Town of Cutler Bay

Bicycle & Pedestrian Master Plan

August, 2011

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INTRODUCTION

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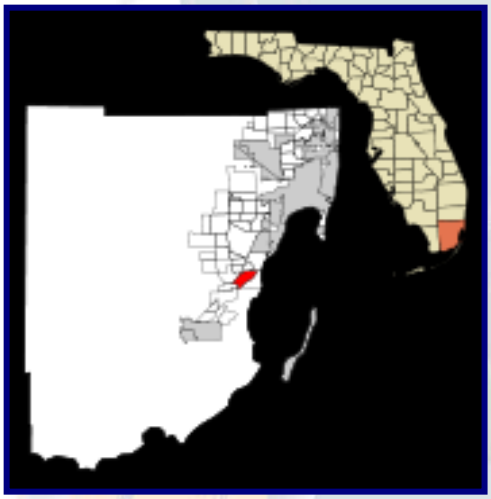
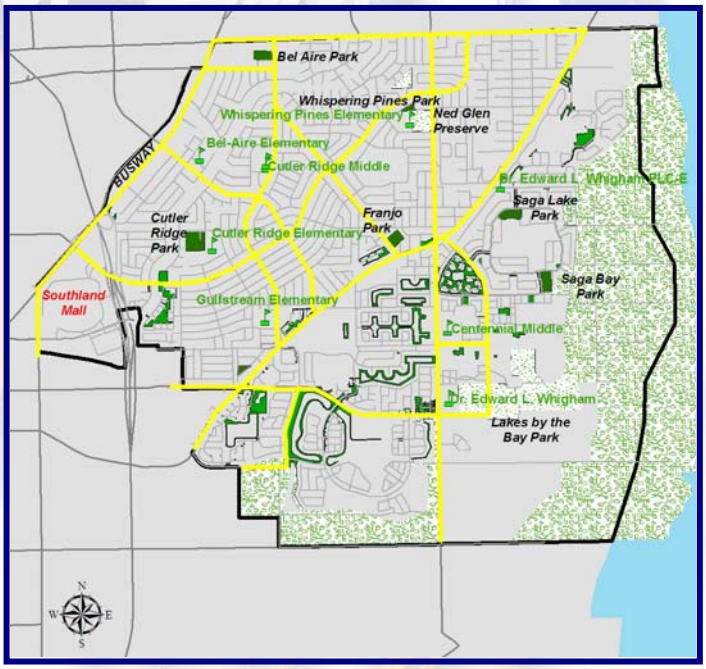
The Town of Cutler Bay is to become the epicenter of economic growth in South Dade, as well as a primary business and residential center for the entire County, with an impact similar to the other centers like Downtown, Miami Beach, the Civic Center, Doral, Hialeah, and Coral Gables. The challenge of imparting a unique character on the community, while preparing for the future, has been the constant focus of the Town since incorporation. It is being implemented through the past and ongoing initiatives including the Strategic Plan, Comprehensive Plan, Transportation Master Plan and now this Bicycle and Pedestrian Plan.



Located half way between Dadeland and Homestead, the area represents the southern most portion of developable land, north of Homestead, before the Urban Development Boundary narrows significantly around the US-1 corridor. Indicators of Cutler Bays' eventuality can be seen by the presence of the South Dade Government Center, and the South Dade Performing Arts Center. From a physical perspective one can see the more urban street pattern that exists in Cutler Bay, which differs from the surrounding communities.

The grid, while curvilinear, is relatively compact and connected, unlike many places in the county. The center of gravity for the Town is the area around the mall and Old Cutler Road. In recent years the Town has worked diligently to layer a more contemporary, sustainable land use pattern on top of the underlying 1950's style pattern that predominates.

From a transportation perspective the Town is at the confluence of three major regional transportation facilities, (US-1, the Turnpike, Old Cutler Road). While regionally connected, there is the realization that local connectivity is more in the immediate control of the citizens. To assure that as the Town grows it does so in a responsible manner there is a desire to approach the future from multimodal perspective. Already the Circulator has been envisioned. At the same time, walking, and biking are essential to the quality of life in this growing area. A fully functional multimodal system is best build in concert with the community, not as an afterthought. This is the genesis of the Cutler Bay Bicycle and Pedestrian Master Plan.



As Cutler Bay rises to regional prominence it is expected that the number of short trips will continue increase, as destinations like work, restaurants, shopping and schools all come closer to people's homes. Short trips are defined as being less than a half mile. Today we live in an automobile dominated society, one of the main reasons for which is because options to utilize any other mode but the car do not exist. In the future it is anticipated that a large portion of these short trips will often times be made by walking or bicycling rather than by driving. As traffic congestion increases, the construction of bicycle and pedestrian facilities as an alternative to automobile travel becomes more and more important and will help maintain mobility within the community.

This will be a hallmark of highly successful communities of the future. Florida is one of the two most dangerous states in which to walk or bike. This fact strikes fear into parents as they consider allowing their children play or ride in the community. As a remedy it is an 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. Today walking and biking account for less than 1% of all trips. Transit trips equate to less than 4% of all trips. This is largely because adequate facilities do not exist. 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 Cutler Bay is a step towards achieving a very safe community where a higher percentage of non-motorized trips are taken. This will be done by identifying areas in greatest need of bicycle and pedestrian improvements and focusing improvements where they are most needed.

Nearly seventy projects have been developed by examining the basic pedestrian network, issues of local connectivity and even regional connections. The projects needed probably out-pace the resources to implement the program. The potential cost to implement this program in its entirety could be over $20 Million, and therefore is it is recommended the most effective projects be implemented, while grant opportunities and partnerships are sought for those less financially feasible efforts.

TASK 1
BACKGROUND INFORMATION

TASK 1 – BACKGROUND INFORMATION

This reviews many relevant background reports related to bicycle and pedestrian planning around the study area. These reports were typically planning level analysis done by the MPO or County. Often pointing to emerging technologies, like bike paths and bike lanes, or to the accident data which allows someone to see where hot spots are. A very brief overview of each report has been provided, as is a link to their location on the MPO website, so further information can be researched if desired.

Overall the population of Miami-Dade County is expected to exceed 3 million by the year 2025. The bulk of this growth focused on South Dade. In this light a multimodal transportation system is imperative. To meet the transportation needs and encourage individuals to walk or bike for all or a portion of their daily trips, the Miami-Dade Metropolitan Planning Organization (MPO) is planning for these types of facilities in its Transportation Master 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 Town's original Transportation Master Plan.

MPO BIKE FACILITIES PLAN

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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 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.

BICYCLE PARKING PLAN FOR MIAMI-DADE TRANSIT

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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 1983. 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.

This plan is applicable to Cutler Bay as it considers the placement of bicycle amenities at transit stations along the busway.

BLACK CREEK TRAIL

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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.

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, bus 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

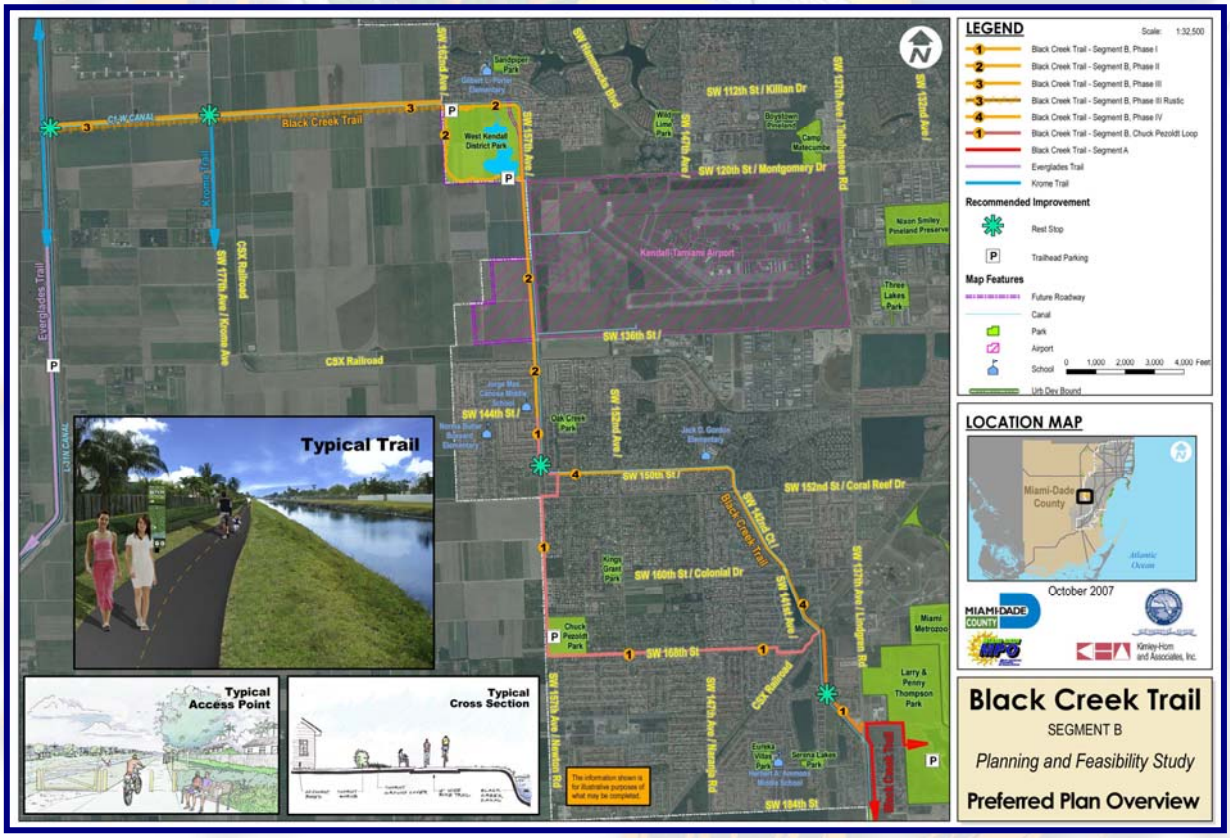
SCHOOL CONNECTIONS

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

PREFERRED PLAN CONCEPT AND PHASING

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. 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. This would be a likely place to link up.

Figure 1 – Black Creek Trail Plan Overview



BICYCLE PROJECT FEASIBILITY EVALUATION

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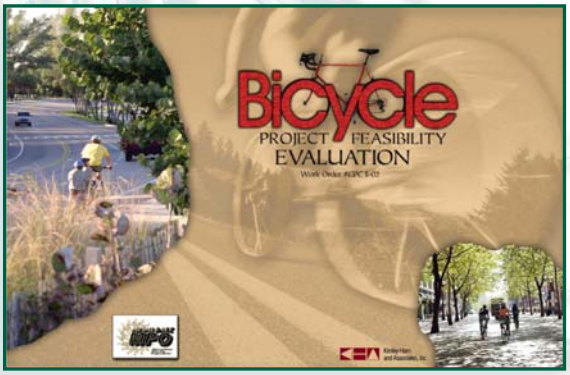

This study acknowledged that bicycling provides both transportation and recreational opportunities for the citizens, employees, and visitors of Miami-Dade County. Many people take advantage of favorable weather throughout much of the year to enjoy bicycle riding for exercise, leisure, and mobility. Providing 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 MPO's 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 Cocoaplum 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. 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.

