



Town of Cutler Bay

Transportation Master Plan



October 2014



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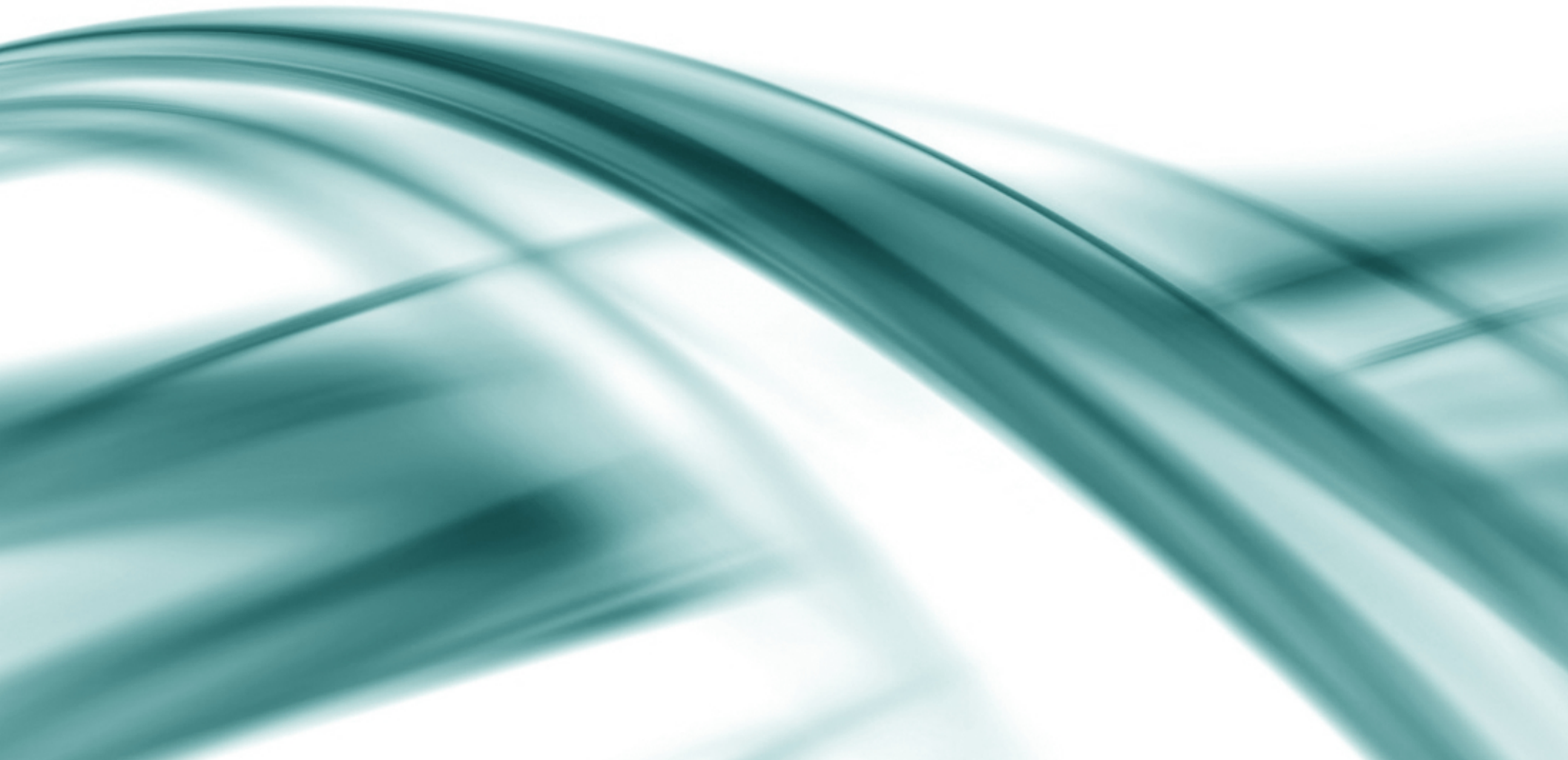


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INTRODUCTION





INTRODUCTION

The Town of Cutler Bay is the recipient of \$35,000 from the MPO's highly competitive 2014 Municipal Grant Program. Cutler Bay's application was ranked highest in the MPO and received 100% of the requested funding, in large part due to the Town's performance with the MPO. In 2008, Cutler Bay completed its first transportation master plan, which was funded by the same Municipal Grant Program. Since that time, the Town has placed great effort into assuring that these funds have not simply gone to produce studies, but have been used to create capital programs that have been implemented. Primary recommendations of the original Transportation Master Plan were both a Transit Circulator and a Bicycle and Pedestrian Plan. The initial study took care in working with citizens, staff, elected officials

and local agencies to develop consensus on a vision to guide transportation projects and policy. Over 60 projects were identified, 75 percent of which the Town has already initiated or completed.

Several years have passed, and now, so as not to lose momentum, it is time to update this Master Plan and develop an additional list of multimodal transportation projects that can be undertaken in the upcoming years. As the South Dade economy begins to rebound from the recent recession, it is important for municipalities to have capital projects in the pipeline so that there are projects to build when funding is available. Additionally it is important to re-engage the citizens into the process.



Introduction

This Master Plan update strives to review the existing Plan and incorporate citizen concerns reported over the past five years. In the process, existing conditions were documented by the collection of new data. The plan has resulted in the recommendation of an entirely new project bank which prioritized all of the pending projects and removed completed projects. This is the initial planning phase in the development of a multimodal transportation capital improvement plan. A scope of services with six tasks was developed:

- Task I: Public Involvement**
- Task II: Data Collection and Analysis**
- Task III: Needs Assessment**
- Task IV: Development of Potential Projects**
- Task V: Implementation Strategy**
- Task VI: Final Report**

The culmination of this is an updated project bank, which will become the guide by which the Town invests in its transportation infrastructure. This has resulted in 63 multimodal projects at a potential value of approximately \$21 million. This report summarizes these activities task by task.

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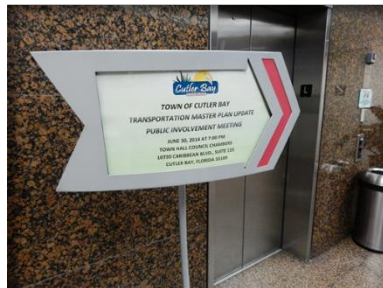
PUBLIC INVOLVEMENT





TASK 1: PUBLIC INVOLVEMENT

There is an art and science to transportation planning. To gain consensus and implement projects the community must agree to, and want, what is being planned. This project places great effort into both the art (finding out what is wanted), and the science (finding out what is needed). What is wanted stems from a significant engagement of the public to build consensus. This is done the old fashioned way, by earning it. Public involvement on this study occurred throughout the project.



1.1 MEETINGS / ENGAGEMENT

Multiple efforts were undertaken to engage the public, explain the projects scope of services, existing conditions, data collection, and system utilization, in order to determine the desires of the public and keep the project moving forward. A steering committee was formed and met with to ensure the project was progressing. Stakeholders were met with to gain insight into specific ideas or concerns that individuals may have had. Community organizations were met with in small groups, and overall public workshops and hearings were provided to gain consensus for the study's results and recommendations.



Task 1: Public Involvement

Steering Committee

The purpose of the public involvement task is to discuss and receive public input on key local planning issues related to the Transportation Master Plan. The process began with coordination in a kickoff meeting with the project management team, after which a steering committee was created. The committee then focused on a discussion and review of the various draft sections of the report for presentation in a public hearing. Finally, the committee met to review recommendations and issue the final report. The



steering committee was met with on three occasions during the effort: Once at the outset, once at the study's mid-point, and again nearing this study's conclusion.



Stakeholders

Community leaders, including citizens, staff and elected officials were met with in one-on-one settings and in small groups to discuss their concerns. Over a dozen meetings were held.

Workshops

Multiple workshops were held to engage stakeholders between May and September 2014. In addition, the Steering Committee meeting in April 2014 was open to the public.

Public outreach efforts for these meetings included meeting time and place postings on/in:

- The Town's Website
- The Town Hall's Bulletin Board
- Public notice in the Miami Herald on May 22nd, 2014
- Email notification to persons who have opted into the Town's email list.
- Two large Electronic Message Boards strategically placed along Town roads.

During these workshops, information was presented on background findings and analyses to date, with a discussion and solicitation of feedback from the public on areas of concern for further investigation as well as potential projects for implementation. Meetings with people in small groups were also undertaken. Specific groups included the Concerned Citizens of Cutler Bay and the Cutler Bay Business Association. Two broad public workshops were held later in the process in order to present a complete picture of the analysis and recommendations, including one at Town Hall on June 30, and another at Cutler Ridge Park on July 9. An initial workshop was conducted in September 2014 to present findings to the council, with the first public hearing for adoption of the Transportation Master Plan by the Town Council occurring in October 2014.

The following dates represent workshop presentations conducted:

- April 10th
- May 8th
- June 3rd
- June 30th
- July 9th
- September 17th

Concerns regarding mass transit, bicycling routes, gaps in sidewalks, and missing infrastructure at intersections and with missing road linkages, along with truck traffic, were raised. In total, there were nearly 100 suggestions. These were





Task 1: Public Involvement

organized into the logical categories of corridor studies, capacity projects, transit, bicycle and pedestrian projects as well as policy projects.



The overriding concern throughout the community was how to maintain the character of the Town while accommodating or preparing for the growth it will absorb from within the Town and the inevitable growth of the surrounding area. Traffic and preservation of the character of the neighborhood on Old Cutler Road and other areas of the Town were presented as major issues of concern for future development. The perception of safety and viability of alternative modes of transportation were also critical concerns.

The community realizes that its quality of life, character and future related to transportation is linked to the growth and development of South Dade. It is realized that to a great extent that road widenings could only mitigate tomorrow's problems to a certain extent. It is realized that there needed to be a more expeditious shift to transit as well as a focus on economic development.

The plan was reviewed by the public and presented in a public hearing in Fall 2014 where it was formally accepted by the Town. It is anticipated that this plan will be used to populate the Town's Capital Improvement Element with roadway capacity, alternative mode (transit, pedestrian, bicycling), corridor enhancement and policy projects.

1.2 THE CONVERSATION

Incorporated in 2005, Cutler Bay currently has a population of just over 42,000 in an area of about 10 square miles. The community has a median age of 35 years old. It is serviced by 9 Miami Dade Transit routes and its own municipal circulator. It is the county's most recently incorporated municipality and the one furthest south before Homestead and Florida City.

There is tremendous pride in being from what used to be called Cutler Ridge and South Dade. People live here because they like the atmosphere, character and pace of life, which many feel different from areas north of SW 88th Street. Yet most all acknowledge change is coming.

In the Growth Management Plan, the Town has the goals of being Safe, Efficient, Multi-modal, and Environmentally Friendly in regards to transportation.

In the public involvement portion of this projects, it was a priority to understand that Transportation and Land Use are inextricably linked.

The Future Land Use Map dictates the intensity of development, and the community realizes that transportation infrastructure must be in place to serve those uses.

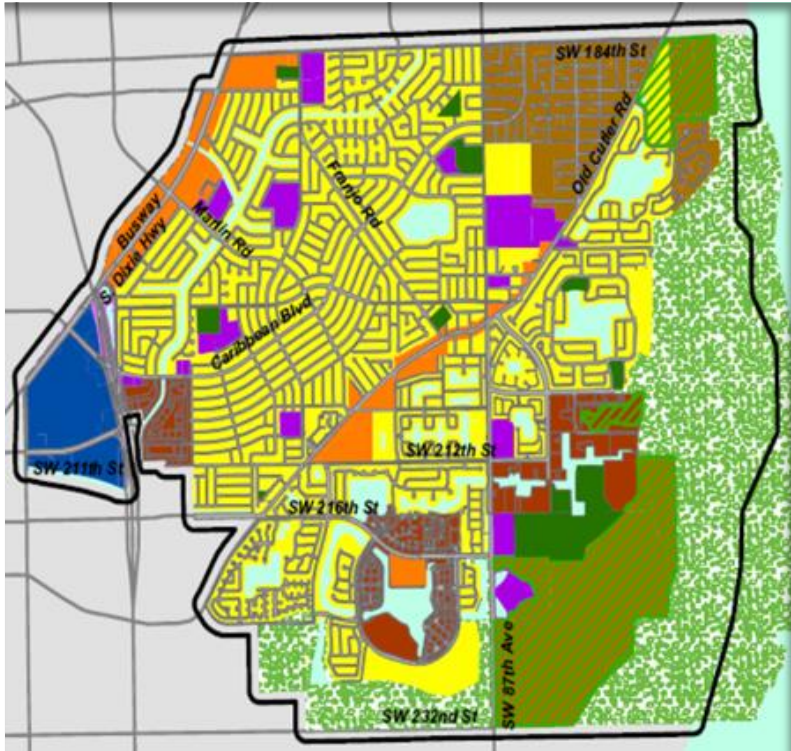
South Dade is geographically large, but it is long and narrow from a development perspective, because it has an Urban Development Boundary, which focuses on growth. This approach is different from the Broward model in the sense that Broward was allowed to develop to its levy, spreading a thin veneer or predominantly low density development from the ocean to the Everglades. Infill development will occur naturally as old uses are intensified. Miami Dade's model preserves land for the future. Yet at this time, development is generally low density residential or commercial, with no major employment centers.

Yet most of the growth is expected to be absorbed in South Dade over the next 25 years. The following graphics show how the Homestead urban area and the Cutler Bay urban area have been growing closer to each other over the last several decades.

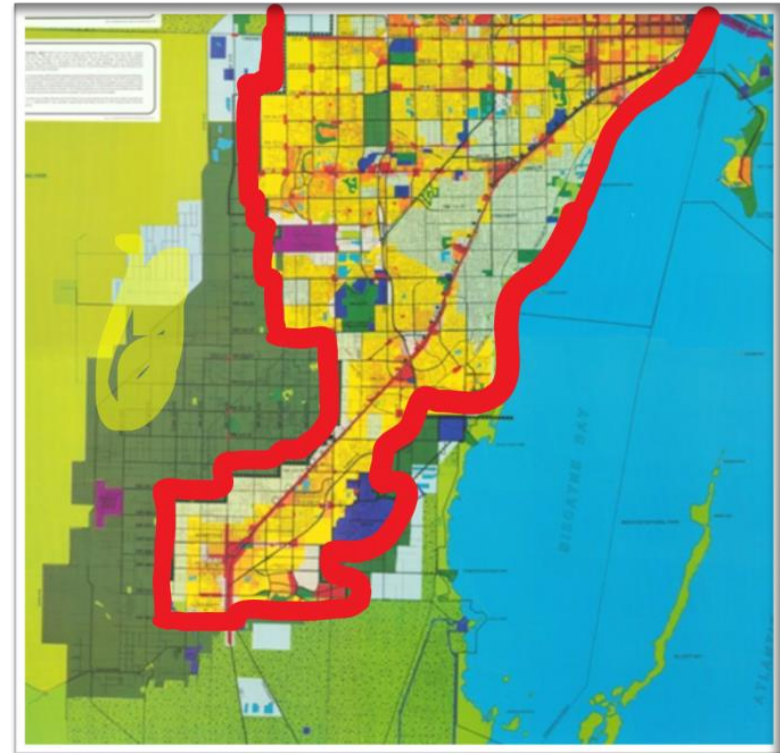




Task 1: Public Involvement



Town of Cutler Bay Land Use Map



Urban Growth Boundary within Cutler Bay



Development of South Miami-Dade County in 1975 (Left), 1983 (Middle), and Current (Right)

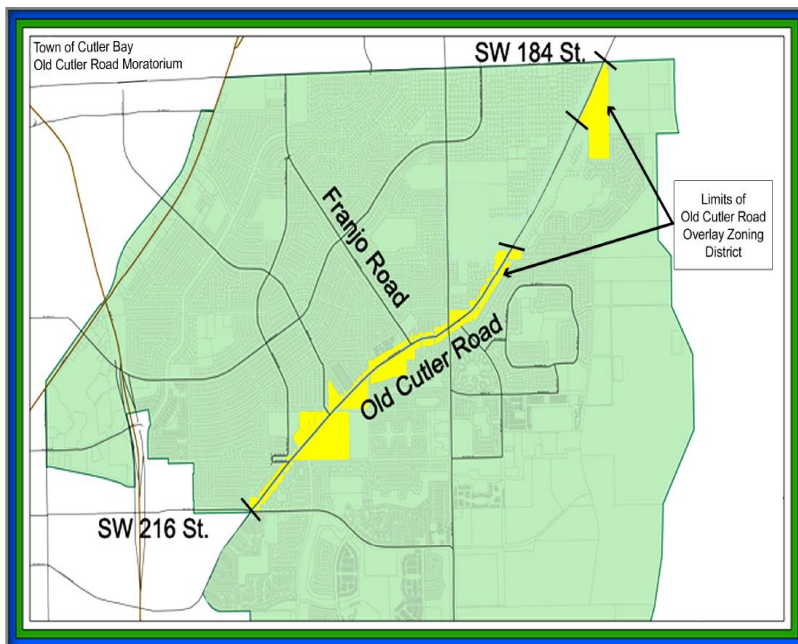
With all of this potential growth the challenges are great. There are currently only three connected ways out of South Dade. These are Krome Avenue, US-1 and the Florida's Turnpike. Old Cutler Road only connects as far south as Cutler Bay. Each day, hundreds of thousands of people must commute in and out of the community, generally in the peak hours, and create a highly directional flow on the roads, resulting in extreme congestion.

The community understands that the common thread between Homestead and Pinecrest is the US-1 Corridor. In an effort to work with the Urban Development Boundary, and focus development on the eastern half of the County, strides have been made towards intensifying the US-1 Corridor. Multiple "charrette areas" have been planned. Many have had new land use and zoning codes put in place. Some have been implemented. Dadeland was built in the 2000s. Most recently, Cutler Bay's Urban



Task 1: Public Involvement

Center District and Old Cutler Road areas have been fitted with updated land development regulations. The Old Cutler Road area has been given a recent retrofit relative to the roadway. This beautification project worked within the parameters of the 1974 historic designation to provide multimodal supporting infrastructure for potential land development in the area. Today, the road accommodates cars, bicycles, pedestrians and transit.



Old Cutler Road

The Urban Center District is a Dadeland-sized regional activity center. It provides Cutler Bay with the potential

gravity to be a major economic factor in South Dade. Surrounding the area now are the South Dade Government Center, the South Dade Performing Arts



Urban Center District as envisioned

Center and Cutler Bay's Town Hall. The District sits at the confluence of the Busway, Turnpike and US-1.

The US-1 Corridor contains the Busway. This is a controversial piece of infrastructure that can be misunderstood. Miami Dade County's treatment of US-1

between Miami, Dadeland and Florida City has historically been progressive. A hundred years ago, Flagler's rail line carried people and goods all the way to Key West. By the 1970s, it was decided that the addition of capacity to the corridor would not occur in the form of a roadway, but in the form of transit. It is a distinct policy decision which has led to the development of the current MetroRail system and the continuation of transit via the US-1 Busway.

I-95 could have been extended along the corridor to the south. Instead, Metrorail was implemented to Dadeland. At this time, high capacity transit was available in South Dade. By the mid-1990s, the Busway was extended to Florida City. This was one of the first Bus Rapid Transit Systems in the nation. South Dade and Cutler Bay are fortunate to have this extraordinary infrastructure in place nearly three decades before other areas of the county have received their lines. It's ironic that the least populated area of the County has been the recipient of the most transit. In 2014, Miami Beach still has no rapid transit connecting it with the mainland.



The Busway along US-1 connects areas of existing and future urban centers, seen as pink nodes by providing bus rapid transit to these concentrations of population and future development.



Task 1: Public Involvement

Within the community the Busway is hotly debated. Currently an MDX study of Managed Lanes is ongoing, yet has reached no conclusions.

One issue that must be grappled with is the concept of grade separation. The South Dade Alternatives Analysis suggested grade separated intersections to make the transit flow more efficiently. In its current condition, the buses spend about 40 percent of their travel time stopped at intersections. Eliminating these conflict points would reduce the travel time significantly. Regardless of Managed Lanes, Bus Rapid Transit, or Light Rail, the travel times would be improved by eliminating the conflicts.

There seems to be consensus that the busway should be for transit and the debate is between the MPO's proposed alternative of Bus Rapid Transit and Light Rail. The difference between the two modes was discussed and debated throughout the project. It is clear that the community desires transit and would like to see funding for additional capacity shift to more transit or transit related projects.



As an example of how creation of grade separation between cars and public mass transit could be implemented, SW 200th Street can be developed incrementally to change it from current at grade settings (Left), to a grade separated Busway (Middle) which allows for increased flow, with further development occurring as needed to incorporate extensions of the current MetroRail system (Right) at a future date.

Town of Cutler Bay Transportation Master Plan Update 2014 · Public Workshops



Transportation Master Plan Update 2014



Cutler Bay Business Association – May 8, 2014



Task 1: Public Involvement



Transportation Master Plan Update 2014



Transportation Plan Steering Committee— April 10, 2014



Transportation Master Plan Update 2014



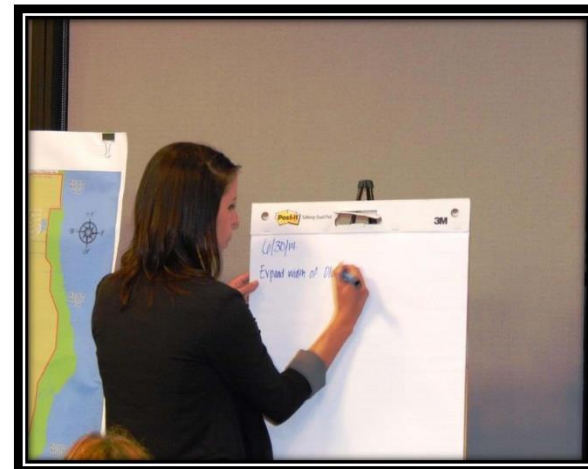
Concerned Citizens Meeting – June 3, 2014



Task 1: Public Involvement



Transportation Master Plan Update 2014



Transportation Master Plan Community Meeting – June 30, 2014

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DATA COLLECTION & ANALYSIS





TASK 2: DATA COLLECTION & ANALYSIS

This chapter of the report focuses on examining existing policies, as well as previous or ongoing studies or work programs that have slated projects for the area. Additionally, data was collected and analyzed in the areas of traffic, transit, bicycle and pedestrian information. Other transportation indicators related to these factors were researched and evaluated. The levels of service for these respective issues was quantified and projected into the future. It is from this information that potential projects were developed.

It was determined that the roadway systems performance is deteriorating over time, as can be expected. Currently 16% of the Town's total acreage is consumed by rights of way. The traffic movements happen on 14 primary roads. The five principle arterial roads, including US-1, the Turnpike,

Old Cutler Road, SW 216th Street and SW 184th Street/Eureka Drive, carry the bulk of Cutler Bay's traffic, providing access to other regional urban centers. Over 40 traffic signals exist within the community. Cutler Bay is not in the Urban Infill Area, therefore its level of service varies, but it is predominantly D and E, with E (120%) on US-1. Traffic data was reviewed for 49 roadway links on these roads. In 2014, 31 of 49 links, or 63.3 % operate at an acceptable level of service. 18 links or 37.7% are failing. This is about 11% worse than it was in 2008. By 2020, 27 links (55.1%) are acceptable, and 22 links (44.9%) are unacceptable. By 2035, 24 (49.0%) are acceptable, and 25 links (51%) are unacceptable. This is a relatively balanced system, and performing similarly as it was projected during the 2008 analysis.



Task 2: Data Collection & Analysis

Roadways expected to slip into an unacceptable level of service in the next six years include:

- Caribbean Boulevard between US-1 and SR-821
- SW 216th Street between Old Cutler Road and SW 87th Avenue
- Old Cutler Road between SW 112th Avenue and SW 216th Street

As expected, US-1 carries the bulk of the non-Turnpike traffic in the community with volumes approaching 55,000 vehicles per day.

