

Village of Palmetto Bay Bicycle & Pedestrian Master Plan



August, 2009

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Executive Summary

Background Information and Existing Conditions

As a community’s population density increases, the number of short trips (those of less than ½ mile) increases. These trips can often times be made as easily by walking or Bicycling rather than by driving. As a community becomes more dense, the construction of bicycle and pedestrian facilities as an alternative to automobile travel becomes more important to maintain mobility within the community. The population of Miami-Dade County is expected to exceed 3 million by the year 2025. To meet the transportation needs of individuals who walk or bike for all or a portion of their trip, the Miami-Dade Metropolitan Planning Organization (MPO) is planning for these types of facilities in its transportation plan. Miami-Dade County is also attempting to prepare the county for more of these trips in its Long Range Transportation Plan. The development of a Bicycle and Pedestrian Master Plan was initially suggested as part of the Village’s original Transportation Master Plan.

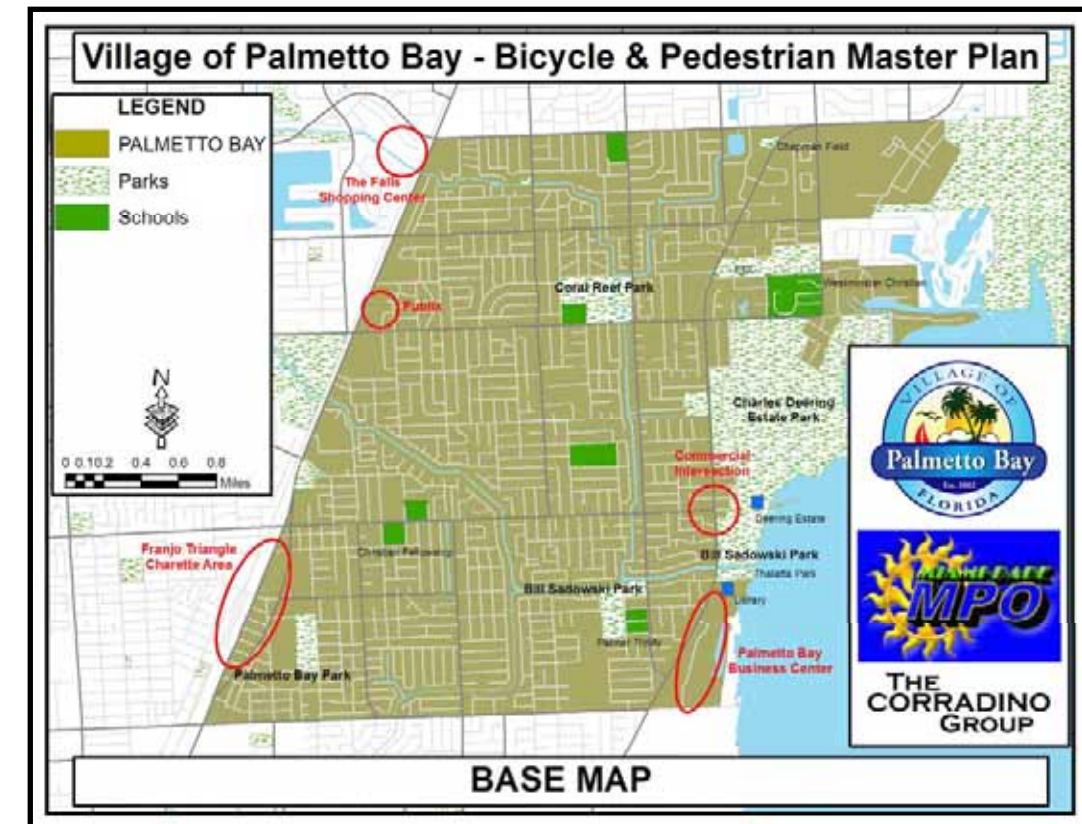
It is a stated intention of federal transportation policy to increase non-motorized trips to at least 15 percent of all trips and to reduce the number of non-motorized users killed in traffic crashes by at least 10 percent. In Florida, concurrency requirements were revised in 1999 to encourage a more comprehensive multi-modal evaluation of transportation facilities. Local governments are directed to use professionally accepted techniques for measuring level of service for all modes: automobile, bicycle, pedestrian, transit and trucks. The creation of a Bicycle and Pedestrian Plan in Palmetto Bay is a step towards achieving a higher percentage of non-motorized trips by identifying areas in greatest need of bicycle and pedestrian improvements and focusing improvements where they are most needed.

Due to the influx of density, Bicycle and Pedestrian Plans and studies have been numerous in Miami-Dade County. In an order to try to not repeat previous studies, many previous studies have been reviewed. Where applicable the results of these previous studies will be applied to the Village of Palmetto Bay Bicycle and Pedestrian Master Plan.

Existing Conditions

Bicycle and pedestrian conditions in Palmetto Bay are quite sparse. The Village is home to many potential generators of bicycle and pedestrian traffic. These are parks, schools, commercial centers and other facilities. These generators include, but are not limited to:

- ∅ The Falls
- ∅ Howard Drive Elementary
- ∅ Westminster Academy
- ∅ Coral Reef Park
- ∅ Coral Reef Elementary
- ∅ Publix
- ∅ Charles Deering Estate
- ∅ Southwood Middle
- ∅ Perrine Elementary
- ∅ Palmer Trinity
- ∅ Franjo Triangle
- ∅ US-1 Commercial Areas
- ∅ 168th Street / Old Cuter Road Commercial Area
- ∅ Palmetto Bay Park
- ∅ Bill Sadowski Park
- ∅ Palmetto Bay Business Center



the canal system and Biscayne Bay. Both are seen as amenities which are not utilized as fully, (in a respectful and environmentally friendly manner) as they could be. The Village is trisected by the canal system which has a definite impact of traffic and mobility within its boundaries. The multiple interruptions to the grid system create frequent bottlenecks in traffic, which causes motorists to intrude into the residential neighborhoods exceeding livability standards and deteriorating the quality of life for many.

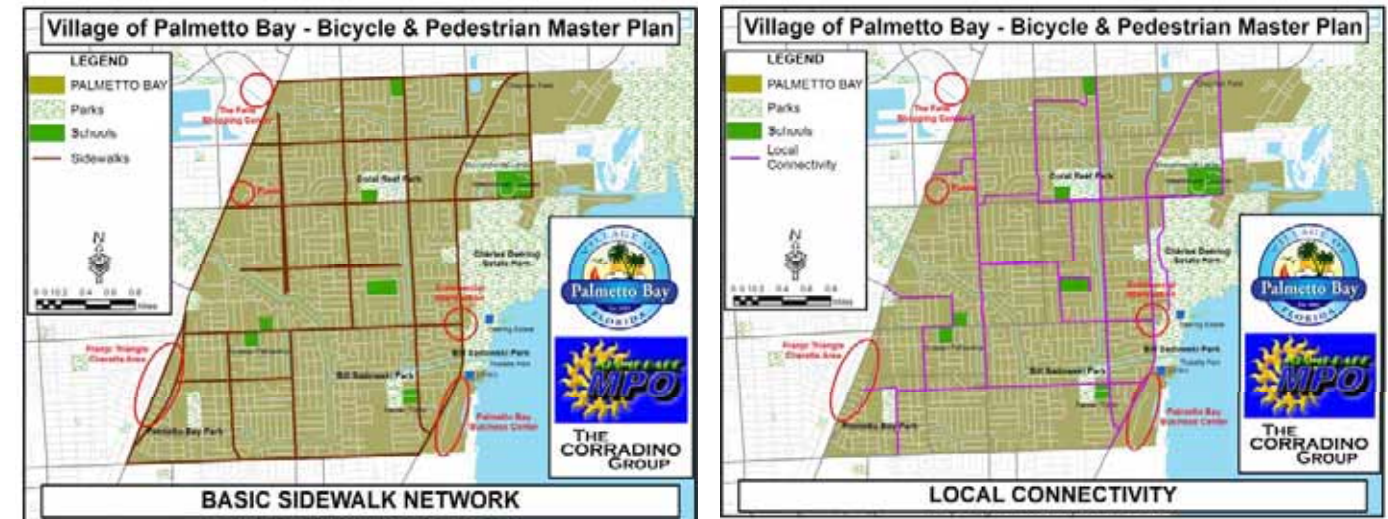
It is clear that the characteristics which will define the future non-motorized systems in the Village are complex and focused on multiple levels of need. This program has been developed with six levels of bicycle and pedestrian projects.

- € Basic Pedestrianism
- € Local Connectivity
- € Commuter Access
- € Greenways
- € Commercial Connectors
- € Policy

Basic Pedestrianism

The first level, the Basic Sidewalk Level, satisfies the need for the most elementary aspect of the system. It connects the low density residential neighborhoods which do not have or warrant sidewalks to an essential grid of sidewalks. This is focused on assuring the basic sidewalk system is in place. While it is true that not every street needs a sidewalk, many streets, particularly those that frame the core residential neighborhoods do. These roads are generally more than local streets and are mainly categorized as collectors and arterials, and are primarily defined as through streets that are section line or half-section line roads. Facilities would consist of a 5’ sidewalk on both sides of the road surface. These would be used to facilitate very short walking trips in a safe manner.

The vision and the goal of the Village of Palmetto Bay residents according to their participation in the public work shop in terms of sidewalks is nothing more than a simple grid. This grid would include primarily section line roads all throughout the Village as well as most half section line roads. This would bring sidewalk access to the periphery of every neighborhood. By utilizing these major roadways, many of the important locations throughout the Village including many schools and parks would have good coverage in terms of sidewalk infrastructure. This too would allow safe pedestrian access to these locations. This grid network would also insure that non motorized traffic would have a safe haven from motorized traffic on most of the major roadways within the Village.



Local Connectivity

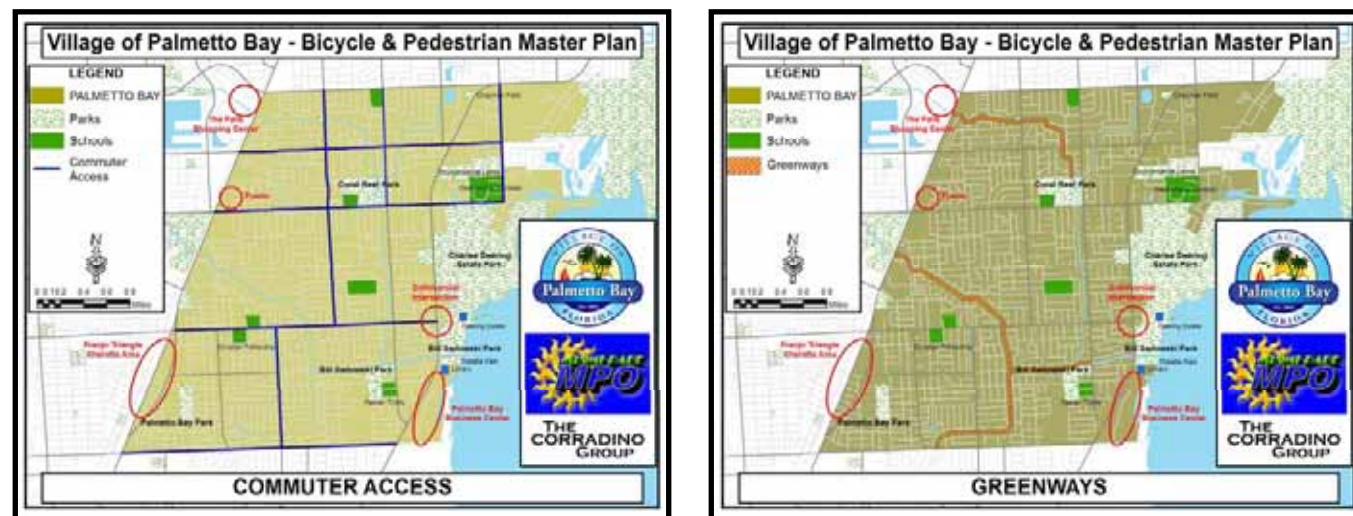
Level two, the Local Connectivity level, would strive to connect the residential streets and the basic sidewalk grid with facilities that linked major generators. This would be used for longer distance walking and bicycle trips from the residential neighborhoods to parks, schools, libraries or local shopping areas. It would be intended that these trips are more recreational, and would be categories by adequate 8’ sidewalks or multi-use paths on each side of the road separated from the roads travel surface.

The local connectivity is a key point for this entire Master Plan. The goal for the local connectivity is to connect the existing locations that would likely benefit from having this type of infrastructure in place. These places include the local parks including Coral Reef Park, Bill Sadowski Park, Palmetto Bay Park and The Charles Deering Estate Park. These existing places also include the local schools such as Perrine Elementary, Southwood Middle School, Coral Reef Elementary, Howard Drive Elementary, Palmer Trinity, Christian Fellowship and Westminster Christian Academy. Other sites to be connected on the network would be the Library and the Charles Deering Estate. By connecting these sites, a user could get to nearly any pedestrian friendly location within the Village without having to travel in the roadway. Connecting the schools especially would allow safer walking access to the schools for the children who walk on a regular or frequent basis. Connecting the parks will allow the park users a safe and active way to get to the park for their recreational purposes.

Commuter Access

The third level, the Commuter Level, would provide through connectivity. It would be categories by 6' on road facilities or bike lanes on each side of the through roads. This level would be planned for a more experienced and sophisticated cyclists seeking longer trips or commuting trips.

Commuter traffic in this sense is being thought of as on road bicycle lanes connecting through the Village to other communities on all sides. Places of access that were selected during the public workshop included roadways such as 87th Avenue, 82nd Avenue and 67th Avenue. The other streets included SW 144th Street, SW 152nd Street and SW 168th Street. These connections would allow for multi-directional connectivity through the Village as well as east west connectivity that would connect the Old Cutler Road trail with the Busway on US 1.



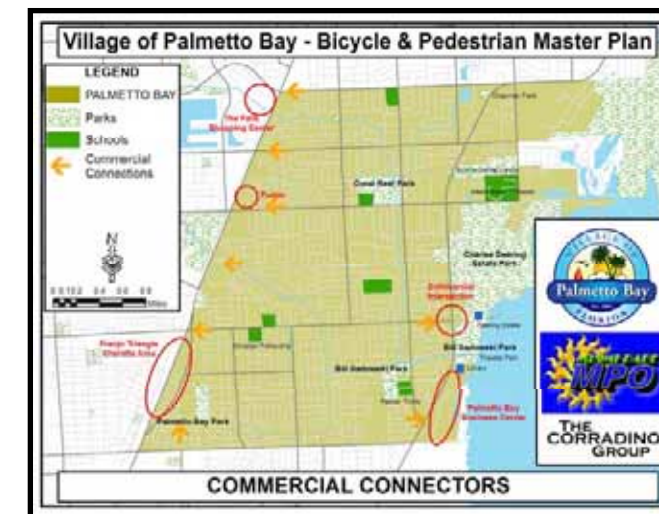
Greenways

The fourth level, the Greenway level would seek to provide general connectivity along the canal system along the C-100, C-100A, C-100B, and C-100C systems, as well as FPL Rights of Way as appropriate. Actual facilities would be determined as needed, but could consist of a level walking or running service of up to 12' in width. It would primarily be used for recreation, as they would not necessarily connect generators.

Greenways within the city could help provide recreation pathways for pedestrians and bicycles. It could also do this without fear of vehicular traffic as a danger. The pathways would be along the canal system within the Village. The pathways could utilize existing right of way that surrounds the canals as well as the power lines in the northeast area of the Village. These pathways would provide beautiful scenery along with safe usage to pedestrians and bicyclists of all ages.

Commercial Connectors

The fifth level, the Commercial Connectors, would focus on facilitating direct portals from the commercial corridors to the communities behind them. Often the commercial areas while immediately adjacent to the residential communities, yet they don't have efficient, effective, and safe connections. As such people are not presented with the ability to walk, but are force to take inefficient automobile trips which often add to the traffic congestion on the roadway network. These could consist of safe and secure pedestrian gateways or pathways from residential neighborhood to commercial centers. Primary use would come from residents within ¼ mile who choose to walk or bike for short shopping trips instead of drive.



Policy

The sixth level, the Policy level, suggests projects which are not physical, yet would provide the incentive to more easily implement the other levels, as well as help encourage walking and biking as a viable means of transportation in the community. This transportation could be one of many forms. It could be a recreational trip to the park, it could be a trip to the local grocery store, or it could be transportation to and from work. These policy level projects also include suggested Village of Palmetto Bay ordinances and new building requirements for developers.

There are multiple routes, projects or policies in each level of the proposed network. In order to effectively implement them, each should be prioritized. To do so prioritization criteria were developed. These will be presented in chapter five of this report, which discusses the recommendations as developed by the project management team, as well as, the steering committee and local citizens.

Data Collection and Analysis

The Village of Palmetto Bay developed and executed a data collection plan that included the review of the existing information and the collection of new data for the calculation of the bicycle and pedestrian levels of service. This included size of existing right of way, size of pavement, size of swale, width of sidewalks and much more.



Major and minor corridors were inventoried, as well as any other roadway that is present in any of the proposed networks in this study. They were then evaluated for their quality and level for service in terms of Pedestrian level of service as well as

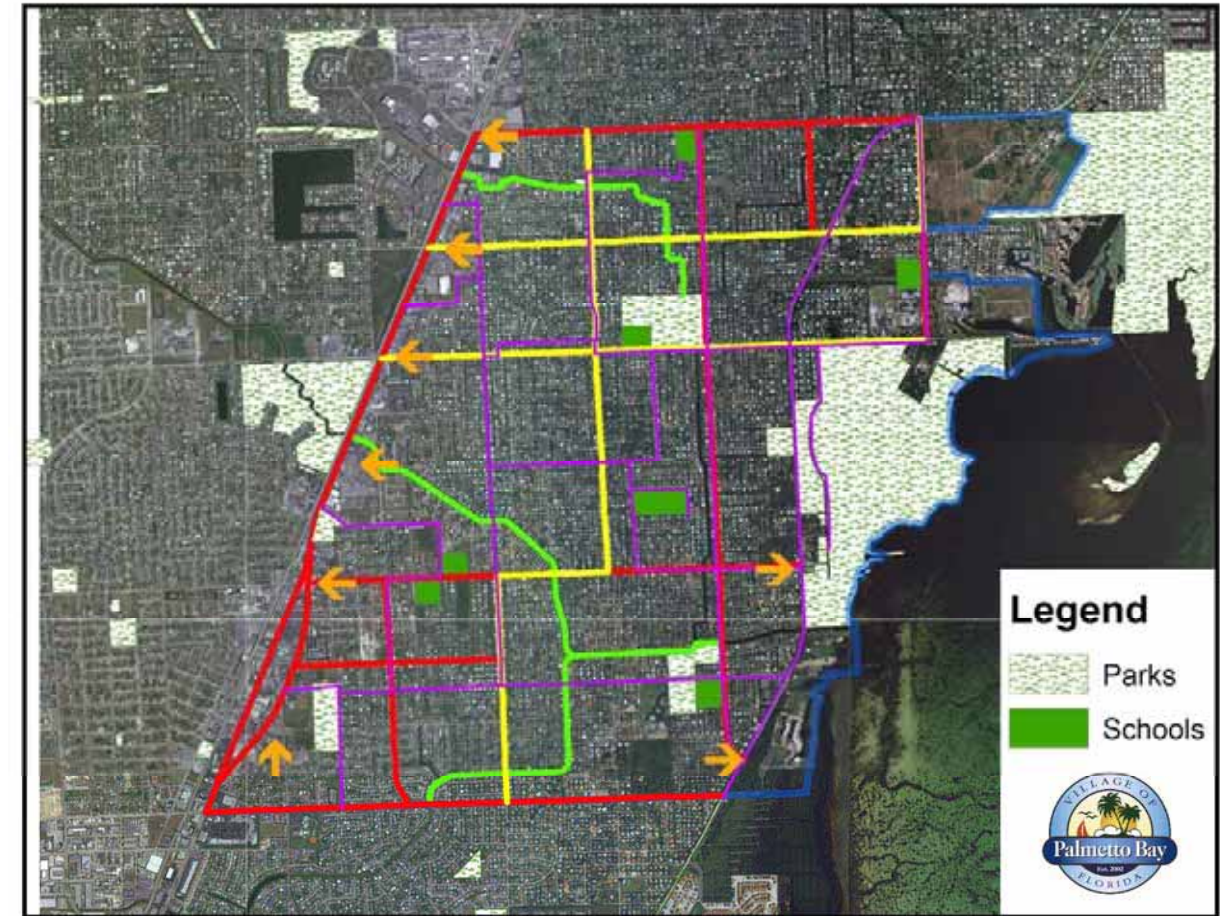
Bicycle level of service. The determination of the bicycle level of service for each segment of the Bicycle and Pedestrian Network was based on the operational level of service methodology adopted by the Florida Department of Transportation (FDOT). The Bicycle and Pedestrian Level of Service (BLOS) (PLOS) Models identify the level of service for a segment of the network on a scale of A to F based on a numerical model score. An LOS of “A” indicates good cycling or walking conditions and “F” indicates the least favorable conditions, and are a measure of the quality of the environment based on measured physical attributes including the vehicle volume and speed on the adjacent roadway, the presence or absence of a striped bike lanes, sidewalks, and the presence or absence of occupied on-street parking. For each segment a LOS Score has been assigned for both pedestrian LOS and Bicycle LOS. The segments were broken up at logical points, usually section or half section line roads if applicable. The smaller, more residential, streets were generally taken as a single segment. These smaller segments include such roadways as 139th Terrace, 77th Court, 94th Avenue and 164th Street. These are just a few of the many that are in this category.

Village of Palmetto Bay has relatively large Right of Way widths on all roadways. The pavement footprint is usually less than half of the size of the actual right of way. This allows for very large swale areas throughout the Village. These swale areas could provide ample room for bicycle and pedestrian infrastructure and or improvements of existing infrastructure. The new infrastructure could include such things as on street bicycle lanes, wider sidewalks that can be used as multi-use paths or both. Some areas within the Village have no sidewalks at all and would require them in order to complete the recommended networks.

Recommendations

The overall goal is to serve a variety of users from a bicycle and pedestrian perspective so a multi-faceted approach is being recommended in this plan. Walking and biking are modes that do not require the use of an automobile. Providing the ability to use these modes supports multimodal and intermodal initiatives that have been set forth by both Palmetto Bay and Miami-Dade County. An overall bicycle and pedestrian

master plan linking the existing Village generators with the overall county Greenway system which borders Palmetto Bay on both East and West boundaries, coupled with the Villages municipal circulator routes connected with the Busway, the internal traffic calming implemented in the past several years and the potential Safe Routes to School project would make Palmetto Bay a model for intermodal suburban communities in the county.



Basic Pedestrianism (Sidewalk Network)

Some of this network is already in place but much of it still needs to be constructed. The costs associated with constructing something of this nature can be seen in the table below. As you can see from the table some roadways such as 152nd street and 136th street already have great coverage and little new pedestrian infrastructure is needed. However, on other roadways such as 144th street and almost all of the north-south roadways need a great deal of new pedestrian infrastructure. Overall the constructed network will give the Village of Palmetto Bay one of the better and more connected networks in all of Miami-Dade County.