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

BICYCLE SAFETY PROGRAM PLAN

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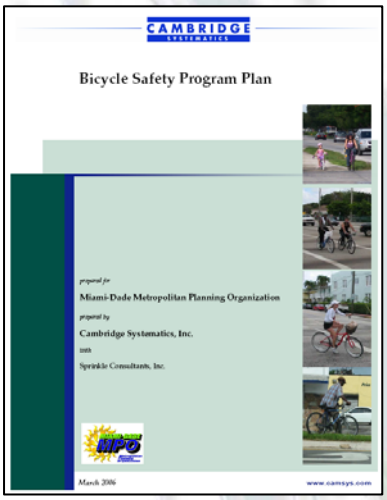

The Miami-Dade Metropolitan Planning Organization (MPO) developed a Geographic Information Systems (GIS) database of reported traffic crashes involving bicycles for the years 1996 to 2002. The database contains over 4,500 crash records obtained from the Florida Department of Highway Safety and Motor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

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).

MIAMI-DADE MPO PEDESTRIAN PLAN

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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 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.

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 LDS 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.

SOUTH DADE GREENWAY NETWORK

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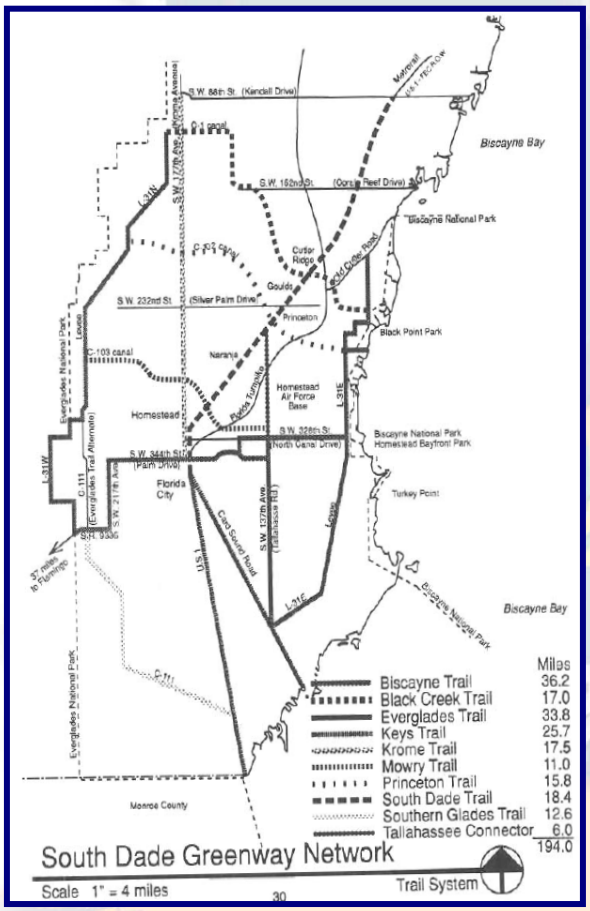
The South Dade Greenway Network (SDGN) is an organized system of interconnecting linear corridors, traversing south Dade County from Kendall Drive at the north to Monroe County at the south, and from the Everglades to Biscayne Bay. There are ten distinct corridors (Trails) within the SDGN and each is 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 (FDOT), 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 wit provide opportunities for bicycling (both recreational and commuter), roller- skating, walking and jogging, horseback riding, canoeing, fishing and nature study.

Figure 2 – South Dade Greenway Network



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 Miami-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 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.

METRO DADE BICYCLE FACILITIES PLAN

HTTP://WWW.MIAMIDADE.GOV/MPO/M12-PLANS.HTM

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 County 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.

This represents the early efforts of many communities 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, formulate 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

WWW.MIAMIDADE.GOV/GREATPARKSUMMIT

In 2008 Miami Dade County was initiating presentations on it 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."

TASK 2
PUBLIC INVOLVEMENT

TASK 2 – PUBLIC INVOLVEMENT

The purpose of the public involvement task is discuss and receive public input on key local planning issues related to the Bicycle and Pedestrian Master Plan. The process began with the development of a steering committee that met several times to guide the study process. Initially the steering committee assisted in the development of a plan of action and a review of pertinent issues. The committee then focused on a discussion and review of the draft report. Finally the committee met to review recommendations and issue the final report.

Several stakeholders meetings were held with individuals to provide specific input related to the plan. These were held with elected officials, city staff and citizens. These meetings were integral in discovering specific areas of interest either geographic or project oriented.

In April 2011, a public workshop was held in conjunction with the Towns, Parks and Recreation Advisory Committee. The emphasis of this meeting was the need to provide adequate connections between the various parks and schools and commercial generators within the community.

The second workshop was held in June of 2011, where the emphasis was similar in nature. Additionally non-motorized use of paths and bike lanes was suggested by many. A secondary emphasis was the education of the public on bicycle issues before and after the construction of the system. Many feel it is very important to develop a systematic approach to outreach and education so that a cultural change relative to the acceptance of biking by the community can be implemented. Stated needs were a frequently meeting committee consisting of concerned or knowledgeable people on the subject that could develop a specific outreach plan, and make recommendations to the staff and elected officials on how to carry out that plan. Ideas focused on the development of an outreach plan, coordination with schools, businesses, bike clubs, or other potential partners, provision of educational materials, donation of equipment, etc.

The plan was reviewed by the public and presented in a final workshop in August of 2011 where it was formally accepted by the Town. It is anticipated that this plan will be used to populate the Towns Capital Improvement Element with bicycle and pedestrian projects.

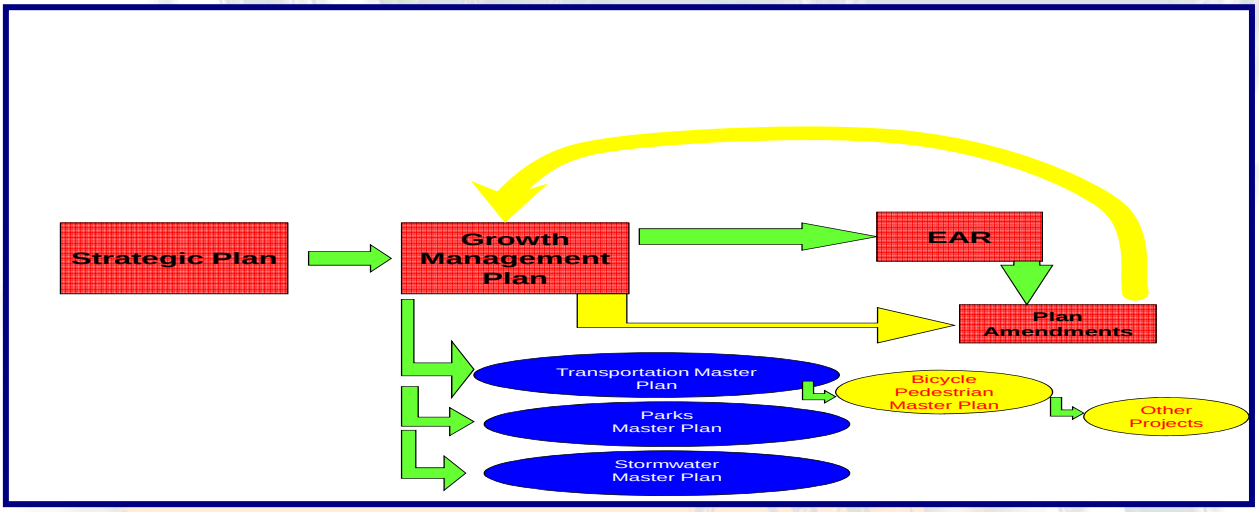
TASK 3
VISIONS, GOALS, OBJECTIVES AND NEEDS

TASK 3 – VISION, GOALS, OBJECTIVES AND NEEDS

The intent of this task is to review and build on the Town's previous planning efforts and to coordinate with the subsequent analysis through the definition of a primary goal, and subsequent objectives, so that specific project areas can be expanded and implemented.

Cutler Bay has taken a methodical approach to planning since its incorporation. Each plan builds upon its predecessor. Immediately upon incorporation, the Town undertook a Strategic Plan which laid out the basic policy direction to be taken. Soon after, the Growth Management Plan was developed as the Town's official policy document. Spawning from this was the Town's Parks Master Plan and its first Transportation Master Plan, which suggested a number of projects and policies. One recommendation was this Bicycle and Pedestrian Master Plan. Like the Transportation Master Plan before it, this Bicycle and Pedestrian Plan will define a list of projects that will eventually be able to be included in the Town's Capital Improvement Element.

Figure 3 – Planning Flow Chart



STRATEGIC PLAN

In 2005, Cuter Bay produced its first strategic plan, which was adopted as a blueprint for the Town's continued progress in achieving its vision. All planning afterwards was to be consistent with its concepts, goals and priorities. The Strategic Plan's mission was to make Cutler Bay a beautiful, safe and friendly Town that encouraged its residents and business leaders to actively and proudly participate in its ongoing efforts to enhance and sustain the Town's image, sense of identity and quality of life. In addition the plan provided a vision statement for the Town, which stated that by 2011 "the Town wished to be recognized as one of the most desirable communities in South Florida in which to live, work and play. Its schools, homes, parks and cultural facilities were to offer an enriching environment for children, adults and seniors alike, while its local economy was to encourage outstanding companies to do business in the Town."

By 2011 the Town wished to be recognized as one of the most desirable communities in South Florida in which to live, work and play. Its schools, homes, parks and cultural facilities were to offer an enriching environment for children, adults and seniors alike, while its local economy was to encourage outstanding

companies to do business in the Town. Primary operating principles of the Town were based on responsibility, respect and trust.

Several goals were developed by which the Town would fulfill its vision. Many of these continue to be implemented through the development of this plan.

Goal 2.1 focuses on being a financially responsible community. The development of this plan will allow a set of projects to be objectively evaluated and prioritized in a transparent manner so that the most necessary projects can be move to implementation.

Goal 3.1 focuses on the provision of the needed infrastructure to the current and emerging needs of the community. This was to be specifically implemented through an inventory of all community assets, and the annual production of the Capital Improvement Plan. This master plan addresses an often forgotten aspect of transportation infrastructure, yet one that is critically important in the development of well rounded diverse communities. The projects stemming from this bicycle and pedestrian plan will be able to be incorporated into the annual Capital Improvement Element.

Goal 3.2 focuses on assuring that growth and development be managed to be consistent with the needs and desires of the community. The citizens will have input in the development and prioritization of the projects in this plan, to assure that this infrastructure is necessary and mitigative of the growth that has occurred inside and around the Town.

Goal 5.1 focuses on assuring the town will be recognized as a place where people prefer to live and the residents feel a strong sense of identity and pride. This was to specifically be implemented through the examination of ways to enhance bicycle and pedestrian friendliness through the implementation of a pedestrian friendly program.