Average Annual Daily Traffic Volumes range from 1,907 to 120,144 vehicles per day. The lowest volumes of traffic can be found on Caribbean Boulevard between SW 87th Ave. and SW 184th St., SW 232nd St. between SW 97th Ave. and SW 87th Ave, and Gulfstream Road between Caribbean Boulevard and Franjo Road – these roads primarily run through low density residential areas. The highest volumes can be found on the Florida Turnpike (SR-821) between SW 216th St. and Quail Roost Drive and on US-1 between SW 211th St., and SW 184th St.

Cutler Bay is an automobile dominated area. Additional research shows that nearly 92% of Cutler Bay workers commute by car, with the preponderance of these commuters in single occupancy vehicles. Twelve percent utilize carpools. While national statistics show that there are about 1.8 vehicles per household, this is below the

national average. Cutler Bay drivers travel about 19,000 vehicle miles per year, again lower than the national average, but higher than the county average of about 17,000 vehicle miles per household.

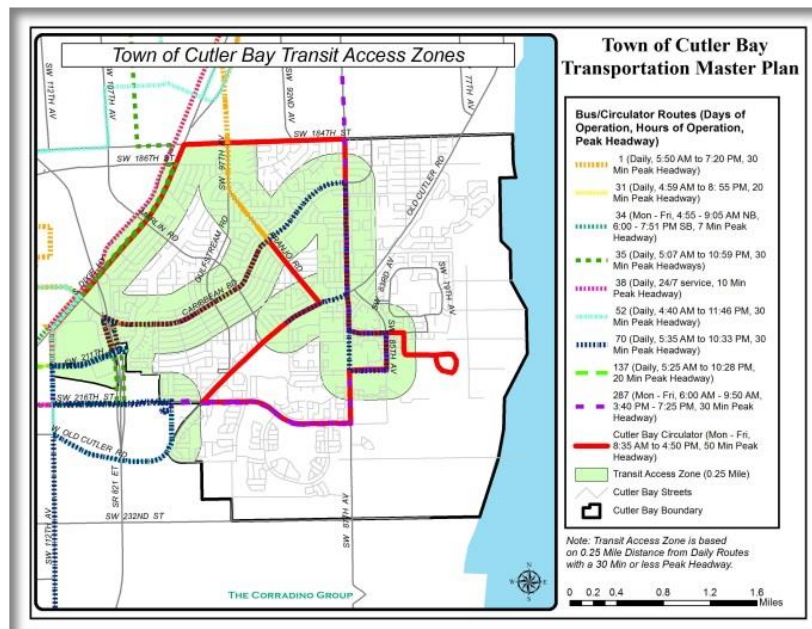
Aside from cars, transit utilizes the roadway network, though not to a great extent. Despite Miami-Dade Transit being one of the largest departments of Miami-Dade County government, it has been unable in recent times to secure enough financing to realize the optimal desired countywide operation and frequency. Perennially operating at a deficit, MDT receives funding from the People's Transportation Plan, a plan enacted in 2002 in the countywide election. This department operates the Metrobus system, Metrorail, Metromover, Special Transit Service and the Busway.

Uniquely situated within the Town of Cutler Bay are three regionally significant private and public structures, all of which serve as a catalyst for regional development and vital transportation links. The Southland Mall, South-Dade Government Center, and South-Dade Performing Arts Complex comprise the dense nucleus or regional activity that requires adequate public transportation connectivity in order to minimize regional traffic. The Town of Cutler Bay benefits greatly from these regional centers, bringing ten bus routes into the area.

Ten regional bus routes link Cutler Bay with points north and south along the busway as well as with west Kendall

and Doral. Transit is not solely restricted to the commercial/institutional hubs; three separate bus routes bisect much of the town, providing extensive coverage and continuity throughout the residential areas. The Town also operates its own circulator through the community. MDT Routes have headways ranging from between 7 and 35 minutes, while the Cutler Bay Circulator has 50-minute headway. The bulk of the ridership occurs on three primary routes: Rte. 38 (7,866 avg. weekday riders); Rte. 35 (3,166 avg. weekday riders); and Rte. 137 (2,275 avg. weekday riders).

Figure 2.1: Town of Cutler Bay Transit Access Zones



Bus Route Data Source: Miami-Dade GIS, Miami Dade Transit

Bus route 38 services the full 19.7-mile busway from the Dadeland South Metrorail station to Florida City. This route provides 24-hour service along the busway and operates at peak 10-12 minute headways. Route 38 takes approximately 80 minutes to complete half of the full route length. Friday, Saturday, and Sunday schedules are similar, with peak 13-minute headways and overnight operation. Bus route 137 connects the Town of Cutler Bay neighborhoods with the communities in western Miami-Dade County. The route begins weekday southbound service at 5:35 AM and runs until 8:10 PM. Route 137 takes approximately 90 minutes to complete half of the full route length. Bus route 35 operates parallel to the Miami-Dade Busway servicing mainly the neighborhoods located Southeast of US-1 (south of 186th street) and west of US-1 into the Kendall region. The route utilizes a .17 mile segment of the busway between SW 186th and SW 184th streets. Route 200, also known as the Cutler Bay Circulator, is operated by MDT per an inter-local agreement. This route originally ran clockwise internally in a circular loop within Cutler Bay on Mondays, Wednesdays, and Fridays from 8:35 AM to 4:50 PM. The route operates at peak headway of 50 minutes, and takes approximately 42 minutes to complete the full length of the journey. The route's service has been recently expanded to start proving service Monday through Fridays. It now carries 1,900 passengers per month, up from 50 when it initiated. There are 90 bus stops in Cutler Bay, with 5 stops on the busway. Cutler Bay is well covered with



Task 2: Data Collection & Analysis

about half of the areas meeting this standard. Areas of most adequate coverage are within ¼ mile of the Busway, Caribbean Boulevard, 87th Avenue, parts of Old Cutler Road and the Urban Center District.

From a bicycle and pedestrian standpoint each street has been evaluated. There is a high presence of sidewalks and areas for bike facilities. Generally, pavement conditions are adequate, but obstructions and incomplete paths do exist in many cases. Of the +-50 links measured on the Cutler Bay system, about 88% have a level of service of C or D, with only about 12% having a level of service of E or F. Because bicycle and pedestrian level of service is based on the quality of service not the quantity of service, communities should strive for LOS A. No links in Cutler Bay are better than 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, and poor paving conditions and debris on the path itself. Cutler Bay's existing greenways are limited to the US-1/Busway, Old Cutler Road, and SW 87th Avenue corridors. Comparatively speaking, Cutler Bay's existing facilities are well connected and provide access to various local and regional activity centers.

There are several indicators of a well-rounded mobility system and a healthy community. These include Mode Split, Vehicles Per Household, Vehicle Miles Traveled, Travel Time to Work and a balance of sites being used as an Origin and a Destination. This is the economic aspect of transportation, pointing to the true nexus of transportation and land use, and how many transportation and land use problems can be solved through the implementation of economic policy.

Cutler Bay is both suburban and urban, unlike all but a few cities in Miami-Dade County. In fact, it is more of a microcosm of a major city, because it encompasses a wide variety of intensities, transportation options and reactions to those options. The burden on the citizens of Cutler Bay simply to move or get to work is growing significantly. The rise in gas prices over the decade, from \$1.29 in January 2000 to \$3.63 in 2012, combined with periodic spikes, has impacted the community. Many municipalities have reported needs to increase public transit, with some studies indicating permanent increases in ridership existing past the spikes in gasoline prices. Yet at this same time we have seen local transit service decreases. Due to the increased household costs of gasoline, combined with generally poor economic conditions resulting from the recession, use of lower cost alternative modes of transportation, including walking, bicycling, and public transit, has surged nationwide. Nationally, vehicle-miles traveled have decreased as drivers work to curb the rising

expenses associated with automobile use. That is why it is imperative to build a viable and connected multimodal system beginning with places to bike and walk. People need options. It is estimated that monthly household transportation costs in Cutler Bay have increased over 24% to about \$1,148 since 2008. These costs are high because generally we live a long way from where we work. The average travel time to work in the Town of Cutler Bay is 35.3 minutes, which has increased from the last Transportation Master Plan adopted by the Town, when average travel time to work was 33.35 minutes. This travel time is higher than the US average of 25.7 minutes, Florida's average of 26.2 minutes, and Miami-Dade County's average of 29.5 minutes. This results from a large increase in population and no corresponding increase in local jobs. Of all the trips that originate in Cutler Bay, only about 35% remain in South Dade. Most (30%) are headed to the west central part of the county (Doral), while the remainder head towards Downtown and Miami Beach and the northwestern area of the county. Of all the trips in the county that end in Cutler Bay, 80% of them originate in South Dade, meaning that we need to get out of South Dade to work while people from other parts of the county are not coming here to work, or shop, or recreate. Approximately 3% of the population of the workers of Cutler Bay live in Cutler Bay, with more than 66% of Cutler Bay's workers commuting out of the Town to go to work. Evaluation of the housing to jobs ratio within the Town, therefore, will be integral to

understanding future traffic patterns and mitigation techniques, and opens up the possibility of solutions related less to the capital improvement infrastructure and related more towards less expensive options, such as local and regional economic development. Strategic economic development policies and initiatives designed at attracting industries to the available areas within the Town and South Dade would have a dramatic impact on traffic, with little investment in transportation infrastructure.

2.1 POLICIES / PREVIOUS AND ONGOING STUDIES AND WORK PROGRAMS

Significant policies have been reviewed and reported on, including the Growth Management Act, the Miami Dade County Comprehensive Development Master Plan, the Cutler Bay Growth Management Plan, the Urban Development Boundary, Old Cutler Road, the US-1 Corridor and Busway as well as the Home Rule Charter. Additionally, multiple studies and work programs have been reviewed for how they may impact the community, including the MPO's Unified Planning Work Program, Long Range Transportation Plan, and Transportation Improvement Program for the various agencies. Other relevant studies that were examined include the Cutler Bay Bicycle and Pedestrian Plan, the Palmetto Bay Transportation Master Plan, the MPO's Arterial Grid Analysis, and the MDX Busway Managed Lanes Study.



2.1.1 Significant Policy Documents and Policy

There are several policy documents that guide development, transportation and growth management locally, regionally and state-wide. Cutler Bay is in charge of setting its own goals, objectives and policies in its Growth Management Plan which must ultimately fit within the parameters of both Miami-Dade County and the State of Florida policies which have been developed over time. This chapter is a discussion of the guiding policy documents and existing policies such as the Urban Development Boundary, Old Cutler Road, the US-1/Busway Corridor and Concurrency, which the Town needs to work within to achieve its goals.

Florida's Growth Management Act

Florida's Growth Management Act, enacted by the 1985 legislature, requires the state's 67 counties and approximately 400 municipalities to adopt Local Government Comprehensive Plans that guide future growth and development. A critical aspect of the Act is its concurrency provision requiring facilities and services to be available and concurrent with the impacts of development. This legislation guides Cutler Bay in its development of Growth Management Plan and implementation of its policies.

Miami-Dade County Comprehensive Development Master Plan (CDMP)

Miami-Dade County has adopted in the Transportation Element and the Capital Improvement Elements minimum acceptable peak-period LOS for all state and county roads within the Urban Development Boundary but outside the Urban Infill Area, in communities such as Cutler Bay, as follows:

- a. Roadways shall operate at no worse than LOS D (90 percent of their capacity) except that State Urban Minor Arterials (SUMAs) may operate at LOS E (100 percent of their capacity);
- b. Where public mass transit service exists having headways of 20 minutes or less within ½-mile distance, roadways shall operate at or above LOS E;
- c. Where extraordinary transit service such as commuter rail or express bus service exists parallel roadways within ½ mile shall operate at no greater than 120 percent of roadway capacity.

Even though the CDMP has peak period provisions for facilities located within the Urban Development Boundary area, the CDMP does make provisions to comply with section 163.3180 F.S. which are the standards for SIS, FIHS and Trip-Funded facilities:

- a. Limited access State highways shall operate at LOS D or better, except where exclusive through lanes exist, roadways may operate at LOS E.
- b. Controlled access State highways shall operate at LOS D or better, except where such roadways are parallel to exclusive transit facilities or are located inside designated transportation concurrency management areas (TCMA's), roadways may operate at LOS E.
- c. Constrained or backlogged limited and controlled access State highways operating below the foregoing minimums must be managed to not cause significant deterioration.

Additionally, the CDMP in its Capital Improvement Element has incorporated minimum peak-hour, mass transit level of service within the Urban Development Boundary of the Land Use Plan map. Provisions for mass transit service will be required where a combined resident and work force population reach 10,000 persons per square mile or more. This requires public transit service having 30-minute headway and an average route spacing of one mile provided that:

- The average combined population and employment density along the corridor between the existing transit network and area of expansion exceeds 4,000 per square mile. The corridor is 0.5

miles on either side of any necessary new routes or route-extensions to the area of expansion.

- It is estimated that there is sufficient demand to warrant service.
- The service is economically feasible.
- The expansion of transit service into new areas is not provided at a detriment to existing or planned services in higher density areas with greater need.

These caveats provide ample latitude in the actual implementation of suggested service.

Cutler Bay Growth Management Plan

The Cutler Bay Growth Management Plan is an official long-range policy statement adopted on April 28, 2008 by a formal resolution in the Town Council. The Growth Management Plan guides the long-range, comprehensive decision-making process generally concerning physical development. The plan also directs the Town's actions intended to influence development over the long-term and contains goals, objectives, policies, and guidelines for growth and redevelopment for the Town. Cutler Bay's Growth Management Plan contains 10 "elements" that address future land use, housing, infrastructure, coastal management, conservation, intergovernmental coordination, capital improvements, transportation, recreation and open space, and educational facilities. Elements primarily affecting transportation are the Land



Task 2: Data Collection & Analysis

Use Element, Transportation Element, and the Capital Improvements Element.

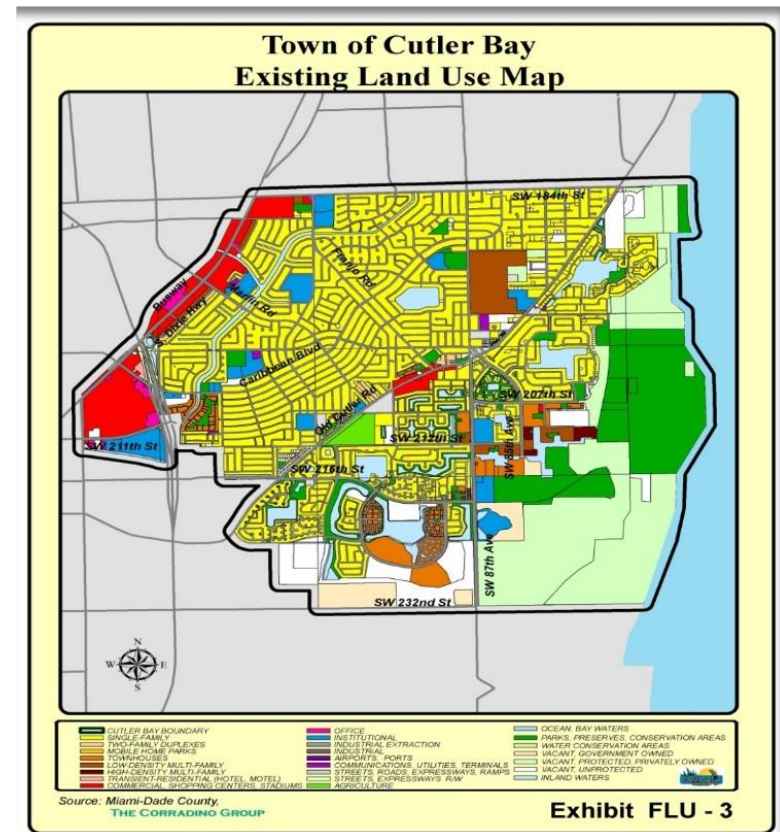
Cutler Bay Land Use Element

The Future Land Use Element represents the Town of Cutler Bay's vision for its development and redevelopment, with a 5 year span for short term planning and the year 2020 for long term planning purposes. The element provides detailed analyses of the existing land use in Cutler Bay which was substantially built at the time of its incorporation in 2005. The element concludes that single-family residential development is the predominant land use within the town. Commercial development is concentrated along US-1 and Old Cutler Road. Future Land Use in Cutler Bay is planned to accommodate a projected 60,000 residents by 2020.

Given the near "built-out" nature of Cutler Bay, the philosophy of the Future Land Use Element and the Town's planning program are preservation and enhancement of existing residential neighborhoods, resource protection and enhancement, and redevelopment of commercial areas as mixed-use activity centers in accordance with adopted charrettes and special area plans. In order to accommodate future growth, the land use element places emphasis on the establishment of the Cutler Ridge "Town Center" and other mixed-use districts located along the existing arterials of Old Cutler Road and US-1 South Dixie Highway. This urban center is to be design-

unified and mixed-use in nature, has been classified by the county as a Metropolitan Urban Center, and is a critical aspect of Cutler Bay's future population growth and regional influence.

Figure 2.2: Town of Cutler Bay Existing Land Use Map



Typical urban centers are typically high-density, mixed-use developments served by transit and are usually found at important transportation nodes. The high residential capacity in the Urban Center influences the population projection for the Town.

Transportation Element

Cutler Bay wishes to provide development that is supportive of high occupancy transit, as is warranted by its location along the transit corridor, while maintaining the character and function of its single-family residential areas. The Town seeks to provide incentives for Transit Oriented Development, while providing the transportation infrastructure to serve it.

The Transportation Element maintains two overarching goals: to provide for the Citizens of Cutler Bay a Safe, Convenient, Accessible and Efficient Transportation System, and to develop this system in a financially feasible manner. These goals are then divided into twelve objective areas with accompanying specific policies: Level of Service Standards, Alternative Modes of Transportation, Safe and Convenient Pedestrian and Bicycle Networks, A Transportation System Coordinated with Land Use, Transportation Plans Coordinated with Other Jurisdictions, A Transportation System to Enhance and Preserve Neighborhoods, Concurrency and Growth Management, Transportation that Serves the Regional Needs as well as Local Interests, Hurricane & Disaster Preparedness, Elderly and Transit Dependent

Transportation Services, Capital Improvement Program, and Financing. The last two serve as the financial policies and courses of action which mandate prioritization of projects and allow for fair-share payments, such as impact fees and donations of Rights-of-Way by new developments and re-developments.

Table 2.1 below, from the Growth Management Plan, details the Level of Service Standards policy adopted by the Town of Cutler Bay in its Transportation Element.

Table 2.1: T-1 Town of Cutler Bay Adopted LOS

Table T-1 Adopted Peak Hour Level of Service Standards				
NON-FIHS, <u>SIS NOR TRIP-FUNDED FACILITIES MINIMUM LEVELS OF SERVICE</u> <u>WITHIN THE TOWN OF CUTLER BAY</u>				
Location	Facility - Town, County and State Roadways	Transit Availability		
		No Transit Availabil- ity	20 Min. Headway Transit Service Within 1/2 Mile	Extraordinary Transit (Commuter Rail or Express Bus)
Outside Miami- Dade Urban Infill Area	Principal Arterials	LOS D	LOS E (100% of Capacity)	(120% of Capacity)
	Minor Arterials	LOS D	LOS E (100% of Capacity)	(120% of Capacity)
	Collectors	LOS D	LOS E (100% of Capacity)	(120% of Capacity)
	Local Roads	LOS D	LOS E (100% of Capacity)	(120% of Capacity)
<u>STATEWIDE MINIMUM LEVEL OF SERVICE STANDARDS FOR THE STATE HIGHWAY SYSTEM, ROADWAYS ON THE STRATEGIC INTERMODAL SYSTEM (SIS), ROADWAYS ON THE FLORIDA INTRASTATE HIGHWAY SYSTEM (FIHS) AND ROADWAY FACILITIES FUNDED IN ACCORDANCE WITH SECTION 339.2819, FLORIDA STATUTES, THE TRANSPORTATION REGIONAL INCENTIVE PROGRAM (TRIP) WITHIN CUTLER BAY (1)</u>				
<u>SIS and FIHS Facilities</u>	Location			
	Inside Cutler Bay	Roadway Parallel to Exclusive Transit Facilities	Constrained or Backlogged Roadways (3)	
Limited Access Facilities	LOS D (E)	LOS E	Manage	
Controlled Access Facilities	LOS D	LOS E	Manage	
<u>TRIP-funded Facilities and other State Roads (2)</u>	<u>Location</u>			
<u>Other Multilane (2)</u>	<u>LOS D</u>	<u>LOS E</u>	<u>Manage</u>	
<u>Two-Lane (2)</u>	<u>LOS D</u>	<u>LOS E</u>	<u>Manage</u>	

Source: Town of Cutler Bay Growth Management Plan



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Capital Improvements Element

The Cutler Bay Comprehensive Plan's Capital Improvement Element provides for the policies regarding the development of facilities necessary for the achievement of good Level of Service and as well as fiscal and project prioritization guidelines to ensure the development and/or rehabilitation of infrastructure necessary for concurrency management as Cutler Bay grows. It also directs Cutler Bay to coordinate its capital improvements with Miami-Dade County and the Town of Palmetto Bay. Large-scale projects totaling \$10,000 or more will be included in the town's Schedule of Capital Improvements, which, per Florida State Law, will be updated annually as Appendix B of the Town of Cutler Bay's Growth Management Plan.

Florida Statutes s. 163.3177(2) requires the Town to demonstrate that projects listed during the first three years of the 5-Year Schedule of Capital Improvements (SCI) have committed funding sources, while the remaining two years may include both committed and planned funding sources. This Schedule of Capital Improvements, which is provided for in the Capital Improvements Element, provide the means by which Cutler Bay can implement projects based on timing, location, cost projections, and associated revenue sources.

Urban Development Boundary

The Urban Development Boundary is included on the county's Future Land Use Map to distinguish the area where urban development may occur from areas where it should not occur. Development orders permitting urban development will generally be approved within the UDB provided that Level-of-Service standards for necessary public facilities will be met.

The Urban Expansion Area is that area located between the existing UDB and the 2015 Boundary. It is the area where current projections indicate that further urban development beyond the existing UDB is likely to be warranted sometime between now and 2015.

First implied through the Land Use Plan map and policies in 1975 (as seen in **Figure 2.3**), the Urban Development Boundary was first denoted by an explicit line on the Land Use Map in 1983.

It has several key focuses:

- Urban land use and service policies referred to the delineated line;
- The best "Agriculture" land was distinguished from less suitable "Open Land" on the map; and
- Stronger agricultural land use preferences policies were added for the area delineated as "Agriculture."

