)

#### 5.0 CONCEPTUAL ALTERNATIVES

The following sections describe the different roadway improvement alternatives being considered, including the "No-Project" alternative.

#### 5.1 No-Project Alternative

The No Project Alternative involves maintaining the existing two-lane facility. The consequence associated with this alternative includes the acceptance of decreasing the LOS for this section of roadway while the traffic volume has been projected to increase as a consequence of growth.

#### Advantages

The following are advantages associated with the "No Project" alternative:

- No roadway design cost
- No ROW acquisition cost
- No construction cost
- No utility relocation cost
- No residential/business disruptions
- No social & neighborhood impacts (east of the Palmetto Expressway)

#### Disadvantages

The following are the disadvantages associated with the "No Project" alternative:

- Inconsistent with the plans and goals of the Town of Medley
- Significant negative impact on surrounding roadway system
- Significant delays at major intersections
- The corridor will operate at an unacceptable LOS "F" if no improvements are made
- Significant economic impact to the Town of Medley and to Miami-Dade County should businesses relocate.
- Potential increase in crash rates, safety will be compromised
- Pedestrian / bicycle facilities will not be improved.
- Congestion will result in a decrease of air quality

#### 5.2 Transportation System Management

Transportation System Management (TSM) options provide alternate solutions to substandard roadway systems for highly urbanized areas or constrained corridors. TSM alternatives include the addition of turning lanes and traffic signalization at intersections, the addition of park and ride lots, car and van pooling and traffic signalization system coordination.

#### **Town of Medley**

The corridor was studied for the implementation of any TSM options, which could eliminate the need for widening NW South River Drive. It was determined that while initial improvements to the synchronization of signals would help alleviate the current condition, no significant capacity improvements could be gained through the implementation of a TSM scheme. Current and planned bus routes do not support the full corridor. In addition, localized intersection improvements will not maintain an adequate overall LOS. The projected traffic volumes require an increase in the total laneage to a four-lane undivided cross section.

#### **5.3** Typical Section Alternatives

As mentioned above, the existing rightof-way along NW South River Drive is generally 60 ft. in width. However, certain portions of the corridor have limited right-of-way. In some areas, existing businesses abut both sides of the road. The two Typical Section alternatives investigated were based on 60 ft. of right-of-way.

Alternative 1 consists of three 12 ft. travel lanes (two eastbound and one westbound), a 6 ft. sidewalk on the south side, a 10ft. landscape swale area on the Miami Canal side and curb & gutter on either side. This alternative complies with the recommendation for Phase II and III improvements.

#### Alternative 2 consists of four 12 ft.

![](_page_49_Picture_7.jpeg)

**Constrained Right-of-Way Segment** 

![](_page_49_Picture_8.jpeg)

travel lanes, a 6 ft. sidewalk on the south side and curb & gutter on either side. Two feet is provided on the north side for harmonizing with the Miami Canal side. Alternative 2 was developed to maintain the existing centerline of construction along NW South River Drive and keep the existing 6 ft. sidewalk that was constructed during Phase I improvements (thereby minimizing throw away construction). This alternative complies with the recommendations for Phase III & IV improvements.

The third Typical Section shown on Exhibit 6 reflects the intersection improvements (for the major intersections only) required for the Ultimate Typical Section (Alternative 2). It consists of four 12 ft. travel lanes and a left turn lane. At these intersections, 80 ft. of right-of-way will be required (20 ft. additional right-of-way required). This is subject to approval by the South Florida Water Management District which currently utilizes this area for maintenance of the Miami Canal. A bulkhead may be required in certain areas to protect the Miami Canal. See Exhibit 7.