Goal 6.3 focuses on the optimization of a smooth traffic flow through the town, by minimizing congestion and maximizing capacity. This was to be done, in part, by enhancing pedestrian friendliness.

Goal 9.1 focuses on developing the Town into a modal community for the condition of its roads, lights, drainage and sidewalks.

Other goals included town beautification, enhancing educational facilities promoting safety and security, and further development of recreational facilities, and programs, all of which are partially fulfilled by this plan.

GROWTH MANAGEMENT PLAN

Subsequent to the Strategic Plan, the Growth Management Plan became the official policy document for the Town. This has a primary goal and was to be implemented by sets of objectives and policies in numerous elements, most important for this report being Transportation as well as Parks and Recreation and Open Space Elements. This plan had much to do with the implementation of the Transportation Master Plan and the Parks Master Plan

TRANSPORTATION MASTER PLAN

The Transportation Master Plan addressed the existing conditions and future conditions of the Town in a multi-modal perspective. Roadway levels of service were examined in the existing condition and projected out 15 and 25 years in to the future. Projects were developed and prioritized to address the most important problems based on the detailed analysis and public involvement process. Alternative modes of transportation, including bicycle and pedestrian issues were addressed, specifically the need for a bicycle and pedestrian master plan to more directly work on making the community pedestrian friendly, as it connected residential areas to parks, schools and commercial areas.

PARKS MASTER PLAN

Adequate pedestrian access to parks is a goal for all parks and recreation systems particularly the Cutler Bay Parks Master Plan. These alternate, pedestrian friendly transportation networks can be accomplished in the form of sidewalks, dedicated bicycle lanes, and shared multi-use paths. The plan finds it important to connect the parks system components to form a cohesive parks environment, which will provide recreational opportunities for walkers, joggers, bicyclists and other non motorized users. These greenways can be provided in several categories, including ecological, recreational, and cultural. The plan recommended further research (which this Bicycle Pedestrian Plan accomplishes) for the following:

- Research desired destinations and connections within the community.
- Coordinate between adjacent jurisdictions for appropriate connections to current and future trail systems.
- Identify public transit connection opportunities.
- Specify appropriate pedestrian furnishings.
- Identify blueways for canoe and kayak users.

2011 BICYCLE AND PEDESTRIAN MASTER PLAN

This project is the latest in a long line of coordinated and connected planning efforts which have been developed in the previous five years. To effectively implement the intent of the Plan is to coordinate prior planning efforts developed by the Town in the past five years. To effectively implement the intent of this plan a goal, objectives and policies will be developed to ensure that cost-effective recommendations are adopted to address the bicycle and pedestrian infrastructure needs of the Town. This effort will be coordinated with the analysis and previous planning initiatives to implement cost-effective projects for each specified project categories.

GOAL

The goal of this master plan is to provide for a safe, convenient, and connected multi-modal transportation system, focused on encouraging bicycle and pedestrian mobility for the various users within the Town of Cutler Bay.

OBJECTIVES

To provide transportation alternatives to ensure that all level of users have a choice when deciding how to get to and from a variety of places in the Town and regional facilities, such as to:

- Encourage parents to allow their children to walk or bike to school and/or recreation areas.
- Provide for safe, unobstructed use of rights of way for non motorized alternative modes of transportation.
- Provide a bicycle and pedestrian system as an incentive for providing mobility, conserving energy, being environmentally friendly and becoming healthier.
- Provide more experienced cyclists with paths for longer trips through the community, connecting with regional facilities, eventually encouraging cycling commuters.
- Provide less experienced cyclists with appropriately located safe paths that connect desirable local origins and destinations, eventually encouraging short trips on the system for shopping, entertainment and recreational uses.

POLICIES

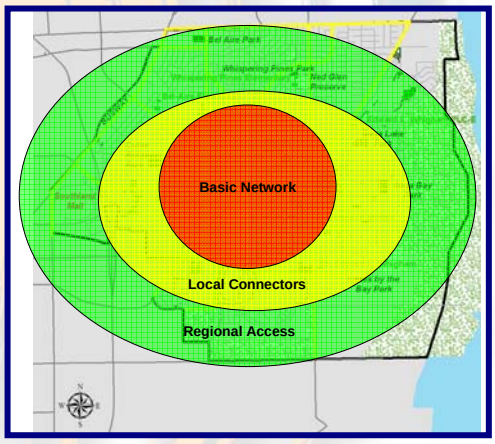
In meeting these objectives, specific areas of focus could be implemented, such as to:

- Provide connection between parks and schools, and residential neighborhoods.
- Assure facilities are free of obstructions such as broken, uneven or worn paths, intrusive vegetation, or misplaced essential infrastructure, such as fire hydrants, power poles and guy wires, etc.
- Provide access within the primary commercial areas along US-1, in the Urban Center District, and the Old Cuter Road District.
- Provide access to the Busway across US-1.
- Connect the municipal bicycle and pedestrian network with the County network and potential networks in other cities.

STUDY AREAS

The goal, objectives and policies for the bicycle and pedestrian master plan can be implemented in three study areas. Each of these areas will have specific projects developed to address them:

- Basic Network
- Local Connectivity
- Regional Access



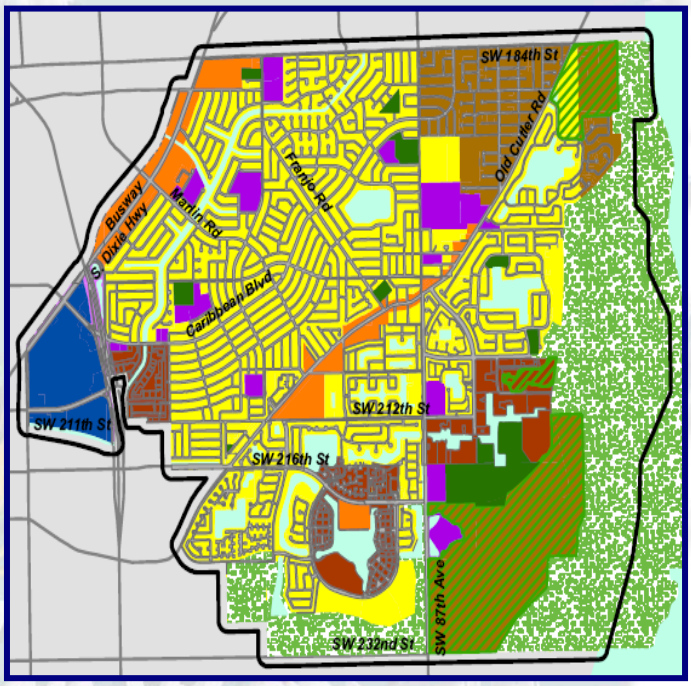
It is believed that facilities for both walking and cycling can be enhanced on several levels, from the basic sidewalks, to the most sophisticated on-road facilities aimed at the cyclists riding through the community. The potential for these modes of travel to be impactful in the community is significant.

TASK 4
EXISTING CONDITIONS

TASK 4 – EXISTING CONDITIONS

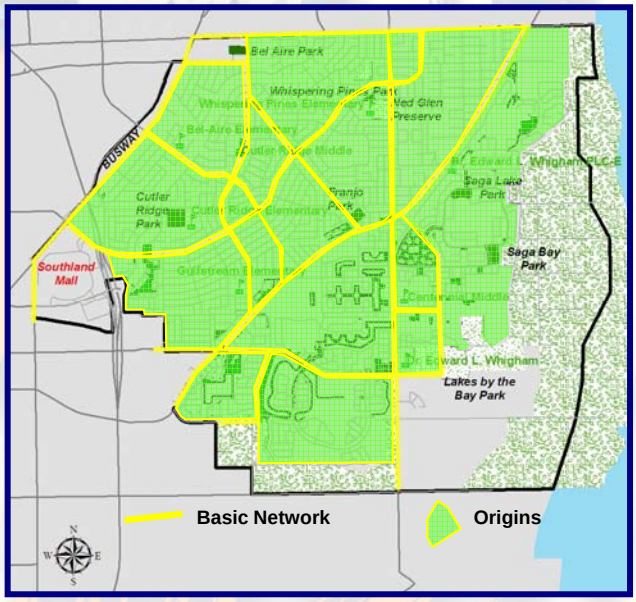
The intent of this task is to provide an in-depth analysis of the existing conditions of the Town's bicycle and pedestrian facilities, and evaluation of the origin and destination patterns in the Town. In addition, major rights-of-way in the Town are given a bicycle and pedestrian level of service designation to show how well they can accommodate these alternative modes.

Essentially Cutler Bay is made up of a diverse array of parks, schools, and residential and commercial areas that are already connected to one another from a bicycle and pedestrian stand point to a certain extent. As this study is moved forward it will be important to develop a plan that has consensus from the community. It will be crucial to clearly identify the strengths and weaknesses of the system in an effort to satisfy the community's needs. In order to understand fully what is needed, it is of primary importance to understand what is already in place. The goal of this task was to inventory and evaluate all existing pedestrian and bicycle infrastructure, then develop primary categories of future improvement. The Town is largely residential, yet displays a good mix of commercial uses, making it more urban than its neighbors.



ORIGINS

Of the new cities incorporated over the past decade and a half in South Dade, Cutler Bay is perhaps the most balanced in terms of land use mix, with three well defined commercial areas, an extensive existing sidewalk network and a number of parks and schools. Being predominately suburban there are a great number of single family residential homes in the community. These places will serve as the origins of any bicycle or pedestrian trips. With the commercial areas interspersed in between these areas, bicycle and pedestrian access should be easily accommodated.