Figure 2.3: 1975 Boundary

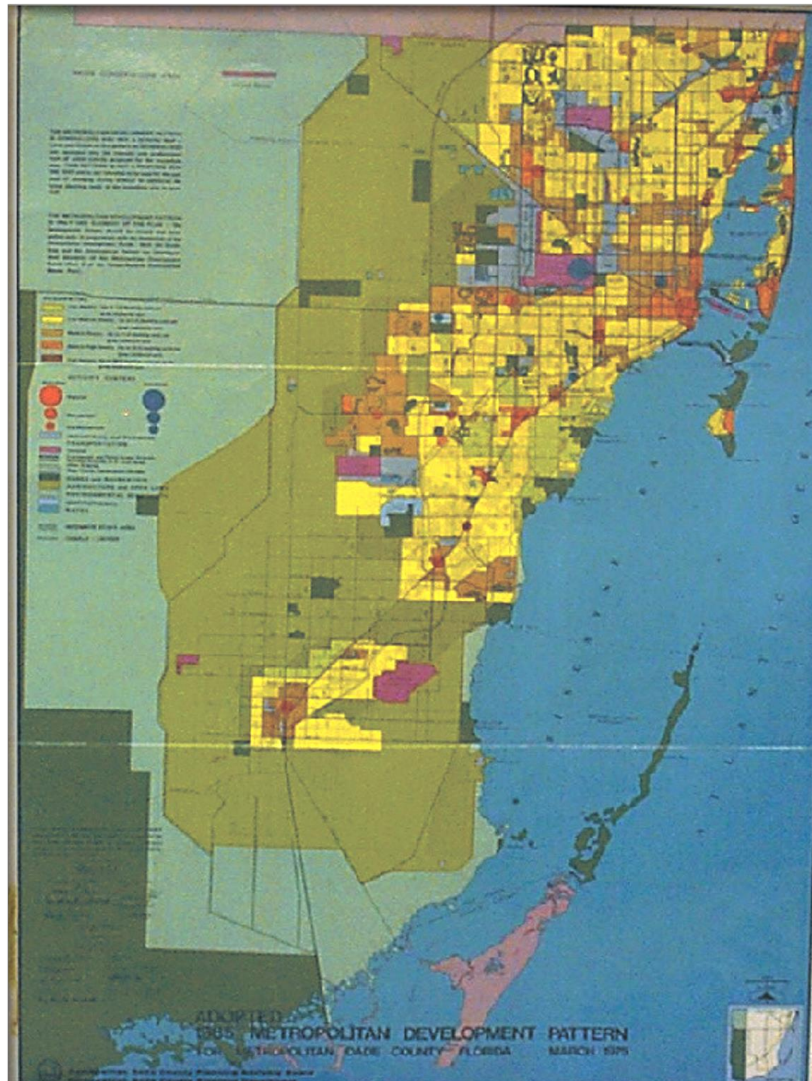


Figure 2.4: 1983 Boundary

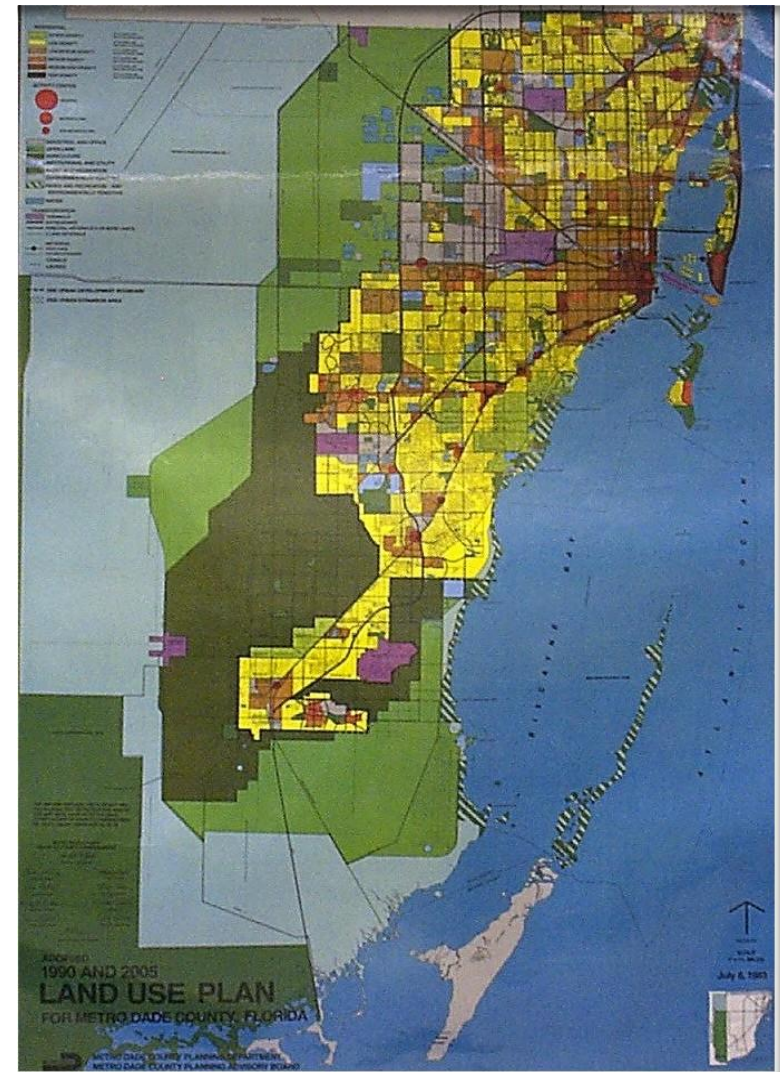
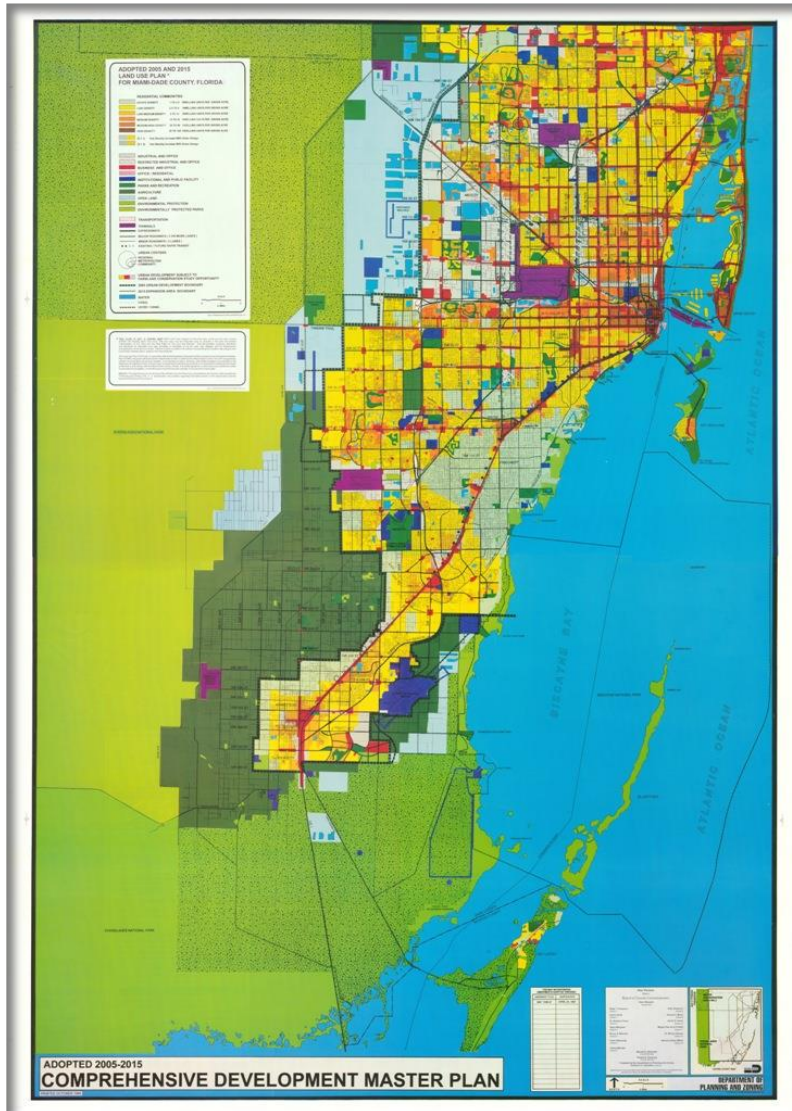


Figure 2.5: Current Boundary



Since 1975, the county has opted for contained, contiguous development rather than scattered, leap-frog development, as can be seen over time in **Figures 2.3** and **2.4**. It strives for efficient delivery of public services and infrastructure and doing so means less land is needed for urban development. As a result, the more environmentally sensitive land and agriculture will be protected from urban encroachment. This policy of containment promotes infill/redevelopment. The UDB has a slow expansion rate – as of December 2012, it had only increased from 364 mi² to 420 mi² since 1975, with only 2,400 acres added since 1991. Currently, only approximately 6% of the land within the boundary is undeveloped, and is too small to accommodate the expected population growth in Miami-Dade County of 700,000 persons by 2030. This slow growth of the boundary, coupled with the fast projected population growth, indicates a targeted policy of infill development and increase in density which will, in turn, affect density and land use, and may require additional investments in regional and local transportation systems to accommodate this growth.

Initially, applications for amendment were allowed annually for free. Later, they were allowed biennially and a fee requirement was established. A super majority, 9 of 13 commission votes, is required to amend the UDB. Since 1991, UDB/UEA amendment applications are accepted once every 2 years (every odd numbered year in the spring).

UDB Policies

The Residential Capacity Policy says that 15 years projected growth beyond EAR adoption should be maintained. The Expansion Location Policy says that the boundary should be moved only when additional supply is needed. The shortcoming of the policy is that it is reactive to what is coming and not proactive in determining the amount of housing desired.

The following areas shall not be considered for expansion:

- a. The Northwest Wellfield Protection Area;
- b. Water Conservation Areas, Biscayne Aquifer Recharge Areas; and Everglades Buffer Areas designated by the SFWMD;
- c. The Redland area.

The following areas shall be avoided:

- a. Delineated Future Wetlands;
- b. Land designated Agriculture;
- c. Category 1 Hurricane Evacuation Areas

The following areas shall be given priority:

- a. Tiers having the earliest projected supply depletion year;
- b. Land contiguous to the UDB;

- c. Locations within one mile of a Planned Urban Center or Extraordinary Transit Service corridor.
- d. Locations having projected surplus service capacity where necessary facilities and services can be readily extended.

Since the implementation of the UDB in 1975, the county feels that development has been more contained on a gross basis with little or no more scattershot/leapfrog development. The area-wide average Net Density is similar at + 8 du/ac. Densities have increased in eastern areas and slightly decreased in western areas.

Old Cutler Road

In 1974 Old Cutler Road was designated as an historic road by Senate Bill No. 340. This bill prohibited the use of state funds for certain physical changes on or near the road. Required was the review of the division of archives, history and records management for the approval of other specific changes. It limited the erection of signs, and planned on the erection of markers and to obtain historic easements in property along the road.

The road has a long history. It was initially constructed in 1883 by William Fuzzard, the founder of the Town of Cutler. Fuzzard cut a path from his home through the wilderness four and one-half miles northeast along Biscayne Bay to Coconut Grove. This was the first overland route between the two cities. Cutler was



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located south of 88th Street in present day Coral Gables. The road was generally built on the costal ridge and was less prone to flooding.

Notable sections of the legislation include:

Section 2, which states that no state funds shall be expended by any public body or agency to:

1. Cut or remove any tree with a diameter of 6", within 35' of the edge of pavement.
2. The physical dimensions or location of the road cannot be altered except for the addition of primary or secondary roads intersecting with it.
3. Nothing could be built or demolished or significantly altered within 100' of the edge of pavement except for when adding bike paths and recreational facilities, or facilities that further preserve or enhance the historic or scenic value of the road. Nothing in the statue prevents the ordinary maintenance of the road; however, the preservation of the road is to take priority over the considerations of traffic management and the public safety is to not be construed as to require alternation in the road when alternative means of promoting safety were available.

Section 3, which states that no signs were to be erected within 300 feet of either side of the edge of pavement except for roads signs, signs not visible from the road,

historic markers, signs that do not exceed six square feet and signs advertising business selling products adjacent to the road.

US-1/Busway Corridor

A conscious decision was made to add capacity to the US-1 corridor from I-95 to Homestead by way of alternative mode, as opposed to physical roadway capacity. Traditional policy on capacity would have been to purchase the railroad right-of-way and add travel lanes, ultimately resulting in extending I-95 from Miami to Homestead on the right-of-way that Metrorail and the Busway now occupy. Instead, Metrorail was implemented from Miami to Dadeland at about SW 98th Street near Pinecrest in 1983. Future legs were to include the area from Pinecrest to Homestead.

In the early 1980s Federal policy changed and funding for such projects became infinitely harder to attain. In President Ronald Regan's speech at the opening of the Metrorail, he essentially said that it would have been "cheaper to purchase every rider a Cadillac" instead of constructing the Metrorail. Hence fewer dollars were given towards such projects, and more stringent requirements for attaining those dollars have been put in place. Under the new rules it became impractical to construct Metrorail on the corridor. The alternative became the Busway.

Using the FEC right of way, Miami-Dade County in partnership with the US Government built the Busway in two legs, which opened in 1997 and 2007. Few places in post WWII America are the beneficiary of such a project. This long-standing policy decision to build capacity as transit and not vehicular lanes is nearly impossible to reverse, extremely unique and something that the community must deal with in South Dade as it moves forward.

Recent work analyzing the South Dade Corridor has suggested that not enough density exists to make a Metrorail system competitive or cost effective. The County has approved the plan to enhance the Bus Rapid Transit capacities of the corridor, with park and ride lots, and bus priority, either by signaling or grade separated intersections, until ridership warrants a rail system. Any future conversion of the corridor may involve policy decisions based on density, available funds, and alternative options for development, such as light-rail transit.

Concurrency

Growth Management or Concurrency has been in place in the State of Florida since the 1980s. Concurrency basically states that infrastructure supporting development must be in place within 3 years from issuance of a building permit. Concurrency measures all categories specified in the Growth Management Plan, but most specifically to this report it measures transportation Level of Service. It does so by

evaluating Level of Service, and is determined by how many trips remain on the transportation facility after a specific development is implemented. The developers are given the opportunity to mitigate impact by paying their proportionate fair share.

State law enables concurrency to be measured in three ways. Basic concurrency measures individual roadways or segments of them. This is usually done in newer communities. As communities age, the Transportation Concurrency Management Area concept is used. This enables measurement of concurrency on an area-wide basis, assuming that traffic uses a variety of paths to link common origins and destinations. In doing so it provides credits for the implementation of transit. Finally, there is the Transportation Concurrency Exception Area concept. This is for more mature communities who have built nearly all the alternative mode capacities that they can. Here concurrency is simply tracked.

In Miami-Dade County, an Urban Infill Area has been initiated to focus redevelopment on an urban core to combat the continuing sprawl of low density single family development far from existing utilities. The Urban Infill Area in Miami-Dade County is defined as that part of the county located east of, and including, SR 826 (Palmetto Expressway) and NW/SW 77th Avenue, excluding the area north of SR 826 and west of I-95. Cutler Bay is outside of the Urban Infill Boundary and is subject to more restrictive concurrency requirements of LOS D.



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To understand how concurrency operates requires the examination of three important jurisdictions. The state regulations, coordinated with the Miami-Dade County's Comprehensive Plan and the Town of Cutler Bay Growth Management Plan, make up these components.

Miami-Dade County has 128,000 square miles designated as a Transportation Concurrency Exception Area (TCEA), for urban infill development, urban redevelopment and public transit. This area was designated in 1994 pursuant to Amendment 94-2 of the Miami-Dade County Comprehensive Development Master Plan (CDMP).

Other local governments may grant exceptions from concurrency requirements for transportation facilities but only if specifically applied for. The local government shall adopt strategies into the plan-implementation that support and fund mobility within the designated exception area, including alternative modes of transportation.

Home Rule Charter

Miami-Dade County is unique. Since its formation in 1957, the county has had a two-tier system of government. Under this system, Miami-Dade County comprises a large unincorporated area and 34 incorporated areas or municipalities. Each municipality has its own government and provides such city-type services as police, zoning protection and, in some cases, fire service.

State voters amended the State of Florida's Constitution in 1956 to allow for a Home Rule Charter. Dade County was granted the power to create commission districts, pass ordinances, create penalties, levy and collect taxes to support a centralized metropolitan form of government. The Board of County Commissioners (BCC) may create municipalities, special taxing districts and other boards or authorities as needed. The Home Rule Charter for Miami-Dade County was adopted at referendum on May 21, 1957. The charter's main provision relative to transportation is that the county maintains control of all engineering, construction and maintenance of its roads, bridges and canals, along with all traffic signals and signs supporting them regardless of municipal jurisdiction.

The Home Rule Charter is a two-tiered process of government. It was progressive in the 1950s when developed, but many feel that the system has failed over the past two decades, as evidenced by the recent round of incorporations leading to 34 cities in the geographic area of the county. Many of the incorporating cities have done so because of a poor Level of Service provided by the County. The manner in which it has been organized is that the cities are the "lower tier" of local government, often providing police and sometimes fire protection, all zoning and code enforcement, and other typical city services within their jurisdiction. These services are paid for by municipal taxes. The county is the "upper tier," provides services of a metropolitan nature, such as emergency

management, airport and seaport operations, public housing and health care services, transportation, environmental services, solid waste disposal, etc. These are funded by county taxes, which are assessed on all incorporated and unincorporated areas.

Of the county's 2.6 million total residents, the majority now live in incorporated areas. The remainder is part of the Unincorporated Municipal Services Area (UMSA). For these residents, the county fills the role of both lower- and upper-tier government, with the County Commission acting as their lower-tier municipal representative body. Residents within UMSA pay an UMSA tax, equivalent to a city tax, which is used to provide County residents with equivalent city services (police, fire, zoning, water and sewer, etc.). Residents of incorporated areas do not pay UMSA taxes. Due to this charter, many services that are local by nature in incorporated areas are instead under the control of the county. Many in the community desire that all county land be incorporated either by the formation of new cities or annexation by existing cities. Local zoning and code enforcement, police, and often fire services, can be given to the municipalities and regional responsibilities to the county.

Official Transportation Implementation Documents

Implementation of major transportation projects follows a structured process. This takes a project through the initial concept, planning, design, and construction phases. First,

a project is started with an idea; this may come from a citizen, elected official or a member of one of the transportation agencies. It may be initially examined through the MPO's Unified Planning Work Program. If the idea has no fatal flaws and it is deemed to be worthwhile, it may move to the FDOT Planning work program, where it goes through a Project Development and Environmental Study (PD&E). The process was developed to ensure that the design of transportation projects appropriately reflects and incorporates the unique engineering and community characteristics of the area. FDOT created the process to ensure that projects receiving Federal aid follow the policies and procedures outlined in the National Environmental Policy Act. If a locally preferred alternative can be selected, the project can move to the MPO's Long Range Transportation Plan, where it is prioritized somewhere in a 25-year time horizon. As implementation gets closer the project moves to the Transportation Improvement Program (TIP), which acts as a 5-year transportation capital improvement program. Here, funds are allocated to the project to ensure that the project's design is completed and that it is constructed. This process is for projects that use federal dollars in their implementation. Purely local improvements can come from the County Capital Improvement Program or a Municipalities Capital Improvement Program stemming from the Peoples Transportation Plan. This chapter explains what each plan does.



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Unified Planning Work Program (UPWP)

The Unified Planning Work Program is an annual program of studies implemented by the Metropolitan Planning Organization, (MPO) mainly through their General Planning Consultant Contract. The Unified Planning Work Program (UPWP) defines transportation planning activities for Miami-Dade County that are to be completed during the year. The projects in the UPWP stem from the policies found in the Miami-Dade Long Range Transportation Plan (LRTP) and the Miami-Dade Comprehensive Development Master Plan. It is also consistent with local plans adopted by all municipalities. Projects in the UPWP totaled \$12,151,106 for the Fiscal period of July 1, 2012 to June 30, 2014. The UPWP is guided by policies supported by the State of Florida and the MPO Governing Board. Development of the program requires the cooperation of regional agencies, the Florida Department of Transportation (FDOT), and guidance from Federal transportation agencies that support the program through grants. Formal technical guidance is provided. The selection process for new studies to be included in the UPWP consists of several steps. Each year, ideas are solicited from the general public and industry professionals through the MPO website and the distribution of a Call for Ideas Brochure. The UPWP Development Committee, appointed by the TPC, evaluates proposals and makes recommendations based on established criteria. These recommendations are then presented to the pertinent committees for

endorsement and later to the MPO Governing Board for final approval.

Long-Range Transportation Plan (LRTP) 2035

The Long Range Transportation Plan (LRTP) was developed to guide transportation improvements in Miami-Dade County for the next 25 years. The 2035 Plan includes enhancements to roadways, transit, bicycle and pedestrian facilities, and greenways/trails. The LRTP intends to improve transportation systems and travel, promote economic vitality, enhance social benefits, encompass environmental affairs, integrate land use, transportation, growth, and development, while optimizing sound investment strategies. Some of the objectives and goals of the LRTP include improving countywide accessibility, reducing congestion, and enhancing the mobility of all county residents.

For the purposes of transportation and planning analysis, Miami-Dade County has been subdivided into six general regions in the LRTP: Beach/CBD, Central, North, Northwest, South, and West as seen in **Figure 2.6**. The Town of Cutler Bay falls within the South division that also includes the City of Homestead, Florida City, Village of Palmetto Bay, and the Village of Pinecrest, in addition to neighborhoods such as Perrine, Goulds, and Naranja. The major transportation corridors outlined in the South are SR-821/Homestead Extension of Florida's Turnpike, South Dixie Highway (US-1), Killian Parkway, Old Cutler Road, and Krome Avenue.

Federal law requires that the LRTP address minimum of a 20-year planning horizon from the date of the MPO adoption. The most recent LRTP update in Miami-Dade County was adopted in November of 2009. This report can act as the Town's public involvement for the 2040 LRTP. The Town has attended the local workshops and provided input based on the Transportation Element of the Growth Management Plan.

Figure 2.6: Transportation Planning Areas

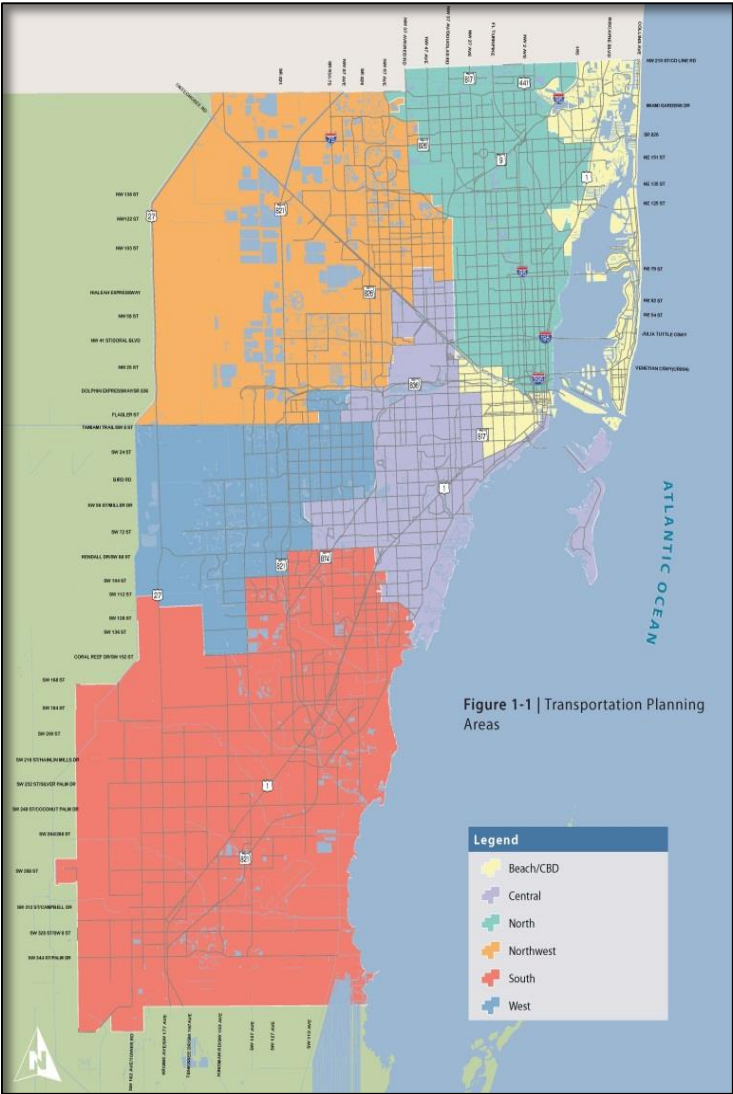


Figure 1-1 | Transportation Planning Areas



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Table 2.2 displays all of the projects that will affect the Town of Cutler Bay.