SIDEWALK NETWORK PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Segment		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 136 ST	US-1	SW 67 AV	Install 5' wide sidewalk southside	880	feet	34,250.00
			Install 10' wide LV crosswalk	200	feet	500.00
			Install 10' wide HV crosswalk	25	feet	900.00
SW 144 ST	US-1	SW 67 AV	Install 5' wide sidewalk southside	4860	feet	189,000.00
			Install 5' wide sidewalk north side	4600	feet	178,900.00
			Install 10' wide LV crosswalk	675	feet	1,700.00
SW 152 ST	US-1	SW 67 AV	Install 5' wide sidewalk northside	315	feet	12,250.00
			Install 10' wide LV crosswalk	800	feet	2,000.00
SW 160 ST	SW 90 AV	SW 77 CT	Install 5' wide sidewalk southside	1795	feet	69,850.00
			Install 5' wide sidewalk northside	1030	feet	40,100.00
			Install 10' wide LV crosswalk	625	feet	1,600.00
SW 168 ST	US-1	SW 72 AV	Install 5' wide sidewalk southside	1255	feet	48,850.00
			Install 5' wide sidewalk northside	620	feet	24,150.00
			Install 10' wide LV crosswalk	625	feet	1,600.00
			Install 10' wide HV crosswalk	150	feet	5,250.00
SW 176 ST	US-1	SW 84 AV	Install 5' wide sidewalk southside	5920	feet	230,250.00
			Install 5' wide sidewalk northside	5480	feet	213,150.00
			Install 10' wide LV crosswalk	700	feet	1,750.00
SW 184 ST	US-1	OLD CUTLER RD	Install 5' wide sidewalk northside	3140	feet	122,150.00
			Install 10' wide LV crosswalk	175	feet	0.00
			Install 10' wide HV crosswalk	50	feet	1,750.00
SW 92 AV	SW 168 ST	SW 184 ST	Install 5' wide sidewalk westside	1075	feet	41,850.00
SW 87 AV	SW 144 ST	SW 163 TR	Install 10' wide LV crosswalk	525	feet	1,350.00
			Install 5' wide sidewalk westside	2030	feet	78,950.00
			Install 5' wide sidewalk eastside	385	feet	15,000.00
SW 87 AV	SW 168 ST	SW 184 ST	Install 10' wide LV crosswalk	750	feet	1,900.00
			Install 10' wide HV crosswalk	25	feet	900.00
			Install 5' wide sidewalk westside	3560	feet	138,450.00
SW 82 AV	SW 136 ST	SW 170 TR	Install 5' wide sidewalk westside	140	feet	5,450.00
			Install 5' wide sidewalk eastside	1620	feet	63,000.00
			Install 10' wide LV crosswalk	800	feet	2,000.00
SW 77 AV	SW 136 ST	OLD CUTLER RD	Install 5' wide sidewalk eastside	2510	feet	97,650.00
			Install 10' wide LV crosswalk	1050	feet	2,650.00
SW 72 AV	SW 136 ST	SW 144 ST	Install 5' wide sidewalk eastside	2515	feet	97,850.00
			Install 10' wide LV crosswalk	175	feet	450.00
SW 67 AV	SW 136 ST	SW 152 ST	Install 5' wide sidewalk westside	5360	feet	208,450.00
			Install 5' wide sidewalk eastside	5360	feet	208,450.00
			Install 10' wide LV crosswalk	300	feet	750.00
Preliminary Costs						2,145,050.00
Contingency (20%)						429,010.00
Mobilization (10%)						214,505.00
Maintenance of Traffic (10%)						214,505.00
Opinion of Total Costs						3,003,070.00

Local Connectivity

Local Connectivity provides a higher level of treatment which would connect the major generators in the community to each other as well as to the local residential areas via the basic sidewalk network and the local connectivity system. The major generators include: parks, schools, commercial areas and government facilities. The facilities would optimally consist of a 8' multi use path on both sides of the street and separated to the extent possible from all roadways. In its latter stages this would recommend pedestrian crossings over the canal system in certain areas in order to complete the system. These crossings would look

similar to the existing pedestrian crossings that are in Coral Reef Park. They would have a concrete base and rails on both sides. The crossings would be 8 feet wide and would contain bollards on both ends to prevent any traffic other than non-motorized. It is the attempt of this level of project to provide this local connectivity and access off of the major road network, in order to separate bicycle/pedestrian and automobile conflicts. Where this is not possible the separation of the multi-use path and the roadway should be maximized to the greatest extent possible. Much of the route system suggested here will be eligible for insertion into a Safe Routes to School Application, as they fulfill each of the requirements needed to do so. In fact this level acts as a safe route to schools and parks type route system. Thus, it serves several purposes and should be high on the priority list.

Though this network is relatively simple, complete connectivity is provided to and from all bicycle and pedestrian generators in the Village of Palmetto Bay.

LOCAL CONNECTIVITY PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Segment		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 175 TR	PARK	SW 175 ST	Install 8' wide multi-use path	2.4	gross mile	380,200.00
SW 94 AV			Install 8' wide multi-use path	0.6	gross mile	95,050.00
SW 160 ST	SW 164 ST	SW 89 AV	Install 8' wide multi-use path	1.6	gross mile	253,450.00
SW 141 ST	SW 87 AV	SW 176 ST	Install 8' wide multi-use path	2.4	gross mile	380,200.00
SW 148 ST	BEHIND PUBLIX	SW 146 ST	Install 8' wide multi-use path	0.5	gross mile	79,200.00
SW 152 ST	SW 86 AV	SW 151 ST	Install 8' wide multi-use path	0.7	gross mile	110,900.00
SW 77 CT	SW 139 TR	SW 67 AV	Install 8' wide multi-use path	3.9	gross mile	617,800.00
SW 87 AV	SW 79 AV	SW 79 AV	Install 8' wide multi-use path	1.3	gross mile	205,950.00
SW 136 ST	OLD CUTLER	SW 184 ST	Install 8' wide multi-use path	3.5	gross mile	554,400.00
SW 160 ST	SW 79 AV	SW 154 ST	Install 8' wide multi-use path	1.3	gross mile	205,950.00
SW 152 ST	SW 72 AV	OLD CUTLER RD	Install 8' wide multi-use path	1.2	gross mile	190,100.00
OLD CUTLER	SW 136 ST	SW 184 ST	Install 8' wide multi-use path	3.4	gross mile	1,077,150.00
Preliminary Costs						4,150,350.00
Contingency (20%)						830,070.00
Mobilization (10%)						415,035.00
Maintenance of Traffic (10%)						415,035.00
Opinion of Total Costs						5,810,490.00

Commuter Access

With the rising cost of gas as well as the countless environmental issues that are an ongoing issue in today's society, becoming greener and healthier is a very popular thing. One of the ways that people are choosing to accomplish this is by riding their bicycle. Taking your bicycle to work is becoming more and more common. This commuter access network looks to help out in this green effort. By providing relatively straight paths through the city, bicyclists will likely be able to navigate the city even faster than a motorized vehicle would. Currently Old Cutler Road is the only true north south connection east of US-1. By providing these paths, which include a few pedestrian bridges, bicyclists will not have to navigate to Old Cutler Road before they begin their journey to work. They will now have option of using north south connections on SW 87th Avenue, SW 82nd Avenue and SW 67th Avenue as well. By also adding the network

on SW 144th Street and SW 152nd Street, bicyclists will now have two separate east west options as well. This coupled with east west sections SW 168th Street and SW 184th Street will provide ample connectivity throughout the Village.

compared to regular parks, For example, a recent study by the Maryland Department of Natural Resources found that 94% of those surveyed thought greenways were a good use of state funds and 67% liked greenways better than more traditional, confined parks.

Commercial Connectors

The Basic concept for commuter access is to allow bicyclist and pedestrians as well as any other non motorized traffic easy and safe access to the commercial corridors and commercial areas within or nearby to the Village of Palmetto Bay. The US-1 Corridor is not only the biggest commercial corridor in or around Palmetto Bay but it is likely the biggest in all of South Florida. Having the ability to walk to any local commercial establishment will greatly improve the quality of life as well as save time and money. Many of the commercial businesses on US-1 not only have no rear access but the streets in the area also prevent most access without having at least part of the trip on US-1. By accessing the businesses from the rear it will save the time from making the normal US-1 portion of the trip, as well as provide safer passage to these local business locations.

COMMERCIAL CONNECTORS PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COST						
Site	Location	Intersection	Recommended Improvements	Quantity	Unit	Total
1	The Falls	US-1 & SW 136 Street	Enhance Pedestrian Connections			
			Textured Asphalt Paving with Thermoplastic Inlay	240	feet	22,000.00
			Relocate Pedestrian Crossing to median creating Pedestrian Refuge	300	feet	93,000.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
2	Publix		Pedestrian Overpass	1	No.	4,000,000.00
			Passage between Multi-Families and Shopping Center			
3	Miami Children's Hospital	US-1 & Franjo Road	Two Directional 12' Shared Use Path	300	feet	14,000.00
			High Visibility Crosswalk	250	feet	9,000.00
			Install Pedestrian Countdown Type Heads	2	No.	2,000.00
			Enhance Pedestrian Connections			
4	PB Business Center	Old Cutler Road & SW 168 St	High Visibility Crosswalk	300	feet	10,500.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Enhance Pedestrian Connections			
			High Visibility Crosswalk	300	feet	10,500.00
5	Old Cutler Road & SW 184 St		Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Install Raised Sidewalk	60	feet	2,350.00
			Chevron Markings	80	feet	2,800.00
			Enhance Pedestrian Connections			
Preliminary Costs						4,190,650.00
						838,130.00
						419,065.00
						419,065.00
Opinion of Total Costs						5,866,910.00

COMMUTER ACCESS PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Segment		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 144 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.3	gross mile	994,750.00
SW 152 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.5	gross mile	1,081,200.00
SW 168 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.3	gross mile	994,750.00
SW 184 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.4	gross mile	1,038,000.00
SW 82 AV	SW 136 ST	SW 170 TR	Install 4' wide bike lanes	2.1	gross mile	454,150.00
SW 87 AV	SW 168 ST	SW 184 ST	Install 4' wide bike lanes	1.1	gross mile	475,750.00
SW 67 AV	SW 136 ST	SW 152 ST	Install 4' wide bike lanes	1.1	gross mile	475,750.00
Preliminary Costs						5,514,350.00
Contingency (20%)						1,102,870.00
Mobilization (10%)						551,435.00
Maintenance of Traffic (10%)						551,435.00
Opinion of Total Costs						7,720,090.00

Greenways

Greenways are corridors of protected open space managed for conservation and recreation purposes. Greenways typically follow irregular landscape features such as rivers, streams, and ridgelines, They are also being created along canals, abandoned railroad lines, utility corridors, country roads, and other manmade features. In this case the Greenway network in the Village of Palmetto Bay will follow the edge of the existing canal network.

GREENWAYS PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Green Way	Recommended improvements	Length (ft)	Unit	Total	
VILLAGE WIDE	North	Install 8' wide multi-use greenways	1.8	gm	285,150.00	
	Central	Install 8' wide multi-use greenways	2.2	gm	348,500.00	
	South	Install 8' wide multi-use greenways	1.3	gm	205,950.00	
Preliminary Costs						839,600.00
Contingency (20%)						167,920.00
Mobilization (10%)						83,960.00
Maintenance of Traffic (10%)						83,960.00
Opinion of Total Costs						1,175,440.00

In summary, greenways are a multi-purpose concept that allows community groups and public agencies to link existing parks, historic sites, and natural areas with numerous environmental, recreational, and economic benefits. Another major reason that greenways are so popular is because they are cost effective. By connecting parks and other existing facilities, greenways provide a better cost benefit

Policy

In order to have a safe and effective bicycle and pedestrian networks you need policies and initiatives in place that will help to make the plan work to its fullest capability. These policies and initiatives need to not only be in place but also need to be enforced where applicable as well as scheduled on a regular basis for such things as walk to school day. If put in place and enforced the entire system can function as it was intended which makes the quality of life for everyone involved much higher. A few examples of Policies and initiatives are as follow:

List of Prioritized Improvements

The ultimate goal of the Village of Palmetto Bay bicycle and pedestrian master plan was to have a fully connected network. This network would provide safe facilities and encourage use. The system would connect major existing generators such as schools and parks. The network could potentially reduce congestion and would certainly provide for an intermodal connection. The goal in prioritization was to rank projects and assign a time horizon in which they could be implemented. It was the approach to initially undertake projects where mitigated problems were most easily implemented and then move to projects that could solve level of service deficiencies in an inexpensive manner. As always the Village is most concerned with projects that, while effective and efficient, also make the community safer and can be done with as little funding as possible.

The projects were assigned to one of 4 time horizons. These time horizons are Immediate, Short Term, Mid Term and Long Term. Immediate projects are those that can be completed almost instantaneously when the Village adopts this plan. The projects would be at no cost to the Village, yet have major impacts on the ability of the Village to develop the connected network that it desires. These projects will all be policy type projects. The Short Term projects are projects that should be completed in years 1 through 5 after the plan is put into place. These projects include the smaller sections of the existing network that may have holes in it. It is essentially a patch work plan for what infrastructure is already in place. This stage also places a preference on Village owned and maintained roadways. The Mid Term projects are projects that could be completed in years 6 through 10 after the plan is in place. These projects include slightly larger scale projects that will really begin to shape the network for what it will someday become. This stage also starts to include smaller projects on County and State owned and maintained roadways. The projects in Long Term are those that should be completed in years 10 and beyond after the plan is in place. These include the largest sections of infrastructure as well as the development of the Greenway network. It should be noted that the costs represented in the tables that follow that mobilization, maintenance of traffic and contingency are not represented and will likely have a cost associated with it.

Immediate

The immediate time frame includes those projects that will not cost the Village any money to complete. These projects are all policy related and therefore will need to be approved by the Village and adopted into

use. Once implemented, many of these policies will actually help to complete the suggested network by requiring such things as building new sidewalks and the maintenance of sidewalks to the adjacent land owners. These policies will also encourage bicycle and pedestrian usage for such things as trips to and from work or school. These policies are as follow:

1. **Walk to School Day**
2. **Safe Routes to School**
3. **Bike to Work Week/Day**
4. **Bicycle Parking Ordinance**
5. **Sidewalks Ordinance**
6. **New Development Ordinance**
7. **Walk, Peddle or Roll to the Park**

Short Term

Short Term Priority Projects						
Road/Site	Segment/Intersection		Recommended Improvements	Quantity	Unit	Total
	From	To				
COMMERCIAL INTERSECTION	Old Cutler Road	SW 168 ST	Enhance Pedestrian Connections			
			High Visibility Crosswalk	300	feet	10,500.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Install Raised Sidewalk Chevron Markings	60 80	feet feet	2,350.00 2,800.00
Publix	SW 148 ST	SW 87 PL	Passage between Multi-Families and Shopping Center Two Directional 12' Shared Use Path	300	feet	14,000.00
SW 144 St	SW 87 AVE	SW 82 AVE	South Side	260	feet	10,400.00
SW 160 ST	SW 90 AVE	SW 87 AVE	South Side, (North Side)	650, (240)	feet	35,600.00
	SW 87 AVE	SW 82 AVE	South Side	300	feet	12,000.00
SW 176 ST	SW 82 AVE	SW 77 CT	South Side, (North Side)	325, (360), 520, (430)	feet	65,400.00
	US-1	SW 92 AVE	South Side, (North Side)	2020, (2270)	feet	171,600.00
SW 82 AV	SW 92 AVE	SW 87 AVE	South Side, (North Side)	2620, (1930)	feet	182,000.00
	SW 87 AVE	SW 84 AVE	Both Sides	1280	feet	51,200.00
Old Cutler RD	SW 84 AVE	SW 170 TR	Both Sides	140	feet	5,600.00
	SW 136 ST	SW 144 ST	West Side	3750	feet	150,000.00
	SW 144 ST	SW 152 ST	West Side	2872	feet	114,880.00
	SW 152 ST	SW 162 ST	West Side	3300	feet	132,000.00
	SW 162 ST	SW 166 ST	West Side	1965	feet	78,600.00
	SW 166 ST	SW 174 ST	West Side	1930	feet	77,200.00
SW 174 ST	SW 184 ST	West Side	4080	feet	163,200.00	
SW 152 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.5	gross mile	1,081,200.00
SW 82 AV	SW 136 ST	SW 168 ST	Install 4' wide bike lanes	1.1	gross mile	454,150.00
COMMERCIAL	LOCAL CONNECTIVITY	SIDEWALK NETWORK	COMMUTER ACCESS	GREENWAYS	TOTAL	2,818,180.00

The projects that were selected as short term were generally inexpensive and would provide the most impact for the amount spent. These projects include 2 commercial connections. That being the connection behind Publix on US 1 and a better and safer intersection for pedestrians at SW 168th St and Old Cutler Road. This intersection is very dangerous in its current condition as the Old Cutler Path essentially merges with the roadway. There is also a lack of striping and visual evidence that there are any pedestrian facilities that are

even there. The first portion of the local connectivity portion of this plan is suggested in the short term. Several of the sidewalk network sections are also recommended in the short term. The majority of these are small segments and on Village owned roadways. The only sidewalks that were prioritized as short term that are on County owned roadways is on the west side of Old Cutler Road. The on road bike lanes also are scheduled to begin in the short term on SW 152nd St and SW 82nd Ave. This will connect the Busway with the Old Cutler Path. It will also allow a safer ride on SW 67th Ave as the more advanced riders tend to use that roadway already.

Mid Term

Mid Term Priority Projects						
Road/Site	Segment/Intersection		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 160 ST	SW 79 AV	SW 90 AV	Install 8' wide multi-use path	1.3	gross mile	206,950.00
SW 72 AV	SW 136 ST	SW 144 ST	Install 8' wide multi-use path	0.5	gross mile	79,200.00
SW 184 ST	SW 82 Ave	Old Cutler Rd	North Side	2500	feet	100,000.00
SW 136 St	US-1	SW 82 AVE	South Side	240	feet	9,600.00
	SW 82 AVE	SW 77 AVE	South Side	620	feet	24,800.00
	SW 77 AVE	SW 72 AVE	South Side	650	feet	25,000.00
SW 144 St	SW 72 AVE	SW 67 AVE	Both Sides	4600	feet	184,000.00
SW 152 St	SW 72 AVE	SW 67 AVE	North Side	315	feet	12,600.00
SW 168 St	SW 77 AVE	SW 72 AVE	South Side (North Side)	315, 940, (620)	feet	75,000.00
SW 184 St	SW 72 AVE	SW 82 AVE	North Side	940	feet	37,600.00
SW 92 Ave	SW 168 ST	SW 174 ST	West Side	1075	feet	43,000.00
SW 87 Ave	SW 174 ST	SW 160 ST	West Side	515	feet	20,600.00
SW 82 Ave	SW 136 ST	SW 144 ST	East Side & Ped Bridge	1480	feet	59,200.00
	SW 144 ST	SW 160 ST	East Side (Both Sides)	160, [(1290), 90]	feet	61,600.00
SW 77 Ave	SW 160 ST	SW 168 ST	East Side	370	feet	14,800.00
	SW 168 ST	SW 184 ST	West Sides (Both Sides)	280, 675, 100 [(190)]	feet	49,900.00
SW 72 AVE	SW 136 ST	SW 144 ST	East Side	720, 1795	feet	100,600.00
LOCAL ROADWAYS			HV/LV CROSSWALKS			8,650.00
SW 184 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.4	gross mile	1,038,000.00
SW 67 AV	SW 136 ST	SW 152 ST	Install 4' wide bike lanes	1.2	gross mile	475,750.00
COMMERCIAL	LOCAL CONNECTIVITY	RESIDENTIAL NETWORK	COMMUTER ACCESS	GREENWAYS	TOTAL	2,614,950.00

The projects that were selected as mid term were generally the longer segments of roadway on Village owned roadways and shorter segments on County owned roadways. The local connection network segments that were selected in the mid term section of the priorities helps provide a much needed east-west connection in the middle of the Village and it gives a safer route to and from South Middle School. The sidewalk portion of the mid term priorities focuses on filling in gaps on many roadways throughout the Village both owned by the Village and by the County. This will really begin to frame in the sidewalk network. The final set of projects to be completed in the mid term are the on road bike lanes. By providing a bike lane on SW 184th St riders will now have an option to get back and forth from the Busyway to the Old Cutler Path. They can either use SW 152nd St which was completed in the short term or they can use SW 184th St. Also, adding a bike lane on SW 67th Ave will really set the frame of the bike network, as well as put Palmetto Bay in the drivers seat of setting up this type of system throughout Southern Miami Dade County. With the mid term set of projects complete, the Village of Palmetto Bay will already have one of the most extensive bicycle and pedestrian network in all of Miami-Dade County.

Long Term

Long Term Priority Projects									
Road/Site	Segment/Intersection		Recommended Improvements	Quantity	Unit	Total			
	From	To							
The Falls	US 1	SW 136 Street	Enhance Pedestrian Connections						
			Textured Asphalt Paving with Thermoplastic Inlay	240	feet	22,000.00			
			Relocate Pedestrian Crossing to median creating Pedestrian Refuge	300	feet	93,000.00			
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00			
Franjo Triangle	US 1	SW 174 St	Pedestrian Overpass	1	No.	4,000,000.00			
			High Visibility Crosswalk	250	feet	9,000.00			
			Install Pedestrian Countdown Type Heads	2	No.	2,000.00			
			Enhance Pedestrian Connections						
PB Business Center	Old Cutler Road	SW 184 St	High Visibility Crosswalk	300	feet	10,500.00			
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00			
			SW 94 AV	SW 176 ST	SW 184 ST	Install 8' wide multi-use path	0.6	gross mile	95,050.00
			SW 160 ST	SW 164 ST	SW 89 AV	Install 8' wide multi-use path	1.6	gross mile	253,450.00
	SW 141 ST	SW 87 AV	SW 176 ST	Install 8' wide multi-use path	2.4	gross mile	380,200.00		
	SW 152 ST	SW 86 AV	SW 151 ST	Install 8' wide multi-use path	0.7	gross mile	110,900.00		
	SW 77 CT	SW 139 TR	SW 67 AV	Install 8' wide multi-use path	3.9	gross mile	617,800.00		
	SW 87 AV	SW 79 AV	SW 79 AV	Install 8' wide multi-use path	1.3	gross mile	205,950.00		
	SW 136 ST	OLD CUTLER	SW 184 ST	Install 8' wide multi-use path	3.5	gross mile	554,400.00		
	SW 152 ST	SW 72 AV	OLD CUTLER RD	Install 8' wide multi-use path	1.2	gross mile	190,100.00		
	OLD CUTLER	SW 136 ST	SW 184 ST	Install 8' wide multi-use path	3.4	gross mile	1,077,150.00		
SW 87th Ave	SW 144 ST	SW 152 ST	West Side, (East Side)	1000, (140), 515, (245)	feet	76,000.00			
SW 77th Ave	SW 168 ST	SW 174 ST	West Sides, (East Side), [Both Side]	280, 385, (270), 220, 120, [140]	feet	56,600.00			
SW 67 AVE	SW 136 ST	SW 144 ST	Both Sides	2690	feet	107,600.00			
	SW 144 ST	SW 152 ST	Both Sides	2670	feet	106,800.00			
COUNTY ROADWAYS			HV/LV CROSSWALKS			18,650.00			
SW 144 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.3	gross mile	994,750.00			
SW 168 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.3	gross mile	994,750.00			
SW 87 AV	SW 168 ST	SW 184 ST	Install 4' wide bike lanes	1.1	gross mile	475,750.00			
VILLAGE WIDE		North	Install 8' wide multi-use greenways	1.8	gross mile	285,150.00			
		Central	Install 8' wide multi-use greenways	2.2	gross mile	348,500.00			
		South	Install 8' wide multi-use greenways	1.3	gross mile	205,950.00			
COMMERCIAL	LOCAL CONNECTIVITY	SIDEWALK NETWORK	COMMUTER ACCESS	GREENWAYS	TOTAL	11,313,000.00			

The projects selected for long term consist of all remaining projects. This includes the final 3 commercial connectors. Two of these connectors are along US 1 and the third is on Old Cutler Road at the Palmetto Bay Business Center. These projects will allow safer access to these areas including a safe passage across US 1 with a pedestrian overpass. The final multi-use path projects will complete the network between all schools, parks and other pedestrian generators. The final set of sidewalks consist on long missing segments along primarily County owned roadways. This will complete the sidewalk network. The bike lanes in the long term portion of this plan will allow for bikers to have multiple east-west choices as well as multiple north-south options. The last set of projects are the greenways. These projects use the right of way along the canals to create a linear park system that would be unrivaled in South Florida.