DESTINATIONS

Destinations are places that people want to go, via bike or by walking. These are parks, schools, commercial areas, etc. These generators include, but are not limited to:

- Southland Mall
- The Busway
- Bel Aire Park
- Cutler Ridge Park
- Franjo Park
- Saga Bay Park
- Saga Lake Park
- Ned Glen Nature Preserve
- Lakes by the Bay Park
- Gulfstream Elementary
- Centennial Middle School
- E. L. Whigham Elementary School
- Whispering Pines Elementary
- Bel-Aire Elementary
- Cutler Ridge Middle School
- Waldorf International School

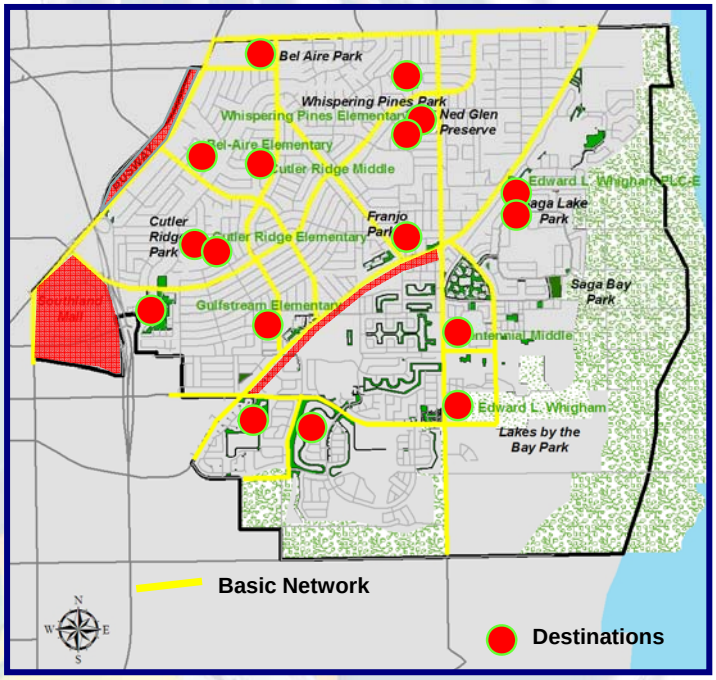
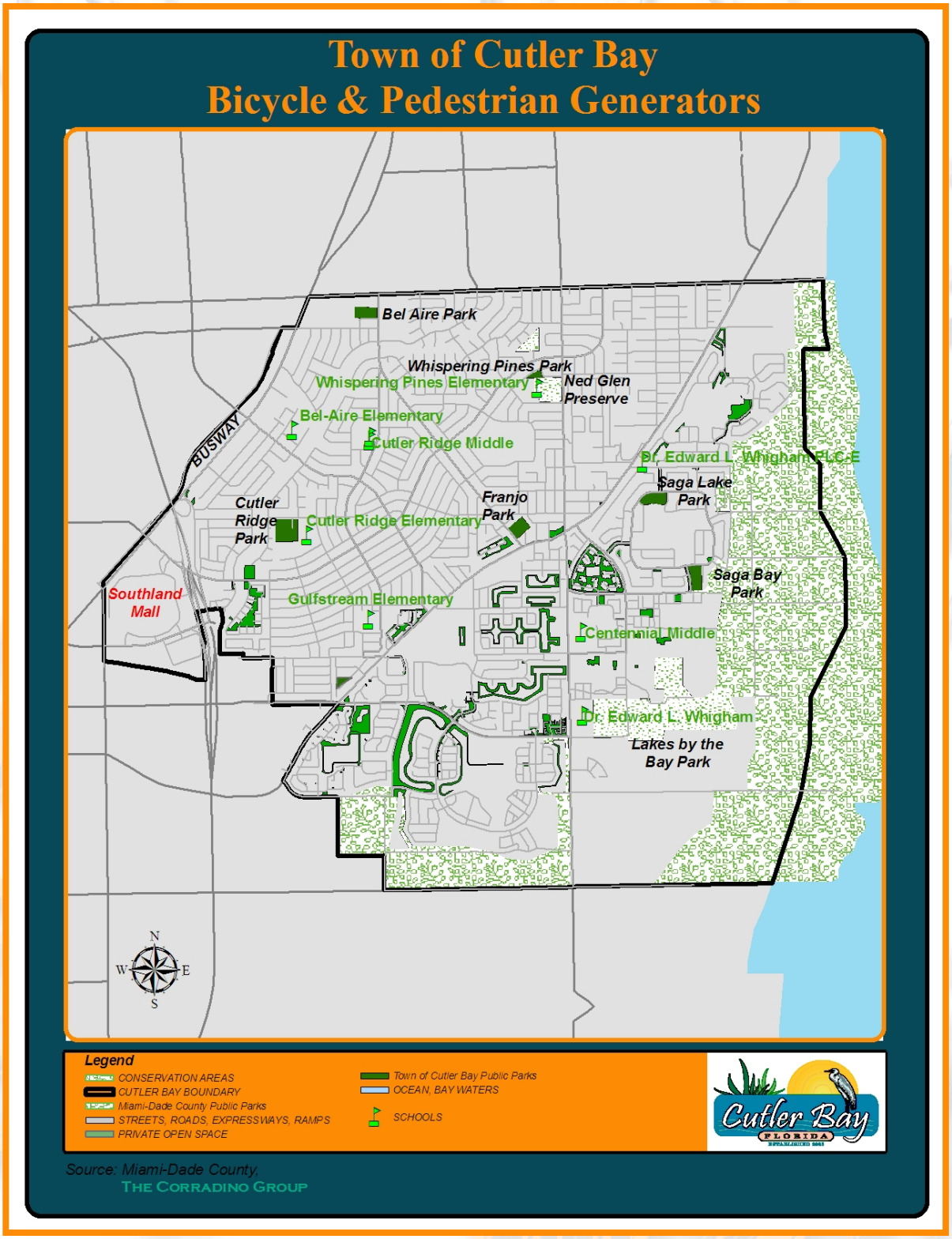


Figure 4 – Cutler Bay Bicycle & Pedestrian Generators



EXISTING FACILITIES

The origins and destinations are currently connected by a cohesive network of facilities. Minimal sidewalk facilities are missing on the section line and half section line roads, but for the most part the network is already in place. 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 Town also consists of canals throughout. In addition there is significant FPL right of way. These natural barriers and easements tend to block the transportation grid, thereby, inhibiting vehicular flow.

There are areas in Town where sidewalks are incomplete. Often they abruptly end. The proof that they are needed can be seen from the foot trails that exist where pedestrians continue to walk through the community.

Sidewalks also can terminate in the actual travel lane of a road creating extremely hazardous conditions.

Often utilities such as power poles and fire hydrants are colocoated in the sidewalk, creating another hazardous condition.

Edges of travel lanes in the transportation network are not well defined. In areas where no sidewalks exist and pedestrians must walk adjacent to travel lanes this creates hazards.



Often there are system components that are not completed. This example shows a crosswalk and an ADA ramp with no connections to a sidewalk, which renders the infrastructure essentially useless.

These show excellent crosswalks, ADA ramps and pedestrian countdown signals.


There are instances where cyclists prefer not to ride on sidewalks but ride instead in the travel lanes. As South Dade is viewed as an attractive place for these cyclists to ride, there is a need for on-road bicycle facilities. The addition of such facilities can incentivize commuter trips by bicycle in the future.

LEVEL OF SERVICE

The Town of Cutler 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 sidewalk. 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 bicycle and pedestrian levels 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 was assigned for both pedestrian 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. This is not a

level of service evaluation as is done for a road, which rates the road on how much volume it can handle. This measures the quality of service of a particular street.

As seen in 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. 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.

The Town of Cutler 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 Town. 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 Town have no sidewalks at all and would require them in order to complete the recommended networks.

The Town of Cutler Bay does have many areas of concern. Despite the fact that sidewalks exist they have several places throughout the Town with obstructions within the sidewalk generally rendering them useless at that point. The obstructions are typically utility poles and fire hydrants. The Town has sidewalks that end abruptly with access. Another area of concern is where sidewalks are present or are in the area but pedestrians are clearly choosing alternate paths. Possible realignment of the sidewalk at these locations are in order.

Table 1 - Level of Service by Facility

Road	From	To	ROW Width	Pavement Width	Total Swale	Pavemetn Condition	Level-of-Service	
							Pedestrian	Bike
184 St	US 1	97th Ae	75'	55'	6	Fair	C	D
184 St	97th Ave	87th Ave	75'	24'	44	Fair	C	D
184 St	87th Ave	Old Cutler	75'	24'	44	Fair	E	E
186 St	US 1	97th Ae	65'	24'	28	Good	C	D
Marlin	US 1	Gulfstream	90'	55'	34	Good	C	D
Marlin	Gulfstream	Caribbean	72'	24'	40	Good	C	D
Marlin	Caribbean	Old Cutler	60'	24'	30	Good	C	D
Caribbean	US 1	Turnpike	102'	68'	12	Poor	C	D
Caribbean	Turnpike	Gulfstream	80'	24'	44	Poor	D	D
Caribbean	Gulfstream	Marlin	80'	24'	44	Poor	C	D
Caribbean	Marlin	Franjo	80'	24'	44	Poor	C	D
Caribbean	Franjo	87th Ave	70'	24'	34	Poor	D	D
Caribbean	87th Ave	184 St	45'	24'	14'	Good	E	E
Old Cutler	224 St	216 St	80'	24'	43	Good	C	C
Old Cutler	216 St	Gulfstream	54'	24'	28	Good	D	C
Old Cutler	Gulfstream	Marlin	54'	24'	28	Poor	D	C
Old Cutler	Marlin	Franjo	75'	24'	40	Poor	D	C
Old Cutler	Franjo	87th Ave	54'	24'	18	Poor	D	C
Old Cutler	87th Ave	184 St	80'	24'	42	Good	D	C
216 St	103 Pl	Old Cutler	160'	52'	86	Fair	C	C
216 St	Old Cutler	87th Ave	112'	52'	45	Fair	C	D
216 St	87th Ave	85th Ave	75'	24'	38	Poor	D	E
212 St	87th Ave	85th Ave	90'	48'	NA	Fair	C	D
207 St	87th Ave	85th Ave	107'	24'	70	Fair	C	D
US 1	184 St	186 St	120'	74'	NA	Fair	C	C
US 1	186 St	Marlin	120'	74	NA	Fair	C	C
US 1	Marlin	Caribbean	120'	74	NA	Fair	C	C
US 1	Caribbean	112th Ave	120'	74	NA	Fair	C	C
97th Ave	184 St	186 St	72'	24'	40'	Good	D	D
97th Ave	186 St	Franjo	72'	24'	40'	Good	C	D
Gulfstream	Franjo	Marlin	72'	24'	40'	Poor	C	D
Gulfstream	Marlin	Caribbean	72'	24'	40'	Poor	C	D
Gulfstream	Caribbean	Old Cutler	72'	24'	40'	Poor	C	D
Franjo	Gulfstream	Caribbean	72'	24'	40'	Good	C	D
Franjo	Caribbean	Old Cutler	72'	24'	40'	Good	C	D
87th Ave	184 St	Caribbean	75'	24'	43'	Poor	C	D
87th Ave	Caribbean	Old Cutler	60'	24'	32	Good	C	D
87th Ave	Old Cutler	207 St	86'	34'	36	Fair	C	C
87th Ave	207 St	212 St	102'	47'	40	Fair	C	C
87th Ave	212 St	216 St	102'	24'	62	Fair	C	C
87th Ave	216 St	232 St	70'	24'	36	Poor	D	C
85th Ave	Old Cutler	207 St	147'	50'	30'	Fair	C	D
85th Ave	207 St	212 St	105'	48'	32'	Fair	C	D
85th Ave	212 St	216 St	110'	50'	31	Fair	C	D
185 Ter	Caribbean	Old Cutler	46'	20'	20	Fair	F	F
82nd Ave	184 St	185 Ter	70'	24'	36	Fair	C	D
82nd Ave	185 Ter	Old Cutler	75'	24'	39	Fair	C	D
188 St	87th Ave	82nd Ave	52'	24'	28	Fair	F	F
188 St	82nd Ave	Old Cutler	40'	20'	20'	Fair	F	F