Table 2.2: Cuter Bay Projects

Agency	Project	From	To	Description	Town Limits
	Caribbean Boulevard Roadway Improvement Project (JPA)	Coral Sea Road	SW 87 th Avenue	Drainage Improvements, lighting installation, and roadway resurfacing	Y
Cutler Bay Public Works Department	Old Cutler Roadway Improvement Project	SW 87 th Avenue	SW 97 th Avenue	Traffic Circles (SW87 th Avenue and SW 97 th Avenue), drainage improvements, bike paths improvements, lighting installation, sidewalk installation, and roadway resurfacing	Y
	SW 216 th Street and SW 97 th Avenue Traffic Circle	SW 216 th Street & SW 97 th Avenue	SW 216 th Street & SW 97 th Avenue	Traffic Circle and Roadway Improvement	Y
FDOT	US-1 South Dixie Highway Repaving	s/o SW 112 th Street	n/o SW 184 th Street/Eureka Drive	Re-pavement of road	Y
Miami-Dade County	Caribbean Boulevard Bridge Improvement	C-1N Canal	C1-N Canal	Bridge over the C1-N canal – lengthening and widening of bridge, separation of pedestrian and vehicular traffic, increasing conveyance capacity of Canal	Y

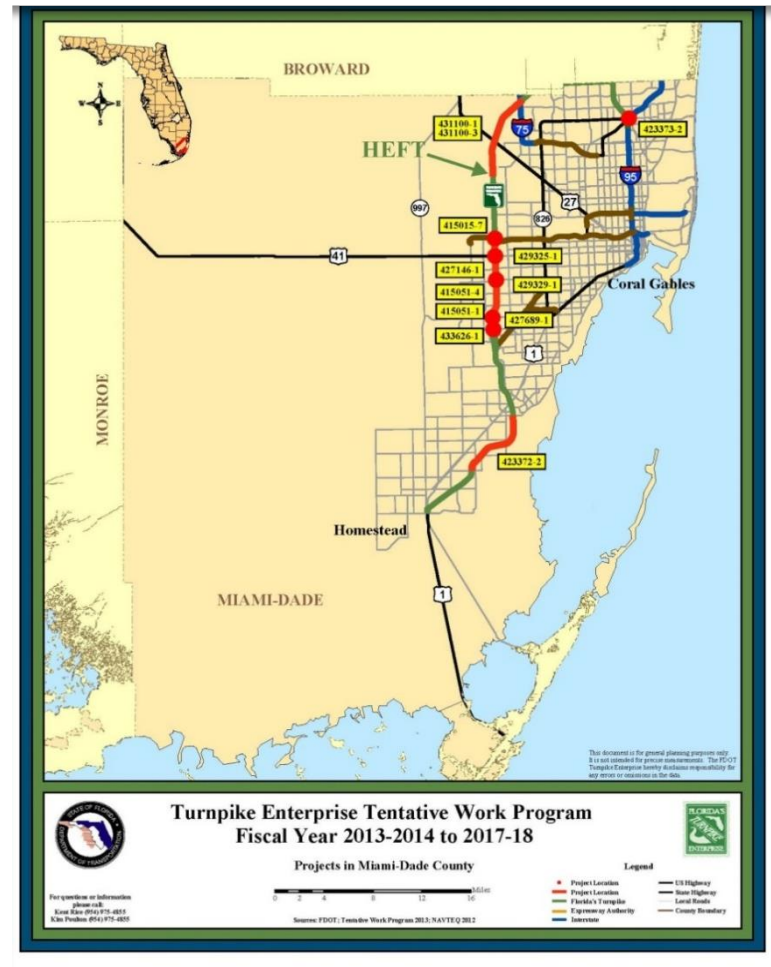
Miami-Dade County Transportation Improvement Program

The Transportation Improvement Program (TIP) serves as the five-year capital improvement program for transportation. It specifies proposed transportation improvements to be implemented in Miami-Dade County over the coming five years. The TIP is prepared every year to fulfill Federal statutory requirements, a condition to receive Federal funding for qualifying transportation projects. The TIP is a continuing planning process that results in plans and programs consistent with the comprehensive plan and development of the urbanized area. The priorities established by the TIP illustrate the policy decisions of the Metropolitan Planning Organization (MPO) as to the order in which transportation improvements will be advanced throughout the program period. Projects featured in the Miami-Dade Transportation Improvement Program that are situated within, or in the vicinity of the Town of Cutler Bay, are detailed below.

Turnpike Enterprise

The TIP calls for the widening of the Homestead Extension of Florida's Turnpike (HEFT) from four lanes to six lanes from SW 216th Street to SW 228th Street and eight to ten lanes from SW 228th Street to just North of Eureka Drive. There is also a pending Project Development and Environment (PD&E) study to widen the Homestead Extension from Campbell Drive (MP 2) to US-1 (MP 13).

Figure 2.7: Turnpike Enterprise Projects



(Source: 2014 Miami-Dade TIP)

The Miami-Dade Expressway Authority (MDX)

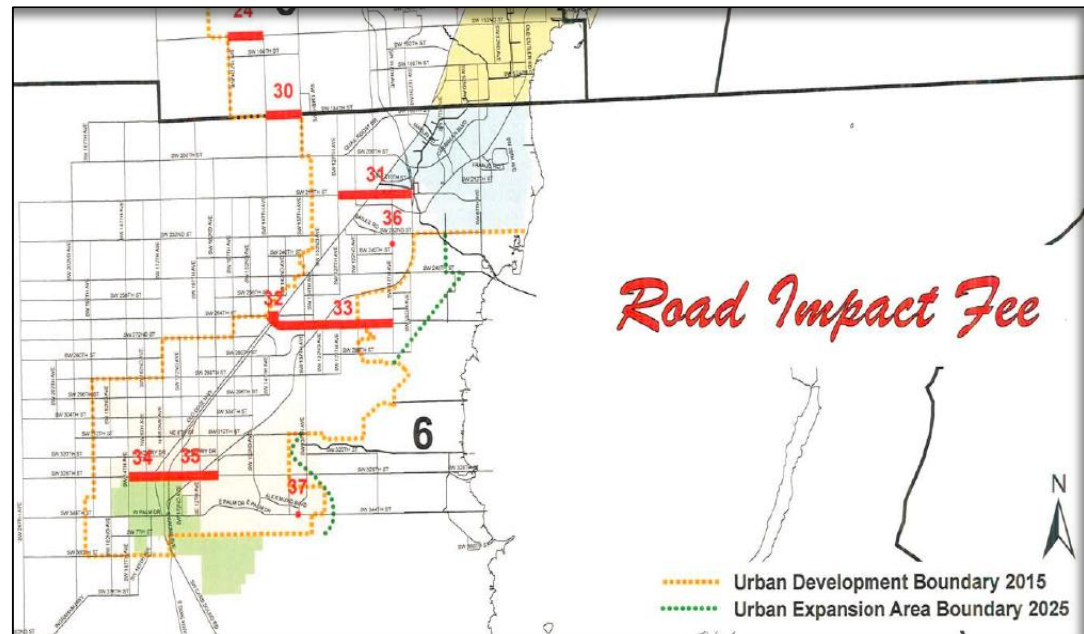
MDX is an agency of the state of Florida, created in 1994 pursuant to Chapter 348, Part I, Florida Statutes, for the purposes of and having the power to acquire, hold, construct, improve, maintain, operate, own and lease an expressway system located in Miami-Dade County. The Authority may also fix, alter, change, establish and collect tolls, rates, fees, rentals, and other charges for the services and facilities of such system and is further authorized to issue bonds.

Currently, Project 20003 – U.S. 1 Express Lanes (MPO Project Number XA20003) is budgeted for \$4,137,000 for FYs 2013-2015. This program provides for a PD&E Study to evaluate the feasibility of incorporating managed lanes within the South Miami-Dade Busway along U.S. 1. This project is part of the MDX Master Plan and the MPO Long Range Transportation Plan. The PD&E Study is anticipated to be completed in FY 2014 and includes the evaluation of a 20-mile segment from SW 344th Street to SW 88th Street.

Road Impact Fee

Transportation Improvements Projects whose income derives from the Miami-Dade County Road Impact Fee are included in the Transportation Improvement Program. The projects near the Town of Cutler Bay are illustrated below. As shown in the figure, none of the proposed road impact fee projects fall within the Town's boundaries.

Figure 2.8: Road Impact Fee Projects in Cutler Bay and Surrounding Areas



(Source: 2014 Miami-Dade TIP)

Local Gas Option Tax

A Florida Statute authorized the Capital Improvement Three Cent Local Option Gas Tax, in 1993 (reduced from 5 cents to 3 cents in 1996). In accordance with the state statute, proceeds of this tax have been programmed for transportation expenditures needed to meet the requirements of the capital improvement element of the adopted comprehensive plan.

The distribution to the municipalities for FY 2013-14 is based on a weighted formula that accounts for percentage of population (Statistics from the Bureau of Economic and Business Research, University of Florida) and the center line mileage of municipal roadway for each city (from the "2012 City/County Mileage Report" – Florida Department of Transportation).

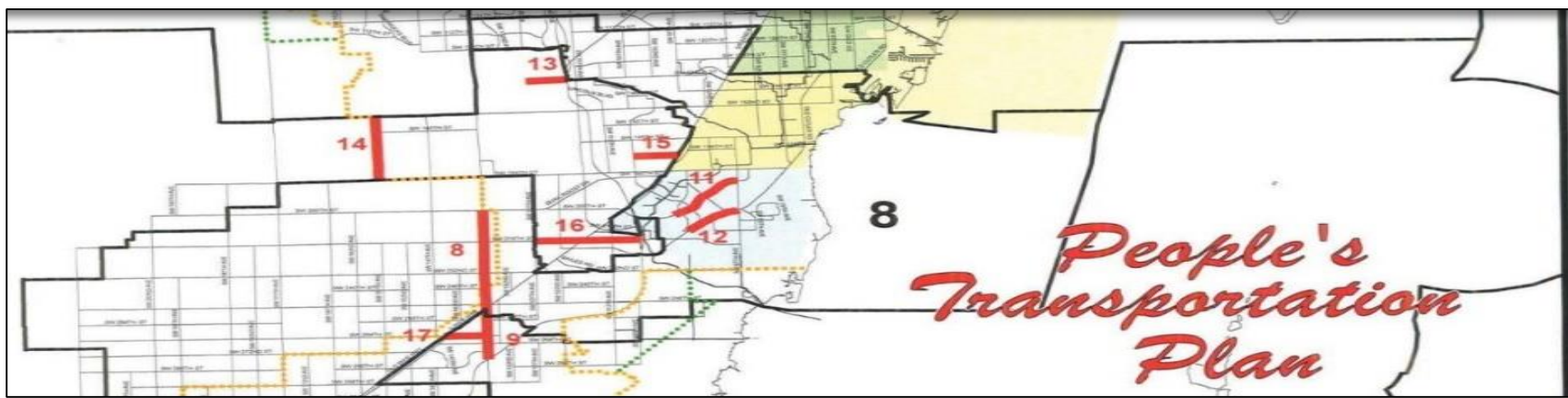
In FY 2013-14, the estimated net revenue for the local option gas tax, is projected as of March 1, 2013 at \$24.247 million at 95% with \$6.304 million to be distributed to the municipalities and \$17.943 million to the County. The Town of Cutler Bay is expected to receive 0.00755% of the total proceeds, or \$183,004.

People's Transportation Plan

On the November 5, 2002 ballot, voters approved the People's Transportation Plan (PTP), which provides for a half-percent sales surtax to fund major transportation improvements.

The Citizens' Independent Transportation Trust (CITT), a group of citizens who function as an independent decision-making body, was created to oversee the construction and management of the PTP's 25-year, \$17 billion transportation plan. The Public Works Department (PWD) has worked closely with the CITT to provide a wide

Figure 2.9: People's Transportation Plan Projects



PTP Projects (Source: 2014 Miami-Dade TIP)



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range of roadway and neighborhood improvements. The PWWM PTP Work Program for FY 2014 totals over \$82 Million. Cutler Bay projects are found in Commission District 8 of the PTP Capital Improvements Projects listing.

Two projects funded by the People's Transportation Plan are in Cutler Bay:

11. Caribbean Boulevard from Coral Sea Road to SW 87 Avenue (MPO Project Number PW000442): This project involves the widening of Caribbean Boulevard from 2-3 lanes, and includes PTP funds through 2013-2015.

12. Old Cutler Road from SW 97 Avenue to SW 87 Avenue (MPO Project Number PW000441):

This project involves Curb and Gutter and Traffic Operational Improvements, and includes PTP funds through 2012-2014.

Florida Department of Transportation (FDOT):

State highway and Interstate TIP projects fall under the responsibility of FDOT, and are listed as part of the MPO's TIP report.

One project is currently budgeted for near Cutler Bay:

US-1 South Dixie Highway (MPO project number DT4291881): This project is managed by the FDOT and involves resurfacing work from south of SW 112 Avenue to north of SW 184th Street/Eureka (see map below). This

project is budgeted for \$3,406,000 for FYs 2013-2018 and expected to be completed in 2014.

Figure 2.10: FDOT Resurfacing, Restoration, and Rehabilitation Improvements



(Source: Miami-Dade MPO TIP 201)

Cutler Bay 5-Year Capital Improvements Schedule – Capital Improvements Element (CIE)

The Capital Improvements Element of the Town's Growth Management Plan provide for the establishment and annual update of the 5-Year Capital Improvements Schedule. This schedule notes all capital improvements projects in Cutler Bay, including transportation, as well as their financial sources and outlay for the next 5 years. The latest version of the CIE 5-year Schedule was adopted in July 2013.

The prior sections on the UPWP, the LRTP, and the Miami-Dade County TIP all contribute to applicable projects

listed below. In addition, funding on the local level may come from development impact fees, which are specific to local communities and thus not necessarily reflected on the County's TIP. The most recent update to the Town's CIE lists improvements budgets totaling \$10,400,000 for three Public Works transportation projects from transportation-related Special Revenue Funds for FY 2013-2014 through FY 2016-2017, and \$2,641,000 for Bridge and Drainage improvements, which affects pedestrian and vehicular traffic, from the Stormwater Utilities funds.

Public Works Projects:

1. Old Cutler Roadway Improvement Project: This improvement involved development of Traffic Circles (SW 87 Ave & SW 97 Ave), drainage improvements, bike lanes, lighting installation, sidewalk installation, and roadway reconstruction. This project was funded from PTP funds, as noted in prior sections, as well as a Joint Participation Agreement. The project was completed on time and on budget.
2. Caribbean Blvd Roadway Improvement Project: This improvement involves development of Traffic Circles (Gulfstream Road & SW 192nd Drive), drainage improvements, bike lanes, lighting installation, sidewalk installation, and roadway reconstruction. This project is funded from PTP funds,

as noted in prior sections, as well as a Joint Participation Agreement, and is currently funded for \$9,220,000 from FY 2013-2014 through FY 2015-2016.

3. SW 216th Street & SW 97th Avenue Traffic Circle: This project involved the development of a Traffic Circle and other roadway improvements. The project was completed on time and on budget.

Projects within the Town of Cutler Bay conducted by other agencies:

Caribbean Boulevard Drainage Improvements (Miami-Dade County Project Number 602900): The Caribbean Boulevard bridge improvement, as related to transportation, consists of expanding the existing bridge crossing the C-1N Canal with a longer and wider bridge to improve traffic safety (separate pedestrian and vehicle traffic) and to enhance the conveyance capacity of the canal. This project is funded with \$2,641,000 from the Stormwater Utilities funds from FY 2013-2014 through FY 2016-2017.

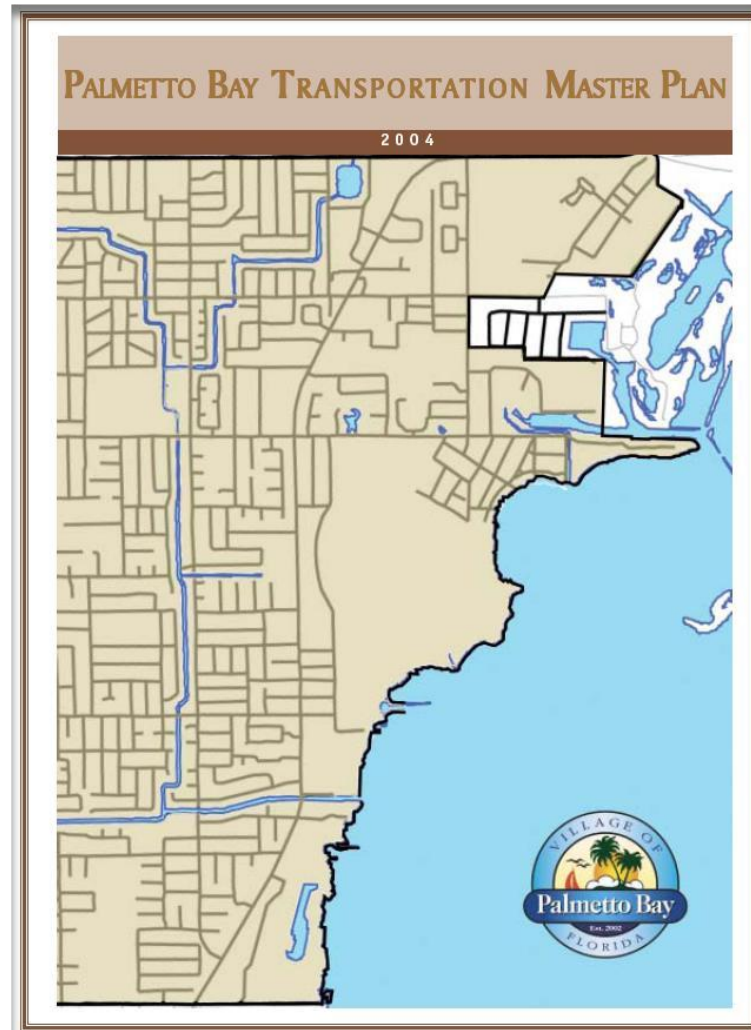
Cutler Bay Bicycle/Pedestrian Master Plan

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 this trend, which hold more true in Cutler Bay than in the rest of Miami-Dade County, is because the options and conditions necessary to reduce private vehicular usage. 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, if the conditions are planned for now. 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.

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

Figure 2.11: Palmetto Bay Transportation Master Plan



positive step forward towards achieving a very safe

children play or ride in the community, and has led to Cutler Bay commissioning a Safe Routes to School audit. 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 was a

community where a higher percentage of non-motorized trips are taken.

Nearly seventy projects were developed in the 2011 Bicycle/Pedestrian Master Plan via examination of the basic pedestrian network, issues of local connectivity and regional connections. The projects needs out-paced the resources to implement the various programs; the potential cost to implement this program in its entirety was estimated to potentially be over \$20 Million, resulting in a need to implement the most effective projects and seek grant opportunities and partnerships for less financially feasible efforts.

Palmetto Bay Transportation Master Plan

The Village of Palmetto Bay's Transportation Master Plan was completed in 2004 and aims to provide the Village with a blueprint for future transportation projects and investments. The Transportation Plan received the 2004 Outstanding Transportation Study Award from the American Planning Association's Gold Coast Section. The Palmetto Bay Transportation Master Plan has identified transportation and mobility issues through a series of stakeholder meetings and public workshops in addition to data collection and analysis. This interactive and analytical process led to the formulation of the Project Bank, which is the palate of projects of all sizes that have been prioritized to develop the implementation plan. Projects were developed in four

categories: Corridor, Capacity, Alternative Mode, and Sustainable Community.

The Palmetto Bay Transportation Master Plan took a comprehensive look at the existing roadway structure within the Village, finding the 2004 LOS to be unacceptable on US-1 and Cutler Rd. Village growth through 2020 showed a considerable increase in traffic volume and decrease in LOS. Given the nearly built out condition of Palmetto Bay, it was concluded that this decline in LOS was mostly the result of additional through trips as commuters' access points north and south of the Village daily. The result is that the remaining capacity in the rest of the network is disappearing as drivers begin to utilize the neighborhood streets, trying to find a path that is not congested.

Palmetto Bay's Transportation Vision was formulated through intense public involvement, including conversations with community members, elected officials and village staff. The following are key points from which the plan has developed:

- Serving the Needs of the Residents by Controlling Congestion

Palmetto Bay is primarily a residential community with a number of schools, parks, and recreational amenities. It is bound on both the east and west by the major transportation corridors of US-1 and Old Cutler Road. A

main concern is to maintain the Village character by not encouraging additional traffic through the Village.

- Promoting a Safe but Efficient Traffic Flow by Controlling Intrusion

As development to the south becomes more intensive, it is realized that traffic will attempt to find alternative routes that will include streets within the village. It is desired to keep this traffic on the State and County road system, and protect neighborhood streets from traffic intrusion.

- Provide Alternatives by Supporting Multimodal and Transit Policy Initiatives

Miami-Dade County is growing at a tremendous rate, which often out paces a government's ability to plan. Palmetto Bay realizes that transportation alternatives will need to be provided to effectively move people in the future. To this end the Village supports Miami-Dade County's efforts to develop transit. In addition a major focus will be to provide for alternatives and enhance the ability for transit to circulate within the Village boundaries.

- Enhancing the Quality of Life by Protecting Village Amenities

Through a multi-modal focus, using the funding available through the Peoples Transportation Plan,

Palmetto Bay will be able to increase the quality of life for its citizens and become one of the more attractive places to live in our region.