Task 1

Background Information and Existing Conditions



Task 1

Background Information and Existing Conditions

Introduction

As a community’s population density increases, the number of short trips (those of less than ½ mile) increases. These trips can often times be made as easily by walking or Bicycling rather than by driving. As a community becomes more dense, the construction of bicycle and pedestrian facilities as an alternative to automobile travel becomes more important to maintain mobility within the community. The population of Miami-Dade County is expected to exceed 3 million by the year 2025. To meet the transportation needs of individuals who walk or bike for all or a portion of their trip, the Miami-Dade Metropolitan Planning Organization (MPO) is planning for these types of facilities in its transportation plan. Miami-Dade County is also attempting to prepare the county for more of these trips in its Long Range Transportation Plan. The development of a Bicycle and Pedestrian Master Plan was initially suggested as part of the Village’s original Transportation Master Plan.

It is a stated intention of federal transportation policy to increase non-motorized trips to at least 15 percent of all trips and to reduce the number of non-motorized users killed in traffic crashes by at least 10 percent. In Florida, concurrency requirements were revised in 1999 to encourage a more comprehensive multi-modal evaluation of transportation facilities. Local governments are directed to use professionally accepted techniques for measuring level of service for all modes: automobile, bicycle, pedestrian, transit and trucks. The creation of a Bicycle and Pedestrian Plan in Palmetto Bay is a step towards achieving a higher percentage of non-motorized trips by identifying areas in greatest need of bicycle and pedestrian improvements and focusing improvements where they are most needed.

Due to the influx of density, Bicycle and Pedestrian Plans and studies have been numerous in Miami-Dade County. In an order to try to not repeat previous studies, many previous studies have been reviewed. Where applicable the results of these previous studies will be applied to the Village of Palmetto Bay Bicycle and Pedestrian Master Plan.

MPO Bike Facilities Plan

Increasing numbers of Miami-Dade County residents and visitors are choosing to walk or bike for all or a portion of their trip. To meet the needs of these travelers, the Miami Dade Metropolitan Planning Organization (MDMPO) has addressed walking and



bicycling in its transportation plan. The creation of a Bicycle Plan is a step towards not only enhancing the County’s bicycling facilities but also achieving a higher percentage of non-motorized trips by identifying areas in greatest need of bicycle improvements and focusing improvements to those areas.

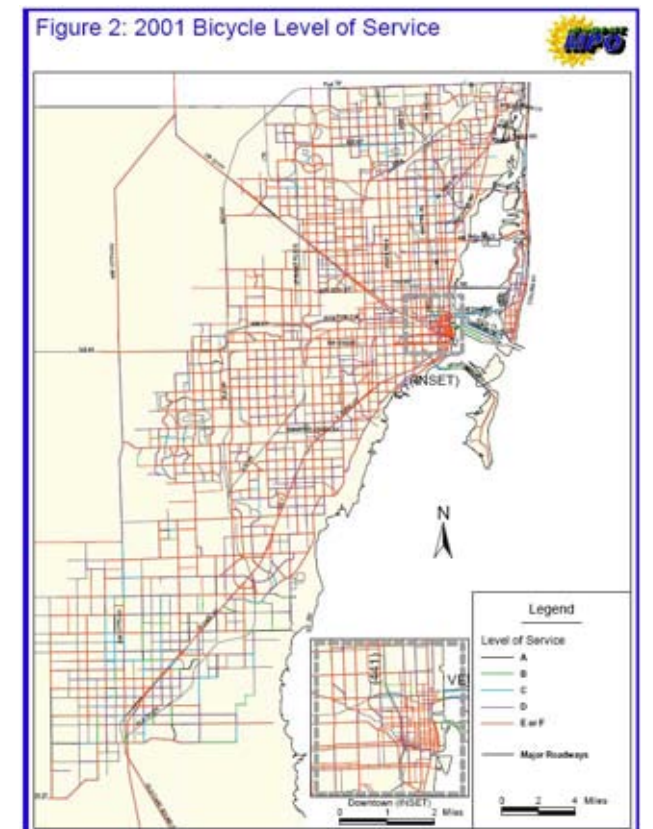
The purpose of the 2025 Bicycle Plan is to:

- ∅ Update the 1997 Bicycle Plan;
- ∅ Identify bicycle facility needs based on quantitative analysis;
- ∅ Identify candidate project to address the bicycle facility needs;
- ∅ Prioritize bicycle facility projects; and
- ∅ Develop a Minimum Revenue Plan based on projected funding.

The Miami-Dade MPO prepared a Bicycle Facilities Plan in 1997. The 1997 Bicycle Plan examined existing roadway conditions relating to bicycle travel and identified a set of improvements to both on- and off- road facilities for incorporation into the Miami-Dade MPO’s Transportation Improvement Plan (TIP). The 1997 Bicycle Plan identified proposed long-range and short-range facilities but did not rank projects in order of priority. Available funding was not identified and a minimum revenue plan was not developed.

The 2025 Bicycle Plan builds on the 1997 Bicycle Plan utilizing a series of new quantitative tools to objectively evaluate the transportation network. Bicycle projects were ranked creating a priority listing of roadways for improvements and associated funding sources were identified.

According to this Plan, all bicycle facilities located in the Village of Palmetto Bay are rated at a level of service (LOS) of D or worse with most of the facilities being and E or an F in terms of LOS. This indicates that the facilities in the Village need to either be updated or improved in some fashion in order to provide safer usage to residents.



Bicycle Parking Plan for Miami-Dade Transit



Secure parking is often identified as critical to increasing the number of people who bicycle to work or school. Transit ridership can be increased at a low cost by eliminating barriers and providing bike parking at rail stations, park and ride lots and other transit hubs. Miami-Dade Transit (MDT) has recognized the connection between bicycle parking and transit service for many years. Bicycle parking facilities (bike racks and bike lockers) have been provided at Metrorail stations since the system was opened in 1986. New racks have been added as needed over time and new lockers installed at the Dadeland South and University stations when station modifications required relocation of old equipment. Lockers are now provided at 14 of the 21 Metrorail stations and bikes can be seen parked at racks or informally on signs, trees or light fixtures at virtually all stations. Bike lockers are available for rent for periods of three months, six months and one year at the MPO office at the Stephen P. Clark Center. Renewals are processed by mail. Currently 53 individual rent bicycle lockers at Metrorail Stations.

Station No. of Lockers

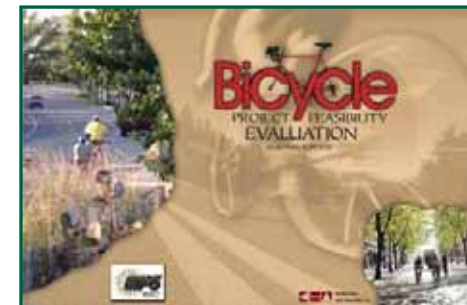
- Dadeland South 18
- Dadeland North 2
- South Miami 36
- University 10
- Douglas Road 18
- Coconut Grove 28
- Vizcaya 12
- Santa Clara 10
- Allapattah 12
- Earlington Heights 24
- Brownsville 12
- Northside 20
- Hialeah 44
- Okeechobee 10
- TOTAL 246**

After many years of use, however, problems have become apparent with the existing system according to the MPO. First, some of the existing racks and lockers are past their useful lives. Time, use and vandalism have taken their toll on equipment that, in some cases, is more than fifteen years old. Second, the supply of bike parking is inadequate at some stations and there is an excess supply at others. Third, administrative and maintenance procedures need to be reviewed for adequacy. Also, the need for bike parking has never been evaluated at the existing park and ride lots (Golden Glades Interchange, Hammocks Town Center (SW 153

Ave/SW 104 St), SW 152 St Busway Station, MDCC South Campus, Coral Reef Park & Ride (SW 117 Ave/SW 152 St), and the Cutler Ridge Busway Station). Plans for new transit hubs (at the new Palmetto Metrorail Station, West Dade, Omni, Flagler Marketplace, Miami Beach, Golden Glades, West Kendall, and Northeast locations) make it necessary to develop guidance for adding new bike parking when new transit facilities are developed. New types of bike racks and lockers are more secure, require less maintenance and are easier to use than the equipment currently in use. The purchase and installation of racks and lockers are now eligible for federal funding through the TEA-21 legislation. Innovative funding schemes have also been tried in other cities where advertising space is incorporated into bike parking to generate revenue in excess of maintenance costs.

The majority of this plan does not directly apply to the Village of Palmetto Bay, however there are parts that do apply. The mention of needed evaluation at some of the park and ride lots affects the village. Particularly the lots along the busway such as the one at 152nd street as it is directly adjacent to the Village of Palmetto Bay. If coordinated correctly the Village of Palmetto Bay Bicycle and Pedestrian Plan can easy connect with this location.

Bicycle Project Feasibility Evaluation



Bicycling provides both transportation and recreational opportunities for the citizens, employees, and visitors of Miami-Dade County. Many people take advantage of favorable weather throughout much of the year to enjoy bicycle riding for leisure and mobility. Providing appropriate bicycle facilities can encourage short trips to be made on a bicycle instead of in an automobile and contributes to a healthy citizenry. Although some bicycle facilities exist within Miami-Dade County, improvements to the bicycle network can be made to

increase the mobility and accessibility of bicycle routes. The Miami-Dade County Metropolitan Planning Organization (MPO) Governing Board adopted the current Bicycle and Pedestrian Facilities Plans in December 2001. Within these documents, a list of seven priority bicycle projects were identified for improvements to possibly be implemented under an assumed minimum revenue plan.

The seven high-priority projects selected for evaluation include:

- € Commodore Trail from Cocoplum Circle to Brickell Avenue
- € Bird Road from SW 67th Avenue to SW 37th Avenue
- € NW 11th Street from NW 32nd Avenue to NW 22nd Avenue
- € Palm Avenue from W 9th Street to Okeechobee Road
- € Red Road from U.S. 1 to SW 8th Street
- € North Federal Highway from NE 36th Street to NE 54th Street
- € M-Path Trail from SW 67th Avenue to Downtown

Building on these efforts, the MPO has committed to complete a more detailed evaluation of the seven high-priority projects to determine the feasibility for constructing the bicycle improvements identified for these corridors within the adopted facility plans. This study examines the seven corridors and ranks the corridors based on feasibility for developing an initial bicycle project. In addition, a more detailed design evaluation is produced for the highest-ranked corridor. The purpose is to provide analysis of the seven corridors and develop a feasible concept for implementing an appropriate bicycle facility along the corridor most suitable for bicycle improvements. Bicycle facilities range from wide curb lanes with no striping to marked bike lanes to off-road bicycle paths. The unique circumstances of a particular roadway must be examined to determine the bicycle facility that is most appropriate. Traffic volume, prevailing travel speed, and roadway geometric characteristics are common factors examined in bicycle mobility analyses. For example, on roadways with low automobile volumes and slow travel speeds, bicyclists often feel comfortable riding in mixed-flow traffic with no specific bicycle facilities provided. Marked bicycle facilities or adjacent bike paths are desirable on higher volume roadways with higher travel speeds. Considerable planning and engineering is often required to ensure the appropriate bicycle facility can be designed around constraints such as right-of-way availability, existing utility infrastructure, and intersection geometry. For the corridors under consideration in this study, existing conditions and potential design constraints are evaluated. Field reviews are completed for each of the seven priority projects to gain a better understanding of the issues that are crucial to successful implementation of targeted bicycle improvements. Roadway design, right-of-way, and utility conflicts are also evaluated through the data collection and analysis process. The corridor evaluation process leads to a ranking of the seven priority bicycle corridors based on the feasibility of a potential bicycle project that would be realistically implementable and would afford access to multimodal and recreational opportunities. Once the preferred corridor is identified, a more detailed design evaluation is developed showing the general layout of the proposed bicycle facility. A set of preferred concepts and typical cross sections are also produced to guide the final project feasibility evaluation to be conducted by the Miami-Dade County Public Works Department for the identified bicycle project.

These projects, though not in Palmetto Bay, can provide impacts to Palmetto Bay. If the Villages plan can coordinate with the Village of Pinecrest and their plan, they can link up to both the Red Road project, as well as, the 67th Avenue project. This would allow residents from Palmetto Bay to have bicycle and pedestrian access well into the heart of Miami-Dade County.

Bicycle Safety Program Plan



The Miami-Dade Metropolitan Planning Organization (MPO) developed a Geographic Information Systems (GIS) database of reported traffic crashes involving bicycles for the years 1996 to 2002. The database contains over 4,500 crash records obtained from the Florida Department of Highway Safety and Motor Vehicles, Florida Highway Patrol and County and municipal police departments, and includes spatial information on the

location of each crash, as well as other crash characteristics of the bicyclist, driver, and roadway. The objective of this study was to use software developed for the Federal Highway Administration (FHWA) to identify common crash types occurring at locations throughout the County, and develop countermeasures to address the physical conditions and bicyclist or driver behaviors at these locations to enhance safety for cyclists throughout Miami Dade County in the future. This software – called the Pedestrian and Bicycle Crash Analysis Tool (PBCAT) – was used to allocate one of 73 districts and defined “crash types” to the crash reports for further analysis using GIS software.

A study advisory committee was identified at the outset of this project to help guide the analysis, provide input based on local experience, and carefully review the findings of the study. The committee was comprised of representatives of 10 local agencies that work within the bicycle safety arena – including the County, police departments, hospitals and transportation agencies and the local bicycle advocacy group – and met three times during the nine-month study to review progress and provide comments and suggestions. A number of approaches was taken to evaluate the seven years of crash data. Geographic analysis was used to identify areas where high densities of crashes were occurring. The crash types were consolidated into nine subgroups and used with GIS to identify locations where common crash types occurred. And finally, a focused geographic cluster analysis was used to identify hotspot location. that experienced a high incidence of bicycle crashes. The study team visited a total of 22 crash hotspots throughout the County to carefully review site conditions with reference to the individual crash reports, and developed engineering and programmatic countermeasures for implementation to enhance bicycle safety in Miami-Dade County. Bicycle activity was noted at each of the locations visited – during the relatively short period the study team was at each site – clearly indicating the extent to which this mode of transportation is a critical element of mobility for so many county residents. The study found that physical treatments were applicable in approximately 50 percent of the high crash locations identified, and that education and enforcement programs – aimed at both cyclists and drivers – would be needed in combination with engineering treatments at those locations, as well as at the remaining locations identified in the hotspot analysis, to address the safety issues. A series of engineering treatments and countermeasures is presented in this report for specific sites identified through the analysis. Educational and enforcement programs are also outlined as relevant to specific community areas. Behaviors that contributed to the bicycle crashes commonly included:

- Failure to adhere to signals and traffic control signs (both cyclists and drivers),
- Riding against traffic,
- Riding on sidewalks,
- Riding at night without lights, and
- Failure to yield to bicyclists (and pedestrians).

Implementation of the physical, educational, and enforcement countermeasures should be the shared responsibility of County and local governments, schools, and local community organizations representing

the people that are so affected by bicycle crashes. Addressing the dangerous behaviors of cyclists will go a long way to enhance safety for this mode of transportation in Miami-Dade County.

Black Creek Trail

Planning and Feasibility Study Purpose

Black Creek Trail Segment B is a proposed 9.2-mile multi-use trail in suburban and rural southwestern Miami-Dade County. The concept was initiated in the 1995 South Dade Greenways Network Master Plan. The trail meanders mainly within the Black Creek (C-1W) Canal right-of-way with an additional area located within street right-of way. The trail provides a route of travel from the Everglades Levee (L-31N Canal) one mile west of Krome Avenue to SW 137 Avenue where it connects to Black Creek Trail Segment A. The trail generally runs contiguous to the Black Creek Canal with an additional loop to Chuck Pezoldt Park via SW 168 Street and SW 157 Avenue. This Executive Summary summarizes the results of a planning and feasibility study of a non-motorized trail and linear park within the Black Creek (C-1W Canal) right-of way between the Everglades Levee (L-31N Canal) and SW 137 Avenue on land owned by the South Florida Water Management District (SFWMD). This study included interagency coordination and two advertised public meetings to solicit community input and present the proposed trail concept. The study established a planning program and route alignment, developed schematic conceptual designs, determined feasibility, and established probable costs and priorities to implement the project.

Background and Opportunities

The Black Creek Trail is a 17-mile greenway corridor that connects the Everglades Levee (L-31N Canal) with Black Point Park and Marina. The initial concept for this multi-use non-motorized trail was developed by the Redland Conservancy in the South Dade Greenway Network Master Plan and adopted by the Board of County Commissioners in 1995. The greenway corridor consists of the 7.8-mile Segment A which is currently under design for improvements (separate project), and the unimproved 9.2-mile Segment B (this study). Segment B offers a strategic connection and safe route to Section A and various parks, trails, schools, Metrobus routes and other facilities.

Park Connections:

- West Kendall District Park
- Chuck Pezoldt Park
- Larry and Penny Thompson Park
- South Miami-Dade Cultural Arts Center
- Black Point Park and Marina
- Biscayne National Park

Trail Connections

- Everglades Trail
- Krome Trail
- South Dade Trail
- Old Cutler Bike Path
- Biscayne Trail



School Connections

- Jorge Mas Canosa Middle School
- Jack D. Gordon Elementary School
- Dr. Gilbert L. Porter Elementary School

Constraints and Other Considerations:

- Several arterial roadways and railroad crossings intersect the Segment B corridor within the study limits that will require safety improvements.
- Existing canal right-of-way between L-31N Canal and West Kendall District Park is narrower on south side of canal than north side of canal and precludes room for a paved multi-use trail on the south side.
- Miami-Dade Aviation Department (MDAD) staff are reviewing the preferred plan concept with the Federal Aviation Administration (FAA) and MDAD security to check if there is runway protection zone interference. In the event that the proposed trail corridor alignment needs to be relocated, another potential alignment that could be explored during the design phase would be to utilize the SW 157th Avenue corridor.
- Miami-Dade Public Works Department (MDPWD) has plans for bike lanes on SW 160th Street, which along with existing SW 142nd Avenue bike lanes could serve as part of an alternate route for the Chuck Pezoldt Park Loop.
- Funding will need to be identified to construct most of the trail corridor.
- Using the CSX Railroad ROW in the Chuck Pezoldt Park Loop is both a potential constraint because of liability and acquisition or easement costs and an opportunity because it allows enough room create a true linear park concept

Preferred Plan Concept and Phasing

A preferred plan concept (see inside of this document) was developed that provides a continuous paved non-motorized trail across the entire study corridor from the Everglades Levee (L-31N Canal), approximately one mile west of Krome Avenue, to SW 137th Avenue bridge near the northwestern end of Segment A. An implementation phasing plan is depicted on the preferred plan with numbered circles corresponding to phase number.

- Phase I SW 137th Avenue to SW 144th Street (includes Chuck Pezoldt Park Loop)
- Phase II SW 144th Street to West Kendall District Park
- Phase III West Kendall District Park to L-31N Canal (includes unpaved rustic trail)
- Phase IV SW 155th Avenue to CSX Railroad

Trail connections were identified to adjacent residential neighborhoods, sidewalks, and bike lanes. Supplemental trail amenities along the proposed trail include benches, shelters, interpretive signs, and information kiosks with trail maps and information on points of interest. Trailhead parking areas were identified at Chuck Pezoldt Park and the proposed West Kendall District Park. Rest stops were identified near a Florida Power and Light (FP&L) easement and along SW 157th Avenue near Jorge Mas Canosa Middle School. The proposed budget for the design and construction of Black Creek Trail, Segment B, is

approximately \$7.0 million including more than 12 miles of paved trail (includes Chuck Pezoldt Park Loop) and 2.5 miles of unpaved trail, amenities, supplemental infrastructure and soft costs.

The Black Creek Trail is several miles south of the Village of Palmetto Bay. Much like it is stated previously, if the Village can coordinate its Bicycle and Pedestrian Master Plan with the neighboring community, this time being the Town of Cutler Bay, it could link up. The Black Creek Trail passes through the Town of Cutler Bay in two places. One of these places is near the Old Cutler Road Trail.

Miami-Dade MPO Pedestrian Plan



Increasing numbers of Miami-Dade County residents and visitors are choosing to walk or bike for all or a portion of their trip. To meet the needs of these travelers, the Miami-Dade Metropolitan Planning Organization (MDMPO) has addressed walking and bicycling in its transportation plan. The creation of a Pedestrian Plan is a step towards not only enhancing the County’s pedestrian facilities but also achieving a higher percentage of non-motorized trips by identifying areas in greatest need of pedestrian improvements and focusing improvements to those areas.

The purpose of the 2025 Pedestrian Plan is to:

- ___ Identify pedestrian facility needs based on quantitative analysis;
- ___ Identify Candidate Projects to address pedestrian facility needs;
- ___ Prioritize pedestrian projects; and
- ___ Develop a Minimum Revenue Plan based on projected funding.

The goal of the 2025 Miami-Dade County Pedestrian Facilities Plan is to facilitate the construction of pedestrian improvements at locations that have been determined to address the County’s most pressing needs.

Existing Conditions

Since no previous facilities plan has been prepared for the County, the 2025 Bicycle Plan and the 2025 Long Range Transportation Plan (plus certain additional roads included in the 1997 Bicycle Plan) serve as the basis for the 2000 Pedestrian Road Network. The 2000 Pedestrian Network consists of over 1,500 centerline miles of roadway that are divided into nearly 3,500 segments for analysis.

2000 Pedestrian Level of Service (PLOS)

The determination of the pedestrian level of service for each segment of the Miami-Dade Network is based on the operational level of service methodology adopted by the Florida Department of Transportation (FDOT). The Pedestrian Level of Service (PLOS) Model identifies the pedestrian level of service for a segment of the Pedestrian Network on a scale of A to F based on a numerical model evaluating a facility’s given conditions. A PLOS of “A” indicates good pedestrian conditions and “F” indicates the least favorable conditions. PLOS is a measure of the quality of the pedestrian environment based on measured physical attributes.

Of the over 1,500 miles analyzed, 57.2 percent of roadway miles received a PLOS score of “C” or better. Approximately 43 percent of the roadway miles received a PLOS score of “D” or worse, with approximately 12 percent receiving a PLOS score of “E” or “F”.

Latent Demand Score (LDS)

While sophisticated models have been developed to predict auto and transit travel, until recently there were no models for predicting non-motorized trips such as walking and bicycling. Over the last several years many new methods have been created for estimating walking and cycling trips, however most of the models are relatively new and unproven. One of the methods, the latent demand score (LDS), has been applied in several metropolitan areas across the U.S. and is gaining acceptance. The latent demand score provides an indication of the potential for pedestrian trips along a roadway segment, regardless of the status or condition of the existing pedestrian facilities along the roadway segment. The LDS provides an indication of the potential demand for pedestrian facilities along a particular roadway corridor assuming adequate, safe pedestrian facilities were available. Latent pedestrian trip activity is directly related to the frequency, magnitude and proximity of trip generators and attractors to a given roadway segment.

All of the segments in the 2000 Pedestrian Roadway Network were rated using the latent demand methodology described above. The LDS for the nearly 3,500 segments evaluated were divided into 5 equal groups, ranging from Low to High. A higher latent demand score indicates a higher potential demand for pedestrian trips. Latent demand is highest for segments that serve or are located adjacent to multiple pedestrian trip generators.

South Dade Greenway Network

The South Dade Greenway Network (SDGN) is an organized system of interconnecting linear corridors, traversing south Dade County from Kendall Drive at the north to Monroe County at the south, and from the Everglades to Biscayne Bay (see Greenway Network Map). There are ten distinct corridors (Trails) within the SDGN and each is described in detail in the Ten Trails chapter.