![](_page_50_Picture_0.jpeg)

![](_page_50_Picture_1.jpeg)

LOOKING NB FROM NW 79 AVENUE

![](_page_50_Picture_3.jpeg)

PROPERTY FENCE & BUILDING ON CANAL SIDE

![](_page_50_Picture_5.jpeg)

![](_page_50_Picture_7.jpeg)

UNCONSTRAINED MIAMI CANAL SIDE

![](_page_50_Figure_9.jpeg)

EXISTING TYPICAL SECTION

![](_page_50_Figure_11.jpeg)

CONSTRAINED SECTION

![](_page_50_Picture_13.jpeg)

LANDSCAPING ON MIAMI CANAL SIDE

![](_page_50_Picture_15.jpeg)

![](_page_50_Picture_16.jpeg)

UTILITY, BUILDING & ADVERTISING SIGN IMPACTS

#### 6.0 ENGINEER'S OPINION OF PROBABLE COST

Assumptions:

Alternative 1: Widening Undivided Median (WNU) – 3 lane alternative

Alternative 2: New Construction Undivided Median (NUU) – 4 lane alternative

The Costs shown below are based on FDOT standard base costs (obtained from the Long Range Estimate unit costs). The unit cost for roadway, curb & gutter and sidewalk was obtained from constructions costs for projects within the Town of Medley. The estimate below for both alternatives is based on starting with the existing 2 lane typical section. Should construction of the 4 lane section occur in Phases (with Alternative 1 being the first phase), then the costs for Alternative 2 will be less than what is shown below since the starting point would be a 3 lane section.

TABLE 6.0      ENGINEER'S OPINION OF PROBABLE CONSTRUCTION COST							
	Qty. WNU – Alt.1 Cost Alt. 1 NUU- Alt.2 Cost Alt. 2						
Drainage	4 mi.	\$250,000/mile	\$1,000,000	\$540,000/mi le	\$2,160,000		
Signing	4 mi.	\$2,600/mile	\$10,400	\$29,000/mile	\$116,000		
Lighting	4 mi.	\$108,830/mile	\$435,320	\$108,830/mi le	\$435,320		
Signalization 2 to 4 lanes	7	\$113,300/inter	\$793,100	\$113,300/int er	\$793,100		
Intersection Improvements (major)	7	\$31.50 / SY * (1500 SY) per inter	\$330,750	\$31.50 / SY* (2550 SY) per inter.	\$562,275		
Roadway, (C&G and Sidewalk)	21,120 LF	\$215 / LF.	\$4,540,800	\$255 / LF	\$5,385,600		
Sub Total #1			\$7,110,370		\$9,452,295		
Mobilization	5%		\$355,519		\$472,615		
Sub Total #2			\$7,465,889		\$9,924,910		
MOT	10%		\$746,589				
MOT	15%				\$1,488,736		
TOTAL			\$8,212,478		\$11,413,646		

The estimate above does not include the following items: utility relocation costs, R/W costs, bridge rehabilitation or replacement if required and aesthetics and/or landscaping costs.

A second cost estimate was performed utilizing the base costs provided in the FDOT's Office of Policy Planning "2002 Transportation Costs".

#### **Base Costs:**

0	Add 2 lanes (to existing 2 lanes) With 5' sidewalk, C&G, 12' Aux. (does not include signals or intersection	\$2,812,900 per centerline mile s)
0	Signalization (Mast Arms)	\$113,300 per intersection
0	Intersections	Use base cost in Table 6.0

#### Alternative 1: Widen from 2 to 3 lanes

		<b>\$8</b>	,437,390
0	<u>Intersections (\$31.50 x 1500 SY x 7) =</u>	\$	330,750
0	Signalization (\$113,300) x 7 intersections =	\$	793,100
0	Roadway Costs (\$2,812,900) x 65% x 4 miles =	= \$ 7	7,313,540

#### Alternative 2: Add 2 lanes to existing 2 lanes

0	Roadway Costs (\$2,812,900 x 4 miles) =	\$1	1,251,600
0	Signalization (\$113,300) x 7 intersections =	\$	793,100
0	Intersections (\$31.50 x 2550 SY x 7) =	\$	562,275
		\$1	2,606,975

This estimate also does not include the following items: utility relocation costs, R/W costs, bridge rehabilitation or replacement if required and aesthetics and/or landscaping costs.