Figure 2.12: Unified Planning Work Program

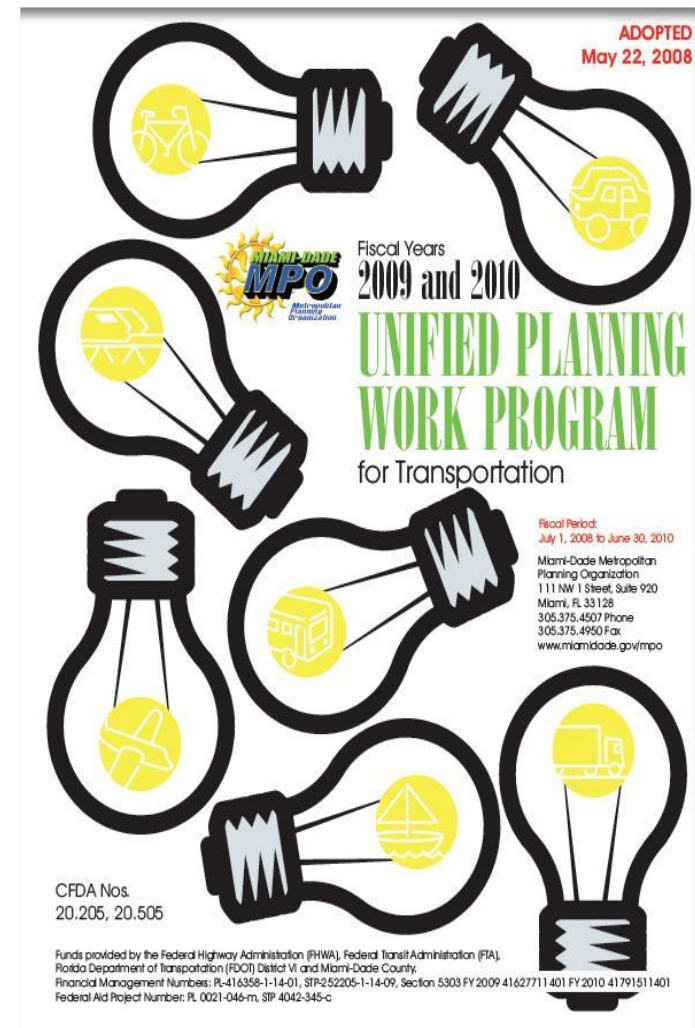


Table 2.3

Goals	Objectives
Goal 1 Improve corridor mobility	<ul style="list-style-type: none"> Improve North/South mobility Improve transportation options within project area
Goal 2 Improve citizen access to employment	<ul style="list-style-type: none"> Improve economic opportunities Provide transit connections to downtown employment Improve access for transportation disadvantaged <p>Use transit accessibility as a key marketing tool for promoting the economic development / redevelopment in the study area by attracting a broader range of employment categories.</p>
Goal 3 a) Improve corridor safety b) Improve operating efficiencies	<ul style="list-style-type: none"> Improve intersection safety Provide safety and urban design amenities that make cycling and walking more appealing Separate pedestrians, autos and transit Provide efficient transit services Minimize transit delays in corridor Reduce transit/auto conflicts at intersections
Goal 4 Reduce auto dependency	<ul style="list-style-type: none"> Increase transit usage Provide environmental benefits through reduced mobile source emissions, greenhouse gas emissions and energy consumption
Goal 5 Accommodate future population growth in south Miami-Dade by providing the citizens of South Miami-Dade with high quality and cost-effective transit service	<ul style="list-style-type: none"> Provide cost-effective solutions Increase speed of transit service Provide reliable service Minimize transfers Develop a staged program of transit improvements in the corridor Match capacity of Dadeland South Terminal to busway Improve frequency of transit service
Goal 6 Modify development patterns in the corridor to support transit	<ul style="list-style-type: none"> Support transit supportive land use and future patterns Reorient corridor design to support pedestrianism Encourage transit oriented development (TOD) around stations Create opportunities and mechanisms for public/private development partnerships Improve access to stations
Goal 7 Develop plan for incremental increase of transit infrastructure	<ul style="list-style-type: none"> Foster the Greenway development and environment of the corridor Promote sustainable development Preserve existing communities and neighborhoods

MPO Arterial Grid Study

The MPO Arterial Grid Study provides an in depth analysis of the effectiveness of the grid system in Miami-Dade County. The study contends that a grid system provides enhanced connectivity and accessibility and that travel is more direct reducing the number of vehicle miles traveled (VMT).

Based on the results of the project screening and input from the Study Advisory Committee (SAC), a list of recommendations for improving the efficiency of the arterial grid system was developed. The recommendations were broadly categorized into the following two groups:

- Project recommendations include capacity modifications to existing roadways and constructing “missing links” to enhance continuity.
- Policy recommendations include the development of policies related to the capacity needs along the arterial grid roadway network.

The study identified a list of potential capacity improvement projects that are not identified in the LRTP. The projects listed below fall within the boundaries of the Town of Cutler Bay or its immediate surroundings.

Table 2.4

Road	From	To	Potential	Project Type
SW 117 th Avenue	Quail Roost Drive	US-1	4L	Type I
SW 87 th Avenue	SW 163 rd Terrace	SW 164 th Street	Bridge	Type II
SW 77 th Avenue	SW 159 th Terrace	SW 160 th Terrace	Bridge	Type II
SW 77 th Avenue	SW 173 rd Street	SW 174 th Street	Bridge	Type II



Task 2: Data Collection & Analysis

The Village of Palmetto Bay would adamantly reject bridging canals within its boundaries. It was recommended that these options not be considered further.

In 2006, the Miami-Dade MPO conducted a study of transit improvements in the US-1 corridor between the Dadeland South Metrorail station and Florida City. The purpose of the study was focused on improvements to transit operations and service in the corridor.

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

Seven alternatives were analyzed during Tier I analysis. South Link Corridor transportation needs were analyzed using available secondary data on population and employment, land use, travel patterns and growth trends in the study area. On the basis of corridor transportation needs and goals and objectives, the alternatives were identified by the general public with the input from the technical committee.

Although there is support for a Metrorail extension, projected ridership was not enough to offset costs. The Locally Preferred Alternative (LPA) as approved by the MPO was:

- Modified Enhanced Bus Rapid Transit
- BRT enhancements and features

- Metrorail extension to SW 104th Street
- Grade separation at several major intersections

Busway Managed Lanes Study

This study was initiated in 2008, and attempts to use the SAFTEA-LU concepts of tolling, like used on the I-95 Corridor as a method of attaining the improvements recommended in the South Dade Alternatives Analysis in the near term. The project, if clearly focused on providing a transit alternative, is a progressive project and well worth examine further. If it does not have the permanent goal of being a transit alternative, it will be a regression of long standing policy in South-Dade that will ultimately make traffic congestion worse and slow the implementation of meaningful transit. Several policy decisions will be important and critical to the success of the project. These include determining what percent of revenue is returned to transit, the system-wide HOV compatibility, the duration of bonding the availability of other MDX funds to support project, and the maintenance of envelope for Metrorail extension.

The purpose of the study was twofold:

- To determine if reasonable alternatives exist for developing managed lanes in the South Dade Busway right-of-way
- To evaluate the revenue generating potential for rapid transit improvements in the South Dade corridor

It examined 3 alternatives:

- Alternative One – 2-lane at-grade
 - Allowing private vehicles to utilize existing busway for a toll, plus TSP improvements
 - Zero elevated stations
- Alternative Two – 4-lane with grade separations at South Link locations
 - Approximately 6-8 elevated stations
- Alternative Three – 4-lane fully elevated facility
 - Approximately 22 elevated stations

It explored the existing traffic conditions and lane deficiencies on US-1. Almost each segment of the road is deficient between one and three lanes, particularly in the afternoon northbound and southbound.

Table 2.5

Intersection	Direction	Existing Lanes	Laneage Deficiency	
			AM	PM
U.S. 1 at SW 312 th Street	Northbound	2	0	1
	Southbound	2	0	1
U.S. 1 at SW 117 th Avenue/ SW 211 th Street	Northbound	2	1	1
	Southbound	2	0	2
U.S. 1 at SW 200 th Street	Northbound	3	0	0
	Southbound	3	0	2
U.S. 1 at SW 184 th Street	Northbound	3	1	1
	Southbound	3	0	2
U.S. 1 at SW 152 nd Street	Northbound	3	2	1
	Southbound	3	0	2
U.S. 1 at SW 136 th Street	Northbound	3	3	1
	Southbound	3	0	2
U.S. 1 at SW 112 th Street	Northbound	3	3	2
	Southbound	3	0	3
U.S. 1 at SW 104 th Street	Northbound	3	3	2
	Southbound	4	0	3

It looked at project costs per alternative:

Table 2.6

Alternative	Total Construction Cost	Construction Cost per Mile
Alternative 1: Two-Lane At-Grade	\$22 million	\$1.3 million
Alternative 2A: Three-Lane Partial Grade Separation	\$471 million	\$28.2 million
Alternative 2B: Four-Lane Partial Grade Separation	\$505 million	\$30.3 million
Alternative 2C: Two-Lane Partial Grade Separation	\$228 million	\$13.6 million
Alternative 3: Four-Lane Elevated	\$1,830 million	\$109.6 million

It summarized the alternatives:

Table 2.7

	Alternative 1	Alternative 2A	Alternative 2B	Alternative 2C	Alternative 3
Average Daily Traffic	4,900	12,500	12,500	6,130	24,100
Peak hour, peak-direction capacity	900	1,800	1,800	900	2,940
Construction Cost (2008 \$)	\$22 million	\$471 million	\$505 million	\$228 million	\$1830 million
Annual Revenue (2030 \$)	\$11.2 million	\$21.8 million	\$21.8 million	\$14.0 million	\$37.2 million
Annualized Const Cost (assuming 30-year term)	\$1.4 million	\$30.3 million	\$32.5 million	\$14.7 million	\$117.9 million
Peak direction toll per mile (2030 \$)	\$0.75	\$0.60	\$0.60	\$0.75	\$0.75
Estimated (2030) daily volume on US 1	143,000	137,200	137,200	141,800	133,000



2.2 TRAFFIC DATA

Traffic volumes have been evaluated to develop a picture of existing conditions. This provides the basis for the analysis and development of needs. To do this the most recent MPO Long Range Transportation Model has been examined for roads on the network where counts exist, which is along section line roads, as well as Old Cutler Road and US-1. Existing count data has been collected.

This section of the report also addresses a physical inventory of the transportation network, in terms of roadway function and classification. It discusses the Level of Service concept and evaluates the existing and future performance of the roadway, including evaluation of the transit system. This data will be heavily relied upon as the basis for the development of future projects, which will be designed to mitigate issues discovered here. The chapter also evaluates various traffic impact analysis types. As development occurs in the Town, traffic impact analyses will be prompted by the developer and reviewed by the Town.

Through this process, the roadway functional classification was examined by looking at the arterials, collectors, and the number of lanes and signals. The concept of Level of Service is explained in how it is calculated and what the various thresholds are per each grade. The system's entire performance was evaluated in the existing condition and in the future years. This is critical in developing projects for the project bank. Finally, roadway usage indicators were researched to frame the discussion. Issues included

vehicle usage, vehicle miles traveled and vehicles per household.

2.2.1 Roadway Function and Classification

Limited and Controlled Access Facilities

Limited and controlled access facilities serve as the principal arterials linking regionally significant locations. The principal arterials serve the highest volume of traffic corridors, linking various urban centers within an urbanized area. Principal arterials move high volumes of vehicles while constituting only a small percentage of the local roadway network. On limited access facilities, access to adjacent properties is restricted, limiting the permitted number of driveways and access points.

Three regional principal arterial roads traverse the Town of Cutler Bay, Old Cutler Road, US-1 (South Dixie Highway), and the Homestead Extension of the Florida Turnpike. Of these three regional roads, the Homestead Extension of Florida's Turnpike and US-1 (South Dixie Highway) are the only two limited or controlled access facilities. Traveling north/south, the Turnpike passes through the western section of Cutler Bay, dividing the institutional and commercial regional hub from the single-family residences of the Town. The two primary access points to the Turnpike for the Town of Cutler Bay are exits 12 and 11, located at the intersections of Caribbean Boulevard and US-1 and SW 216th Street and SW 107th Avenue, respectively. US-1, which also travels north/south bisects the western fringes of the town and provides regional access to most of the commercial properties in Cutler Bay.



Figure 2.12: Limited and Controlled Access Facilities

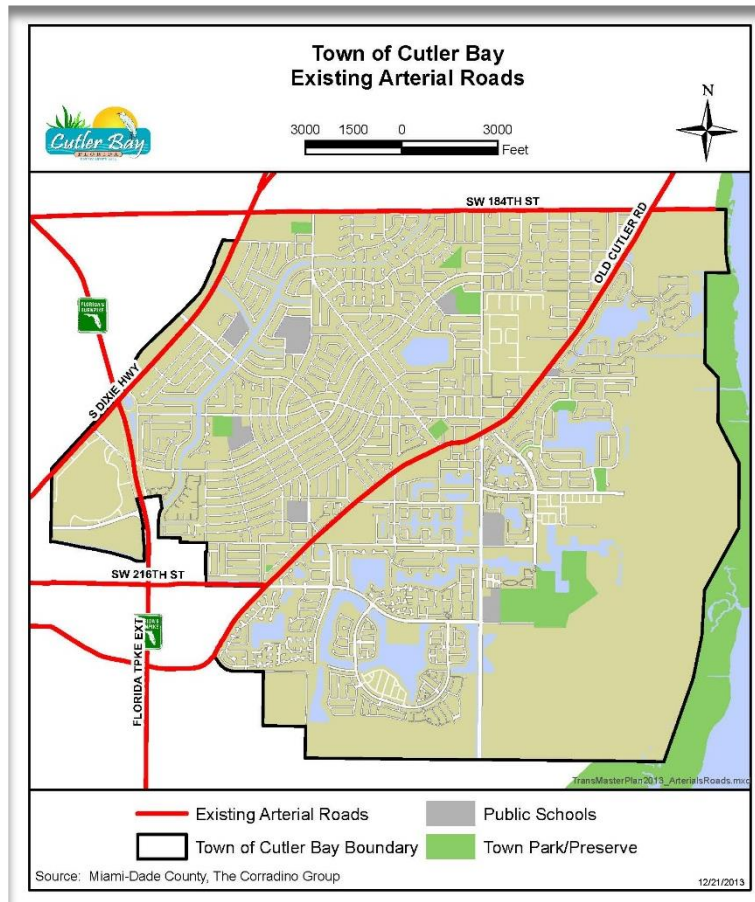


Arterial Roads

Minor arterial roadways support and link to the major arterials, carrying moderate amounts of traffic. Minor arterials typically carry regional trips of shorter distances than major arterials, at slower speeds. They provide continuity among communities, linking bus routes and commercial land uses. Access is not restricted along these arterials.

The five principle arterial roads, which includes the three regional principal roads previously discussed and which connect Cutler Bay with the surrounding communities are US-1, the Turnpike, Old Cutler Road, SW 216th Street and SW 184th Street/Eureka Drive. These roadways carry the bulk of Cutler Bay's traffic, providing access to other regional urban centers. The three minor arterials within Cutler Bay are Old Cutler Road, SW 184th Street, and SW 216th Street. Old Cutler Road, a historically designated 2-lane highway, bisects Cutler Bay traveling through the residential areas and secondary central commercial district. On the northern limit of the town, SW 184th Street divides the Town of Cutler Bay from the Village of Palmetto Bay. SW 184th Street provides east/west access to US-1, HEFT (exit 13), and Larry & Penny Thompson Park. SW 216th Street, another east/west arterial, also connects to US-1 and HEFT along the southern boundary of the town.

Figure 2.13: Existing Arterial Roads



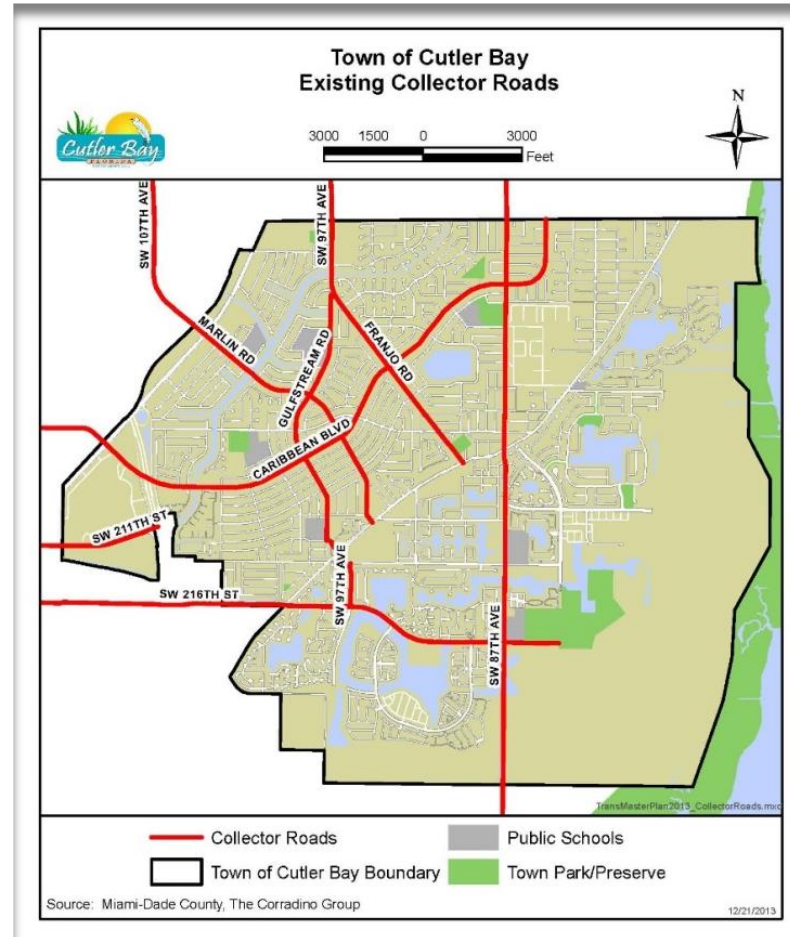
Collector Roads

Collector roads are low/moderate capacity roadways that link traffic from smaller local roads to arterials or highways. Collector roads are four lanes in width or less and usually feature relatively non-intensive land uses along them. Aside from some small-scale commercial developments, key local community centers such as schools, churches, and parks are found along collector roads. The collector roads of Cutler Bay are as follows:

- SW 87th Avenue is the easternmost, complete north/south roadway in Cutler Bay, yet it connects no further north that SW 168th Street in Palmetto Bay. The two-lane road connects Cutler Bay with Palmetto Bay to the north and the Blackpoint Marina Regional Park to the south. Located along SW 87th Avenue is Centennial Middle School and E.L. Whigham Elementary School.
- The Franjo Road collector links the SW 97th Avenue collector and Caribbean Boulevard collector with the Old Cutler Road arterial. Franjo Road is bordered mainly by single family homes with light commercial development at the intersection with Old Cutler Road, as well as Tiffany Drive, Bel Aire Drive, and Franjo Park.
- SW 97th Avenue travels north/south through the geographic center of Cutler Bay. The two-lane road provides local access to Cutler Ridge Middle School, Gulfstream Elementary School, and Holy Rosary Catholic School.

- Marlin Road diagonally bisects Cutler Bay from the US-1 Arterial to Old Cutler Road in the east/west direction. The two-lane road provides access to single-family residences, Methodist Kindergarten, and Bel-Aire Elementary School.
- Caribbean Boulevard is the most extensive and critical collector road in Cutler Bay. The road links two of the three primary arterials, US-1 and HEFT, with SW 97th Avenue, Marlin Road, Franjo Road, SW 87th Avenue, and SW 184th Street. Caribbean Boulevard travels along the route connecting Southland Mall, Cutler Bay Town Hall, Balere Language Academy, Cutler Ridge Christian Academy, Pinelands Presbyterian Church, Cutler Ridge Elementary, and Whispering Pines Elementary School.
- SW 216th Street becomes a collector road east of Old Cutler Road. It provides local access to E.L. Elementary School, La Petite Academy, and Lincoln City Park number one.

Figure 2.14: Collector Roads

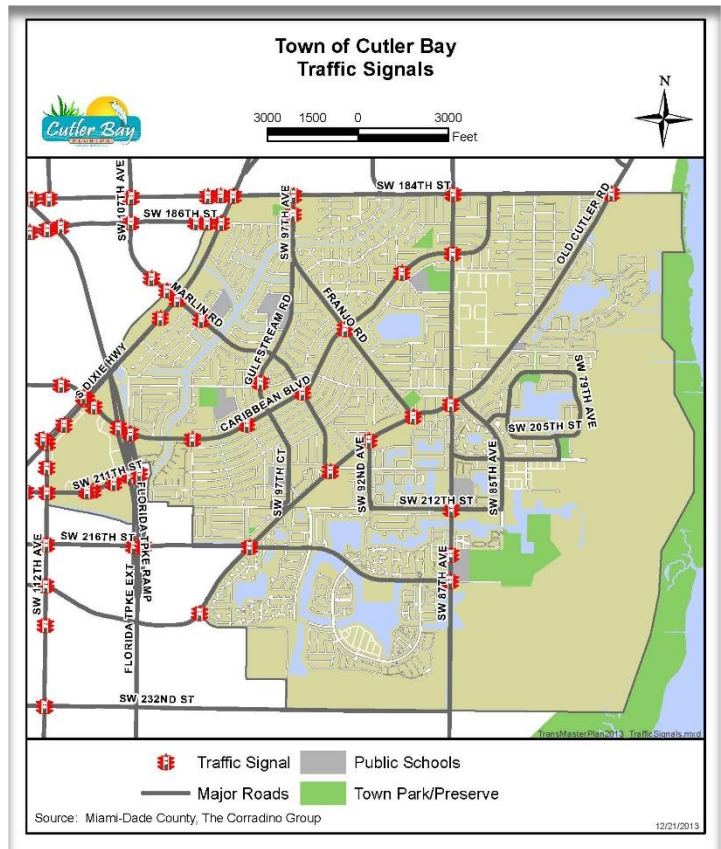




It is evident that the area of the town between Caribbean Boulevard and Old Cutler Road follows a relatively cohesive modified grid network. The neighborhoods of Lakes by the Bay and Saga Bay follow a more modern, suburban plan, where homes were built in cul-de-sacs or along a poorly connected road network. The canal running north/south from SW 184th Street to SW 211th Street forms a natural barrier, obstructing the normal connectivity of many of the local streets and requiring limited access points to US-1. Presently, 1,052 acres (16% of Culter Bay) are comprised of streets, roads, and associated rights-of-way.



Figure 2.16: Traffic Signals, Cutler Bay

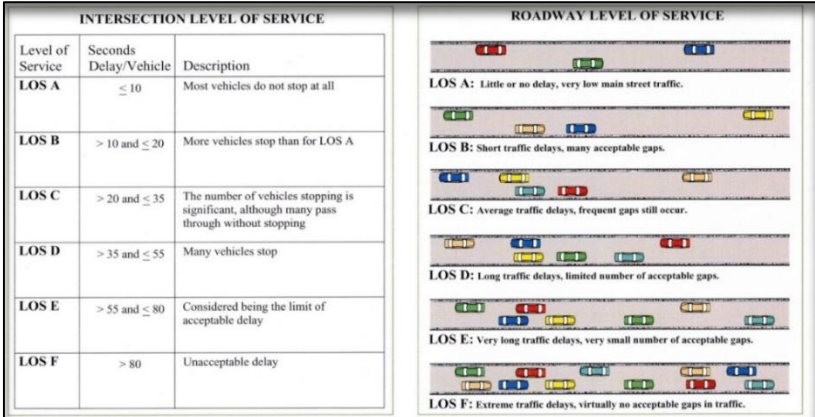


2.2.2 Level of Service (What is Level of Service? (LOS) ?)

LOS is a quality measure describing operational conditions within a traffic stream, generally in terms of such service measures as speed and travel time, freedom to maneuver, traffic interruptions, and comfort and convenience.

The analysis of street systems is based upon the concept of Level of Service (LOS). The presentation of LOS is indicated by the letters "A" through "F" with LOS A representing the best operating conditions and LOS F the worst. Level-of-Service A and B are usually not easy to achieve on arterial and main collectors roadways in large urbanized areas like Miami-Dade County during typical high volume peak hour traffic periods. LOS D through E is more typically found in large urbanized areas for these types of roadways, with many roadways operating at LOS F.

Figure 2.17: Intersection and Roadway LOS



While LOS A and B are considered "best," as mentioned, the level of investment and conditioning required to achieve these standards in transportation may not necessarily be the best approach for a community, which must balance limited resources across different services it must provide to the Town. Thus, adopted level of standards may range from C to E, depending on the location and the roads.



Table 2.8: Level of Service

LOS	Volume/Capacity
A	<.60
B	.61 to 0.70
C	.71 to 0.80
D	.81 to 0.90
E	.91 to 1.00
F	>1.00

When the LOS is presented it generally represents the ratio of volume to capacity (V/C). Volume is the number of vehicles that actually pass a given point on the road in a given time. Capacity is the maximum number of vehicles that can pass a given point on the road in a given time.

From an engineering standpoint, every roadway has a design capacity that is a maximum number of cars per lane that can cross through a segment of roadway. This varies based on several factors, including lane width, number of lanes, number and location of intersections, number and location of signals, etc. Each roadway segment is given a “functional classification” based on these factors.

Essentially the capacity of a roadway is represented as 1.0, or 100%. The Level of Service of the roadway represents a percentage of that capacity. Level of Service A is between 0 and 0.6, or 60% of capacity. The generally acceptable LOS for roadways in Miami-Dade County is LOS D, which is between 0.81 and 0.9 (81% - 90%)

of capacity. Level of Service F is anything over 1.0 or 100% of capacity. **Table 2.8** shows the volume capacity ratio for each LOS category. Level of service is provided for “links” (segments) of roadway, and “nodes” (intersections). This analysis primarily examined roadway level of service. **Table 2.8** represents thresholds for each Level of Service when calculating Volume/Capacity for Cutler Bay as defined by the Cutler Bay Growth Management Plan.