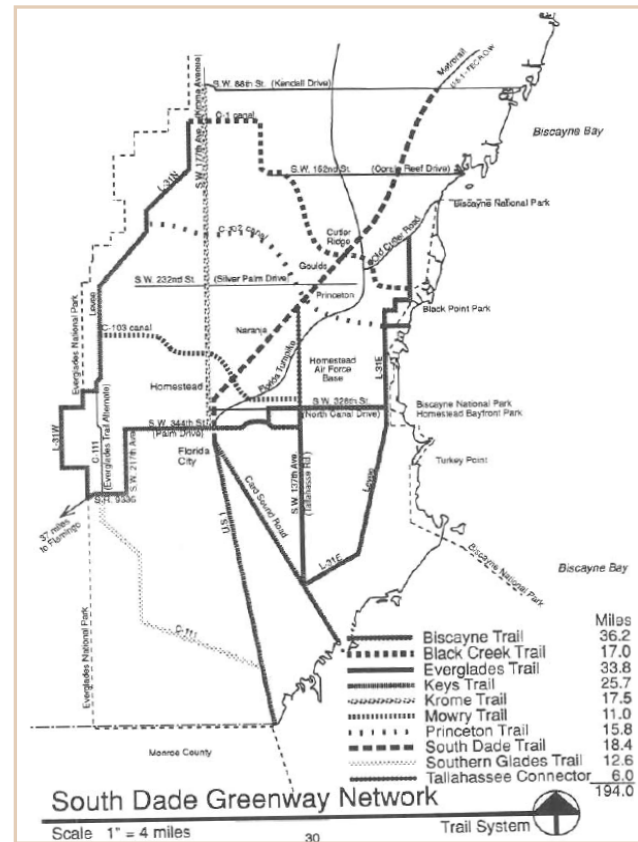
The SDGN utilizes existing R.O.W. owned by the South Florida Water Management District (SFWMD), by the Florida Department of Transportation (FOOT), Metropolitan Dade County and City of Homestead (see Ownership Map). Only a small portion of land (13.8 acres) must be purchased for R.O.W. to complete the system. The SDGN will provide opportunities for bicycling (both recreational and commuter), roller-skating, walking and jogging, horseback riding, canoeing, fishing and nature study.

The Master Plan calls for the development of 194 total miles: 147.4 miles of paved trails, and 46.6 miles of unpaved trails (see Map Paved, Unpaved). Except for 36 miles, where cyclists will use wide shoulders or shared lanes on roadways, the remaining 158.8 miles will be off-road, separated from automobile traffic (see Map On Road -Off Road).

When completed, the SDGN will elevate Dade County from having one of the least developed trail systems of any major urbanized area, to one of the best in the nation. It will be the only system in the U.S. that connects two national parks, Everglades National Park & Biscayne National Park. Currently, Dade County is the only county in Florida developing a comprehensive trail system and when completed, the SDGN will be Florida's largest. The majority of the SDGN abuts or comes within close proximity to numerous community assets such as schools, parks, tourist attractions, historic routes, nature preserves, local and regional shopping malls and work centers. In fact, a portion of the trail is within 2-3 miles of every resident south of Coral Reef Drive (S.W. 152nd Street). The SDGN Master Plan Map locates community assets in relationship to the SDGN.

The network will serve as main arteries to other bikeway systems which are being planned by the City of Homestead and Florida City; and Dade County's Safe Routes to Schools program which seeks to provide safe bicycle paths from neighborhoods to local schools. It also connects to four existing bikeways and Dadeland South Metrorail station.

The scenery along the Trails is varied. Views include industrial/commercial areas, urban and suburban residential neighborhoods, the Redland farmlands and canal banks. Some of the Trails run through almost pristine natural environments with abundant wildlife-viewing opportunities. The Trails will be further enhanced with landscaping, directional signage, location maps, trailheads, rest areas, interpretive signs, emergency phones, and



other amenities. The chapter on Infrastructure and Amenities will describe the physical characteristics of each of the ten Trails and the elements added to provide for safety, security and aesthetic enjoyment.

Metro Dade Bicycle Facilities Plan



The passage of the Intermodal Surface Transportation Efficiency Act (ISTEA) and the Clean Air Act Amendments (CAAA) have renewed incentive for planning agencies to emphasize bicycling and walking as significant components of the transportation mix. Since most bicycling occurs on roadways, planning and engineering these facilities form the backbone of the provision of safe and suitable accommodation.

The *Dade Colony Transportation Demand Management (TDM & Congestion Mitigation Study)* (1993) also underlines the importance of making cycling a more viable option for commuters. TDM strategies are aimed at relieving vehicular congestion, enhancing air quality and promoting energy conservation, all important factors for implementation of the concurrency component of Florida's Growth Management Act, the Federal Clean Air Act Amendments of 1990, and the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The same strategies are also results obtained by promoting bicycling.

Many communities are directing efforts at diverting automobile trips to other modes by diversifying the transportation system. Commuting by bicycle and other purposeful riding has been recognized as a healthful and environmentally sound form of travel which benefits both the individual user and the community as a whole. Nearly 2 out of 3 work trips, as well as those for school, shopping, recreation and personal purposes are less than 5 miles in length. This aspect alone positions the bicycle as a viable transportation alternative for many of these trips.

The overall purpose of the *Dade County Bicycle Facilities Plan* is to examine existing roadway conditions relating to bicycle travel, proposing a set of improvements of both on- and off-road facilities to incorporate into the *Transportation Improvement Plan*. The specific goals of the study were to:

- € Assess the existing conditions for cyclists in Dade County, including levels of service provided by the roadway system using an objective, formulaic measure: the Roadway Condition Index (RCI).
- € Evaluate specific links for improvement based on the measure of roadway suitability, connectivity between existing facilities, and location of common destinations.
- € Specify future opportunities for facilities in conjunction with transportation improvement plans, and plan other required facilities to meet the needs of cyclists with a wide range of capabilities.
- € Identify funding opportunities for implementing bicycle facilities.
- € Recommend possible updates of the RCI to use as a measure of level-of-service for bicycle travel
- € Increase awareness about bicycles as a transportation mode in combination with other modes of transportation and to promote greater understanding of safe riding.

Miami Dade County Parks and Open Space Master Plan

In 2008 Miami Dade County was initiating presentations on its Parks and open space master plan. Miami-Dade County is facing the same population growth issues as many other metropolitan areas, a diminished quality of life, increased congestion, declining recreation and conservation open space, visual blight, limited transportation options and social inequities. With the population expected to increase by three million residents in the year 2025 and up to 4.5 million by 2060, additional pressure will be placed on an already stressed physical, social, and economic environment. This Park and Open Space System Master Plan envisions that great parks, public spaces, natural and cultural areas, streets, greenways, blueways, and trails can form the framework for a more sustainable community. Such a plan for the public realm cannot be considered as an isolated system, but one that is integrated into the overall fabric of the community and one that will create the kind of place where residents want to live, employers want to do business, and tourists want to visit.

The goal of this Master Planning process is to “create a seamless, sustainable system of parks, recreation and conservation open spaces for this and future generations.”

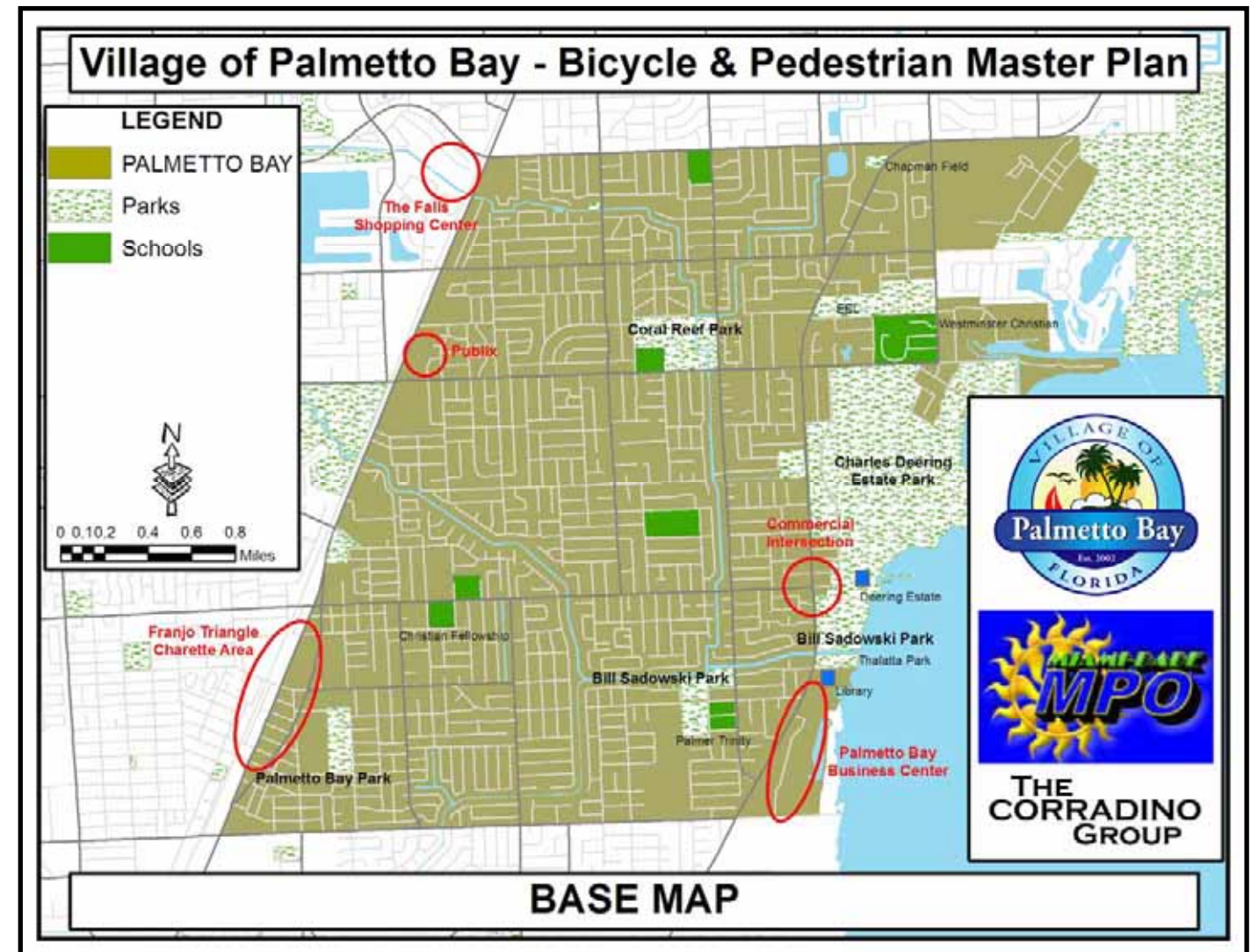
In developing this plan several facilities are programmed for Palmetto Bay. US-1 is seen as a boulevard. Arterials are seen along Old Cutler Road, 136th Street, 152nd Street, 168th Street and 184th Street. There are three locations for boating access, particular south of the Deering Estate, at 184th Street and the Bay, as well as along the canal just south of 168th Street. The canals are recognized as water trails and greenways. The Village is scheduled to be the recipient of a proposed regional aquatics center, with a five mile service area, a proposed regional center with a five mile service area, and a proposed regional sports complex with a five mile service area. The eastern 1/3 of the Village is an Eco Zone.

Existing Conditions

Bicycle and pedestrian conditions in Palmetto Bay are quite sparse. The Village is home to many potential generators of bicycle and pedestrian traffic. These are parks, schools, commercial centers and other facilities. These generators include, but are not limited to:

- ∅ The Falls
- ∅ Howard Drive Elementary
- ∅ Westminster Academy
- ∅ Coral Reef Park
- ∅ Coral Reef Elementary
- ∅ Publix
- ∅ Charles Deering Estate
- ∅ Southwood Middle
- ∅ Perrine Elementary

- ∅ Palmer Trinity
- ∅ Franjo Triangle
- ∅ US-1 Commercial Areas
- ∅ 168th Street / Old Cutler Road Commercial Area
- ∅ Palmetto Bay Park
- ∅ Bill Sadowski Park
- ∅ Palmetto Bay Business Center



These are currently not connected by a cohesive network of facilities. Minimal and general sporadic sidewalk facilities exist on the section line and half section line roads. Multi use paths exist on Old Cutler Road and on the Busway. The Old Cutler Road path is in moderate disrepair and needs resurfacing, landscape maintenance and other general safety improvements. The Village consists of about six canal branches which trisect it. In addition there are significant FPL rights of way. These items, which generally

break up the transportation grid, inhibiting vehicular flow, can be seen as recreational amenities, to the Villages ample supply of recreation facilities.

Many in the community are not feeling positive about sidewalks being placed on their streets. The general tenor is that the decrease property values. There is no evidence of this, in fact planners and real estate agents alike believe these facilities increase property values, particularly in suburban areas. Traffic intrusion is an extreme problem in Palmetto Bay. Because the town is trisected by canals, traffic seeps through the neighborhoods attempting to avoid congestion on the main roads. To remedy this problem, the Village has developed an extensive traffic calming network. The logical extension of this would be to enhance bicycle and pedestrian facilities.

Task 2

Public Involvement Plan



Task 2

Public Involvement Plan

Understanding the desires of the community is always important in developing a plan for the future. This plan is dealing with the development of a Bicycle and Pedestrian Master plan. When the community at large thinks of transportation, it generally thinks of automobiles or roadway level of service. The ability to walk to uses, in our low density suburban communities is minimal, simply because of the distance. Add the fact that the sidewalk network is incomplete and this ability is further diminished. Cycling suffers the same ailment. Especially here where an adequate bicycle network is almost non-existent. Sharing the road with automobiles becomes a conflict oriented experience, making Florida one of the most deadly states for cyclists. Today’s parent is extremely cautious about allowing their children to walk or bike to schools. The reasons for this are complex, but it appears as if parents would prefer to insert their children all the way into the class room. For all of these reasons it is extremely important to have a diverse group of constituents to participate in the public involvement portion of such an effort so as to gain as much information as possible about how to proceed.



A project of this effort will be coupled with the level of service analysis to develop the vision, projects, routes and prioritization criteria. The process undertaken is multi-level. The primary level of involvement was the project management team. This consisted of the project team from The Corradino Group, Palmetto Bay Public Works Department and The Metropolitan Planning Organization. This group met to frame the scope of services and organize all aspects of the project from the timeframe to the number of meetings. The project management team originated a Steering Committee which consisted of an extremely diverse base of people including:

- € Village Council Member
- € Village Staff Member
- € Technical Consultant
- € MPO Member
- € County Commission Liaison
- € Industry Expert
- € Several Citizens

The Steering Committee met originally to kickoff the project. Its task was to meet three times to approve work done in the previous phases of the project, as well as authorize work to be done in the next phases. Due to the high interest in the success of the effort, the project team decided to hold several all day working meetings with individuals from the project team. This in effect operated like a “Charrette” process, where the Corradino Group would set up a working session at the Village Hall and invite the steering committee in as well as any members of the general public to work on the formulation of the plan together. Members who sought a more active role, were provided with assignments to collect data, and eventually help analyze the data so that it would be part of the project and plan development. The working sessions were detailed in route planning and community satisfaction. During these sessions, meetings were held with individuals to determine their thoughts and feelings relative to a bicycle and pedestrian system and how it would apply to the Village of Palmetto Bay.



The discussion at these meetings focused on the provision of a safe and convenient bicycle and pedestrian system for the various levels of users. The steering committee and public were pointing to the existing random facilities as inadequate. The general feeling was that they were not an actual system, and that a bicycle and pedestrian network needed to be planned and developed as a unit, and no longer allowed to be the random byproduct of adjacent development, with the actual usefulness of the individual facilities on a block by block basis being as minimal. Many believed that what ever facilities exist provided no real value and perhaps made the issue of people’s reluctance to walk or ride worse, because of the overall system in completeness. It appears that sidewalks are often put in place, because there was a checklist that said “sidewalk”, and that very little thought went in to the usefulness of the sidewalk, as they often simply end, leading the pedestrian to an uncomfortable and usually unsafe situation.

The public was interested in many issues, but consensus was built around several core concepts, which were used as prioritization criteria. The main concern was the providing a planned system of facilities. These facilities needed to be safe, so that current users would be comfortable in using them, and future users would be attracted to the system as an alternative to motorized transportation. Many strongly felt that the system needed to connect the various points of interest and potential traffic generators, like parks and schools as well as commercial areas in and around the Village. It was determined that the system needed to be able to serve the various user groups that may desire to use it. This included basic pedestrians or people that may get off of the transit bus and walk a short distance to home. It included the local walker or cyclist who would desire to get to a park, school or shopping center with out the use of a car. Another group was the more avid cyclist who may prefer to use this mode as part of a commute or long distance recreation. Finally the public was interested in a system that could be used as a commuting alterative so that peak hour home to work and work to home congestion could be reduced.

It was important to reach out to special user groups. As such members of school PTA’s were met with as were representatives of various cycling clubs who use the roadway system for recreational purposes. In addition to the initial meetings and meetings with small groups of people, two community workshops were held, one to introduce the project and potential solutions to the community at large, and the other to present the recommendations to the public and Village Council. The public was asked to assist in the prioritization of the individual projects and routes that make up the plan. They were instrumental in the development of the prioritization criteria which were used to do so. The project was authorized by the Council and it is suggested that the recommendations be placed in the Villages Capital Improvement Element for implementation.

Task 3

Vision, Goals, Objectives and Needs



Task 3

Vision, Goals, Objectives and Needs

The information from the data collection and analysis points to the existing bicycle and pedestrian level of service and need for enhancements in Palmetto Bay. This task has utilized the technical analysis and coupled it with the information gleaned from the public involvement and the many group and individual meetings which were held.

The vision or goal of this master plan is to provide for a safe convenient and connected transportation system, focused on encouraging bicycle and pedestrian mobility for multiple levels of users.

The vision can be implemented by achieving several objectives. In defining the vision several topics were examined. These included:

- € Preferred Modes
- € Areas of Connection
- € Costs
- € Characteristics of Non Motorized Systems

Stated objectives, gleaned from the public involvement process are as follows.

- € Provide sidewalks where appropriate
- € Connect the parks, schools and commercial areas with adequate bicycle and pedestrian facilities
- € Encourage parents to allow their children to walk or bike to school or recreation
- € Encourage children to want to walk or bike to school or recreation
- € Provide incentive for people to utilize alternative modes of transportation for particular trips each day as a way of conserving energy, being environmentally friendly and becoming more healthy.
- € Provide cycling commuters and high end recreational cyclists with a safe, convenient paths through the community
- € Connect the municipal bicycle and pedestrian network with the County network
- € Take advantage of canal Right of Ways as recreational facilities
- € Provide access to the commercial areas along US-1 from the adjacent residential areas



The preferred modes at this time are simply walking and bicycling. It is believed by the public that facilities for both can be enhanced on several levels, from the most basic sidewalks on neighborhood streets, to on-road facilities aimed at the cyclists commuting through the community. Potential future modes of travel are boundless, particularly as the world reels from the severe economic recession. Many have suggested that attempts be made to accommodate golf carts, electric vehicles, or even smaller motorized vehicles. Some suggest the routs be prepared for segways, scooters or other personal mobility devices. At this time the facilities are being planned only for bicycles and pedestrians.

There are multiple levels of connection that the public feels must be made. At the most basic level there is the concept of connecting major generators of potential pedestrian and bicycle activity to one another. These would be primarily, parks, schools, government facilities and commercial centers. While these would connect to one another as destinations, or generators of traffic, they need to somehow connect with the origins of the pedestrian and bicycle trips, which are the neighborhoods themselves. There are multiple parks and schools and other generators in the Village. In addition to connecting to the neighborhoods, an adequate system would connect to existing county facilities on the regional network. Other areas of connection would be the active or latent recreation areas, which can consist of public waterways including the canal system and Biscayne Bay. Both are seen as amenities which are not utilized as fully, (in a respectful and environmentally friendly manner) as they could be. The Village is trisected by the canal system which has a definite impact of traffic and mobility within its boundaries. The multiple interruptions to the grid system create frequent bottlenecks in traffic, which causes motorists to intrude into the residential neighborhoods exceeding livability standards and deteriorating the quality of life for many.

These generators include, but are not limited to:

- ∄ The Falls
- ∄ Howard Drive Elementary
- ∄ Westminster Academy
- ∄ Christ Fellowship Academy
- ∄ Palmetto Bay Christian Academy
- ∄ Coral Reef Park
- ∄ Coral Reef Elementary
- ∄ Publix
- ∄ Charles Deering Estate
- ∄ Southwood Middle
- ∄ Perrine Elementary
- ∄ Palmer Trinity
- ∄ Franjo Triangle
- ∄ US-1 Commercial Areas
- ∄ 168th Street / Old Cuter Road Commercial Area

- ∄ Palmetto Bay Park
- ∄ Bill Sadowski Park
- ∄ Palmetto Bay Business Center
- ∄ Ludovici Park
- ∄ Library

Palmetto Bay believes that project development is significantly deeper and based on more factors than cost. The Village is focused on quality and functionality in their projects. As such they feel that a high quality context appropriate system should be developed. Its implementation will be based on adequate funding levels. The Village has done an excellent job at implementing quality projects, stemming from funding from the Peoples Transportation Plan. The Village receives over \$500,000 from this source. It has mitigated neighborhood traffic intrusion with an extensive traffic calming network, and now it seeks to develop a secondary transportation network for bicycle and pedestrian facilities.

It is clear that the characteristics which will define the future non-motorized systems in the Village are complex and focused on multiple levels of need. This program has been developed with six levels of bicycle and pedestrian projects.