![](_page_53_Picture_0.jpeg)

#### 7.0 **RECOMMENDATIONS**

Medley is the industrial heart of Miami-Dade County. The importance of NW South River Drive to the Town of Medley and to Miami-Dade County cannot be overlooked. This report documents how severe the existing traffic situation along NW South River Drive currently is. The traffic analysis performed revealed that the majority of the corridor and major intersections would fail by 2008 should no improvements be undertaken. An analysis of the truck turning movements along the major intersections detailed the different operational problems that these larger tractor-trailor vehicles impose on the existing intersections. As a result, the LOS results do not fully convey the operational problems plaguing NW South River Drive. The close proximity of NW South River Drive to Okeechobee Road creates a situation that severely restricts the storage capacity for all bridge crossings over the Miami Canal. This was further confirmed during our study efforts with the results of an Intersection Delay Study performed on the corridor. The results indicated that the corridor is currently operating worse that what the traffic tables indicate and what the HCS can predict. Actual field conditions have shown that failure is already occurring in the corridor from the Palmetto Expressway to NW 105<sup>th</sup> Way. Therefore, it is reasonable to predict that this failure will extend further west and possibly impact the NW 116<sup>th</sup> Way intersection by 2008.

The provision of four lanes along NW South River Drive would dramatically increase the capacity and operation of the facility as well as of the intersections along the corridor. However, due to the right-of-way constraints along NW South River Drive and based on the availability of funding, a phasing plan for the implementation of improvements is recommended as follows.

- ✓ Phase I (2003): Synchronization of the signals along NW South River Dr. with the signals along Okeechobee Road
- ✓ Phase II (2008): 3-Lane NW South River Dr. from NW 105<sup>th</sup> Way to SR 826; Initial Intersection Improvements
- ✓ Phase III (2018): 3-Lane NW South River Dr. from NW 107<sup>th</sup> Ave. to NW 105th Way. 4-Lane NW South River Drive from NW 105<sup>th</sup> Way to SR 826
- ✓ Phase IV (2028): 4-Lane NW South River Dr. from NW 107<sup>th</sup> Avenue to NW 105<sup>th</sup> Way. Additional Intersection Improvements at NW 79<sup>th</sup> Ave.]

The three (3)-lane concept will benefit EB vehicles, by providing more capacity in what was observed to be the most critical travel direction along NW South River Drive. The provision of a three (3)-lane typical section would serve in improving the operation of the roadway and provide temporary relief prior to the ultimate solution being implemented.

#### **Town of Medley**

The next step in the development of these alternatives should consist of an analysis of the possible alignments for the different typical sections. A Master Plan involving a corridor alignment evaluation should be undertaken. The following alignment issues should be addressed in this Master Plan:

- ✓ Further Intersection study for lane configurations and WB-50 design vehicle
- ✓ Develop existing Right-of-Way Map & cost of additional Right-of-Way. Address South Florida Water Management District's Right-of-Way limits.
- ✓ Investigate potential donation of Right-of-Way by businesses
- ✓ Utility Impacts & costs
- ✓ Drainage Impacts
- ✓ Safety Evaluation
- ✓ Access Management
- ✓ Pedestrian and Bicycle Facilities
- ✓ Environmental Impacts
- ✓ Traffic Control Plan (for least disruption to businesses and residences)
- ✓ Public Involvement
- ✓ Aesthetics and Landscaping

The Master Plan should also consider the planned developments in the Pennsuco area (the recently annexed portion of Medley) and in the proposed new annexation areas. The roadway network in these areas should be investigated to determine the impact that future developments will have on NW South River Drive. Given the plans for the Pennsuco area, it is recommended that the Master Plan study of NW South River Drive be expanded northwesterly from NW 107<sup>th</sup> Avenue to the new Town Limits.

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![](_page_55_Picture_0.jpeg)