These LOS standards represent a range of operating conditions and the driver's perception of those conditions, as described below.

- LOS A describes free-flow operations at average travel speeds, usually at about 90% of the free flow speed. Vehicles are unimpeded in their ability to maneuver within the traffic stream. Distance between vehicles is +/- 30 car lengths. On most of Cutler Bay's roads (speed limit of 30 mph) this is represented by a speed of 25 mph or greater.
- LOS B describes reasonably unimpeded operation at an average travel speed, usually about 70% of the free flow speed. The ability to maneuver is only slightly restricted. Distance between vehicles is about 20 car lengths. On most of Cutler Bay's roads (speed limit of 30 mph) this is represented by a speed of between 20 mph and 25 mph.
- LOS C describes stable operating conditions with some restrictions of driver ability to maneuver and change lanes in mid-block locations. Longer



queues and signal coordination will contribute to a lower average speed of about 50% of free flow speed. The distance between vehicles is about 15 car lengths. On most of Cutler Bay's roads (speed limit of 30 mph) this is represented by a speed of between 13mph and 20mph.

- LOS D borders on a range in which small increases in flow may cause substantial increases in delay in travel speed. LOS D may be caused by poor signal progression, inappropriate signal timing or high volumes. Average travel speed is about 40% of the free flow speed. The distance between vehicles is about 10 car lengths. On most of Cutler Bay's roads (speed limit of 30 mph) this is represented by a speed of between 9 mph and 13 mph.
- LOS E is characterized by significant delays and average travel speed of 33% or less of the free flow speed. LOS E is caused by a combination of high traffic volumes, high signal density, adverse signal progression, and inappropriate signal timing, all of which result in extensive delays at critical intersections. The distance between vehicles is minimal. On most of Cutler Bay's roads (speed limit of 30 mph) this is represented by a speed of between 7 mph and 9 mph.
- LOS F is characterized by urban street flow at extremely low speeds, typically 25% of the free flow speed. Intersection congestion exists at critical signalized intersections with high delay, high volumes and extensive queuing. There is generally

less than one car length distance between vehicles. On most of Cutler Bay's roads (speed limit of 30 mph) this is represented by a speed of less than 7 mph.

On urban streets with traffic signals, LOS is directly related to the free flow speed found on each type of street. **Table 2.9** determines LOS by comparing Urban street class and average speed of traffic.

Table 2.9: Arterial Level of Service Thresholds

Urban Street Class	Average Travel Speed	
	I	II
B	>31 mph	>22 mph
C	>23 mph	>17 MPH
D	>18 mph	>13 mph
E	>15 mph	> 10 mph

Source: *FDOT Quality/Level of Service Handbook 2013*

Since the 2008 Transportation Master Plan was submitted, the LOS standards have changed due to a reclassification of the roads systems from a basis on the amount of signalization per mile, with up to four classifications, to two classifications based on posted speed limits. These updated numbers are reflected in the Florida Department of Transportation's 2012 Quality/Level of Service Handbook. The changes experienced are due to updates from HCM 2000 to HCM 2010 version. FDOT now uses two-classes instead of one (based on posted speed), using average travel speed as the service measure instead of the ratio of average travel speed to base free-flow speed,



Task 2: Data Collection & Analysis

and set free-flow speed equal to the posted speed plus five miles per hour instead of the free-flow speed computations in the HCM 2010 methodology.

These changes have resulted in both large increases and decreases in the LOS standards by which analysis is conducted, and poses policy implications on future development and concurrency management, including capital improvements and the levy of impact fees. Furthermore, the vast difference and compression of the classification systems implies that this shift in the methodology will not necessarily result in a true comparative analysis that will benefit Cutler Bay. To compensate for this change in comparative analysis from the 2008 model due to the large differences, this analysis has been extended to include a LOS evaluation of 2008 numbers based upon the standards from the new classification system.

LOS Analysis Types

There are several types of Level of Service Determination, each becoming progressively more specific as needed. These can be generally classified into three categories, i.e. regional, local and project specific. The level of detail goes up with specificity.

Regional – Long Range Transportation Plan

The most basic level of LOS is examined at the regional or county planning level by the Miami-Dade Metropolitan Planning Organizations (MPO) Long Range Transportation Plan model, (LRTP) to test the impact of transportation improvements for the future. This projects Level of Service 15 and 20 years into the future. It tests the general

improvements to the overall system of certain transportation projects, and is used to for the long range “cost feasible plan” which guides the investment of federal dollars into the local transportation system. Using basic demographic data from the US-Census a regional transportation model is developed for Palm Beach County, Broward County and Miami-Dade County. For 2035 the LRTP model shows that much of Old Cutler Road will be operating at LOS E or F.

The MPO LRTP family of documents and products contain traffic volume data for the base year analysis (in the current plan is the year 2005) as well as future year analyses such as 2020 and 2035. Growth rate factors can be developed between the MPO's years 2005, and 2035 traffic volume data and, cross referenced with other verified and existing traffic count data, be used to project current and future vehicular traffic volumes.

Future vehicular traffic volumes from the MPO roadway networks are the result of a process that starts by developing future socio-economic and land use data based on the adopted Comprehensive Plan. The socio-economic and land use data is used to generate vehicular trips which in turn are distributed among all the traffic analysis zones (small areas about the size of a census block, which contains all model data including origin and destination, trip direction and trip numbers) and then assigned to the roadway network.

Local – Highway Capacity Analysis

A second, more detailed level of analysis is generally done through local transportation master plans, where actual

counts are examined and evaluated with specific approved methodologies. As indicated above, evaluating roadway capacity and LOS under existing conditions is based on collecting traffic volume as well as signal and roadway related data and performing the necessary field observations and technical analyses.

Roadway capacity and LOS for future year conditions are basically performed in the same manner as with the existing conditions, with the exception of field observations and the fact that current year vehicular volumes are projected to a future year using professionally accepted practices. Among the professionally accepted practice is the use of transportation related data from the Miami-Dade Metropolitan Planning Organization (MPO) adopted Long Range Transportation Plan (LRTP). Other professionally accepted practice include using historic vehicular volume data to develop a growth rate and use it to project existing volumes into the future based on the historical data. This method has limitations and should be used with caution, due to the need to account for future land use and demographic changes. Past growth trends in traffic volumes may not necessary project into the future at the same rate as in the past.

Project Specific – Traffic Impact Analysis

The most detailed level of analysis would be used as part of a concurrency determination for a specific proposed development. Some communities have Automated Concurrency Management Systems which automatically calculate remaining roadway capacities and subsequent Level of Service. Cutler Bay uses its consultants and recover the Cost via the ordinance for Full Cost Recovery.

The developer at his option may review and comment on the Towns study but the decision as to any modification due to those comments is with the Town and its consultants, based on their professional judgment. The developer is typically given the opportunity to mitigate level of service deficiencies, by paying their fair share to upgrade the transportation facility(ies). A proposed development/redevelopment typical traffic impact study usually requires 3 types of analyses:

- a. Analysis to reflect existing roadway capacity and LOS
- b. Analysis to reflect future conditions (opening year of the proposed project) without the proposed project
- c. A final analysis to reflect future year conditions including the proposed project generated vehicular volumes. In order to perform the future year analyses, it is necessary to project existing vehicular volumes to the future year using growth rates developed from the MPO data or by other professionally accepted practices.

There are exceptions to the requirement of performing a traffic impact in cases such as a single family home or any other specific exception as dictated by State or locally enacted law or policies. According to State Law (s. 163.3180), a local government may grant an exception from the concurrency requirement for transportation facilities if the proposed development/redevelopment is otherwise consistent with the adopted local government comprehensive plan and is a project that promotes public transportation or is located within an area designated in the Comprehensive Plan for urban infill development, urban redevelopment, downtown revitalization and infill

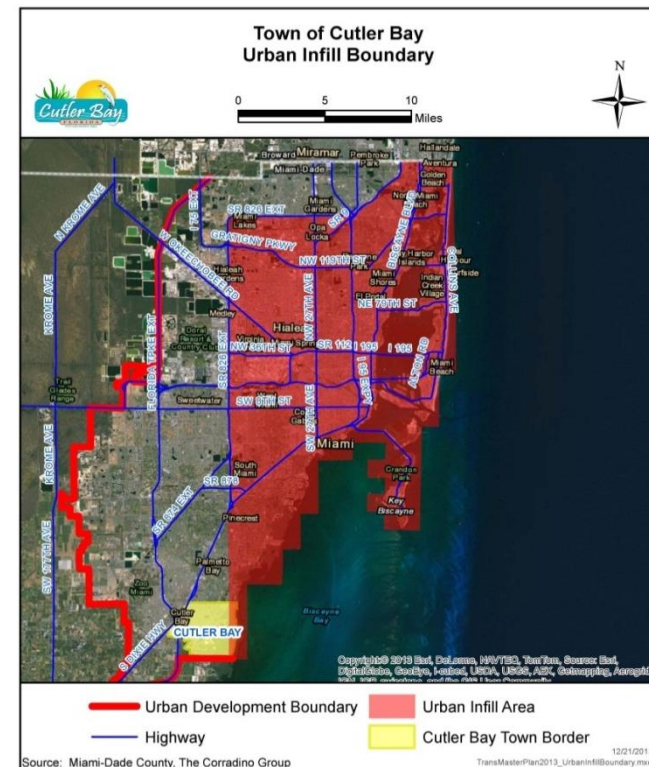
and redevelopment under s.163.2517, or for a transportation concurrency exception area. Another instance where a traffic impact study may not be required is under the “de minimis” impact (s. 163.3180 (6)), where the actual traffic impact is very small and thus not needing an impact analysis.

A traffic impact analysis is necessary and required by local governments, not only to meet State concurrency requirements, but also to ensure that a proposed development project will not create adverse impacts to the roadway network in terms of operations and safety. For example, the local government needs to ensure that the proposed site's driveways will operate adequately and not cause problems such as vehicle queues extending onto the adjacent roadway and blocking its vehicular traffic causing both operational and safety concerns. The local government may also need to be assured that vehicular traffic destined to and from the proposed project site will not cause operational and safety issues at the nearby intersections, etc.

Minimum acceptable arterial (roadway) Level of Service standards are normally established by the entity responsible for maintaining the facility. In Miami-Dade County this is FDOT and the County. Across the State these Standards typically vary between D, E and variations of E (like E+20%, E+50%, etc.). Theoretically, nothing would prevent a local government from assuming maintenance responsibility for a facility. They could then set the Level of Service. However, the new Level of Service would need to conform to State and County standards. In most cases, there would be no real advantage to owning the road.

Nearly all minor arterials in Miami-Dade County have a LOS Standard of D or E, the exception being for facilities being within the Urban Infill Boundary, which is the area inside (south or east) of the Palmetto Expressway. **Figure 2.18** shows the Urban Infill Boundary in red, Old Cutler Road and other roads in blue and Cutler Bay in yellow.

Figure 2.18: Cutler Bay and UDB



These facilities are allowed to be LOS E + (20% of E) within ½ mile of transit, or E+ (50% of E) within ½ mile of Metrorail or Busway. This was implemented to counteract the negative impacts of concurrency, which actually “incentivized” the opposite of its intention by causing development to occur outside of the urban core. No provisions were made for infill development south of where SW 77th Ave. intersects Biscayne Bay. Cutler Bay, though it has many areas within ½ mile of the Busway, is not to use these more lenient standards. There is no threshold for Off Peak Level of Service. Generally, the peak hour traffic represents about 10% of daily volumes. If the peak hour traffic is allowed to be LOS E, then off peak hour traffic will generally be LOS B or C around the peaks, and LOS A at certain periods of the day. In our County the coastal communities of the barrier islands have broad peak hours, which means that the peak hour is less than 10% and multiple hours have between 5% and 7% of daily traffic. In these types of congested areas, traffic has learned that it must travel off peak to get to places, so the peak periods become extended.

As these roads perform an important transportation function, and are costly to build and maintain, adequate usage is required to achieve a substantial cost/benefit. For example, a facility functioning at LOS B or C in the peak hour would be considered underutilized, with more than adequate capacity. When financial resources are relatively scarce, the funds used to construct those extra lanes could have been used elsewhere in the County or State on facilities that exceeded the proposed level of service. Conversely, when actual Level of Service exceeds the standard, either development is to stop, or

the facility is to be brought into compliance within 3 years of the impacting-development being issued a building permit. This stems from Florida's growth management legislation, referred to as “concurrency.”

2.2.3 Transportation System Performance

The science of transportation planning is in evaluating the transportation network from a technical perspective. This entails collecting necessary data on the system in the form of traffic counts, then analyzing these counts to determine the Level of Service on the network today, in 2020 and in 2035. A variety of projects can then be developed to address the community's needs. This analysis has looked at the roadways and transit system as well as the bicycle and pedestrian network.

2.4.1 Roadway LOS

Traffic counts data was reviewed for 49 roadway links on 14 roads. (links are segments of roadway between intersections). In 2014, 31 of 49 links, or 63.3% operate at an acceptable Level of Service. 18 links or 37.7% are failing. By 2020, 24 links (49.0%) are acceptable, and 25 links (51.0 %) are unacceptable. By 2035, 25 (51.0%) are acceptable, and 24 links (49.0%) are unacceptable. It should be noted though, as demonstrated in the LOS evaluation tables, that for 2035, the improvement in acceptable links is contingent on the Turnpike being expanded from 6 to 10 lanes. If the Turnpike is not expanded, then the analysis would indicate 21 links (42.9%) are acceptable, with 28 links (57.1%) failing to meet adopted concurrency standards, as seen in **Figures 2.19 and 2.20**.



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Figure 2.19: System Performance Over Time (Assuming Turnpike Expansion)

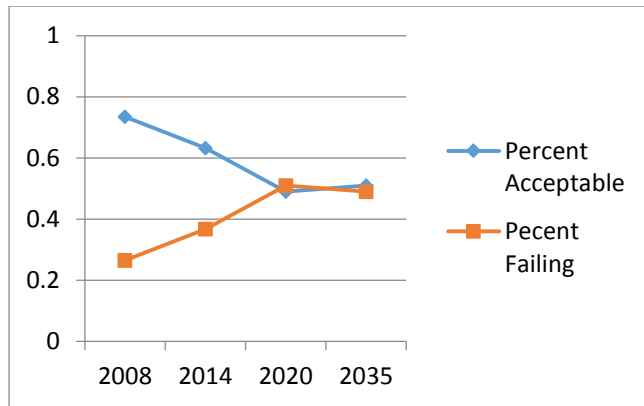


Figure 2.20: System Performance Over Time (With No Turnpike Expansion)

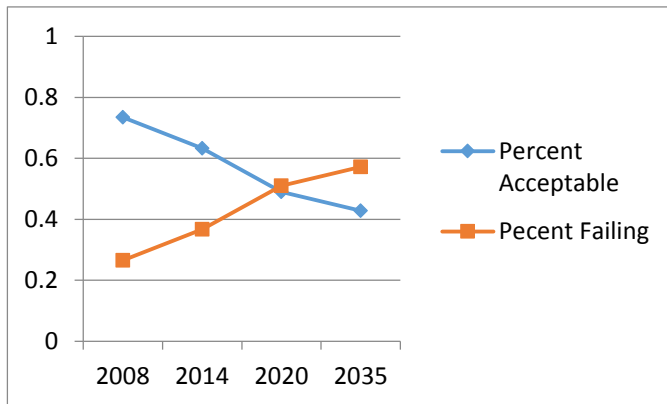


Table 2.20: Cutler Bay Roads and Adopted LOS Standards

Town of Cutler Bay Transportation Element									
2008 - 2035 Conditions									
#	ROAD	FROM	TO	JURISDICTION	TYPE	LOS STANDARD			
1	SW 184 ST	SW 107 AVE	US-1	COUNTY	URBAN MINOR ARTERIAL	E	1719	1800	1800
2		US-1	Franjo Rd.			E	1719	1800	1800
3		Franjo Rd	SW 92 Ave			E	747	792	792
4		SW 92 Ave	SW 87 Ave			E	747	792	792
5		SW 87 Ave	Old Cutler Rd			E	747	792	792
6	Caribbean Blvd	SW 117 Ave	SW 110 Ave	COUNTY	URBAN COLLECTOR	D	333	675	720
7		SW 110 Ave	US-1			D	657	1467	1530
8		US-1	SR 821			D	657	1467	1530
9		SR 821	SW 97 Ave			D	333	675	720
10		SW 97 Ave	Marlin Rd.			D	333	675	720
11		Marlin Rd.	Franjo Rd.			D	333	675	720
12		Franjo Rd.	SW 87 Ave			D	333	675	720
13		SW 87 Ave	SW 184 St			D	333	675	720
14	SW 211 St	SW 114 Ave	US-1	COUNTY	URBAN COLLECTOR	E	657	1467	1530
15		US-1	SW 112 Ave			E	1053	2268	2304
16		SW 112 Ave	SR 821			E	1053	2268	2304
17	SW 212 St	SW 87 Ave	SW 85 Ave	LOCAL	URBAN LOCAL	D	657	1467	1530
18	SW 216 St	SR 821	Old Cutler Rd	COUNTY	URBAN MINOR ARTERIAL	E	657	1467	1530
19		Old Cutler Rd	SW 87 Ave			E	657	1467	1530
20	SW 232 St	SW 97 Ave	SW 87 Ave	LOCAL	URBAN LOCAL	D	370	750	800
21	SW 85 Ave	Old Cutler Rd	SW 212 St	LOCAL	URBAN LOCAL	D	657	1467	1530
22	Old Cutler Rd	SW 112 Ave	SW 224 St	COUNTY	URBAN COLLECTOR	D	333	675	720
23		SW 224 St	SW 216 St		URBAN COLLECTOR	D	333	675	720
24		SW 216 St	SW 97 Ave		URBAN MINOR ARTERIAL	E	333	675	720
25		SW 97 Ave	Marlin Rd.		URBAN MINOR ARTERIAL	E	333	675	720
26		Marlin Rd.	SW 87 Ave		URBAN MINOR ARTERIAL	E	333	675	720
27		SW 87 Ave	SW 184 St		URBAN MINOR ARTERIAL	E	333	675	720
28		SW 184 St	SW 77 Ave		URBAN MINOR ARTERIAL	E	333	675	720
29		SW 216 St	SW 211 St		URBAN MINOR ARTERIAL	D	3020	3660	3940
30	SR 821	SW 211 St	Caribbean Blvd	STATE	LIMITED ACCESS FREEWAY	D	3020	3660	3940
31		Caribbean Blvd	US-1			D	4580	5500	6080
32		US-1	Quail Roost Dr			D	4580	5500	6080
33	Gulfstream Rd/SW 97 Ave	Caribbean Blvd	Franjo Rd.	COUNTY	URBAN COLLECTOR	D	333	675	720
34		Franjo Rd	SW 184 St			D	333	675	720
35		SW 184 St	SW 174 St			D	333	675	720
36	Marlin Rd	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	333	675	720
37		Caribbean Blvd	SW 97 Ave			D	333	675	720
38		SW 97 Ave	US-1			D	333	675	720
39	Franjo Rd.	US-1	SW 107 Ave	COUNTY	URBAN COLLECTOR	D	657	1467	1530
40		Old Cutler Rd	Caribbean Blvd			D	333	675	720
41		Caribbean Blvd	SW 97 Ave			D	333	675	720
42	SW 87 Ave	SW 232 St	SW 216 St	COUNTY	URBAN COLLECTOR	D	333	675	720
43		SW 216 St	Old Cutler Rd			D	747	792	792
44		Old Cutler Rd	Caribbean Blvd			D	657	1467	1530
45		Caribbean Blvd	SW 184 St			D	657	1467	1530
46		SW 184 St	SW 174 St			D	657	1467	1530
47	US-1	SW 211 St	Caribbean Blvd	STATE	URBAN PRINCIPAL ARTERIAL	E(1.2)	2940	3020	3020
48		Caribbean Blvd	Marlin Rd.			E(1.2)	2940	3020	3020
49		Marlin Rd.	SW 184 St			E(1.2)	2940	3020	3020

Abbreviations:
 TWLTL = Two Way Left Turn Lane
 E(1.2)=Extraordinary Transportation E(120%)

Most traffic seems to be moving north and south through Cutler Bay. This follows the expected commuting pattern of trips moving north out of South Dade in the morning to work and back again in the evening. This is mainly because the employment centers are mostly all north of SW 88th Street. US-1 carries the bulk of the volume through Cutler Bay, with daily volumes between 45,000 vehicles and 55,000 vehicles. The Level of Service on this road is at LOS C, with a standard of E. The highest volume at approximately 55,000 vehicles per day is on the segment between Caribbean Boulevard and Marlin Road. The segment north of Marlin Road drops 8,000 trips. These trips use Marlin Road northbound as a way of getting out of the community.

Marlin Road is LOS D between Old Cutler Road and Caribbean Boulevard and LOS F between Caribbean Boulevard and north of US-1. Flow along this road builds as it progresses north. Approximately 9,900 daily trips are on Marlin between Old Cutler Road and Caribbean Boulevard. The number jumps to 14,400 between Caribbean and US-1, building more flow as it passes through existing residential developments, and reaches approximately 38,000 north of US-1 as it joins Northbound US-1 traffic.

Franjo Road is LOS F as it approaches SW 184th Street, accounting for over 19,000 vehicles per day. The Level of Service and traffic flow from the residential areas indicates a movement trend northwards along Franjo Road or west along Caribbean Boulevard and Marlin Road towards SR 821 and US-1.

SW 87th Avenue is primarily LOS C, with the exception of the segment between Caribbean Boulevard and SW 184th Street, where an increase in traffic can be attributed to vehicular traffic heading north and results in LOS D for the section.

Old Cutler Road does not follow a northern trend in traffic flow, but instead concentrates westward and centrally, due to traffic resulting from the economic corridor at the juncture of Franjo Road and Old Cutler Road and the location of the turnpike and US-1 to the west. Many northbound trips exit on SW 87th Avenue to head north through Palmetto Bay instead of staying on Old Cutler Road, which results in the section of Old Cutler Road at an LOS of C, which may seem odd as both adjoining sections to the north and the south are LOS F. Caribbean Boulevard follows the same trend as Old Cutler Road, in movement to the west. This road carries daily volumes of traffic between 6,500 and 32,000 per day.

What is seen here is the impact of the Turnpike (SR 821) with transit to and from Western Dade locations such as Doral; the Southland Mall; and the Old Cutler Road commercial center as transit generators. Carried forward, one can see the impact that the Urban Center District and the Old Cutler Road Charrette Area have in the future as they developed as mixed use, Office and Residential centers in the area. While a high density of traffic may be seen at the point of activity, this traffic will be classified as both origins and destinations, meaning that they will both have positive financial impacts on the community as opposed to being directional pass through traffic, which will only leave only congestion and pollution. Both have



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the potential to reverse traffic flow on each of the major roads carrying people through the community.

Existing and Projected Roadway Levels-of-Service (LOS) for the Town of Cutler Bay

For the Town of Cutler Bay's Transportation Master Plan, four colors are shown in the following maps and tables (green, yellow, blue, and red). Green indicates that the roadway link is operating at or better than LOS C, meaning that in general, there is no significant congestion and the roadway segment can absorb additional traffic volumes. Yellow indicates LOS D, meaning that there is additional room for more vehicles, although limited. Blue indicates LOS E or that the roadway segment is operating at capacity and may be able to absorb only minor amount of additional traffic volumes depending on the specific case at hand. Finally, the red is indicative of LOS F, meaning that capacity has have been exceeded and that the standards have been exceeded; in others words, the roadway segment is experiencing higher traffic congestion with associated longer delays and should not absorb additional traffic volumes. However, when measuring concurrency, LOS D is the general standard, with differences resulting from transit routes with express buses or with at least 20 minutes of peak headway times, which can operate at LOS E.