- ∄ Basic Pedestrianism
- ∄ Local Connectivity
- ∄ Commuter Access
- ∄ Greenways
- ∄ Commercial Connectors
- ∄ Policy

Basic Pedestrianism

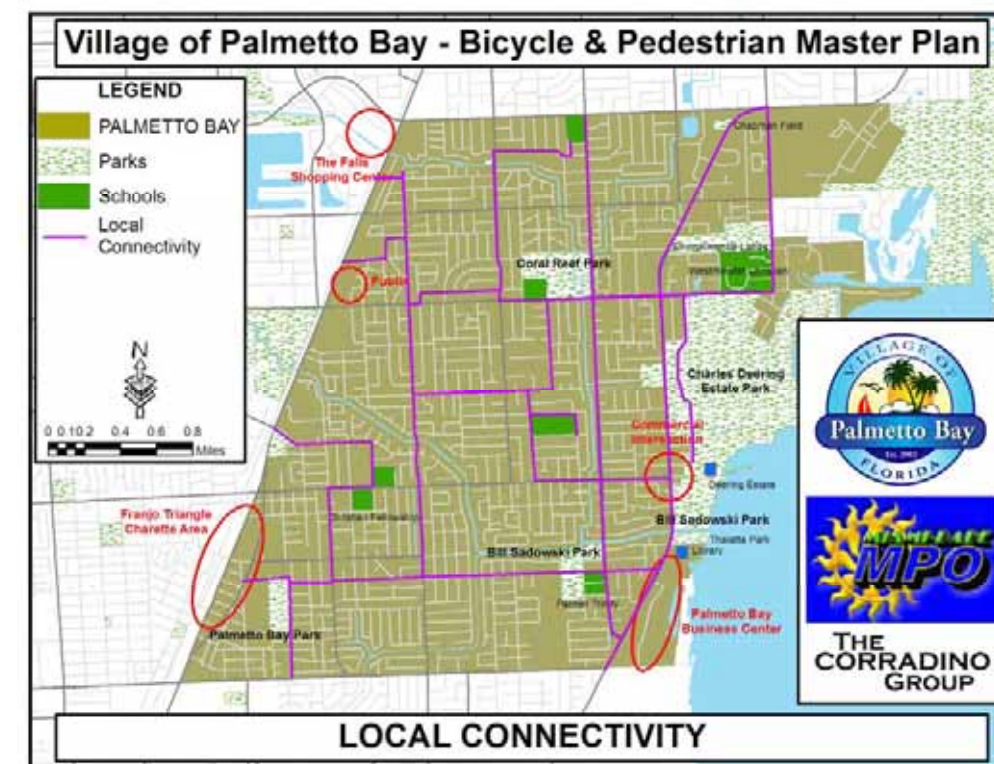
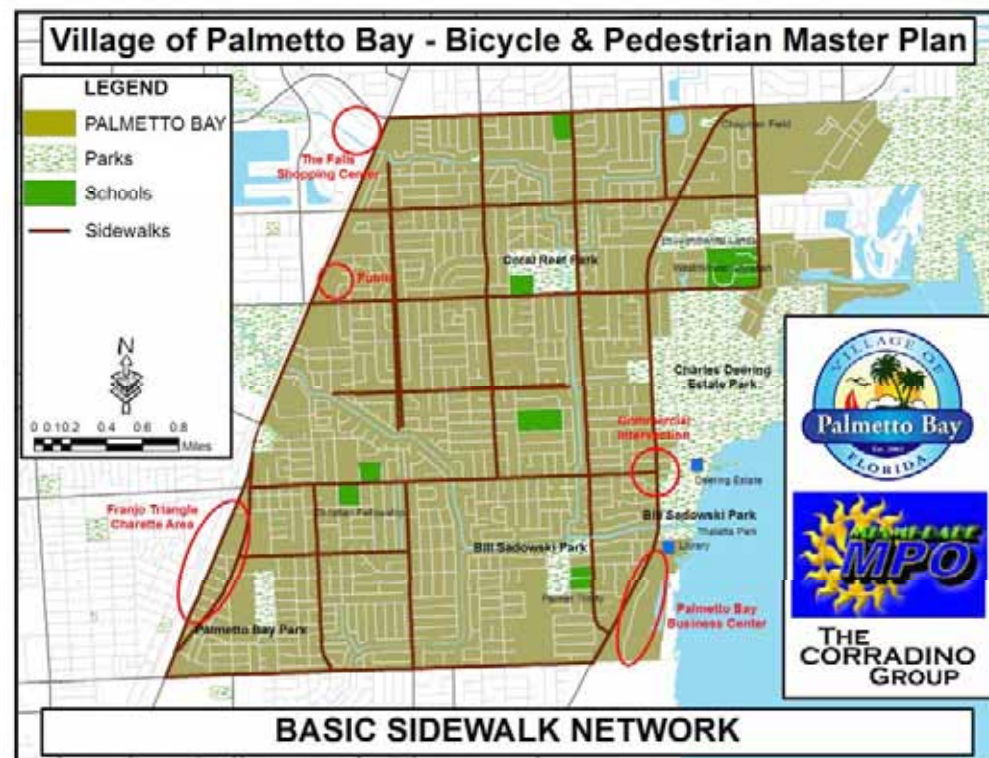
The first level, the Basic Sidewalk Level, satisfies the need for the most elementary aspect of the system. It connects the low density residential neighborhoods which do not have or warrant sidewalks to an essential grid of sidewalks. This is focused on assuring the basic sidewalk system is in place. While it is true that not every street needs a sidewalk, many streets, particularly those that frame the core residential neighborhoods do. These roads are generally more than local streets and are mainly categorized as collectors and arterials, and are primarily defined as through streets that are section line or half section line roads. Facilities would consist of a 5' sidewalk on both sides of the road surface. These would be used to facilitate very short walking trips in a safe manner.

The vision and the goal of the Village of Palmetto Bay residents according to their participation in the public work shop in terms of sidewalks is nothing more than a simple grid. This grid would include primarily section line roads all throughout the Village as well as most half section line roads. This would bring sidewalk access to the periphery of every neighborhood. By utilizing these major roadways, many of the important locations throughout the Village including many schools and parks would have good coverage in terms of sidewalk infrastructure. This too would allow safe pedestrian access to these locations. This grid network would also insure that non motorized traffic would have a safe haven from motorized traffic on most of the major roadways within the Village.

Local Connectivity

Level two, the Local Connectivity level, would strive to connect the residential streets and the basic sidewalk grid with facilities that linked major generators. This would be used for longer distance walking and bicycle trips from the residential neighborhoods to parks, schools, libraries or local shopping areas. It would be intended that these trips are more recreational, and would be categories by adequate 8' sidewalks or multi use paths on each side of the road separated from the roads travel surface.

The local connectivity is a key point for this entire Master Plan. The goal for the local connectivity is to connect the existing locations that would likely benefit from having this type of infrastructure in place. These places include the local parks including Coral Reef Park, Bill Sadowski Park, Palmetto Bay Park and The Charles Deering Estate Park. These existing places also include the local schools such as Perrine Elementary, Southwood Middle School, Coral Reef Elementary, Howard Drive Elementary, Palmer Trinity, Christian Fellowship and Westminster Christian Academy. Other sites to be connected on the network would be the Library and the Charles Deering Estate. By connecting these sites, a user could get to nearly any pedestrian friendly location within the Village without having to travel in the roadway. Connecting the schools especially would allow safer walking access to the schools for the children who walk on a regular or frequent basis. Connecting the parks will allow the park users a safe and active way to get to the park for their recreational purposes.



Commuter Access

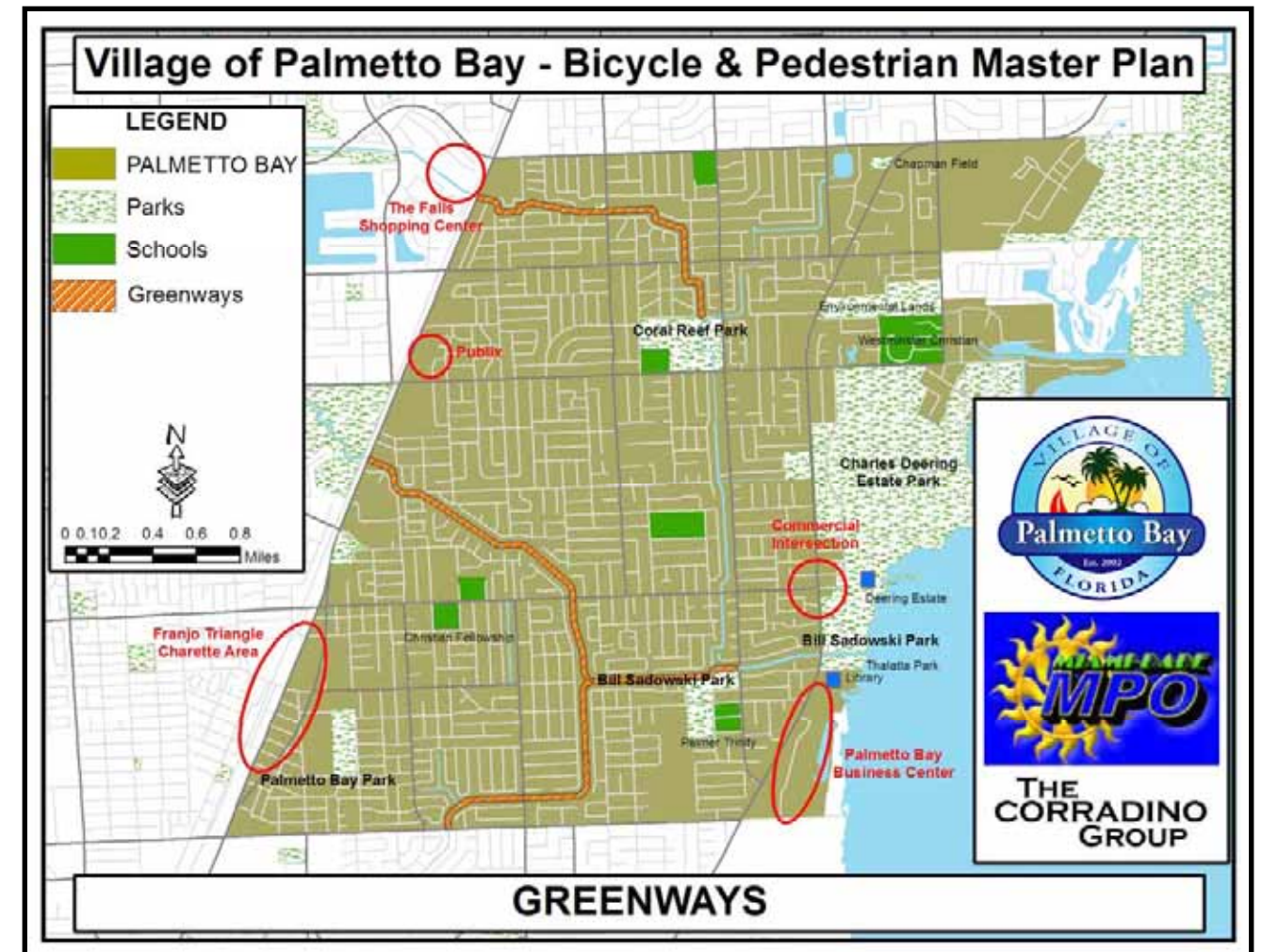
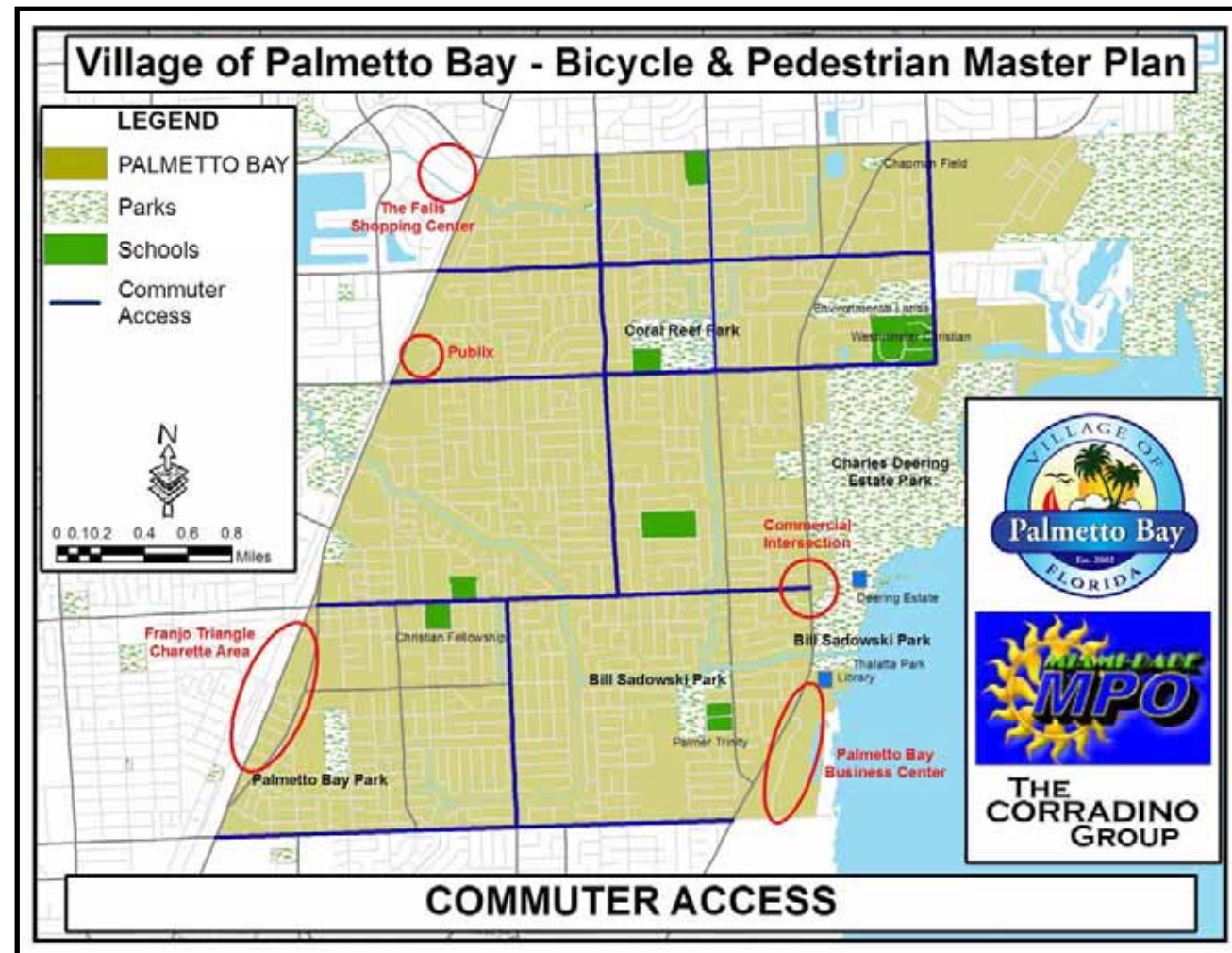
The third level, the Commuter Level, would provide through connectivity. It would be categories by 6’ on road facilities or bike lanes on each side of the through roads. This level would be planned for a more experienced and sophisticated cyclists seeking longer trips or commuting trips.

Commuter traffic in this sense is being thought of as on road bicycle lanes connecting through the Village to other communities on all sides. Places of access that were selected during the public workshop included roadways such as 87th Avenue, 82nd Avenue and 67th Avenue. The other streets included SW 144th Street, SW 152nd Street and SW 168th Street. These connections would allow for multi-directional connectivity through the Village as well as east west connectivity that would connect the Old Cutler Road trail with the Busway on US 1.

Greenways

The fourth level, the Greenway level would seek to provide general connectivity along the canal system along the C-100, C-100A, C-100B, and C-100C systems, as well as FPL Rights of Way as appropriate. Actual facilities would be determined as needed, but could consist of a level walking or running service of up to 12’ in width. It would primarily be used for recreation, as they would not necessarily connect generators.

Greenways within the city could help provide recreation pathways for pedestrians and bicycles. It could also do this without fear of vehicular traffic as a danger. The pathways would be along the canal system within the Village. The pathways could utilize existing right of way that surrounds the canals as well as the power lines in the northeast area of the Village. These pathways would provide beautiful scenery along with safe usage to pedestrians and bicyclists of all ages.



Commercial Connectors

The fifth level, the Commercial Connectors, would focus on facilitating direct portals from the commercial corridors to the communities behind them. Often the commercial areas while immediately adjacent to the residential communities, yet they don't have efficient, effective, and safe connections. As such people are not presented with the ability to walk, but are force to take inefficient automobile trips which often add to the traffic congestion on the roadway network. These could consist of safe and secure pedestrian gateways or pathways from residential neighborhood to commercial centers. Primary use would come from residents within ¼ mile who choose to walk or bike for short shopping trips instead of drive.

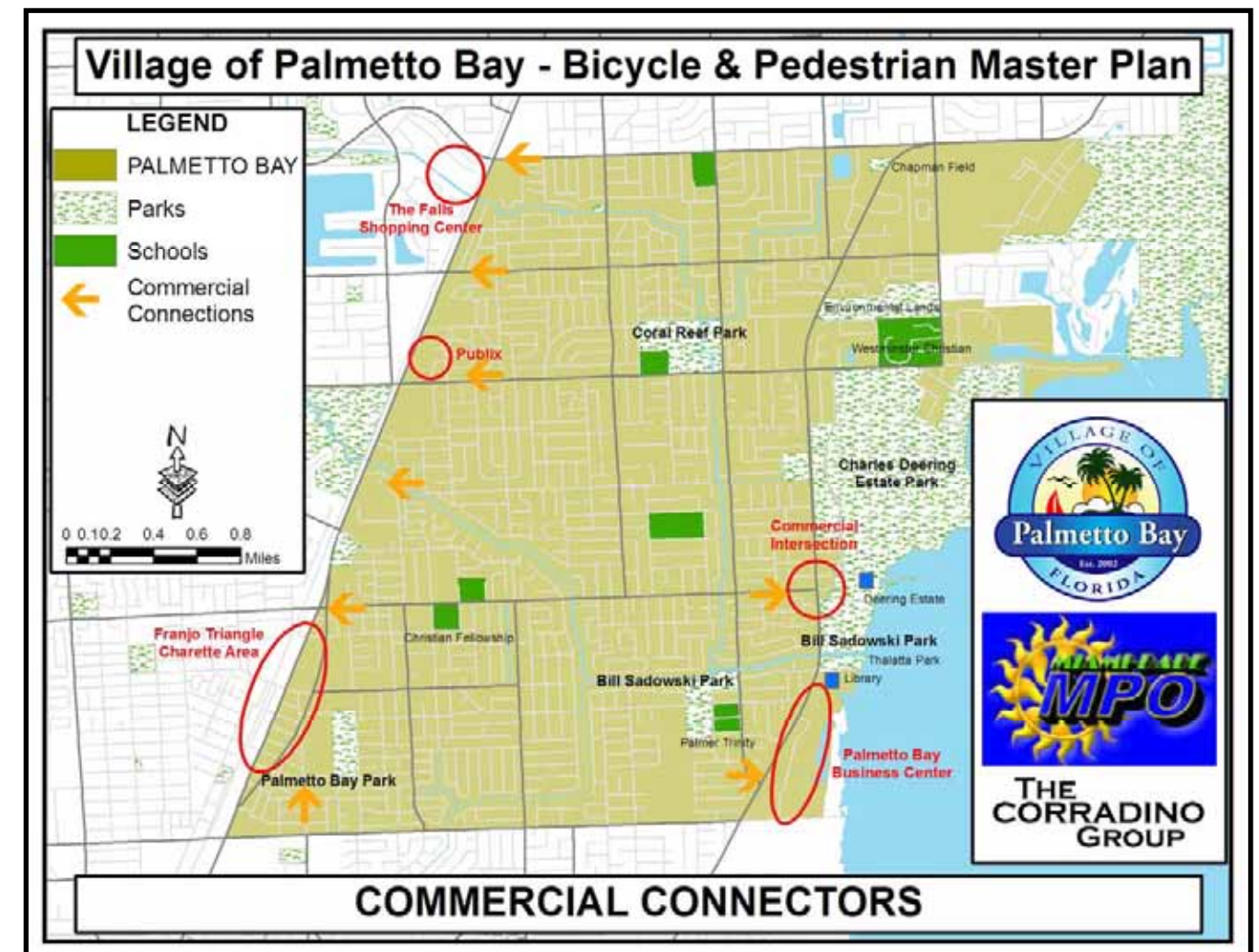
SW 168th St at Old Cutler Rd



Area behind Publix at SW 87th Pl and SW 146th St

The Village of Palmetto Bay has very distinct Commercial areas. The Village is bound on the western edge by the US 1 corridor. This corridor is rich with commercial uses. It is particularly heavy with commercial businesses on the eastern side of the corridor which is within the boundaries of Palmetto Bay. There are a few nodes within the corridor that especially need better commercial connections in order to allow pedestrians to easily access the businesses that are located there. The first location is along SW 136th street. This intersection has significant commercial uses on all four corners. This is a major commercial hub not

just locally but it is a hub regionally as well. In fact, it is signified as a regional center on the Miami Dade County Future Land Use Plan map. The Southwest corner of the intersection is the location of the Falls Mall and a Busway stop. There is a Publix supermarket located at SW 146th Street that is very difficult to access from a pedestrian stand point. Better connections need to occur in this area. The supermarket may get more local pedestrian usage if there was a rear entrance. Directly behind the Publix is a large multi unit residential complex that would likely generate pedestrian traffic if such an entrance existed. Another major connection needs to be established at the SW 152nd street area to connect with the Busway Park and Ride location. A fourth major area that could use more connectivity in terms of pedestrian access is the Franjo Triangle Charrette Area. This could be accomplished in many locations as it is a relatively large area. On the west side of the Village one of the key connections that needs to be better established is in the area of the Palmetto Bay business center. This area currently has little access for pedestrians that would be deemed as safe access. This area is a large employment hub in the Village and adequate access should be provided. Many other areas should also have more pedestrian access in order to better serve the pedestrian traffic that exists within the Village. This access can be anything from small sidewalk connectors to removing portions of a chain link fence that might prevent access at a specific location.



Policy

The sixth level, the Policy level, suggests projects which are not physical, yet would provide the incentive to more easily implement the other levels, as well as help encourage walking and biking as a viable means of transportation in the community. This transportation could be one of many forms. It could be a recreational trip to the park, it could be a trip to the local grocery store, or it could be transportation to and from work. These policy level projects also include suggested Village of Palmetto Bay ordinances and new building requirements for developers.



There are multiple routes, projects or policies in each level of the proposed network. In order to effectively implement them, each should be prioritized. To do so prioritization criteria were developed. These will be presented in chapter five of this report, which discusses the recommendations as developed by the project management team, as well as, the steering committee and local citizens.

Task 4

Data Collection and Analysis

Task 4

Data Collection and Analysis

Palmetto Bay is made up of a diverse array of parks, schools, and residential and commercial areas that are not connected to one another from a bicycle and pedestrian stand point. To develop a successful plan that has consensus from the community, it will be crucial to clearly identify what citizens are looking for in the future to service their non-motorized transportation needs. The Village of Palmetto Bay plans to take its knowledge of the individual aspects of our community to develop a needs plan from which to evaluate and refine through the process. In order to understand fully what is truly needed, we must first understand completely what is already in place. The goal of this task was to inventory and evaluate all existing pedestrian and bicycle infrastructure such as the presence of on street bicycle lanes which as seen below were non-existent throughout the Village.



The Village of Palmetto Bay developed and executed a data collection plan that included the review of the existing information and the collection of new data for the calculation of the bicycle and pedestrian levels of service. This included size of existing right of way, size of pavement, size of swale, width of sidewalks and much more.

Major and minor corridors were inventoried, as well as any other roadway that is present in any of the proposed networks in this study. They were then evaluated for their quality and level for service in terms of Pedestrian level of service as well as Bicycle level of service. The determination of the bicycle level of



service for each segment of the Bicycle and Pedestrian Network was based on the operational level of service methodology adopted by the Florida Department of Transportation (FDOT). The Bicycle and Pedestrian Level of Service (BLOS) (PLOS) Models identify the level of service for a segment of the network on a scale of A to F based on a numerical model score. An LOS of “A” indicates good cycling or walking conditions and “F” indicates the least favorable conditions, and are a measure of the quality of the environment based on measured physical attributes including the vehicle volume and speed on the adjacent roadway, the presence or absence of a striped bike lanes, sidewalks, and the presence or absence of occupied on-street parking. For each segment a LOS Score has been assigned for both pedestrian LOS and Bicycle LOS. The segments were broken up at logical points, usually section or half section line roads if applicable. The smaller, more residential, streets were generally taken as a single segment. These smaller segments include such roadways as 139th Terrace, 77th Court, 94th Avenue and 164th Street. These are just a few of the many that are in this category.

As you will notice from the table, many trends were easy to notice within the Village such as the standard sidewalk is 5 feet across. This is a favorable size for any place in South Florida. Most Communities would be happy with this size, but the lack of sidewalk in most areas would not be desirable for most communities.

Another thing that seems to stand out on the existing conditions matrix is the fact that not a single segment is better than a LOS “C”. Even on Old Cutler Road, a roadway with an existing Multi Use Path, the LOS is only “C”. This is primarily due to the fact that the neighboring roadway is a LOS “F”. What this means is that despite the fact that the Old Cutler Path is separated from the roadway itself, people still fear taking the path due to the poor traffic conditions on Old Cutler Road. A Bicycle and Pedestrian Master Plan is intermingled with the more traditional Transportation Master Plan far more than the lay person would realize. The level of vehicular traffic has a very large impact on the quality as well as the usage of the pedestrian facilities in the same area.

infrastructure and or improvements of existing infrastructure. The new infrastructure could include such things as on street bicycle lanes, wider sidewalks that can be used as multi-use paths or both. Some areas within the Village have no sidewalks at all and would require them in order to complete the recommended networks.