TASK 5
ANALYSIS

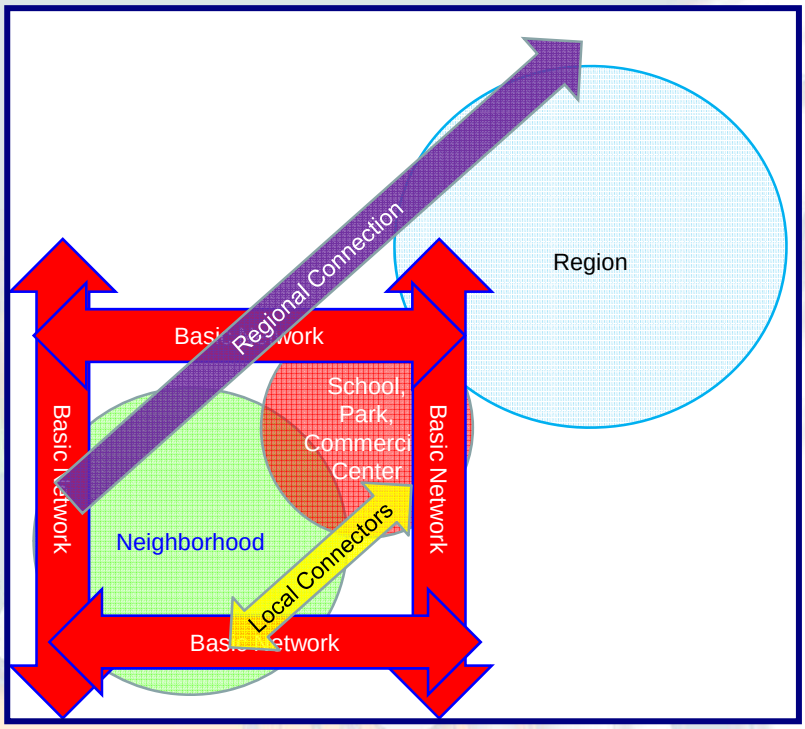
TASK 5 – ANALYSIS

INTRODUCTION

Bicycle and Pedestrian connections can be made at multiple levels within a community. From an examination of the existing conditions, and an understanding of this study's vision, an analysis of the system was undertaken. It resulted in the creation of general categories of need, where future projects could be placed. Future projects will be placed in three main areas:

- The Basic Network
- Local Connectivity
- Regional Access

Figure 5 – Levels of Connectivity



At the most basic level it is important to provide sidewalks on streets that have higher traffic volumes and higher concentrations of pedestrians. These frame the residential neighborhoods which will be the origin of each bicycle and pedestrian trip. These are typically the section line and half section line road network, which is set up on a half-mile grid. Roads interior to that grid are generally for local traffic, and the need to provide separate facilities is less, because traffic volumes are low and local and speeds are slow. Connecting major generators of existing and potential pedestrian and bicycle activity with these residential areas to one another is extremely important for mobility. These destinations or generators would be: parks, schools, government facilities and commercial centers. While these would connect to one another as destinations, they need to connect with the origins of the pedestrian and bicycle trips, which are the neighborhoods themselves at the section line and half section line road level. There are multiple parks and schools and other generators in the Town. In addition to connecting to the neighborhoods, an adequate system would connect to existing county facilities on the regional network.

BASIC NETWORK

The basic network for bicycle and pedestrian planning begins with what would be the section line and half section line grid, on which most through transportation is supposed to move. These rights of way are generally at least 50' wide, and tasked with accommodating **all** public infrastructure, including roads, sidewalks, bike facilities, electricity, water lines, sewer lines, etc. The basic network in most of the county is on a strict grid. In Cutler Bay, the grid still exists but it becomes curvilinear. This network connects the low density residential neighborhoods which do not have sidewalks to destinations that are

also spread throughout the community. A primary aspect of this study would be to assure the basic network 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 (the origins for bicycle and pedestrian trips) do need sidewalks and should have sidewalks because of the automobile volumes and speeds that they accommodate. There should be a separation of the pedestrian and bicycle from the motor vehicle.

These roads are more heavily traveled 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. Bicycle and pedestrian facilities located on this basic network would consist of between a 4' and 6' pathway on both sides of the right of way. These would be used to facilitate short walking and biking trips between origins and destinations in a safe manner.

This basic network brings pedestrian access to the periphery of every neighborhood, as well as to close proximity to all of the destinations, or generators of bicycle and pedestrian activity. By utilizing these major roadways, many of the important locations throughout the Town including many schools and parks would have good coverage in terms of 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 Town.

Figure 6 – Basic Network

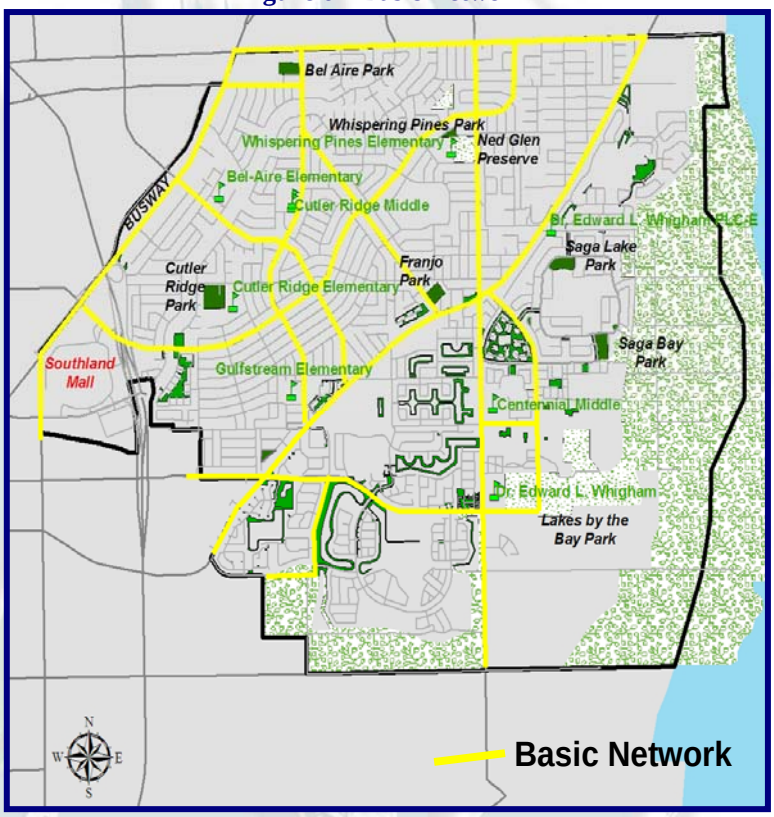


Figure 7 – Trip Origins

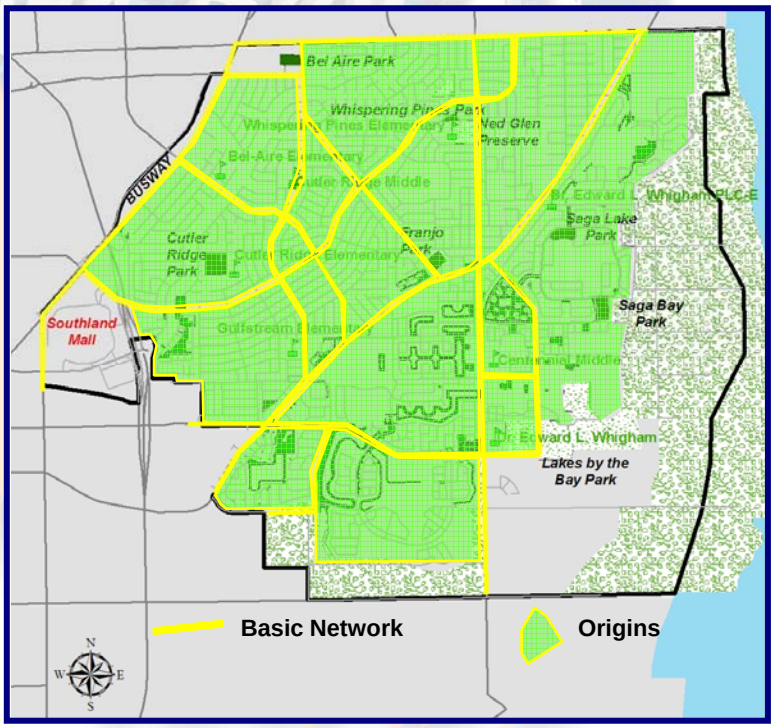
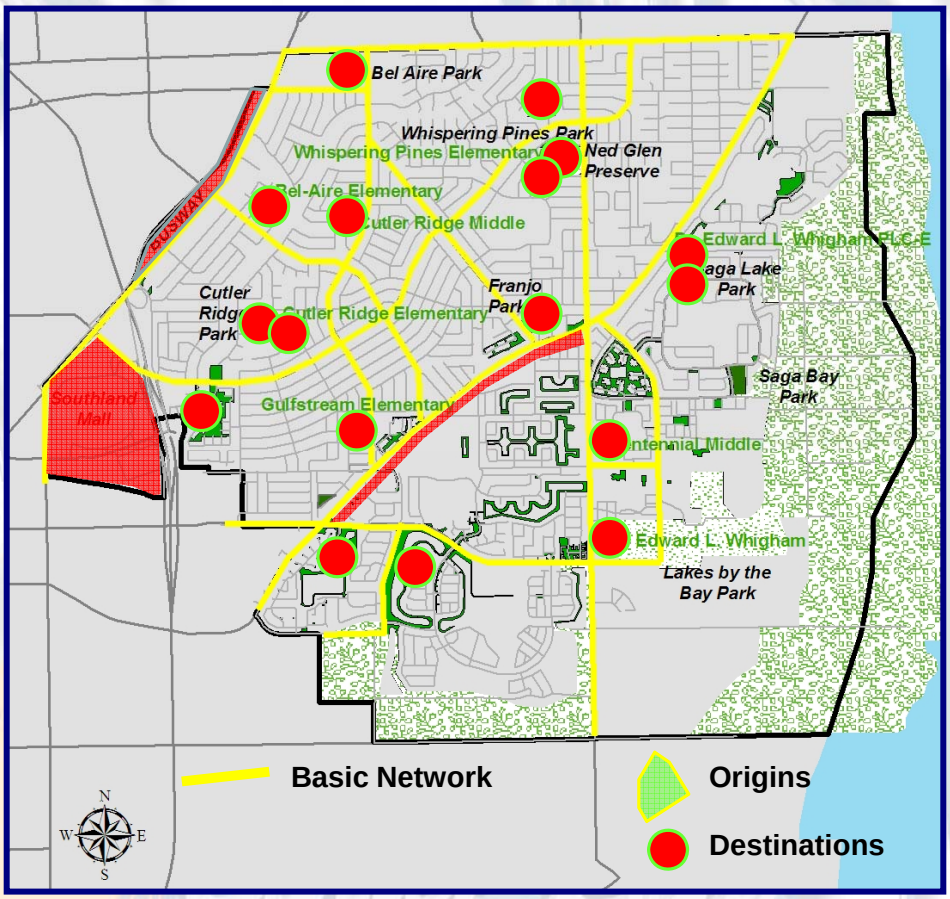


Figure 8 – Trip Destinations



LOCAL CONNECTIVITY

The idea of local connectivity would be to assure that the origins and destinations, like neighborhoods, schools, parks and commercial areas, are not only connected with the basic network, which frame their edges, but are connected to each other through an additional level of connection.