Table 2.11: Actual LOS

Town of Cutler Bay Transportation Element 2008 - 2035 Conditions											
#	ROAD	FROM	TO	JURISDICTION	TYPE	LOS STANDARD	2008 EXISTING				
							GROWTH RATE	AADT	PEAK HR PEAK DR VOLUME (vph)	LOS	Available Capacity
1	SW 184 ST	SW 107 AVE	US-1	COUNTY	URBAN MINOR ARTERIAL	E	1.04	19542	942	C	858
2		US-1	Franjo Rd.			E	1.04	20957	1010	C	790
3		Franjo Rd	SW 92 Ave			E	1.04	14146	682	C	110
4		SW 92 Ave	SW 87 Ave			E	1.04	16459	704	C	88
5		SW 87 Ave	Old Cutler Rd			E	1.04	9199	493	C	299
6	Caribbean Blvd	SW 117 Ave	SW 110 Ave	COUNTY	URBAN COLLECTOR	D	1.04	19208	1012	F	-337
7		SW 110 Ave	US-1			D	1.04	31722	1672	F	-205
8		US-1	SR 821			D	1.04	10685	563	C	904
9		SR 821	SW 97 Ave			D	1.28	19553	1025	F	-350
10		SW 97 Ave	Marlin Rd.			D	1.04	9249	487	D	188
11		Marlin Rd.	Franjo Rd.			D	1.04	7322	340	D	335
12		Franjo Rd.	SW 87 Ave			D	1.04	6017	341	D	334
13		SW 87 Ave	SW 184 St			D	1.04	1338	89	C	586
14	SW 211 St	SW 114 Ave	US-1	COUNTY	URBAN COLLECTOR	E	1.04	13428	715	D	815
15		US-1	SW 112 Ave			E	1.04	16954	903	C	1401
16		SW 112 Ave	SR 821			E	1.04	18720	997	C	1307
17	SW 212 St	SW 87 Ave	SW 85 Ave	LOCAL	URBAN LOCAL	D	1.04	8361	445	C	1022
18	SW 216 St	SR 821	Old Cutler Rd	COUNTY	URBAN MINOR ARTERIAL	E	1.04	24838	1353	D	177
19		Old Cutler Rd	SW 87 Ave			E	1.16	14427	890	D	640
20	SW 232 St	SW 97 Ave	SW 87 Ave	LOCAL	URBAN LOCAL	D	1.04	1749	93	C	657
21	SW 85 Ave	Old Cutler Rd	SW 212 St	LOCAL	URBAN LOCAL	D	1.04	3884	207	C	1260
22	Old Cutler Rd	SW 112 Ave	SW 224 St	COUNTY	URBAN COLLECTOR	D	1.04	9796	591	D	84
23		SW 224 St	SW 216 St		URBAN COLLECTOR	D	1.04	9638	597	D	78
24		SW 216 St	SW 97 Ave		URBAN MINOR ARTERIAL	E	1.04	19935	869	F	-149
25		SW 97 Ave	Marlin Rd.		URBAN MINOR ARTERIAL	E	1.04	18847	986	F	-266
26		Marlin Rd.	SW 87 Ave		URBAN MINOR ARTERIAL	E	1.04	21351	962	F	-242
27		SW 87 Ave	SW 184 St		URBAN MINOR ARTERIAL	E	0.91	13346	793	F	-73
28		SW 184 St	SW 77 Ave		URBAN MINOR ARTERIAL	E	1.04	27387	1341	F	-621
29	SR 821	SW 216 St	SW 211 St	STATE	LIMITED ACCESS FREEWAY	D	1.04	34156	1819	C	1841
30		SW 211 St	Caribbean Blvd			D	1.04	44859	2390	C	1270
31		Caribbean Blvd	US-1			D	1.04	77531	4130	C	1370
32		US-1	Quail Roost Dr			D	1.04	97369	5187	D	313
33	Gulfstream Rd/SW 97 Ave	Caribbean Blvd	Franjo Rd.	COUNTY	URBAN COLLECTOR	D	1.04	2166	163	C	512
34		Franjo Rd	SW184 St			D	1.03	14634	773	F	-98
35		SW184 St	SW 174 St			D	1.04	9307	579	D	96
36	Marlin Rd	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	1.04	8476	439	D	236
37		Caribbean Blvd	SW 97 Ave			D	1.04	13515	696	E	-21
38		SW 97 Ave	US-1			D	1.04	13655	700	E	-25
39		US-1	SW 107 Ave			D	1.04	37616	1925	F	-458
40	Franjo Rd.	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	1.04	13805	653	D	22
41		Caribbean Blvd	SW 97 Ave			D	1.04	18680	995	F	-320
42	SW 87 Ave	SW 232 St	SW 216 St	COUNTY	URBAN COLLECTOR	D	1.04	2834	185	C	490
43		SW 216 St	Old Cutler Rd			D	0.84	7208	425	C	367
44		Old Cutler Rd	Caribbean Blvd			D	0.99	7049	607	C	860
45		Caribbean Blvd	SW 184 St			D	1.04	8576	633	C	834
46		SW 184 St	SW 174 St			D	1.04	13079	854	D	613
47		SW 211 St	Caribbean Blvd			E(1.2)	1.04	52151	2028	C	992
48	US-1	Caribbean Blvd	Marlin Rd.	STATE	URBAN PRINCIPAL ARTERIAL	E(1.2)	1.04	73236	2844	C	176
49		Marlin Rd.	SW 184 St			E(1.2)	1.04	67613	2623	C	397

Abbreviations:
TWLTL = Two Way Left Turn Lane
E(2)=Extraordinary Transportation E(120%)



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Table 2.11: Actual LOS, Cont'd

Town of Cutler Bay Transportation Element 2008 - 2035 Conditions														
#	ROAD	FROM	TO	JURISDICTION	TYPE	LOS STANDARD	2014 Projection							
							No. OF LANES	C VOLUME	D VOLUME	E VOLUME	Annual Growth Factor	AADT (vpd)	PEAK HR PEAK DR VOLUME (vph)	Available Capacity
1	SW 184 ST	SW 107 AVE	US-1	COUNTY	URBAN MINOR ARTERIAL	E	4	1719	1800	1800	1.029	23260	1121	C
2		US-1	Franjo Rd.			E	4	1719	1800	1800	0.976	18129	874	C
3		Franjo Rd	SW 92 Ave			E	2	747	792	792	0.976	12237	590	C
4		SW 92 Ave	SW 87 Ave			E	2	747	792	792	0.976	14238	609	C
5		SW 87 Ave	Old Cutler Rd			E	2	747	792	792	1.011	9812	526	C
6	Caribbean Blvd	SW 117 Ave	SW 110 Ave	COUNTY	URBAN COLLECTOR	D	2	333	675	720	0.995	18598	980	F
7		SW 110 Ave	US-1			D	4	657	1467	1530	1.001	31912	1682	F
8		US-1	SR 821			D	4	657	1467	1530	1.036	13184	695	D
9		SR 821	SW 97 Ave			D	2	333	675	720	1.041	24910	1306	F
10		SW 97 Ave	Marlin Rd.			D	2	333	675	720	1.086	15189	800	F
11		Marlin Rd.	Franjo Rd.			D	2	333	675	720	1.126	14937	694	E
12		Franjo Rd.	SW 87 Ave			D	2	333	675	720	1.017	6674	378	D
13		SW 87 Ave	SW 184 St			D	2	333	675	720	1.061	1907	127	C
14		SW 114 Ave	US-1			E	4	657	1467	1530	1.019	15057	802	D
15	SW 211 St	US-1	SW 112 Ave	COUNTY	URBAN COLLECTOR	E	6	1053	2268	2304	1.020	19094	1017	C
16		SW 112 Ave	SR 821			E	6	1053	2268	2304	1.015	20437	1089	D
17	SW 212 St	SW 87 Ave	SW 85 Ave	LOCAL	URBAN LOCAL	D	4	657	1467	1530	1.020	9431	502	C
18	SW 216 St	SR 821	Old Cutler Rd	COUNTY	URBAN MINOR ARTERIAL	E	4	657	1467	1530	1.025	28870	1572	F
19		Old Cutler Rd	SW 87 Ave			E	4	657	1467	1530	1.014	15658	966	D
20	SW 232 St	SW 97 Ave	SW 87 Ave	LOCAL	URBAN LOCAL	D	2	333	675	720	1.080	2772	148	C
21	SW 85 Ave	Old Cutler Rd	SW 212 St	LOCAL	URBAN LOCAL	D	4	657	1467	1530	1.064	5633	300	C
22	Old Cutler Rd	SW 112 Ave	SW 224 St	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.020	11000	664	D
23		SW 224 St	SW 216 St		URBAN COLLECTOR	D	2	333	675	720	1.020	10822	670	D
24		SW 216 St	SW 97 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.003	20340	886	F
25		SW 97 Ave	Marlin Rd.		URBAN MINOR ARTERIAL	E	2	333	675	720	1.001	18940	990	F
26		Marlin Rd.	SW 87 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	0.993	20511	924	F
27		SW 87 Ave	SW 184 St		URBAN MINOR ARTERIAL	E	2	333	675	720	0.907	23260	878	C
28		SW 184 St	SW 77 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	0.995	26557	1301	F
29		SW 216 St	SW 211 St		URBAN MINOR ARTERIAL	D	4	3020	3660	3940	1.046	44821	2387	C
30	SR 821	SW 211 St	Caribbean Blvd	STATE	LIMITED ACCESS FREEWAY	D	4	3020	3660	3940	1.036	55353	2948	C
31		Caribbean Blvd	US-1			D	6	4580	5500	6080	1.036	95666	5096	D
32	Gulfstream Rd/SW 97 Ave	US-1	Quail Roost Dr	COUNTY	URBAN COLLECTOR	D	6	4580	5500	6080	1.036	120144	6400	F
33		Caribbean Blvd	Franjo Rd.			D	2	333	675	720	1.036	2673	201	C
34		Franjo Rd	SW 184 St			D	2	333	675	720	1.021	16550	874	F
35		SW 184 St	SW 174 St			D	2	333	675	720	1.030	11141	692	E
36		Old Cutler Rd	Caribbean Blvd			D	2	333	675	720	1.025	9849	510	D
37	Marlin Rd	Caribbean Blvd	SW 97 Ave	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.011	14423	743	F
38		SW 97 Ave	US-1			D	2	333	675	720	1.023	15640	802	F
39		US-1	SW 107 Ave			D	4	657	1467	1530	1.003	38310	1960	F
40	Franjo Rd.	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.009	14597	690	E
41		Caribbean Blvd	SW 97 Ave			D	2	333	675	720	1.004	19113	1018	F
42	SW 87 Ave	SW 232 St	SW 216 St	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.065	4147	271	C
43		SW 216 St	Old Cutler Rd			D	4	747	792	792	0.836	2461	145	C
44		Old Cutler Rd	Caribbean Blvd			D	4	657	1467	1530	0.992	6722	579	C
45		Caribbean Blvd	SW 184 St			D	4	657	1467	1530	1.044	11117	820	D
46		SW 184 St	SW 174 St			D	4	657	1467	1530	1.023	14984	978	D
47	US-1	SW 211 St	Caribbean Blvd	STATE	URBAN PRINCIPAL ARTERIAL	E(1.2)	6	2940	3020	3020	0.977	45397	1766	C
48		Caribbean Blvd	Marlin Rd.			E(1.2)	6	2940	3020	3020	0.953	54734	2126	C
49		Marlin Rd.	SW 184 St			E(1.2)	6	2940	3020	3020	0.953	50532	1960	C

Abbreviations:
TWLTL = Two Way Left Turn Lane
E(2)=Extraordinary Transportation E(120%)

Table 2.11: Actual LOS, Cont'd

Town of Cutler Bay Transportation Element 2008 - 2035 Conditions														
#	ROAD	FROM	TO	JURISDICTION	TYPE	LOS STANDARD	No. OF LANES	C VOLUME	D VOLUME	E VOLUME	Annual Growth Factor	AADT (vpd)	PEAK HR PEAK DR VOLUME (vph)	LOS 2020
1	SW 184 St	SW 107 Ave	US-1	COUNTY	URBAN MINOR ARTERIAL	E	4	1719	1800	1800	1.004	23846	1150	C
2		US-1	Franjo Rd			E	4	1719	1800	1800	1.049	24168	1165	C
3		Franjo Rd	SW 92 Ave			E	2	747	792	792	1.036	15090	727	C
4		SW 92 Ave	SW 87 Ave			E	2	747	792	792	1.035	17534	750	D
5		SW 87 Ave	Old Cutler Rd			E	2	747	792	792	1.006	10186	546	C
6	Caribbean Blvd	SW 117 Ave	SW 110 Ave	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.072	28234	1488	F
7		SW 110 Ave	US-1			D	4	657	1467	1530	1.070	47834	2521	F
8		US-1	SR 821			D	4	657	1467	1530	1.140	28866	1521	E
9		SR 821	SW 97 Ave			D	2	333	675	720	1.013	26958	1413	F
10		SW 97 Ave	Marlin Rd			D	2	351	712	760	1.013	16414	865	F
11		Marlin Rd	Franjo Rd			D	2	351	712	760	1.018	16594	771	F
12		Franjo Rd	SW 87 Ave			D	2	351	712	760	1.029	7922	449	D
13		SW 87 Ave	SW 184 St			D	2	333	675	720	1.014	2074	138	C
14		SW 114 Ave	US-1			E	4	657	1467	1530	1.035	18515	986	D
15		US-1	SW 112 Ave			E	6	1053	2268	2304	1.015	20875	1112	D
16	SW 211 St	SW 112 Ave	SR 821	COUNTY	URBAN COLLECTOR	E	6	1053	2268	2304	1.047	26911	1433	D
17	SW 212 St	SW 87 Ave	SW 85 Ave	LOCAL	URBAN LOCAL	D	4	657	1467	1530	1.029	11215	597	C
18	SW 216 St	SR 821	Old Cutler Rd	COUNTY	URBAN MINOR ARTERIAL	E	4	657	1467	1530	1.024	33371	1818	F
19		Old Cutler Rd	SW 87 Ave			E	4	657	1467	1530	1.081	24933	1538	F
20	SW 232 St	SW 97 Ave	SW 87 Ave	LOCAL	URBAN LOCAL	D	2	333	675	720	1.062	3983	212	C
21	SW 85 Ave	Old Cutler Rd	SW 212 St	LOCAL	URBAN LOCAL	D	4	657	1467	1530	0.989	5257	280	C
22	Old Cutler Rd	SW 112 Ave	SW 224 St	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.142	24423	1473	F
23		SW 224 St	SW 216 St		URBAN COLLECTOR	D	2	333	675	720	1.128	22310	1382	F
24		SW 216 St	SW 97 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.029	24100	1050	F
25		SW 97 Ave	Marlin Rd		URBAN MINOR ARTERIAL	E	2	333	675	720	1.025	22027	1152	F
26		Marlin Rd	SW 87 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.027	24108	1086	F
27		SW 87 Ave	SW 184 St		URBAN MINOR ARTERIAL	E	2	333	675	720	1.026	17530	1024	F
28		SW 184 St	SW 77 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.019	29788	1459	F
29		SW 216 St	SW 211 St		URBAN MINOR ARTERIAL	D	4	3020	3660	3940	1.036	55393	2951	C
30	SR 821	SW 211 St	Caribbean Blvd	STATE	LIMITED ACCESS FREEWAY	D	4	3020	3660	3940	1.046	72293	3851	E
31		Caribbean Blvd	US-1			D	6	4580	5500	6080	1.018	106215	5658	E
32		US-1	Quail Roost Dr			D	6	4580	5500	6080	1.008	126269	6726	F
33	Gulfstream Rd/SW 97 Ave	Caribbean Blvd	Franjo Rd	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.050	3576	269	C
34		Franjo Rd	SW 184 St			D	2	333	675	720	1.023	19008	1004	F
35		SW 184 St	SW 174 St			D	2	333	675	720	1.016	12262	762	F
36	Marlin Rd	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.033	11987	620	D
37		Caribbean Blvd	SW 97 Ave			D	2	333	675	720	1.018	16073	828	F
38		SW 97 Ave	US-1			D	2	333	675	720	1.013	16944	869	F
39		US-1	SW 107 Ave			D	4	657	1467	1530	1.021	43401	2221	F
40	Franjo Rd	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.044	18882	893	F
41		Caribbean Blvd	SW 97 Ave			D	2	333	675	720	1.048	25291	1347	F
42	SW 87 Ave	SW 232 St	SW 216 St	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.059	5840	381	D
43		SW 216 St	Old Cutler Rd			D	4	747	792	792	1.043	3173	187	C
44		Old Cutler Rd	Caribbean Blvd			D	4	657	1467	1530	1.040	8498	732	D
45		Caribbean Blvd	SW 184 St			D	4	657	1467	1530	1.017	12265	905	D
46		SW 184 St	SW 174 St			D	4	657	1467	1530	1.024	17246	1126	D
47		SW 211 St	Caribbean Blvd			E(1,2)	6	2940	3020	3020	1.032	54935	2136	C
48	US-1	Caribbean Blvd	Marlin Rd	STATE	URBAN PRINCIPAL ARTERIAL	E(1,2)	6	2940	3020	3020	1.047	72239	2806	C
49		Marlin Rd	SW 184 St			E(1,2)	6	2940	3020	3020	1.044	65465	2539	C

Abbreviations:

TWLTL = Two Way Left Turn Lane

E(2)=Extraordinary Transportation E(120%)



Task 2: Data Collection & Analysis

Table 2.11: Actual LOS, Cont'd

Town of Cutler Bay Transportation Element														
2008 - 2035 Conditions														
#	ROAD	FROM	TO	JURISDICTION	TYPE	LOS STANDARD	2035						PEAK HOUR/PEAK DIRECTION	
							No. OF LANES	C VOLUME	D VOLUME	E VOLUME	Annual Growth Factor	AADT (vpd)	PEAK HR PEAK DR VOLUME (vph)	LOS 2035
1	SW 184 ST	SW 107 AVE	US-1	COUNTY	URBAN MINOR ARTERIAL	E	4	1719	1800	1800	1.001	24145	1164	C
2		US-1	Franjo Rd.			E	4	1719	1800	1800	1.010	27905	1345	C
3		Franjo Rd	SW 92 Ave			E	2	747	792	792	1.007	16756	808	F
4		SW 92 Ave	SW 87 Ave			E	2	747	792	792	1.007	19458	833	F
5		SW 87 Ave	Old Cutler Rd			E	2	747	792	792	1.001	10378	556	C
6	Caribbean Blvd	SW 117 Ave	SW 110 Ave	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.014	34789	1833	F
7		SW 110 Ave	US-1			D	4	657	1467	1530	1.014	58563	3086	F
8		US-1	SR 821			D	4	657	1467	1530	1.026	42712	2251	F
9		SR 821	SW 97 Ave			D	2	333	675	720	1.000	26941	1412	F
10		SW 97 Ave	Marlin Rd.			D	2	351	712	760	0.994	15002	791	F
11		Marlin Rd.	Franjo Rd.			D	2	351	712	760	0.986	13377	622	D
12		Franjo Rd.	SW 87 Ave			D	2	351	712	760	1.006	8632	489	D
13		SW 87 Ave	SW 184 St			D	2	333	675	720	1.003	2163	144	C
14		SW 211 St	SW 114 Ave			US-1	COUNTY	URBAN COLLECTOR	E	4	657	1467	1530	1.007
15	US-1		SW 112 Ave	E	6	1053			2268	2304	1.003	21827	1163	D
16	SW 112 Ave		SR 821	E	6	1053			2268	2304	1.009	30881	1645	D
17	SW 212 St	SW 87 Ave	SW 85 Ave	LOCAL	URBAN LOCAL	D	4	657	1467	1530	1.006	12229	651	C
18	SW 216 St	SR 821	Old Cutler Rd	COUNTY	URBAN MINOR ARTERIAL	E	4	657	1467	1530	1.005	35878	1954	F
19		Old Cutler Rd	SW 87 Ave			E	4	657	1467	1530	1.016	31462	1941	F
20	SW 232 St	SW 97 Ave	SW 87 Ave	LOCAL	URBAN LOCAL	D	2	333	675	720	1.012	4775	254	C
21	SW 85 Ave	Old Cutler Rd	SW 212 St	LOCAL	URBAN LOCAL	D	4	657	1467	1530	0.998	5079	271	C
22	Old Cutler Rd	SW 112 Ave	SW 224 St	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.027	36393	2196	F
23		SW 224 St	SW 216 St		URBAN COLLECTOR	D	2	333	675	720	1.024	32034	1984	F
24		SW 216 St	SW 97 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.006	26234	1143	F
25		SW 97 Ave	Marlin Rd.		URBAN MINOR ARTERIAL	E	2	333	675	720	1.005	23754	1242	F
26		Marlin Rd.	SW 87 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.005	26138	1178	F
27		SW 87 Ave	SW 184 St		URBAN MINOR ARTERIAL	E	2	333	675	720	1.005	18926	1164	F
28		SW 184 St	SW 77 Ave		URBAN MINOR ARTERIAL	E	2	333	675	720	1.004	31548	1545	F
29		SR 821	SW 216 St		SW 211 St	STATE	LIMITED ACCESS FREEWAY	D	10	7680	9220	10360	1.007	61581
30	SW 211 St		Caribbean Blvd	D	10			7680	9220	10360	1.009	82618	4401	C
31	Caribbean Blvd		US-1	D	10			7680	9220	10360	1.003	111918	5962	C
32	US-1		Quail Roost Dr	D	10			7680	9220	10360	1.002	129448	6895	C
33	Gulfstream Rd/SW 97 Ave	Caribbean Blvd	Franjo Rd.	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.010	4136	311	C
34		Franjo Rd	SW184 St			D	2	333	675	720	1.005	20371	1076	F
35		SW184 St	SW 174 St			D	2	333	675	720	1.003	12864	800	F
36		Old Cutler Rd	Caribbean Blvd			D	2	333	675	720	1.007	13224	685	E
37	Marlin Rd	Caribbean Blvd	SW 97 Ave	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.004	16967	874	F
38		SW 97 Ave	US-1			D	2	333	675	720	1.003	17636	904	F
39		US-1	SW 107 Ave			D	4	657	1467	1530	1.004	46196	2364	F
40	Franjo Rd.	Old Cutler Rd	Caribbean Blvd	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.009	21476	1015	F
41		Caribbean Blvd	SW 97 Ave			D	2	333	675	720	1.009	29094	1549	F
42	SW 87 Ave	SW 232 St	SW 216 St	COUNTY	URBAN COLLECTOR	D	2	333	675	720	1.011	6930	452	D
43		SW 216 St	Old Cutler Rd			D	4	747	792	792	1.008	3602	212	C
44		Old Cutler Rd	Caribbean Blvd			D	4	657	1467	1530	1.008	9555	823	D
45		Caribbean Blvd	SW 184 St			D	4	657	1467	1530	1.003	12882	951	D
46		SW 184 St	SW 174 St			D	4	657	1467	1530	1.005	18503	1208	D
47		US-1	SW 211 St			Caribbean Blvd	STATE	URBAN PRINCIPAL ARTERIAL	E(1,2)	6	2940	3020	3020	1.006
48	Caribbean Blvd		Marlin Rd.	E(1,2)	6	2940			3020	3020	1.001	73823	2867	C
49	Marlin Rd.		SW 184 St	E(1,2)	6	2940			3020	3020	1.005	70611	2739	C
Abbreviations: TWLTL = Two Way Left Turn Lane E(2)=Extraordinary Transportation E(120%)														

**Existing Year 2008 Roadway Level of Service (LOS)
Measured as Peak-hour, Peak-direction**

Due to the changes in the standards resulting from the changes enacted by the Florida Department of Transportation in setting the LOS standards, the 2008 numbers have been used to re-assess the roads in order to provide an appropriate comparison. In 2008, 36 links, or 73.5 %, were acceptable, with 13, or 26.5% below the adopted LOS. Under the previously used standards, 27 links, or 55% were acceptable, and 22 links, or 45%, failed to meet the adopted LOS.