The Village of Palmetto Bay has relatively large Right of Way widths on all roadways. The pavement footprint is usually less than half of the size of the actual right of way. This allows for very large swale areas throughout the Village. These swale areas could provide ample room for bicycle and pedestrian

Task 5

Recommendations



Task 5

Recommendations



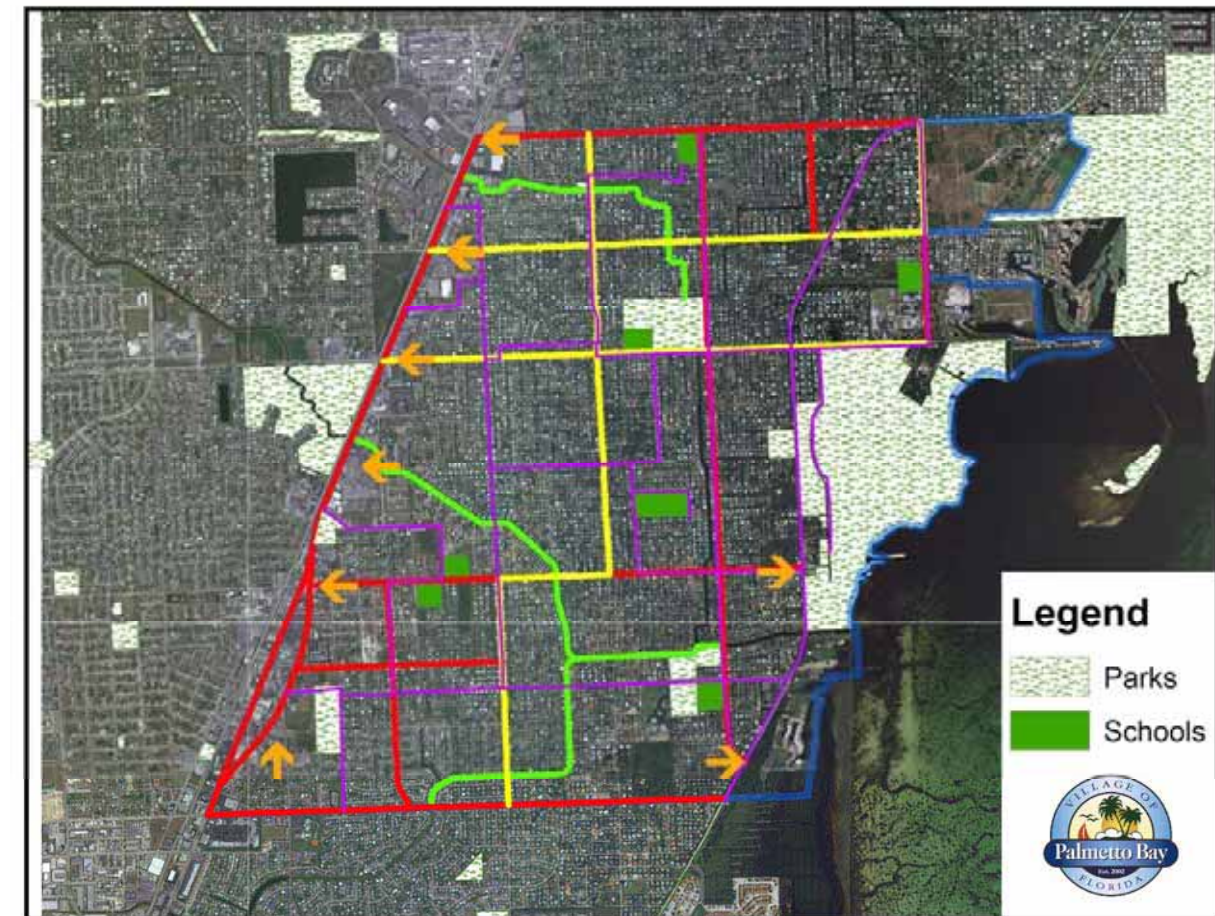
The overall goal is to serve a variety of users from a bicycle and pedestrian perspective so a multi-faceted approach is being recommended in this plan. Walking and biking are modes that do not require the use of an automobile. Providing the ability to use these modes supports multimodal and intermodal initiatives that have been set forth by both Palmetto Bay and Miami-Dade County. An overall bicycle and pedestrian master plan linking the existing Village generators with the overall county Greenway system which borders Palmetto Bay on both East and West boundaries, coupled with the Villages municipal circulator routes connected with the Busway, the internal traffic calming implemented in the past several years and the potential Safe Routes to School project would make Palmetto Bay a model for intermodal suburban communities in the county.

This task defines candidate projects and routes for a bicycle and pedestrian system. Each is shown on an individual system map. Each has costs associated with them. Finally each project or route is presented in tabular form and prioritized based on prioritization criteria developed as part of this task as well as earlier tasks.

System

It is recommended to develop a multi-level bicycle and pedestrian network focused on servicing the multiple user groups. Essentially a hierarchy of facilities has been developed, not unlike the functional classification for streets. This includes:

- ⊘ Basic Pedestrianism (Sidewalk Network)
- ⊘ Local Connectivity
- ⊘ Commuter Access
- ⊘ Greenways
- ⊘ Commercial Connectors
- ⊘ Policy



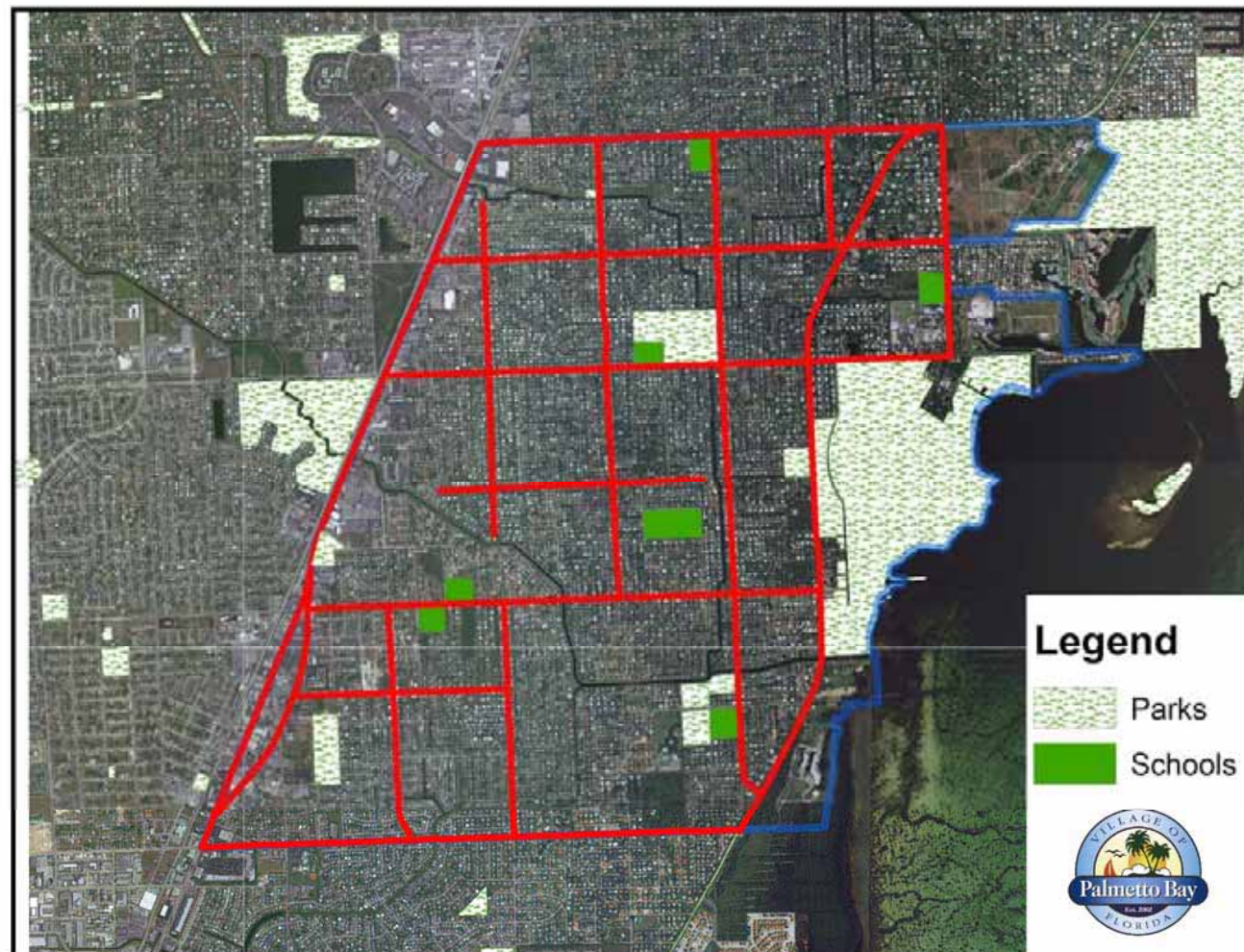
These different categories have all been researched to the fullest extent possible in terms of how they apply to the Village of Palmetto Bay. Every single street and Avenue was field reviewed by the study team and all needed improvements in order to reach the goals of these different networks were documented. All existing conditions were documented as well. The estimated costs that are associated with the development of these networks is listed in each section as well as a general map of the locations. The costs include mobilization, maintenance of traffic and contingency to go along with all preliminary costs.

Basic Pedestrianism (Sidewalk Network)



The first priority is focused on initially providing a fundamental sidewalk system consisting of 5’ sidewalks on both sides of the street. This was to be primarily on section line and half section line roads within the Village. Primarily they would serve the most basic walking and cycling trips, but also serve as connections between other networks that will be developed within the Village for cyclists and pedestrians. Because of the suburban nature of the community, purely local streets were felt to have no need for sidewalks unless specifically requested by individual neighborhoods or neighborhoods that have an over abundance or walkers or cyclists on a regular basis. This basic

grid would be enough to provide very local connectivity. This grid is not designed to get people out of the Village or to commercial locations but simply recreational uses or connections to other recreational facilities. Recommendations from this study simply fill in the gaps of this network which is largely already in place.



Some of this network is already in place but much of it still needs to be constructed. The costs associated with constructing something of this nature can be seen in the table below. As you can see from the table some roadways such as 152nd street and 136th street already have great coverage and little new pedestrian infrastructure is needed. However, on other roadways such as 144th street and almost all of the north-south roadways need a great deal of new pedestrian infrastructure. Overall the constructed network will give the Village of Palmetto Bay one of the better and more connected networks in all of Miami-Dade County.

SIDEWALK NETWORK PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Segment		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 136 ST	US-1	SW 67 AV	Install 5' wide sidewalk southside	880	feet	34,250.00
			Install 10' wide LV crosswalk	200	feet	500.00
			Install 10' wide HV crosswalk	25	feet	900.00
SW 144 ST	US-1	SW 67 AV	Install 5' wide sidewalk southside	4860	feet	189,000.00
			Install 5' wide sidewalk north side	4600	feet	178,900.00
			Install 10' wide LV crosswalk	675	feet	1,700.00
SW 152 ST	US-1	SW 67 AV	Install 5' wide sidewalk northside	315	feet	12,250.00
			Install 10' wide LV crosswalk	800	feet	2,000.00
SW 160 ST	SW 90 AV	SW 77 CT	Install 5' wide sidewalk southside	1795	feet	69,850.00
			Install 5' wide sidewalk northside	1030	feet	40,100.00
			Install 10' wide LV crosswalk	625	feet	1,600.00
SW 168 ST	US-1	SW 72 AV	Install 5' wide sidewalk southside	1255	feet	48,850.00
			Install 5' wide sidewalk northside	620	feet	24,150.00
			Install 10' wide LV crosswalk	625	feet	1,600.00
			Install 10' wide HV crosswalk	150	feet	5,250.00
SW 176 ST	US-1	SW 84 AV	Install 5' wide sidewalk southside	5920	feet	230,250.00
			Install 5' wide sidewalk northside	5480	feet	213,150.00
			Install 10' wide LV crosswalk	700	feet	1,750.00
SW 184 ST	US-1	OLD CUTLER RD	Install 5' wide sidewalk northside	3140	feet	122,150.00
			Install 10' wide LV crosswalk	175	feet	0.00
			Install 10' wide HV crosswalk	50	feet	1,750.00
SW 92 AV	SW 168 ST	SW 184 ST	Install 5' wide sidewalk westside	1075	feet	41,850.00
			Install 10' wide LV crosswalk	525	feet	1,350.00
SW 87 AV	SW 144 ST	SW 163 TR	Install 5' wide sidewalk westside	2030	feet	78,950.00
			Install 5' wide sidewalk eastside	385	feet	15,000.00
			Install 10' wide LV crosswalk	750	feet	1,900.00
SW 82 AV	SW 136 ST	SW 170 TR	Install 10' wide HV crosswalk	25	feet	900.00
			Install 5' wide sidewalk westside	140	feet	5,450.00
			Install 5' wide sidewalk eastside	1620	feet	63,000.00
SW 87 AV	SW 168 ST	SW 184 ST	Install 10' wide LV crosswalk	800	feet	2,000.00
			Install 5' wide sidewalk westside	3560	feet	138,450.00
SW 77 AV	SW 136 ST	OLD CUTLER RD	Install 5' wide sidewalk eastside	2510	feet	97,650.00
			Install 10' wide LV crosswalk	1050	feet	2,650.00
SW 72 AV	SW 136 ST	SW 144 ST	Install 5' wide sidewalk eastside	2515	feet	97,850.00
			Install 10' wide LV crosswalk	175	feet	450.00
			Install 5' wide sidewalk westside	5360	feet	208,450.00
SW 67 AV	SW 136 ST	SW 152 ST	Install 5' wide sidewalk eastside	5360	feet	208,450.00
			Install 5' wide sidewalk westside	5360	feet	208,450.00
			Install 10' wide LV crosswalk	300	feet	750.00
Preliminary Costs						2,145,050.00
Contingency (20%)						429,010.00
Mobilization (10%)						214,505.00
Maintenance of Traffic (10%)						214,505.00
Opinion of Total Costs						3,003,070.00

Local Connectivity



Local Connectivity provides a higher level of treatment which would connect the major generators in the community to each other as well as to the local residential areas via the basic sidewalk network and the local connectivity system. The major generators include: parks, schools, commercial areas and government facilities. The facilities would optimally consist of an eight foot (8') multi use path on both sides of the street and separated to the extent possible from all roadways. It is the attempt of this level of project to provide this local connectivity and access off of the major road network, in order to separate bicycle/pedestrian and automobile conflicts. Where this is not possible the separation of the multi-use path and the roadway should be maximized to the greatest extent possible. Much of the route system suggested here will be eligible for insertion into a Safe Routes to School Application, as they fulfill each of the requirements

needed to do so. In fact this level acts as a safe route to schools and parks type route system. Thus, it serves several purposes and should be high on the priority list.

North/South access is built off of the basic frame of 77th Avenue and 87th Avenue. While these roads are County Section Line Roads, they perform like local streets in large part, because they are broken up by canals. These corridors coupled with the US-1 M Path and the Old Cuter Road Path provide more than enough space in terms of corridors, to get any rider any where in and around the village. This will also encourage people with relatively short trips to choose an alternate mode to an automobile. This is better for pedestrians as well as the quality of life for the residents of Palmetto Bay.

Main east/west access is less direct. One route would be along 175th Street between Palmetto Bay Park and Old Cuter Road, yet this would also entail the crossing of a canal with a pedestrian crossing. 184th Street would also move pedestrians and cyclists from US-1 to Old Cuter Road. Aside from that bicycle and pedestrian traffic could occur on portions of 174 Street, 168th Street, 160th Street and 152nd Street as they move east and west. The 152nd Street connection with a short jog on 151st Street connects from 87th Avenue all the way through Coral Reef Park, Old Cutler Road, Old Cutler Path and the Charles Deering Estate Park. Though this network is relatively simple, complete connectivity is provided to and from all bicycle and pedestrian generators in the Village of Palmetto Bay.

LOCAL CONNECTIVITY PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Segment		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 175 TR	PARK	SW 175 ST	Install 8' wide multi-use path	2.4	gross mile	380,200.00
SW 94 AV			Install 8' wide multi-use path	0.6	gross mile	95,050.00
SW 160 ST	SW 164 ST	SW 89 AV	Install 8' wide multi-use path	1.6	gross mile	253,450.00
SW 141 ST	SW 87 AV	SW 176 ST	Install 8' wide multi-use path	2.4	gross mile	380,200.00
SW 148 ST	BEHIND PUBLIX	SW 146 ST	Install 8' wide multi-use path	0.5	gross mile	79,200.00
SW 152 ST	SW 86 AV	SW 151 ST	Install 8' wide multi-use path	0.7	gross mile	110,900.00
SW 77 CT	SW 139 TR	SW 67 AV	Install 8' wide multi-use path	3.9	gross mile	617,800.00
SW 87 AV	SW 79 AV	SW 79 AV	Install 8' wide multi-use path	1.3	gross mile	205,950.00
SW 136 ST	OLD CUTLER	SW 184 ST	Install 8' wide multi-use path	3.5	gross mile	554,400.00
SW 160 ST	SW 79 AV	SW 154 ST	Install 8' wide multi-use path	1.3	gross mile	205,950.00
SW 152 ST	SW 72 AV	OLD CUTLER RD	Install 8' wide multi-use path	1.2	gross mile	190,100.00
OLD CUTLER	SW 136 ST	SW 184 ST	Install 8' wide multi-use path	3.4	gross mile	1,077,150.00
Preliminary Costs						4,150,350.00
Contingency (20%)						830,070.00
Mobilization (10%)						415,035.00
Maintenance of Traffic (10%)						415,035.00
Opinion of Total Costs						5,810,490.00



Commuter Access

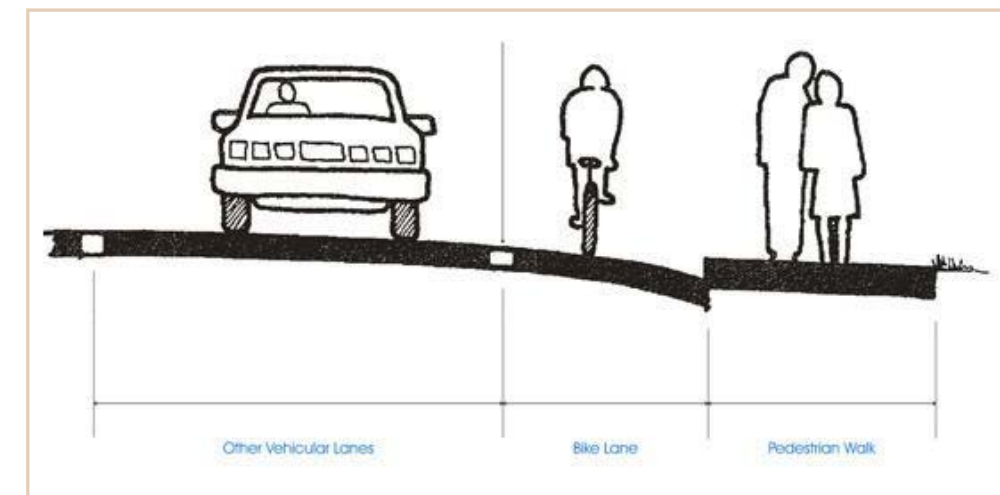
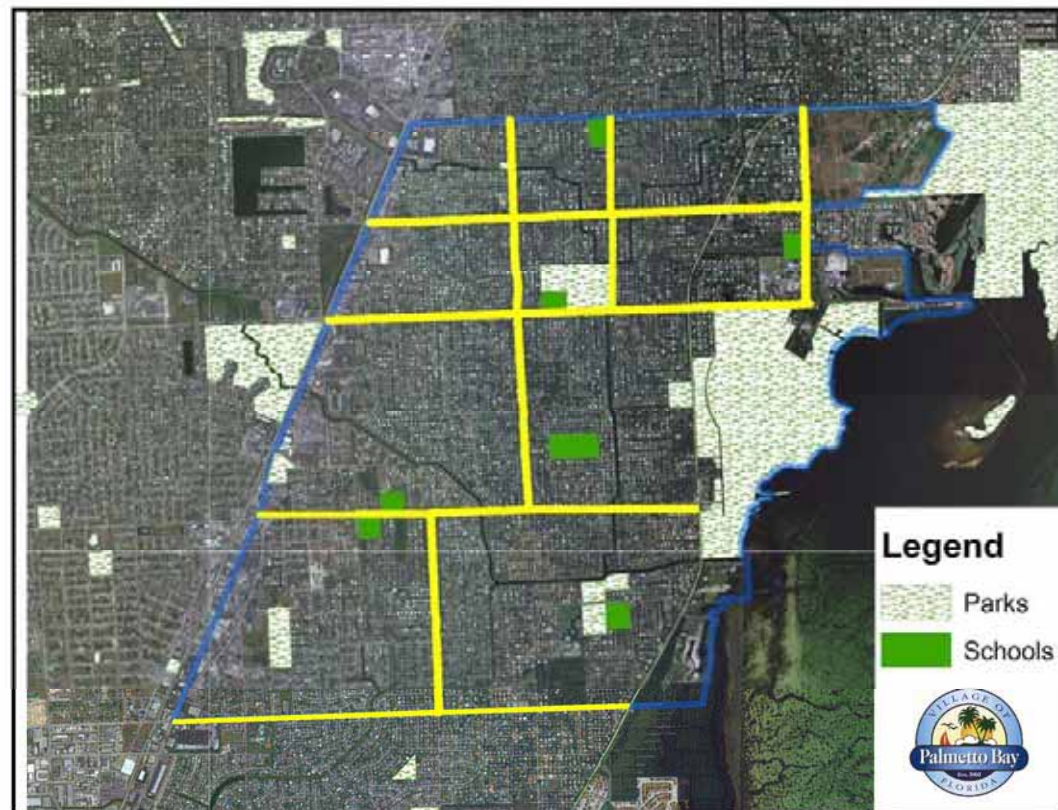


With the rising cost of gas as well as the countless environmental issues that are an ongoing issue in today’s society, becoming greener and healthier is a very popular thing. One of the ways that people are choosing to accomplish this is by riding their bicycle. Taking your bicycle to work is becoming more and more common. This commuter access network looks to help out in this green effort. By providing relatively straight paths through the city, bicyclists will likely be able to navigate the city even faster than a motorized vehicle would. Currently Old Cutler Road is the only true north south connection

east of US-1. By providing these paths, which include a few pedestrian bridges, bicyclists will not have to navigate to Old Cutler Road before they begin their journey to work. They will now have option of using north south connections on SW 87th Avenue, SW 82nd Avenue and SW 67th Avenue as well. By also adding the network on SW 144th Street and SW 152nd Street, bicyclists will now have two separate east west options as well. This coupled with east west sections SW 168th Street and SW 184th Street will provide ample connectivity throughout the Village.

COMMUTER ACCESS PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS OPINION OF PROBABLE COSTS						
Road	Segment		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 144 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.3	gross mile	994,750.00
SW 152 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.5	gross mile	1,081,200.00
SW 168 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.3	gross mile	994,750.00
SW 184 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.4	gross mile	1,038,000.00
SW 82 AV	SW 136 ST	SW 170 TR	Install 4' wide bike lanes	2.1	gross mile	454,150.00
SW 87 AV	SW 168 ST	SW 184 ST	Install 4' wide bike lanes	1.1	gross mile	475,750.00
SW 67 AV	SW 136 ST	SW 152 ST	Install 4' wide bike lanes	1.1	gross mile	475,750.00
Preliminary Costs						5,514,350.00
Contingency (20%)						1,102,870.00
Mobilization (10%)						551,435.00
Maintenance of Traffic (10%)						551,435.00
Opinion of Total Costs						7,720,090.00

This overall connectivity will not only provide better and safer choices in terms of routes to ride through the city, but it will also likely take trips off the roadways. These will primarily be work trips that would normally occur during the peak hour and peak direction of travel. Thus, it will also make all facets of transportation improve their level of service. This, in turn, improves the quality of life for all residents of the Village of Palmetto Bay.



Greenways



Greenways are corridors of protected open space managed for conservation and recreation purposes. Greenways typically follow irregular landscape features such as rivers, streams, and ridgelines; they are also being created along canals, abandoned railroad lines, utility corridors, country roads and other manmade features. In this case the Greenway network in the Village of Palmetto Bay will follow the edge of the existing canal network.