The Local Connectivity level of projects, would strive to connect the residential streets and the basic sidewalk grid with the major generators. This would be used for moderate distance walking and bicycle trips from the residential neighborhoods to parks, schools, public

Figure 9 – Local Connector Diagram

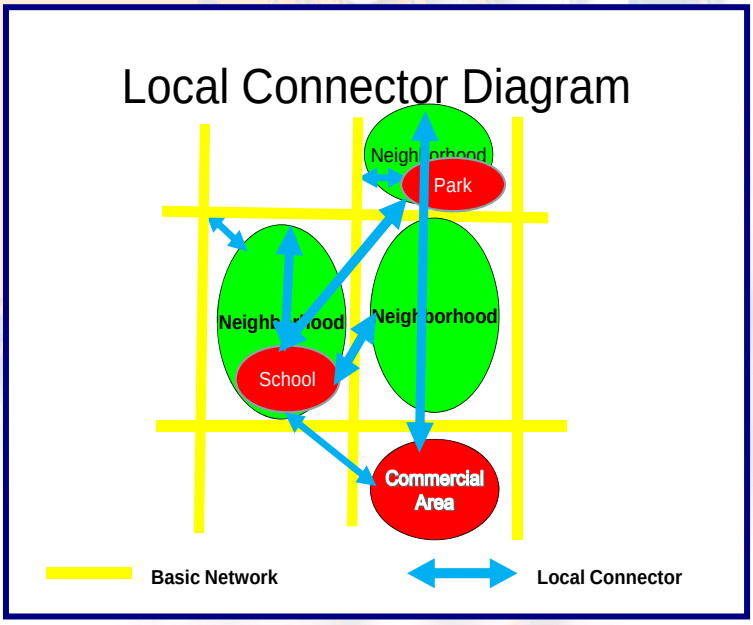
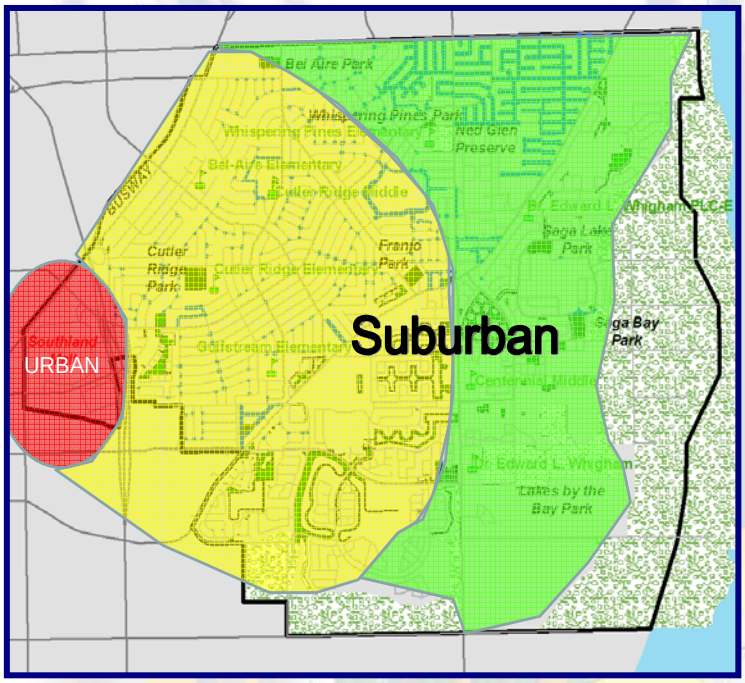


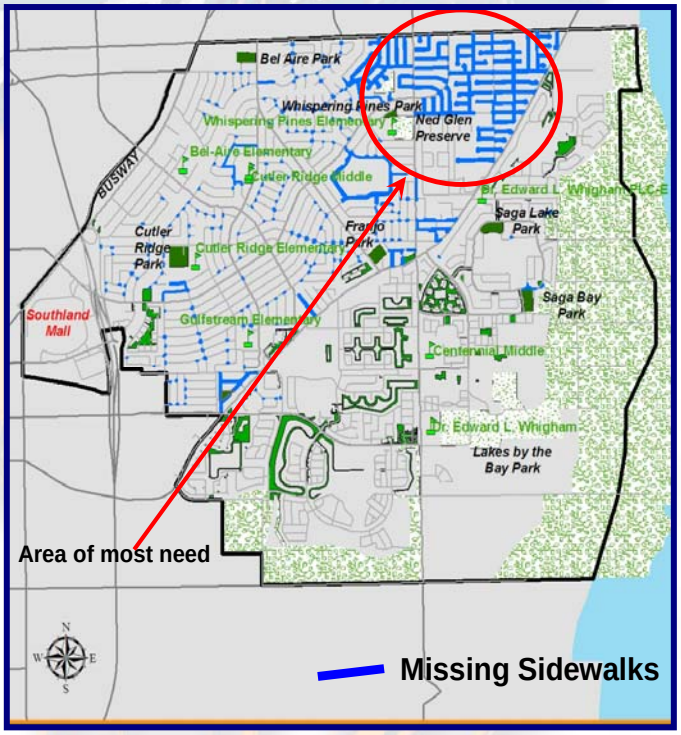
Figure 10 – Levels of Urbanism



facilities or local shopping areas. It would be intended that these trips would be local recreational or commercial oriented trips by less skilled cyclists. Facilities would include sidewalks or wider bicycle paths between 4' and 6' wide on one or both sides of the right of way. These types of projects would be through neighborhoods. Because of its extraordinary existing sidewalk network, many of these interior connections already exist.

These places that this level of project would try to connect include the various parks, schools, commercial areas and transit facilities that are spread across the Town. By connecting these sites, a user could get to nearly anywhere within the Town on a pedestrian or bicycle facility. Connecting the schools especially would allow safer walking access to the schools for the children who walk on a regular basis. Connecting the parks will allow the park users a safe and active way to get to the park for their recreational purposes.

Figure 11 – Missing Sidewalks Network



The Town has an extraordinarily well developed sidewalk network, more prevalent in urban areas. While much of South Dade is thought of as suburban, and is so, the sidewalk system in Cutler Bay is evidence that the Town has always been slated as a center of gravity in and of itself and not particularly a suburb of a more urban area. The transect of a community shows that there are nodes of gravity where development is at its most intense, surrounded by increasingly less intensive uses from urban, through suburban to rural. Cutler Bay represents a more central part of this idea. The presence of the Urban Center District shows that it has always been thought of as the Downtown of South Dade. The presence of the Government Center and Performing Arts Center demonstrates this also. The resulting network sidewalk network was also in place prior to Cutler Bay's incorporation.

At this time the primary area in need of sidewalks is the area just south of SW 184th St and between Old Cutler Rd and SW 87th Ave. Otherwise there are only random areas around the Town that are missing sidewalks. On this network, sidewalk obstructions do exist. Items such as power poles, fire hydrants, guy-wires, uneven or missing pavement, and intrusive landscaping all create potential hazards which make the use of the system either less comfortable or hazardous. Additionally there are numerous places that need ADA access ramps where the sidewalks approach the intersection

There are three primary commercial areas that would benefit from connections. These include the Urban Center District, the Old Cutler Road District and various commercial centers along US-1. Connecting these would often 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 forced to take automobile trips which often add to the traffic congestion on the already congested 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.

Figure 12 – Commercial Areas

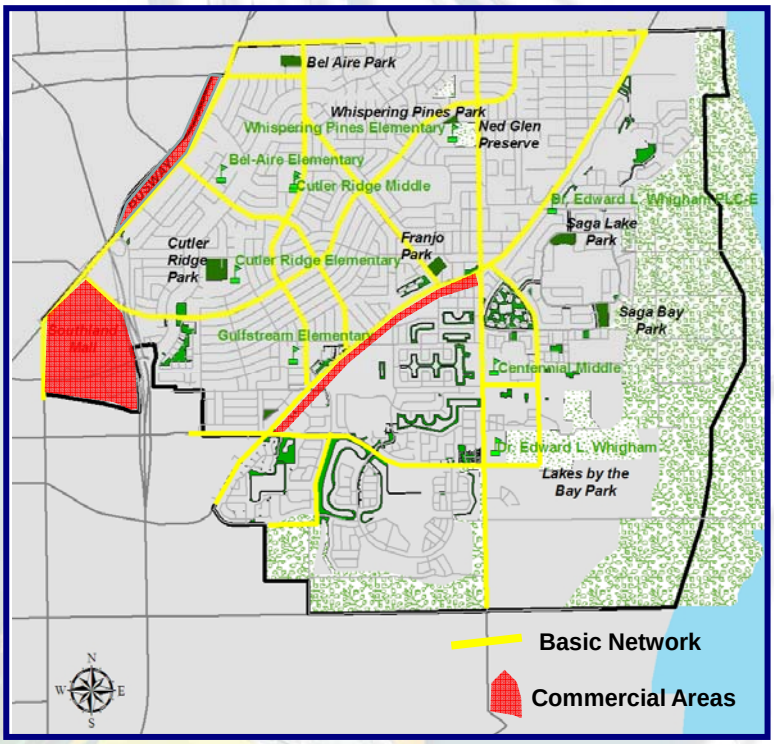
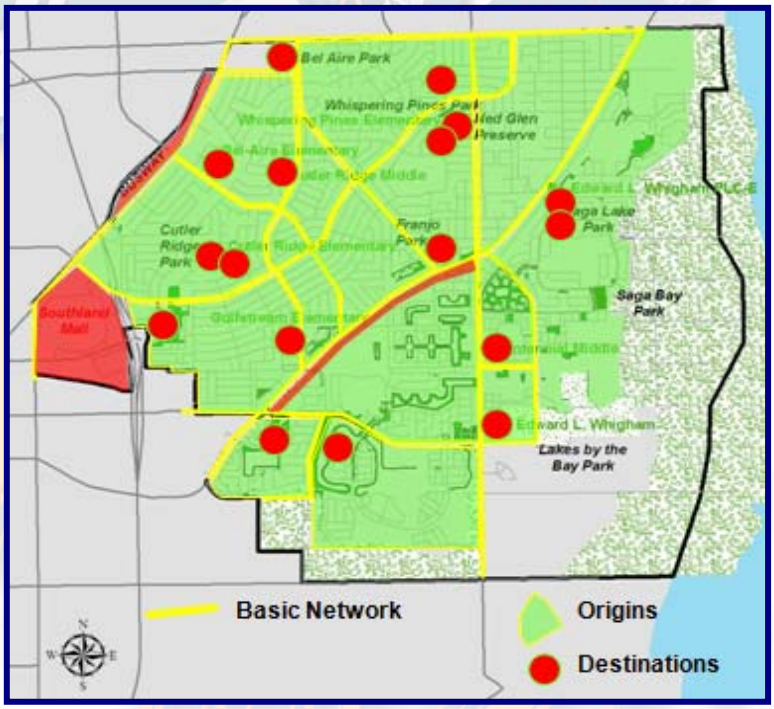