Greenways can provide a multitude of benefits for people, wildlife, and the economy. More expansive and flexible than traditional confined parks; greenways can provide a kind of community trail system for the linear forms of outdoor recreation Americans are engaged in today, such as: hiking, jogging, bicycling, rollerblading, or just plain strolling. All of these recreation activities will allow the Village to continue with the theme of providing a better quality of life and thus making the Village of Palmetto Bay a very desirable place to live.

However, greenway benefits are not limited to recreation. They can provide lifelines for wildlife moving from one isolated natural area to another; they can help preserve biodiversity aid wildlife areas by protecting environmentally sensitive land along rivers, streams, canals and wetlands. They can protect water quality by providing a buffer against urban run-off and non-point source pollution. Greenways can soften and direct urban growth as belts of open space around neighborhoods and towns; they can also act as outdoor classrooms or as a way to get your children to school without fear of the busy traffic often associated with suburban streets.

Greenways can also stimulate the economy by providing an array of economic and quality of life benefits, Numerous studies demonstrate that linear parks can increase nearby property values, which can in turn increase local tax revenues. Spending by residents on greenway-related activities helps support recreation- oriented businesses and employment, as well as other businesses that are patronized by greenway users, Greenways often provide new business opportunities and locations for commercial activities like bed and breakfast establishments, and bike and canoe rental shops. Greenways are often major ecotourist attractions which generate expenditures on lodging, food, and recreation services. Finally, greenways can reduce public expenditures by lowering the costs associated with flooding and other natural hazards.

In summary, greenways are a multi-purpose concept that allows community groups and public agencies to link existing parks, historic sites, and natural areas with numerous environmental, recreational, and economic benefits. Another major reason that greenways are so popular is because they are cost effective. By connecting parks and other existing facilities, greenways provide a better cost benefit compared to regular parks, For example, a recent study by the Maryland Department of Natural Resources found that 94% of those surveyed thought greenways were a good use of state funds and 67% liked greenways better than more traditional, confined parks.

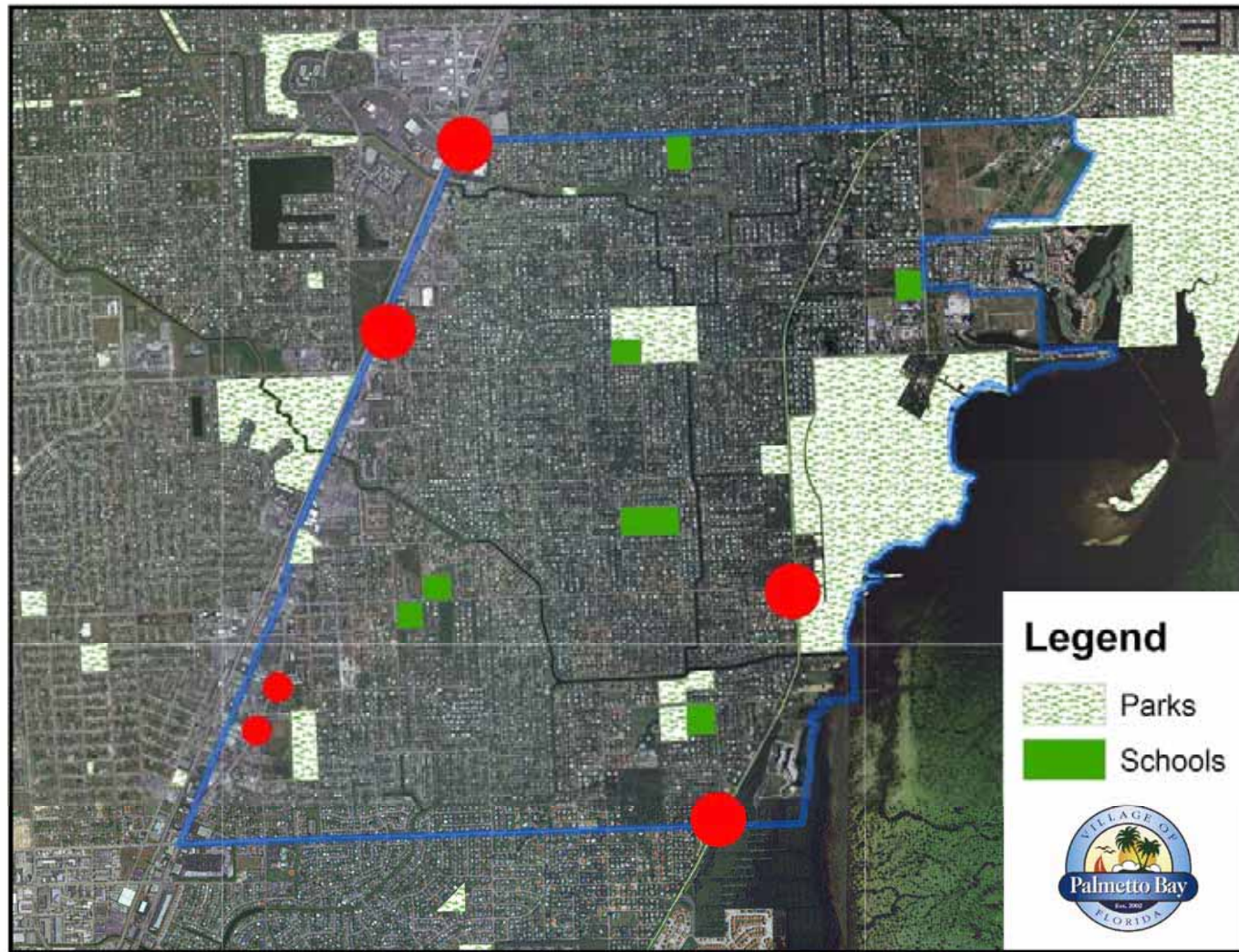


GREENWAYS					
PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS					
OPINION OF PROBABLE COSTS					
Road	Green Way	Recommended improvements	Length (ft)	Unit	Total
VILLAGE WIDE	North	Install 8' wide multi-use greenways	1.8	gm	285,150.00
	Central	Install 8' wide multi-use greenways	2.2	gm	348,500.00
	South	Install 8' wide multi-use greenways	1.3	gm	205,950.00
Preliminary Costs					839,600.00
Contingency (20%)					167,920.00
Mobilization (10%)					83,960.00
Maintenance of Traffic (10%)					83,960.00
Opinion of Total Costs					1,175,440.00

Commercial Connectors

The Basic concept for commuter access is to allow bicyclist and pedestrians as well as any other non motorized traffic easy and safe access to the commercial corridors and commercial areas within or nearby to the Village of Palmetto Bay. The US-1 Corridor is not only the biggest commercial corridor in or around Palmetto Bay but it is likely the biggest in all of South Florida. Having the ability to walk to any local commercial establishment will greatly improve the quality of life as well as save time and money. Many of the commercial businesses on US-1 not only have no rear access but the streets in the area also prevent most access without having at least part of the trip on US-1. By accessing the businesses from the rear it will save

the time from making the normal US-1 portion of the trip, as well as provide safer passage to these local business locations..



COMMERCIAL CONNECTORS						
PALMETTO BAY BICYCLE AND PEDESTRIAN MASTER PLAN PROPOSED PROJECTS						
OPINION OF PROBABLE COST						
Site	Location	Intersection	Recommended Improvements	Quantity	Unit	Total
1	The Falls	US-1 & SW 136 Street	Enhance Pedestrian Connections			
			Textured Asphalt Paving with Thermoplastic Inlay	240	feet	22,000.00
			Relocate Pedestrian Crossing to median creating Pedestrian Refuge	300	feet	93,000.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
2	Publix		Pedestrian Overpass	1	No.	4,000,000.00
			Passage between Multi-Families and Shopping Center			
3	Miami Children's Hospital	US-1 & Franjo Road	Two Directional 12' Shared Use Path	300	feet	14,000.00
			High Visibility Crosswalk	250	feet	9,000.00
			Install Pedestrian Countdown Type Heads	2	No.	2,000.00
			Enhance Pedestrian Connections			
4	PB Business Center	Old Cutler Road & SW 168 St	High Visibility Crosswalk	300	feet	10,500.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Enhance Pedestrian Connections			
			High Visibility Crosswalk	300	feet	10,500.00
5	Old Cutler Road & SW 184 St		Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Enhance Pedestrian Connections			
			High Visibility Crosswalk	300	feet	10,500.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Install Raised Sidewalk	60	feet	2,350.00
			Chevron Markings	80	feet	2,800.00
Preliminary Costs						4,190,650.00
Contingency (20%)						838,130.00
Mobilization (10%)						419,065.00
Maintenance of Traffic (10%)						419,065.00
Opinion of Total Costs						5,866,910.00



Policy

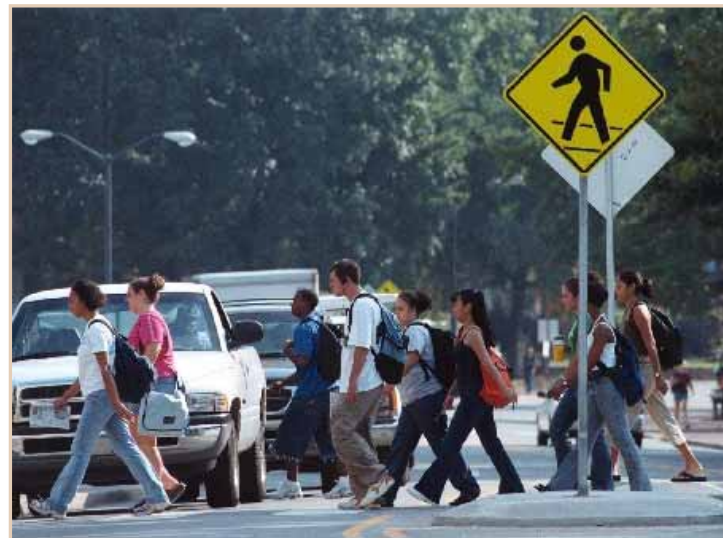


In order to have a safe and effective bicycle and pedestrian networks you need policies and initiatives in place that will help to make the plan work to its fullest capability. These policies and initiatives need to not only be in place but also need to be enforced where applicable as well as scheduled on a regular basis for such things as walk to school day. If put in place and enforced the entire system can function as it was intended which makes the quality of life for everyone involved much higher. Some of the policies will be things that are required while others will

be an optional thing for residents to participate in. If implemented properly and advertised the same, these option programs and policies will soon become very popular and will ultimately better the community as a whole. A few examples of policies and initiatives are as follow:

1. Walk to school day

Walk to School Day is an energizing event, reminding parents and children alike of the simple joy of walking to school. But it's usually also a kick-off event. Walk to School Day becomes a catalyst for on-going efforts to increase walking and bicycling all of the time. For most communities, a one-day event is not enough. Parents and children, teachers and elected officials all see the promise of healthier, happier students, quieter, cleaner, safer streets, and more connected neighborhoods. That's when they move beyond a one-day event. Many communities use health and fitness messages,



pedestrian and driver safety training, neighborhood walkability assessments, and daily "walking school buses" to maintain the momentum and keep people walking. Walk to School Day brings parents, teachers, children, and community leaders together to focus on the importance of physical activity, safety and walkable communities. Walk to School Day events teach kids and parents to think of walking as an active, safe and healthy means of transportation. The Village of Palmetto Bay could very easily utilize a program like this to one or all of the several schools that exist within the Village. With safer sidewalks, pathways and other pedestrian friendly upgrades which are suggested in this plan, the Village could do this with little fear of the safety of the people who participate.

2. Safe Routes to School



Today, more than ever, there is a need to provide options that allow children to walk and bicycle to school safely. Many communities struggle with traffic congestion around schools and motor vehicle emissions polluting the environment. At the same time, children in general engage in less physical activity, which contributes to the growing epidemic of obesity. At first glance, these problems may seem to be separate issues, but Safe Routes to School (SRTS) programs can address all these challenges through a coordinated action plan. SRTS programs use a variety of

education, engineering and enforcement strategies that help make routes safer for children to walk and bicycle to school and encouragement strategies to entice more children to walk and bicycle. They have grown popular in recent years in response to problems created by an expanding built environment, a growing reliance on motor vehicles for student transportation and with the more recent development of federal and state funding of SRTS programs.

3. Bike To Work Week/Day

Although more than half of the U.S. population lives within five miles of their workplace, lack of knowledge and incentive has deterred many from commuting by bike. Hundreds of U.S. cities have been successful in increasing bicycle commuters by offering enticements on Bike to Work Day. Denver, Colo. reported in 2008 that over 10,352 people tried biking to work for the first time during a city-sponsored event. A study published by the San Diego Association of Governments showed that one out of five people who participated in their Bike to Work Day promotion as first-time commuters became regular bike commuters.



Chicago, Ill. hosts several Car vs. Bus vs. Bike Commuter Races. Motorists, bus passengers and cyclists all start and end the morning rush hour at the same spots, but may take distinctly different routes. The bicyclist always wins. This is a sure-fire media event to run on Bike to Work Day to encourage folks to give bicycle commuting a try.

4. Bicycle Parking Ordinance

Section 1. Section 33-122.3 of the Code of Miami-Dade County, Florida, is hereby created to read as follows:

Requirement of Bicycle Racks or Other Means of Storage - Racks or other means of storage that can secure at least four (4) bicycles shall be required for all park, shopping center, office and restaurant uses with parking lots, as follows:

Total Parking Spaces in Lot	Required Number of Bicycle Parking Spaces:
25 to 50	4
51 to 100	8
101 to 500	12
501 to 1000	16
over 1000	four (4) additional spaces for each 500 parking spaces over 1000



5. Sidewalks Ordinance

Sidewalks within the Village should be kept in a safe and working order. Landscaping shall be designed in such a way as to provide safe and unobstructed views at intersections of roadways, driveways, recreational paths and sidewalks. Once in place sidewalks will become the responsibility of the adjacent land owner. This includes any repair that may be needed. An example of a possible ordinance is listed below.



SECTION 1 - OBSTRUCTIONS.

The owner and/or occupant of every lot or premises adjoining any street shall clear and keep all sidewalks adjoining such lot or premises from any obstructions including, but not limited to, structures, vehicles, materials, debris, vegetation or other items. The owner and/or occupant shall also keep clear the area which is located directly over the sidewalk in a manner which will allow reasonable travel without interference from obstructions as defined above.

SECTION 2 - MAINTENANCE OF EXISTING SIDEWALKS.

No person shall permit any sidewalk which adjoins property owned by such person to fall into a state of disrepair or to be unsafe.

SECTION 3 - VILLAGE REPAIR OF CERTAIN AREAS.

The Village shall retain the right to repair any sidewalk or portion thereof at Village expense. These areas shall be designated at the sole discretion of the Village. Once such areas have been repaired in a manner which conforms with this Ordinance, the owner shall be notified in writing. All responsibility for further maintenance shall rest with the owner.

SECTION 4 - SIDEWALK NEEDING REPAIR; NOTICE TO PROPERTY OWNER; REPAIR BY VILLAGE.

A. Whenever the Department of Public Works determines that a sidewalk is unsafe for use, notice may be given to the owner of the lot or premises adjacent to and abutting upon such sidewalk of the Village. Such notice shall be given in accordance with subsection (c). It shall then be the duty of the owner to place the sidewalk in a safe condition. Such notice shall specify a reasonable time, not less than ten (10) days, within which such work shall be completed with due diligence.

B. If the owner of such lot or premises refuses or neglects to repair the sidewalk within the time described above, or in a manner otherwise than in accordance with this article, the Public Works Department shall have the sidewalk repaired. If the Department determines that the condition of the sidewalk is such that immediate repair is necessary to protect the public, he may dispense with the notice and institute the repairs immediately. In any event, the cost of repairs under this section shall be charged against the premises, which adjoins the sidewalk and shall be paid by the owner of the premises. If not paid, the cost of repairs shall be added to the tax roll for the property.

C. Notice regarding sidewalk repairs shall be served in the following manner:

1. By delivering the notice to the owner personally or by leaving the same at the owner’s residence, office or place of business with some person of suitable age and discretion;
2. By mailing the notice by certified or registered mail to such owner at his or her last known address; or
3. If the owner is unknown, by posting the notice in some conspicuous place on the premises at least fifteen (15) days before the required work shall be completed. No person shall interfere with, obstruct, mutilate, conceal or tear down any official notice or placard posted by any Village official, unless permission is given by such officer to remove the notice.

6. New Development Ordinance

Any new development within the Village of Palmetto Bay may be subject to sidewalk requirements. This includes new construction as well as adding on to any existing facility. An example of a possible ordinance is as follows:

Installation of a sidewalk conforming to the specifications set forth in Code of Ordinances is required whenever a new development is constructed, or an existing structure is expanded, on property on which there is no sidewalk at the time the building permit is sought. This requirement may be waived by Village Council upon submission to the Village Clerk of a petition and a nonrefundable one hundred dollar (\$100.00) fee to cover the City's costs in investigating and responding to such petition. In determining whether or not to waive the sidewalk requirement, the Council shall consider:

- A. Whether a sidewalk across the subject property would, or in the future be likely to, link with and extend an existing sidewalk;
- B. The alternatives available for pedestrian travel if the sidewalk is waived; and
- C. Any intergovernmental understandings or agreements relating to sidewalks.

7. Walk, Peddle or Roll to the Park

It would be wonderful if more of our Village citizens used non-motorized transport – particularly to our many parks and recreation areas. These are some of the advantages:

- 1) The whole Village is a park. Instead of thinking of a small part of the Village – our Village parks - as the only area for public recreation, we should consider the entire Village as a park.
 - a) Every back street is a bikeway.

- b) Every sidewalk is a pedestrian path.
- c) Every front yard is a place to enjoy nature.
- 2) When you walk or pedal to the parks your exercise and recreation starts at your front door.
- 3) You save money on gas and repairs and avoid the frustration of driving.
- 4) Children can visit the parks on their own without being driven by their parent.
- 5) Most of us could use the exercise.
- 6) Walking or biking through our neighborhoods would increase security due to the increased number of eyes and ears monitoring our streets, homes, and children. A person is much more aware of their environment if they walk, rollerblade or ride a bike. Imagine thousands of extra police in Palmetto Bay.
- 7) Walking is an excellent way to meet your neighbors.
- 8) Non-motorized transport is the right thing to do from an environmental standpoint.
- 9) Each person who walks or rides a bicycle is one less person on the roads.
- 10) Parking areas are expensive and detract from the ambiance of the parks.
- 11) Non-motorized transport is more likely to be used by Village residents.
- 12) It would encourage the disabled and elderly to visit parks by electric wheelchairs or scooters.

There are many natural areas in and adjacent to our Village, most of which are not owned by Palmetto Bay:

- 1) The natural area in the NW corner of the 52 acre Coral Reef Park
- 2) The 207 acre USDA Horticultural Research Station at 13601 Old Cutler Rd
- 3) Chapman Field Park of 566 ac. with almost a mile of unimproved trails on our NE boundary
- 4) The FPL Kings Bay power station has many wild areas around it.
- 5) The 9 acre Ludlum Pineland Tract on 67 Ave. south of 146 St, and north of the FPL ROW.
- 6) The Deering Estate totals 465 acres with a huge natural area from 152 St. to the C-100 canal including a ½ mile pedestrian only route along 72 Ave, the visitors center where we hold our council meetings, a dock and canoe launch area at the peoples dock, and a public area from Old Cutler Road to Biscayne Bay just north of the C-100 canal. A 3 acre wetland is to be built on the 10 acre Powers property as part of a re-hydration project.
- 7) The 3.5 acre Haas property the Village just bought south of the C-100 canal with a good view of the bay.
- 8) The 2.6 acre Ludovici Park at 176 St. and Old Cutler Road is going to have an environmentally themed library and view over the mangroves
- 9) There are many areas designated “A” in the Palmetto Bay Center that are set aside as natural areas. The area adjacent to Old Cutler Road is one of these. There is a jogging trail that might be used by the public, depending on negotiations with the property owner.
- 10) Biscayne National Park owns the mangrove areas south of the C-100 canal. North of the canal the shoreline is protected in the Biscayne Aquatic Preserve.
- 11) The 29 acre Sadowski County Park has a nature center, an interpretive trail through the hammock, a canoe launch site on the C-100 canal, a playground, picnic area, astronomical observatory, and a large stand of pine rock land from the C100 canal to SW 178 Terr.
- 12) West of US 1 is the Rockdale Pineland County Preserve and the Palmetto Golf Course.

There are three major bicycle and pedestrian paths in or adjacent to our Village:

- 1) The Old Cutler Path (Legacy Route 1) winds through the east side of our village. It starts at SW 224 St. just east of the Florida Turnpike, then follows the east side of Old Cutler Road, passes by the Old Cutler town Center in Cutler Ridge, intersects with Rt.5 which extends 3 miles to Black Point Park, enters the Village at SW 184 St. then proceeds generally north through the Village to SW 136 St. where it turns east. It crosses SW 136 St. at SW 67 Ave. to the Pinecrest (north) side of Old Cutler Rd. The path curves to the north on the west side of Old Cutler Road and Red Rd. (SW 57 Ave.). To proceed on the Old Cutler Path you must cross SW 57 Ave. near Pinecrest Gardens (old Parrot Jungle) follow the canal to the north and cross the first bridge over the canal to SW 105 St. in Snapper Creek Estates. You rejoin Old Cutler Rd. and cross to the east side at a pedestrian light near Fairchild Tropical Gardens. There are plans to connect the two sections of the Old Cutler Path through Four Fillies Farm and R. H. Matherson Park. The path enters Matherson Hammock Park and exits just south of the main park entrance. It then follows the east side of Old Cutler Road until it ends at Cartagena (Cocoplum) Circle. The total length is 13.0 miles; 3.5 miles is within the Village.
- 2) The South Dade Busway M-Path goes from Dadeland South Metrorail Station at SW 96 St. along US 1 for 13.2 miles to SW 264 St. The path adjacent to the Village is 3.3 miles. The M-Path is to be extended along with the busway to Florida City by April 2007.
- 3) The Metrozoo Path runs along the south side of 152 St. from US 1 past Metrozoo to the Black Creek Canal. There are almost 6 miles of wide (up to 13 ft.) sidewalks.

Task 6

List of Prioritized Improvements



Task 6

List of Prioritized Improvements

This prioritizes the projects listed in the previous chapters above. The prioritization aspect of the task reviewed the projects set forth in the individual levels of system development. Each project was evaluated on how well it would address the needs and wants of the Village at large, as well as the cost and effectiveness in terms of developing a complete and safe bicycle and pedestrian network. These projects were developed from concepts taken from the ideas stemming from the public involvement portion of this study, as well as the compatibility with previous planning documents such as the Transportation Master Plan and the Comprehensive Plan.



The main concern was the providing of a planned system of facilities. These facilities needed to be safe, so that current users would be comfortable in using them, and future users would be attracted to the system as an alternative to motorized transportation. Many strongly felt that the system needed to connect the various points of interest and potential traffic generators, like parks and schools. It was determined that the system needed to be able to serve the various user groups that may desire to use it. This included basic pedestrians or people that may get off of the transit bus and walk a short distance to home. It included the local walker or cyclist who would desire to get to a park, school or shopping center with out the use of a car. Another group was the more avid cyclist who may prefer to use this mode as part of a commute or long distance recreation. Finally the public was interested in a system that could be used as a commuting alterative so that peak hour home to work and work to home congestion could be reduced.

The ultimate goal of the Village of Palmetto Bay bicycle and pedestrian master plan was to have a fully connected network. This network would provide safe facilities and encourage use. The system would connect major existing generators such as schools and parks. The network could potentially reduce congestion and would certainly provide for an intermodal connection. The goal in prioritization was to rank projects and assign a time horizon in which they could be implemented. It was the approach to initially undertake projects where mitigated problems were most easily implemented and then move to projects that could solve level of service deficiencies in an inexpensive manner. As always the Village is most concerned with projects that, while effective and efficient, also make the community safer and can be done with as little funding as possible.