Figure 13 – Overall Network

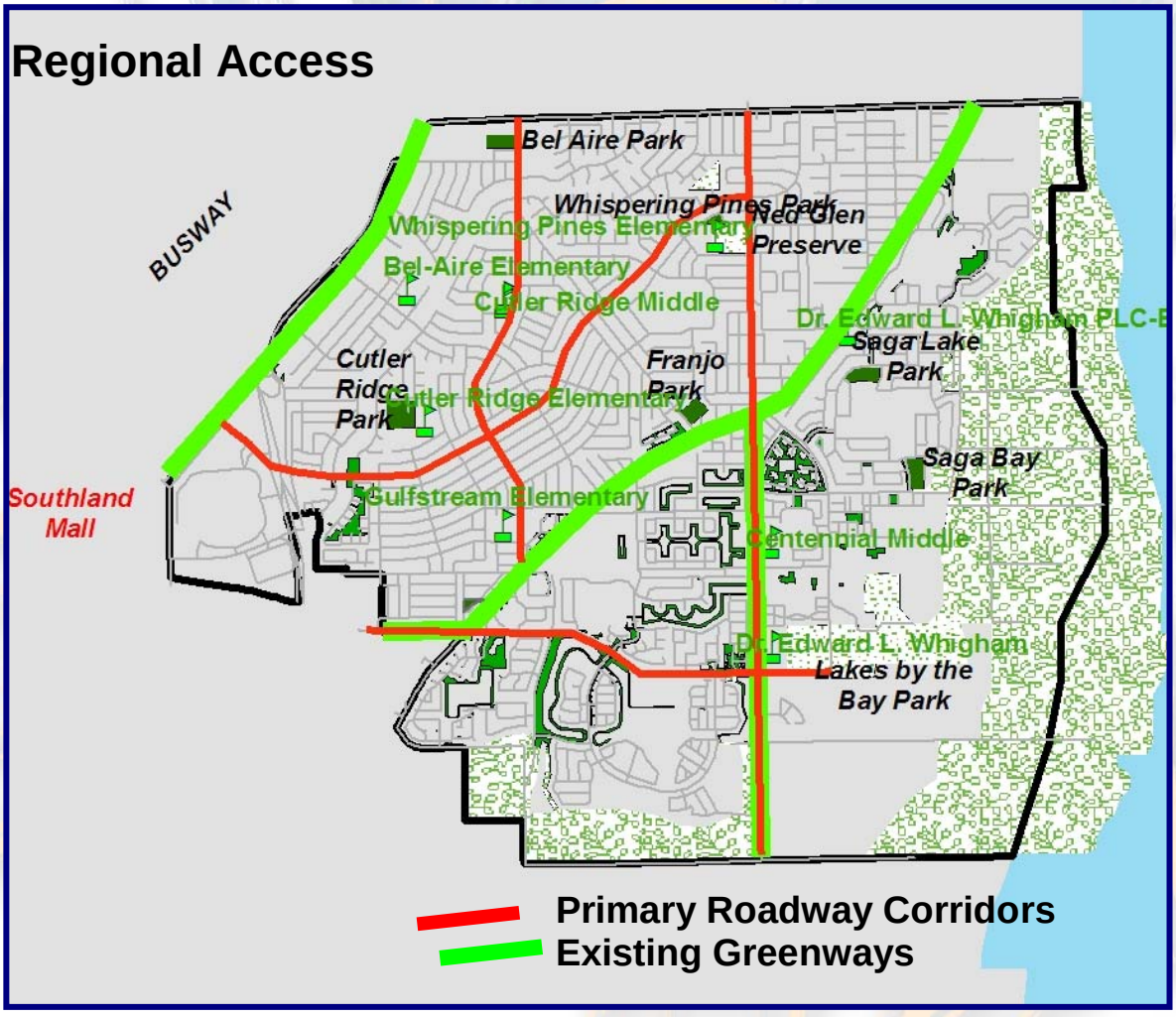


REGIONAL ACCESS

The Regional Access Level would provide through connectivity to other sub-regional or inter-city routes. It would be categories by 4' to 6' on-road bike lanes on each side of the through roads. Or 8' to 12' bicycle paths. This level would be planned for a more experienced and sophisticated cyclists seeking longer trips or commuting trips.

This access can be provided by connecting on road and off road bicycle facilities through the Town to other communities on all sides. There are many regional facilities that are located in the area. There are about 6 different planned or opened bicycle trails surrounding Cutler Bay. Access can be made through the South Dade Greenway, including the Black Creek Trail, the South Dade Trail, the Old Cutler Road Bike Path, the Princeton Trail and the Everglades Trail. Other network roadways such as SW 87th Avenue, SW 97th Ave, SW 216th Street and Caribbean Blvd, should be considered. These connections would allow for multi-directional connectivity through the Town as well as east-west connectivity that would connect the Old Cutler Road trail with the Busway on US 1.

Figure 14 – Regional Access



TASK 6
PROJECTS/RECOMMENDATIONS/ COSTS

TASK 6 – PROJECTS / RECOMMENDATIONS / COSTS

As a result of the existing conditions analysis and public meetings about seventy projects were developed in three project classifications:

- Basic Pedestrian Network
- Regional Connections
- Policy / Non Capital Efforts

Cutler Bay can fund these projects from a variety of sources. Most of the sidewalk additions and repairs would typically come from its capital improvements budget, or transportation fund. Typically, the transportation fund is populated with money collected from the Town portion of Local Option Gas Taxes because the County and the State have ultimate jurisdiction over non-local roads. This makes up the spine of the Cutler Bay system. Efforts along those facilities will need to undergo a high level of coordination. This means that funding for such projects can come from those sources as well. This issue is moving the project from the Cutler Bay plan to the County work program, the MPO's Long Range Transportation Plan, and the FDOT Transportation Improvement Program. A primary purpose of this study is to identify plans and provide Cutler Bay leaders the ability to advocate their projects to funding authorities over time. Grant opportunities exist on many levels. The MPO Municipal Grant Program has been utilized by the Town on numerous occasions to undertake studies like this and others. It can be used to fund projects like the Safe Routes to School program, which will open opportunities to attain state grants for the implementation of those specific projects. Cities must seek public/private partnerships to accomplish their goals. Working with local business leaders on prioritized initiatives will be important. Finally, Cutler Bay does not receive funds from the Peoples Transportation Plan. If these funds can be attained, that would be a significant infusion of funds for such projects. Regardless of the funding source sought, in this highly competitive environment a master plan identifying projects will be critical in the Towns ability to advocate for its needs.

BASIC PEDESTRIAN NETWORK

While the examination of the existing conditions show that Cutler Bay is pedestrian friendly to some extent there is a need for the Town to infill gaps in the system, where they are important and where they are desired. The southwest area of the town is well populated with sidewalks. There are pockets of areas where these sidewalks do not connect the street and crosswalks with ADA accessible sidewalk connections or painted crosswalks. It is recommended that these be filled in as funds warrant. There are potentially several hundred short (+-10') sidewalk connections that need to connect to the edge of pavement. Similarly there are likely a couple of hundred crosswalks that need to be installed. This will make the community that much better to walk around in. Coupled with this there are various projects associated with local roadways that would better connect the origins and destinations that lie on either side. These mainly encompass filling in sidewalks, adding crosswalks, smoothing swales, adding pedestrian count down signals. It is acknowledged that while sidewalks typically increase the quality of life in communities, they are not always welcomed by neighbors on individual streets, particularly in more suburban areas. The goal here was to assure that the basic section line roads had sidewalks on both sides. Then the parks, schools and other generators of potential pedestrian and bicycle traffic were connected through neighborhoods. Because the basic system is extensive this effort was simplified.

Table 2 – Pedestrian Network Opinion of Probable Costs

Pedestrian Network Cutler Bay Bicycle and Pedestrian Master Plan Proposed Projects Opinion of Probable Costs								
#	Road	Segment		Recommended Improvements	Quantity	Unit	Potential Funding Source	Total
		From	To					
1	SW 216 St	Mid Block	Cross walk	Ped count down signal	2	No.	PTP/CIP/Grants	$ 1,200
2		-	SW 99th Ct	Install 10' wide HV crosswalk	62	ft	PTP/CIP/Grants	$ 2,200
3		-	Old Cutler Rd	Install 10' wide HV crosswalk	322	ft	PTP/CIP/Grants	$ 11,300
4		-	SW 97 Ave	Install 10' wide HV crosswalk	298	ft	PTP/CIP/Grants	$ 10,450
5		-	SW 103 Ave	Install 10' wide HV crosswalk	110	ft	PTP/CIP/Grants	$ 3,850
6		-	92 Ave	Install 10' wide HV crosswalk	253	ft	PTP/CIP/Grants	$ 8,900
7	Marlin Rd	-	US-1	Install 10' wide HV crosswalk	309	ft	PTP/CIP/Grants	$ 10,850
8		-	US-1	Pedestrian Refuge in Median	309	ft	PTP/CIP/Grants	$ 95,650
9	SW 186 St		US-1	Install 10' wide HV crosswalk	258	ft	PTP/CIP/Grants	$ 9,050
10				Pedestrian Refuge in Median	258	ft	PTP/CIP/Grants	$ 79,900
11	SW 184 St	SW 97 Ave	SW 94 Ct	Install 5' wide sidewalk (South Side)	738	ft	PTP/CIP/Grants	$ 14,800
12		-	SW 87 Ave	Install 10' wide HV crosswalk	214	ft	PTP/CIP/Grants	$ 7,500
13		-	SW 86 Ct	Install 10' wide LV crosswalk	32	ft	PTP/CIP/Grants	$ 100
14		-	SW 86 Ct	Install Sidewalk Ramps	51	ft	PTP/CIP/Grants	$ 1,050
15		-	SW 85 CT	Install 10' wide LV crosswalk	32	ft	PTP/CIP/Grants	$ 100
16		-	SW 85 CT	Install Sidewalk Ramps	44	ft	PTP/CIP/Grants	$ 900
17		SW 85 Ct	SW 78 Pl	Install fill in 5' wide sidewalk	2868	ft	PTP/CIP/Grants	$ 57,400
18	SW 97 Ave	SW 184 St	Sterling Rd	Install 5' wide sidewalk (East Side)	1350	ft	PTP/CIP/Grants	$ 27,000
19		Franjo/Gulfstream Rd		Install Crosswalk			PTP/CIP/Grants	-
20		-	Gulfstream Rd	Install 10' wide LV crosswalk	23	ft	PTP/CIP/Grants	$ 100
21				Install Sidewalk Ramps	40	ft	PTP/CIP/Grants	$ 800
22	Franjo Rd	-	Flag Dr/193 Dr	Install Crosswalk			PTP/CIP/Grants	-
23				Install 10' wide LV crosswalk	27	ft	PTP/CIP/Grants	$ 100
24				Install Sidewalk Ramps	40	ft	PTP/CIP/Grants	$ 800
25		-	Caribbean Blvd	Install 10' wide HV crosswalk	264	ft	PTP/CIP/Grants	$ 9,250
26		-	Caribbean Blvd	Ped count down signal	4	No.	PTP/CIP/Grants	$ 2,350
27		-	Cutler Ridge Dr	Install Crosswalk			PTP/CIP/Grants	-
28		-	-	Install 10' wide LV crosswalk	40	ft	PTP/CIP/Grants	$ 100
29		-	-	Install Sidewalk Ramps	29	ft	PTP/CIP/Grants	$ 600
30		-	Old Cutler Rd	Delineate Road Edge			PTP/CIP/Grants	-
31	Old Cutler Rd	SW 216 St	SW 184 St	Install fill in 5' wide sidewalk (North Side)	14478	ft	PTP/CIP/Grants	$ 289,600
32		SW 88 Ct	SW 92 Ave	Delineate Road Edge	2100	ft	PTP/CIP/Grants	$ 5,250
33		SW 88 Ct	SW 92 Ave	Smooth and Grass Swale	2100	ft	PTP/CIP/Grants	$ 10,500
34		-	SW 212 St	Ped count down signal	4	No.	PTP/CIP/Grants	$ 2,350
35		SW 87 Ave	East Leg	Install 10' wide HV crosswalk	50	ft	PTP/CIP/Grants	$ 1,750
36	Broad Channel Dr	US-1	100 St	5' Sidewalk, N Side	360	ft	PTP/CIP/Grants	$ 7,200
37	Caribbean Blvd	Turnpike	SW 103 Ave	Install fill in 5' wide sidewalk (South Side)	886	ft	PTP/CIP/Grants	$ 17,750
38		-	Bluewater	Install 10' wide LV crosswalk	78	ft	PTP/CIP/Grants	$ 200
39		-	Coral Sea	Install 10' wide HV crosswalk	223	ft	PTP/CIP/Grants	$ 7,850
40		-	Coral Sea	Ped count down signal	4	No.	PTP/CIP/Grants	$ 2,350
41		-	Gulfstream Rd	Install 10' wide HV crosswalk	82	ft	PTP/CIP/Grants	$ 2,900
42		-	Gulfstream Rd	Ped count down signal	4	No.	PTP/CIP/Grants	$ 2,350
43		-	Cutler Ridge Dr	Install 10' wide HV crosswalk	51	ft	PTP/CIP/Grants	$ 1,800
44		-	Cutler Ridge Dr	Ped count down signal	4	No.	PTP/CIP/Grants	$ 2,350
45		-	SW 192 Dr	Install 10' wide HV crosswalk	133	ft	PTP/CIP/Grants	$ 4,700
46		-	SW 192 Dr	Ped count down signal	4	No.	PTP/CIP/Grants	$ 2,350
47		SW 89 Rd	SW 184 St	Install fill in 5' wide sidewalk (North Side)	3549	ft	PTP/CIP/Grants	$ 71,000
48		-	-	Install fill in 5' wide sidewalk (South Side)	1190	ft	PTP/CIP/Grants	$ 23,800
49	ADA	Townwide		Install ADA Compliant sidewalk connectors at various locations around the Town.	$20/ft	+-300	PTP/CIP/Grants	$ 60,000
50	Crosswalks	Townwide		Install crosswalks at critical intersections	$2.5/ft	+-200	PTP/CIP/Grants	$ 17,500
51	Cutler Ridge JR HS	Around School		Install 5' wide sidewalk around school	2615	ft	PTP/CIP/Grants	$ 52,300
	Preliminary Costs							$ 942,150
	Contingency (20%)							$ 188,430
	Mobilization (10%)							$ 94,215
	Maintenance of Traffic (10%)							$ 94,215
	Opinion of Total Costs							**$ 1,319,010**

REGIONAL ACCESS

Projects providing regional access were focused on connecting to the existing system of trails and greenways that converge in and around Cutler Bay. These mainly consist of on road bicycle facilities on major through corridors, as well as connections (like wider sidewalks or a pedestrian bridge) to major generators like the Performing Arts Center, South Dade Government Center, and Busway. Connecting to these facilities would provide incentive for recreational movement or even potential commuting via bicycle on a sub regional or regional basis.

Table 3 – Regional Access Opinion of Probable Costs

Regional Access Cutler Bay Bicycle and Pedestrian Master Plan Proposed Projects Opinion of Probable Costs									
#	Road	Segment		Recommended Improvements	Quantity	Unit	Potential Funding Sources	Total	
		From	To						
1	SW 87 Ave	Entire Corridor		Install Bike Lanes	3	gm	PTP/CIP/County	$	1,130,100
2	Carribean Blvd	Entire Corridor		Install Bike Lanes	7	gm	PTP/CIP/County	$	2,836,700
3		-	US-1	Pedestrian Bridge	1	No.	FDOT	$	4,000,000
4	S.Dade Govt Ctr	Tpk Access Rd	Govt Ctr Pkg Lot	5' Sidewalk	145		PTP/CIP/County	$	2,900
5	SW 112 Ave	Bridge	SW 211 St	Widen SW to 8'	340		PTP/CIP/County	$	2,720
6	SW 216 St	Entire Corridor		Install Bike Lanes	3	gm	PTP/CIP/County	$	1,395,550
7	Old Culter Road	Entire Corridor		Install Bike Lanes	7	gm	PTP/CIP/County	$	2,811,150
8	97 Ave/ Franjo Rd	Entire Corridor		Install Bike Lanes	3	gm	PTP/CIP/County	$	1,397,950
9	Greenway	PAC	Black Creek Trail	Connect Greenway from PAC to Trail	1800	lf	PTP/CIP/County	$	57,600
	Preliminary Costs							$	13,634,670
	Contingency (20%)							$	2,726,934
	Mobilization (10%)							$	1,363,467
	Maintenance of Traffic (10%)							$	1,363,467
	Opinion of Total Costs							**$**	**19,088,538**

POLICY/NON-CAPITAL PROJECTS

An important segment of the project has to do with policy efforts, which the Town would need to decide upon prior to undertaking. The highest priority would be to undertake a Safe Routes to School study. These are grant applications meant to identify safe routes to and from local schools in each direction. They result in enhanced sidewalks, crosswalks, signage, signals and even equipment and crossing guards. The study results in a grant, which is submitted to FDOT. Grant recipients can have all or a portion of the projects implemented. The Miami Dade MPO has recently been providing funding for such studies through its municipal grant program. It is suggested that the Town develop a grant application for this analysis in December of 2011. The MPO grants are awarded early in the calendar year. An additional study can be to develop a "bike to work plan". This would be an effort to develop incentives for people to use their bicycles to commute to work or for shopping or other non recreational uses. It is also a candidate for an MPO grant.

As was noted in the existing conditions analysis there are a great number of utilities like fire hydrants or power poles that obstruct the sidewalks. An effort should be made to either move the obstruction or provide a clear and comfortable path around the obstruction. Often moving the sidewalk will be more efficient than moving the obstruction. Most importantly it will be important to make sure that new facilities are not constructed with built in obstructions.

It is believed that recommendations in this area will be best implemented if they are administered to directly by a committee that can help craft various policies or educational efforts and make recommendations to the Town Council. For staff to administer to such an effort alone, on top of their existing responsibilities could be overburdening. As such a Bicycle/Pedestrian committee is recommended to do so. This committee could be tasked with developing bicycle and pedestrian programs such as a public education campaign. This is a multi-faceted effort that could encompass efforts like:

- Developing a bicycle facilities map
- Developing a bicycle brochure discussing safety, equipment, etc,
- Working with local partners to assist in the development and funding of educational materials, and needed equipment such as bicycle racks at schools, bicycle helmets for kids.
- Coordinating with local PTA's can be done to discuss the benefits or biking and walking.

This group could also assist in circulating the educational material with local merchants, schools and other partners to make cycling and walking a more accepted practice.

Several ordinances can be introduced. First may be an ordinance require property owners to maintain clear sidewalks so that they are not hazardous to pedestrians or cyclists. This would entail assuring vegetation or other non permanent obstructions, like trash cans, are kept free of the path. Not different than assuring that the property owner maintains the swale in front of their home, or the requirement in northern states that residents shovel snow from sidewalks to keep paths clear.

It has been suggested that golf carts be permitted in the Town, specifically on bicycle facilities and sidewalks. This plan is a non motorized bicycle and pedestrian plan. In such environments it is typically felt that allowing golf carts, scooters, or other motorized vehicles on sidewalks and paths can be dangerous. Typically the issue is the space that these motorized vehicles take up and the speed that they travel. Often it is suggested that these vehicles be limited in size to 36" wide, be electrically powered and have speed constraints. In the absence of these limitations, it may be best if these are permitted on the roadway network or in bicycle lanes, where travel speeds are more similar. Some states have "slow moving vehicle" designations. There is a mechanism to accomplish such a goal. House Bill 971 has provided cities and counties the ability to enact ordinances to regulate the operation of vehicles, including golf carts, on sidewalks or sidewalk areas, when such a use is permissible under federal law. The ordinance must restrict such vehicles to a maximum speed of 15mph. Operation of golf carts in certain areas can be enacted if they are more restrictive than this bill. Signage must be posted to notify residents that the ordinance exists. The Town would need to consider the character of the community, and the locations that golf carts would be allowed. For instance it may be more acceptable to have the golf carts on the 87th Avenue multiuse trail than on the sidewalk on a local neighborhood street. Before enacting such an ordinance the Town would need to coordinate with FDOT and Miami Dade County. It is understood that using electrically powered vehicle represents a more environmentally friendly approach to personal mobility in many cases. Caution must be taken not to simply replace an automobile trip with a golf cart trip, and create a safety problem in the process.

Table 4 – Policy/Non-Capital Opinion of Probable Costs

Policy / Non Capital
Cutler Bay Bicycle and Pedestrian Master Plan Proposed Projects
Opinion of Probable Costs

#	Project Type	Location From	Location To	Recommended Improvements	Quantity	Unit	Potential Funding	Total
1	Study	Townwide		Safe Routes to School Program	1	na	MPO Grant	$ 50,000
2	Utilities	Townwide		Work with Utilities to remove Obstructions from sidewalks.	Policy	na	na	$ -
3	Partnership	Townwide		Work with non-profits to develop educational material	Policy	na	Grants/Donations	$ 10,000
4	Education	Townwide		Public education Campaign	Policy	na	Grants/Donations	$ 20,000
5	Ordinance	Townwide		Ordinance to Require Property Owners to Trim Vegetation On Paths	Policy	na	na	$ -
6	Ordinance	Townwide		Amend Code to Permit Golf Carts in Certain Areas	Policy	na	na	$ -
7	Study	Linear Parks		Conduct a Study to possibility of using canal ROW		na	MPO Grant	$ 50,000
8	Education	Townwide		Get Bike Ped Plan circulated at places like Schools, Publix, TransitMiami.com and mall kiosks.	Policy	na	na	$ -
9	Signage	Townwide		Signage for Pathways, Trails, Bikelanes, Share the Road	25	$300	FDOT/County	$ 7,500
10	Administration	Townwide		Bicycle / Pedestriain Committee	1	$ -	na	$ -
11	Equipment	Townwide		More bike lockers/racks	Equipment	na	Grants/Donations	$ 100,000
	Preliminary Costs							$ 237,500
	Contingency (20%)							NA
	Mobilization (10%)							NA
	Maintenance of Traffic (10%)							NA
	Opinion of Total Costs							**$ 237,500**


Cutler Bay