The projects were assigned to one of 4 time horizons. These time horizons are Immediate, Short Term, Mid Term and Long Term. Immediate projects are those that can be completed almost instantaneously when the Village adopts this plan. The projects would be at no cost to the Village, yet have major impacts on the ability of the Village to develop the connected network that it desires. These projects will all be policy type projects. The Short Term projects are projects that should be completed in years 1 through 5 after the plan is put into place. These projects include the smaller sections of the existing network that may have holes in it. It is essentially a patch work plan for what infrastructure is already in place. This stage also places a preference on Village owned and maintained roadways. The Mid Term projects are projects that could be completed in years 6 through 10 after the plan is in place. These projects include slightly larger scale projects that will really begin to shape the network for what it will someday become. This stage also starts to include smaller projects on County and State owned and maintained roadways. The projects in Long Term are those that should be completed in years 10 and beyond after the plan is in place. These include the largest sections of infrastructure as well as the development of the Greenway network. It should be noted that the costs represented in the tables that follow that mobilization, maintenance of traffic and contingency are not represented and will likely have a cost associated with it.

Immediate

The immediate time frame includes those projects that will not cost the Village any money to complete. These projects are all policy related and therefore will need to be approved by the Village and adopted into use. Once implemented, many of these policies will actually help to complete the suggested network by requiring such things as building new sidewalks and the maintenance of sidewalks to the adjacent land owners. These policies will also encourage bicycle and pedestrian usage for such things as trips to and from work or school. These policies are as follow:

1. Walk to School Day



2. Safe Routes to School



3. Bike to Work Week/Day



4. Bicycle Parking Ordinance



5. Sidewalks Ordinance



6. New Development Ordinance



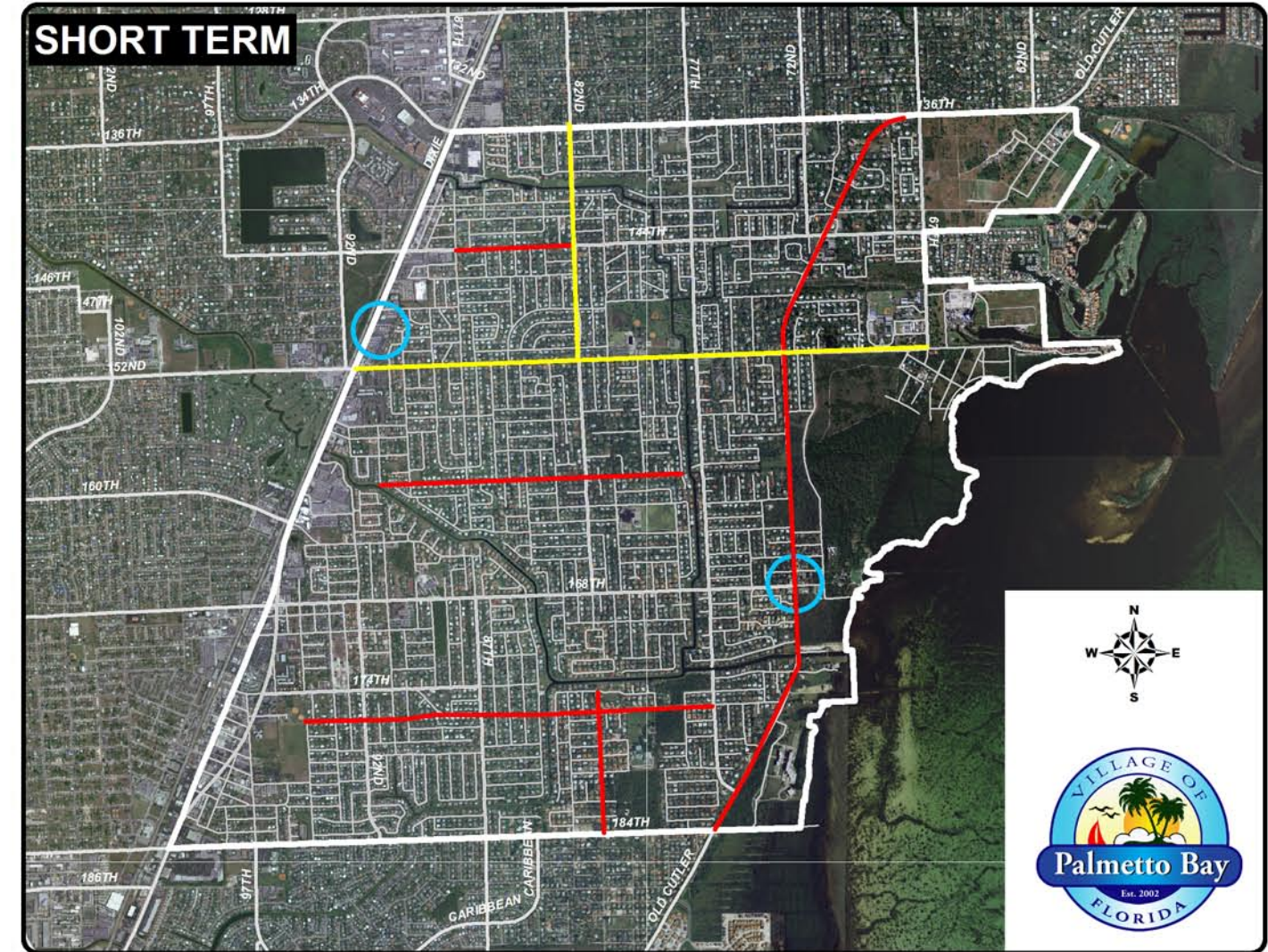
7. Walk, Peddle or Roll to the Park



Short Term

Short Term Priority Projects						
Road/Site	Segment/Intersection		Recommended Improvements	Quantity	Unit	Total
	From	To				
COMMERCIAL INTERSECTION	Old Cutler Road	SW 168 ST	Enhance Pedestrian Connections			
			High Visibility Crosswalk	300	feet	10,500.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Install Raised Sidewalk	60	feet	2,350.00
Publix	SW 148 ST	SW 87 PL	Passage between Multi-Families and Shopping Center			
			Two Directional 12' Shared Use Path	300	feet	14,000.00
SW 144 St	SW 87 AVE	SW 82 AVE	South Side	260	feet	10,400.00
SW 160 ST	SW 90 AVE	SW 87 AVE	South Side, (North Side)	650, (240)	feet	35,600.00
	SW 87 AVE	SW 82 AVE	South Side	300	feet	12,000.00
SW 176 ST	SW 82 AVE	SW 77 CT	South Side, (North Side)	325, (360), 520, (430)	feet	65,400.00
	US-1	SW 92 AVE	South Side, (North Side)	2020, (2270)	feet	171,600.00
SW 82 AV	SW 92 AVE	SW 87 AVE	South Side, (North Side)	2620, (1930)	feet	182,000.00
	SW 87 AVE	SW 84 AVE	Both Sides	1280	feet	51,200.00
Old Cutler RD	SW 84 AVE	SW 170 TR	Both Sides	140	feet	5,600.00
	SW 136 ST	SW 144 ST	West Side	3750	feet	150,000.00
	SW 144 ST	SW 152 ST	West Side	2872	feet	114,880.00
	SW 152 ST	SW 162 ST	West Side	3300	feet	132,000.00
	SW 162 ST	SW 166 ST	West Side	1965	feet	78,600.00
	SW 166 ST	SW 174 ST	West Side	1930	feet	77,200.00
SW 174 ST	SW 184 ST	West Side	4080	feet	163,200.00	
SW 152 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.5	gross mile	1,081,200.00
SW 82 AV	SW 136 ST	SW 168 ST	Install 4' wide bike lanes	1.1	gross mile	454,150.00
COMMERCIAL	LOCAL CONNECTIVITY	SIDEWALK NETWORK	COMMUTER ACCESS	GREENWAYS	TOTAL	2,818,180.00

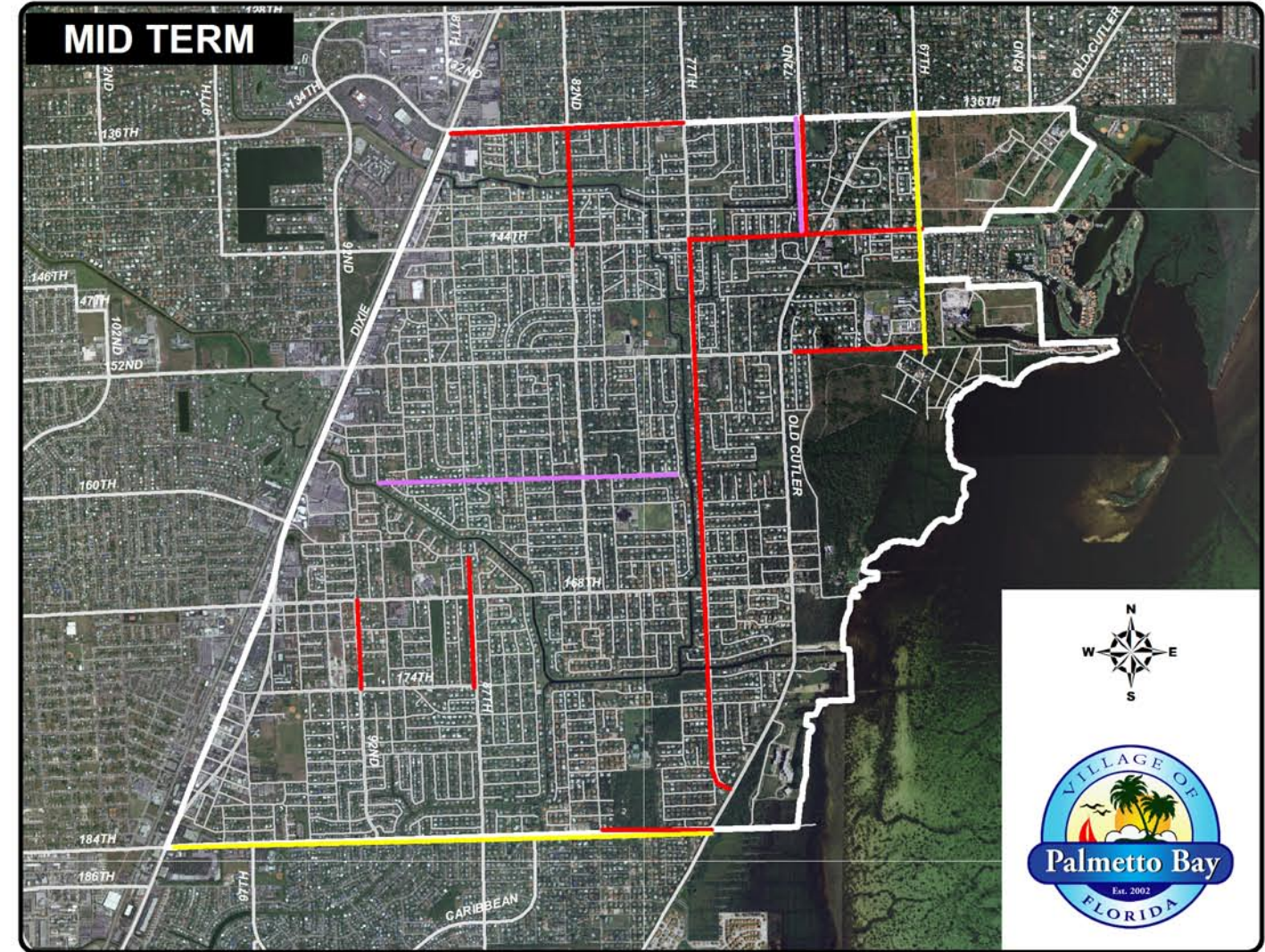
The projects that were selected as short term were generally inexpensive and would provide the most impact for the amount spent. These projects include 2 commercial connections. That being the connection behind Publix on US 1 and a better and safer intersection for pedestrians at SW 168th St and Old Cutler Road. This intersection is very dangerous in its current condition as the Old Cutler Path essentially merges with the roadway. There is also a lack of striping and visual evidence that there are any pedestrian facilities that are even there. The first portion of the local connectivity portion of this plan is suggested in the short term. This section will include a pedestrian crossing as well. The main purpose for doing this section first is that it will allow better connection to residents and users to and from the southeast portion of the Village as it is currently sectioned off by canals on both the north and the west. Several of the sidewalk network sections are also recommended in the short term. The majority of these are small segments and on Village owned roadways. The only sidewalks that were prioritized as short term that are on County owned roadways is on the west side of Old Cutler Road. The on road bike lanes also are scheduled to begin in the short term on SW 152nd St and SW 82nd Ave. This will connect the Busway with the Old Cutler Path. It will also allow a safer ride on SW 67th Ave as the more advanced riders tend to use that roadway already.



Mid Term

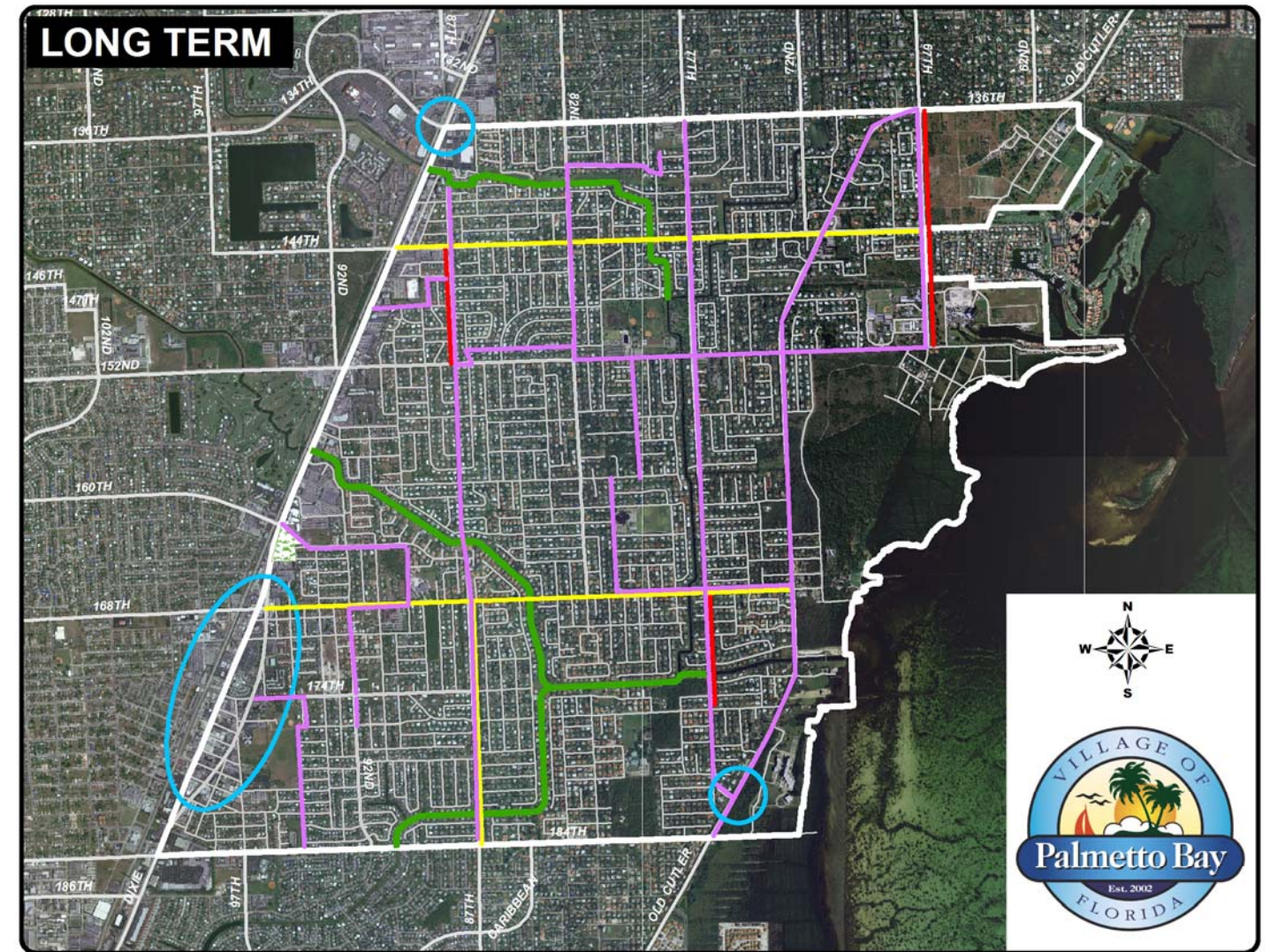
Mid Term Priority Projects						
Road/Site	Segment/Intersection		Recommended Improvements	Quantity	Unit	Total
	From	To				
SW 160 ST	SW 79 AV	SW 90 AV	Install 8' wide multi-use path	1.3	gross mile	206,950.00
SW 72 AV	SW 136 ST	SW 144 ST	Install 8' wide multi-use path	0.5	gross mile	79,200.00
SW 184 St	SW 82 Ave	Old Cutler Rd	North Side	2500	feet	100,000.00
SW 136 St	US-1	SW 82 AVE	South Side	240	feet	9,600.00
	SW 82 AVE	SW 77 AVE	South Side	620	feet	24,800.00
SW 144 St	SW 77 AVE	SW 72 AVE	South Side	650	feet	26,000.00
	SW 72 AVE	SW 67 AVE	Both Sides	4600	feet	184,000.00
SW 152 St	SW 72 AVE	SW 67 AVE	North Side	315	feet	12,600.00
SW 168 St	SW 77 AVE	SW 72 AVE	South Side, (North Side)	315, 940, (620)	feet	75,000.00
SW 184 St	SW 72 AVE	SW 82 AVE	North Side	640	feet	25,600.00
SW 92 Ave	SW 168 ST	SW 174 ST	West Side	1075	feet	43,000.00
SW 87 Ave	SW 174 ST	SW 160 ST	West Side	515	feet	20,600.00
SW 82 Ave	SW 136 ST	SW 144 ST	East Side & Ped Bridge	1480	feet	59,200.00
SW 77 Ave	SW 144 ST	SW 160 ST	East Side, [Both Sides]	160, [1290], 90	feet	61,800.00
	SW 160 ST	SW 168 ST	East Side	370	feet	14,800.00
	SW 168 ST	SW 184 ST	West Sides, [Both Sides]	280, 675, 100 [190]	feet	49,800.00
SW 72 AVE	SW 136 ST	SW 144 ST	East Side	720, 1795	feet	100,600.00
LOCAL ROADWAYS			HV/LV CROSSWALKS			8,850.00
SW 184 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.4	gross mile	1,038,000.00
SW 67 AV	SW 136 ST	SW 152 ST	Install 4' wide bike lanes	1.2	gross mile	475,750.00
COMMERCIAL	LOCAL CONNECTIVITY	SIDEWALK NETWORK	COMMUTER ACCESS	GREENWAYS	TOTAL	2,614,950.00

The projects that were selected as mid term were generally the longer segments of roadway on Village owned roadways and shorter segments on County owned roadways. The local connection network segments that were selected in the mid term section of the priorities helps provide a much needed east-west connection in the middle of the Village and it gives a safer route to and from South Middle School. It also provides a pedestrian crossing on SW 72nd Ave amongst others. This will provide residents and users a much easier and safer route to get from one side of the canal to the other. Currently a pedestrian would have to use either SW 136th St or SW 152nd St to go around the canal. The sidewalk portion of the mid term priorities focuses on filling in gaps on many roadways throughout the Village both owned by the Village and by the County. This will really begin to frame in the sidewalk network. The final set of projects to be completed in the mid term are the on road bike lanes. By providing a bike lane on SW 184th St riders will now have an option to get back and forth from the Busyway to the Old Cutler Path. They can either use SW 152nd St which was completed in the short term or they can use SW 184th St. Also, adding a bike lane on SW 67th Ave will really set the frame of the bike network, as well as put Palmetto Bay in the drivers seat of setting up this type of system throughout Southern Miami Dade County. With the mid term set of projects complete, the Village of Palmetto Bay will already have one of the most extensive bicycle and pedestrian network in all of Miami-Dade County.



Long Term

Long Term Priority Projects						
Road/Site	Segment/Intersection		Recommended Improvements	Quantity	Unit	Total
	From	To				
The Falls	US 1	SW 136 Street	Enhance Pedestrian Connections			
			Textured Asphalt Paving with Thermoplastic Inlay	240	feet	22,000.00
			Relocate Pedestrian Crossing to median creating Pedestrian Refuge	300	feet	93,000.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
Franjo Triangle	US 1	SW 174 St	Pedestrian Overpass	1	No.	4,000,000.00
			High Visibility Crosswalk	250	feet	9,000.00
			Install Pedestrian Countdown Type Heads	2	No.	2,000.00
			Enhance Pedestrian Connections			
PB Business Center	Old Cutler Road	SW 184 St	High Visibility Crosswalk	300	feet	10,500.00
			Install Pedestrian Countdown Type Heads	4	No.	3,500.00
			Enhance Pedestrian Connections			
			High Visibility Crosswalk	300	feet	10,500.00
SW 94 AV	SW 176 ST	SW 184 ST	Install 8' wide multi-use path	0.6	gross mile	95,050.00
SW 160 ST	SW 164 ST	SW 89 AV	Install 8' wide multi-use path	1.6	gross mile	253,450.00
SW 141 ST	SW 87 AV	SW 176 ST	Install 8' wide multi-use path	2.4	gross mile	380,200.00
SW 152 ST	SW 86 AV	SW 151 ST	Install 8' wide multi-use path	0.7	gross mile	110,900.00
SW 77 CT	SW 139 TR	SW 67 AV	Install 8' wide multi-use path	3.9	gross mile	617,800.00
SW 87 AV	SW 79 AV	SW 79 AV	Install 8' wide multi-use path	1.3	gross mile	205,950.00
SW 136 ST	OLD CUTLER	SW 184 ST	Install 8' wide multi-use path	3.5	gross mile	554,400.00
SW 152 ST	SW 72 AV	OLD CUTLER RD	Install 8' wide multi-use path	1.2	gross mile	190,100.00
OLD CUTLER	SW 136 ST	SW 184 ST	Install 8' wide multi-use path	3.4	gross mile	1,077,150.00
SW 87th Ave	SW 144 ST	SW 152 ST	West Side, (East Side)	1000, (140), 515, (245)	feet	76,000.00
SW 77th Ave	SW 168 ST	SW 174 ST	West Sides, (East Side), [Both Side]	280, 385, (270), 220, 120, [140]	feet	56,600.00
SW 67 AVE	SW 136 ST	SW 144 ST	Both Sides	2690	feet	107,600.00
	SW 144 ST	SW 152 ST	Both Sides	2670	feet	106,800.00
COUNTY ROADWAYS			HV/LV CROSSWALKS			18,650.00
SW 144 ST	US-1	SW 67 AV	Install 4' wide bike lanes	2.3	gross mile	994,750.00
SW 168 ST	US-1	OLD CUTLER RD	Install 4' wide bike lanes	2.3	gross mile	994,750.00
SW 87 AV	SW 168 ST	SW 184 ST	Install 4' wide bike lanes	1.1	gross mile	475,750.00
VILLAGE WIDE			North	1.8	gross mile	285,150.00
			Central	2.2	gross mile	348,500.00
			South	1.3	gross mile	205,950.00
COMMERCIAL	LOCAL CONNECTIVITY	SIDEWALK NETWORK	COMMUTER ACCESS	GREENWAYS	TOTAL	11,313,000.00



The projects selected for long term consist of all remaining projects. This includes the final 3 commercial connectors. Two of these connectors are along US 1 and the third is on Old Cutler Road at the Palmetto Bay Business Center. These projects will allow safer access to these areas including a safe passage across US 1 with a pedestrian overpass. The final multi-use path projects will complete the network between all schools, parks and other pedestrian generators. The final set of sidewalks consist on long missing segments along primarily County owned roadways. This will complete the sidewalk network. The bike lanes in the long term portion of this plan will allow for bikers to have multiple east-west choices as well as multiple north-south options. The last set of projects are the greenways. This includes roughly 5 miles of greenways that will essentially serve as linear parks along the many canals that exist within the Village of Palmetto Bay. These projects use the right of way along the canals to create a park system that would be unrivaled in South Florida.