The following major roadways operated at LOS D:

- Caribbean Boulevard between 97th Avenue and 87th Avenue
- SW 211st Street between SW 114th Avenue and US-1
- SW 216th Street between SR-821 and SW 212th Street
- Old Cutler Road between SW 112th Avenue and SW 216th Street
- Gulfstream/97th Road between SW 184th Street and SW 174th Street
- Marlin Road between Old Cutler Road and Caribbean Boulevard
- Franjo Road between Old Cutler Road and Caribbean Boulevard
- SW 87th Avenue between SW 184th Street and SW 174th Street

The following major roadways operated at LOS E:

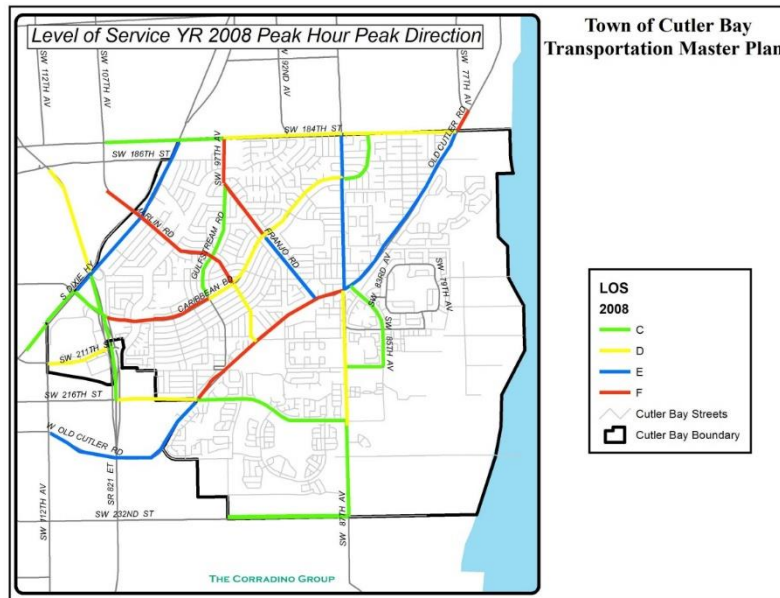
- Marlin Road between Caribbean Boulevard and US-1

The following major roadways operated at LOS F:

- Caribbean Boulevard between SW 117th Avenue and US-1
- Caribbean Boulevard between SR 821 and SW 97th Avenue
- Old Cutler Road between SW 216th Street and SW 174th Street
- Gulfstream Road/SW 97th Avenue between Franjo Road and SW 184th Street
- Marlin Road between US-1 and SW 107th Ave
- Franjo Road between Caribbean Boulevard and SW 97th Avenue

The following two maps (**Figures 2.21 and 2.22**) depict the LOS under the old and revised standards as applied to the 2008 numbers:

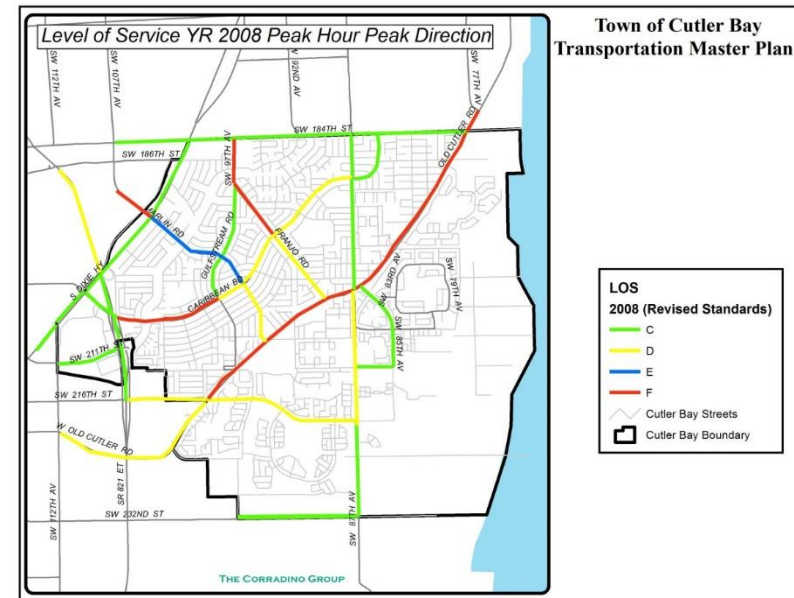
Figure 2.21: 2008 LOS (2008 Cutler Bay TMP)



Existing Year 2014 Roadway Level of Service (LOS) Measured as Peak-hour, Peak-direction

In 2014, 31 of 49 links or 63.3% operate at an acceptable Level of Service. 18 links or 37.7% are failing to meet the adopted LOS. Under the same standards, in 2008, 36 links, or 73.5 %, were acceptable, with 13 links, or 26.5% failing.

Figure 2.22: 2008 LOS (New FDOT Standards)



The following major roadways are operating at LOS D:

- Caribbean Boulevard between US-1 and SR 821
- Caribbean Boulevard between Franjo Road and 87th Avenue
- SW 211th Street between SW 114th Avenue and SR 821
- SW 216th Street between Old Cutler Road and SW 212th Street
- Old Cutler Road between SW 112th Avenue and SW 216th Street
- SR 821 between Caribbean Boulevard and US-1
- Marlin Road between Old Cutler Road and Caribbean Boulevard
- SW 87th Avenue between Caribbean Boulevard and SW 174th Street

The following major roadways are operating at LOS E:

- Caribbean Boulevard between Marlin Road and Franjo Road
- Gulfstream/97th Road between SW 184th Street and SW 174th Street
- Franjo Road between Old Cutler Road and Caribbean Boulevard

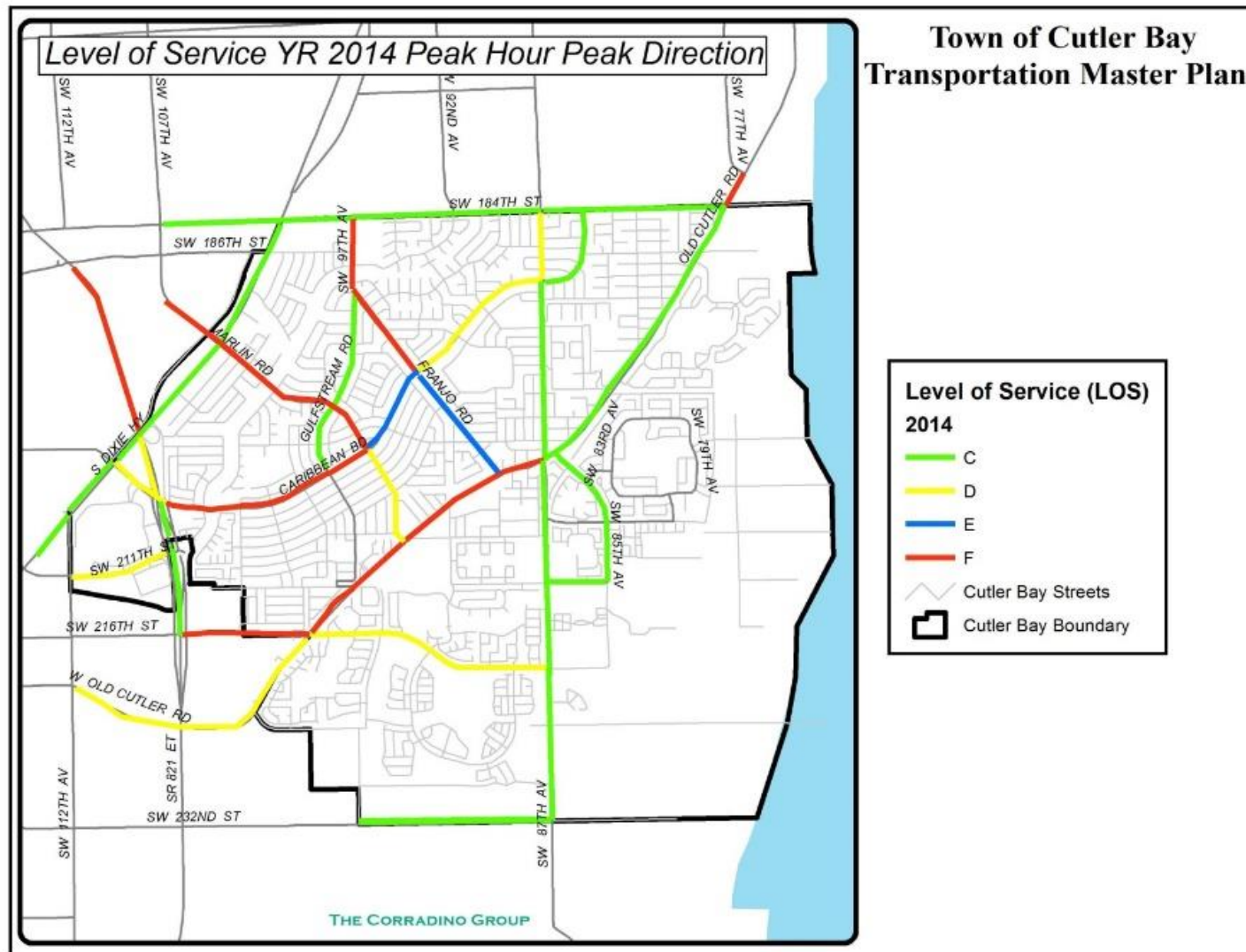
The following major roadways are operating at LOS F:

- Caribbean Boulevard between SW 117th Avenue and US-1

- Caribbean Boulevard between SR-821 and Marlin Road
- SW 216th Street between SR-821 and Old Cutler Road
- Old Cutler Road between SW 216th Street and SW 87th Avenue
- Old Cutler Road between SW 194th Street and SW 174th Street
- SR 821 between US-1 and Quail Roost Drive
- Gulfstream Road/SW 97th Avenue between Franjo Road and SW 184th Street
- Marlin Road between Caribbean Boulevard and SW 107th Avenue
- Franjo Road between Caribbean Boulevard and SW 97th Avenue

The map on the following page illustrates the existing year 2014 LOS (**Figure 2.23**):

Figure 2.23: 2014 Level of Service



Year 2020 Roadway Level of Service (LOS) Measured as Peak-hour, Peak-direction

By 2020, all of Old Cutler Road will be LOS F, as will Franjo Road and the northern part of SW 97th Ave. Marlin Road is at LOS F and E, which surpasses acceptable concurrency thresholds. 24 links (49.0 %) are acceptable, and 25 links (51.0 %) are unacceptable by 2020.

The following major roadways are operating at LOS D:

- Caribbean Boulevard between Franjo Road and SW 184th Street
- SW 211th Street between SW 114th Avenue and SR 821
- Marlin Road between Old Cutler Road and Caribbean Boulevard
- SW 87th Avenue between SW 232nd Street and SW 216th Street
- SW 87th Avenue between Old Cutler Road and SW 174th Street

The following major roadways are operating at LOS E:

- Caribbean Boulevard between US-1 and SR 821

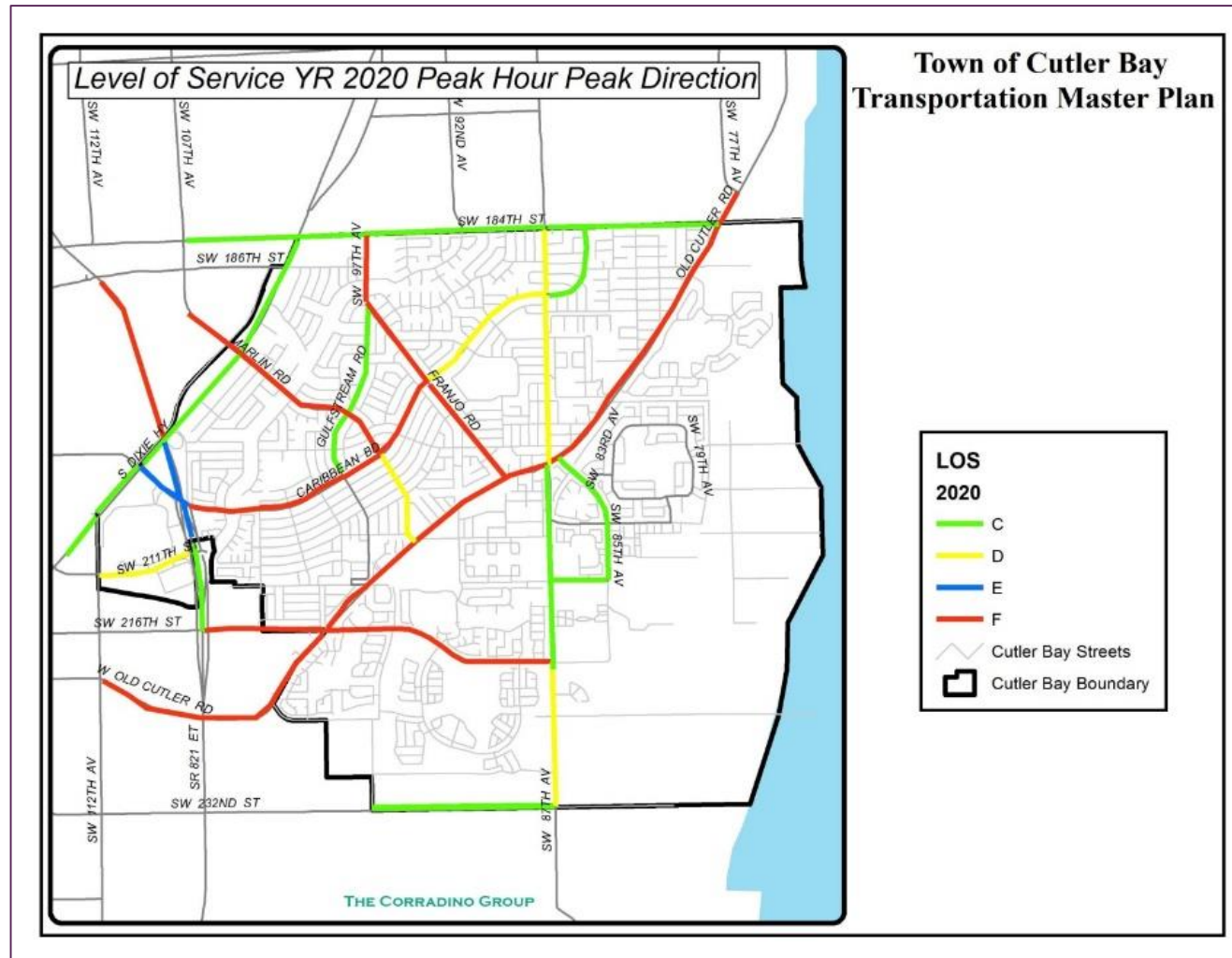
The following major roadways are operating at LOS F:

- Caribbean Boulevard between SW 117th Avenue and US-1

- Caribbean Boulevard between SR 821 and Marlin Road
- SW 216th Street between SR-821 and SW 212th Street
- Old Cutler Road between SW 112th Avenue and SW 174th Street
- Gulfstream Road/SW 97th Avenue between Franjo Road and SW 174th Street
- Marlin Road between Caribbean Boulevard and SW 107th Avenue
- Franjo Road between Old Cutler Road and SW 97th Avenue

The map on the following page illustrates the Year 2020 LOS:

Figure 2.24 – Year 2020 Level of Service



Year 2035 Roadway Level of Service (LOS) Measured as Peak-hour, Peak-direction

By 2035, 25 links (51.0 %) are acceptable, and 24 links (49.0 %) are unacceptable. The slight improvement from the 2020 figures is attributed to the expansion of the Turnpike noted in the Miami-Dade MPO LRTP, which allowed for 3 failing links to change from failing to acceptable Level of Service grades.

The following major roadways are operating at LOS D:

- Caribbean Boulevard between Marlin Road and 87th Avenue
- SW 211th Street between SW 114th Avenue and SR 821
- SW 87th Avenue between SW 232nd Street and SW 216th Street
- SW 87th Avenue between Old Cutler Road and SW 174th Street

The following major roadways are operating at LOS E:

- Marlin Road between Old Cutler Rd and Caribbean Blvd

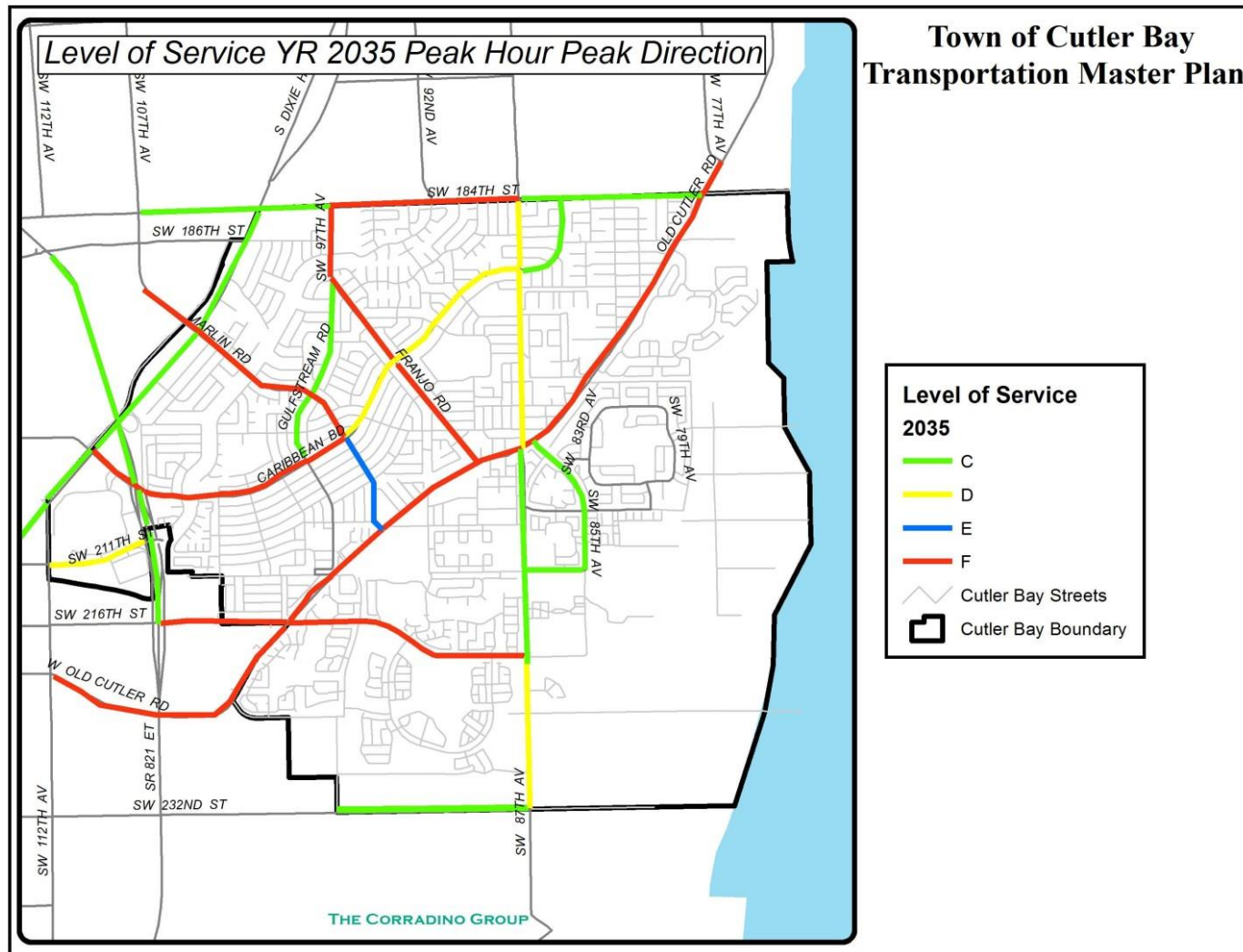
The following major roadways are operating at LOS F:

- SW 184th Street between Franjo Road and SW 87th Avenue

- Caribbean Boulevard between SW 117th Avenue and Marlin Road
- SW 216th Street between SR-821 and SW 212th Street
- Old Cutler Road between SW 112th Avenue and SW 174th Street
- Gulfstream Road/SW 97th Avenue between Franjo Road and SW 174th Street
- Marlin Road between Caribbean Boulevard and SW 107th Avenue
- Franjo Road between Old Cutler Road and SW 97th Avenue

The map on the following page graphically depicts the Year 2035 LOS:

Figure 2.25 – Year 2035 Level of Service



Summary of Roadway LOS Analyses

From the above roadway segment analyses, the following observations are made:

Comparison Between Year 2008 and 2014

Roadways falling below the acceptable LOS Standard:

- Caribbean Boulevard between SW 97th Avenue and Franjo Road
- SW 216th Street between SR-821 and Old Cutler Road
- SR 821 between US-1 and Quail Roost Drive
- Franjo Road between Old Cutler Road and Caribbean Boulevard

One roadway shifted from having an unacceptable LOS to an acceptable LOS due to changes in traffic volumes:

- Old Cutler Road between SW 87th Avenue and SW 184th Avenue

Roadways falling from E to F:

- Marlin Road between Caribbean Boulevard and US-1

Comparison Between Year 2014 and 2020

Roadways falling from above to below the acceptable LOS Standard:

- Caribbean Boulevard between US-1 and SR-821
- SW 216th Street between Old Cutler Road and SW 87th Avenue.
- Old Cutler Road between SW 112th Avenue and SW 216th Street

Roadways with their LOS going from E To F (Failing Roadways with continuing decline):

- Caribbean Boulevard between Marlin Road and Franjo Road
- Gulfstream Road/SW 97th Avenue between SW 184th Street and SW 174th Street
- Franjo Road between Old Cutler Road and Caribbean Boulevard

Comparison between Year 2020 and 2035

Roadways with their LOS going from D To E:

- Marlin Road between Old Cutler Road and Caribbean Boulevard

Roadways with their LOS going from E To F:

- Caribbean Boulevard between US-1 and SR-821

Improving Roadways due to projected traffic decreases:



Task 2: Data Collection & Analysis

- Caribbean Boulevard between Marlin Road and Franjo Road

The Project Bank section of this report provides details on the proposed improvements for these locations.

Modal Split

91.9 percent of Cutler Bay's workers commute by car, truck, or van, 3 percent by public transit, 2.4 percent walk or travel by some other means, and 2.7 percent worked at home (2012 US Census). In addition, Cutler Bay has a pattern of primarily private vehicle usage trending towards single occupancy in the vehicle, with 12.1% of all commuters carpooling.

By comparison, 90.2 percent of the region's commuters travel to work by car, 5.2 percent by public transit, 4.6 percent walk or travel by some other means, such as bicycle, motorcycle, or taxi. Compared to Miami-Dade County, a larger proportion of Cutler Bay's population uses personal vehicles for transit, and a lower percentage of the population utilizes public transit, walking, or other means of transportation.

Nationally, 86.1 percent of workers commute by car, truck, or van, 5 percent by public transit, 3.6 percent walk or travel by some other means, and 4.3 percent worked at home (2011 US Census). Of the commuters by car, the national trend is to drive alone, though at 19.1% of all commuters carpooling, a significantly higher

percentage of workers carpool in the United States as a whole than in Cutler Bay. These national trends have remained consistent since the adoption of the last Transportation Master Plan in 2008.

Vehicles per Household

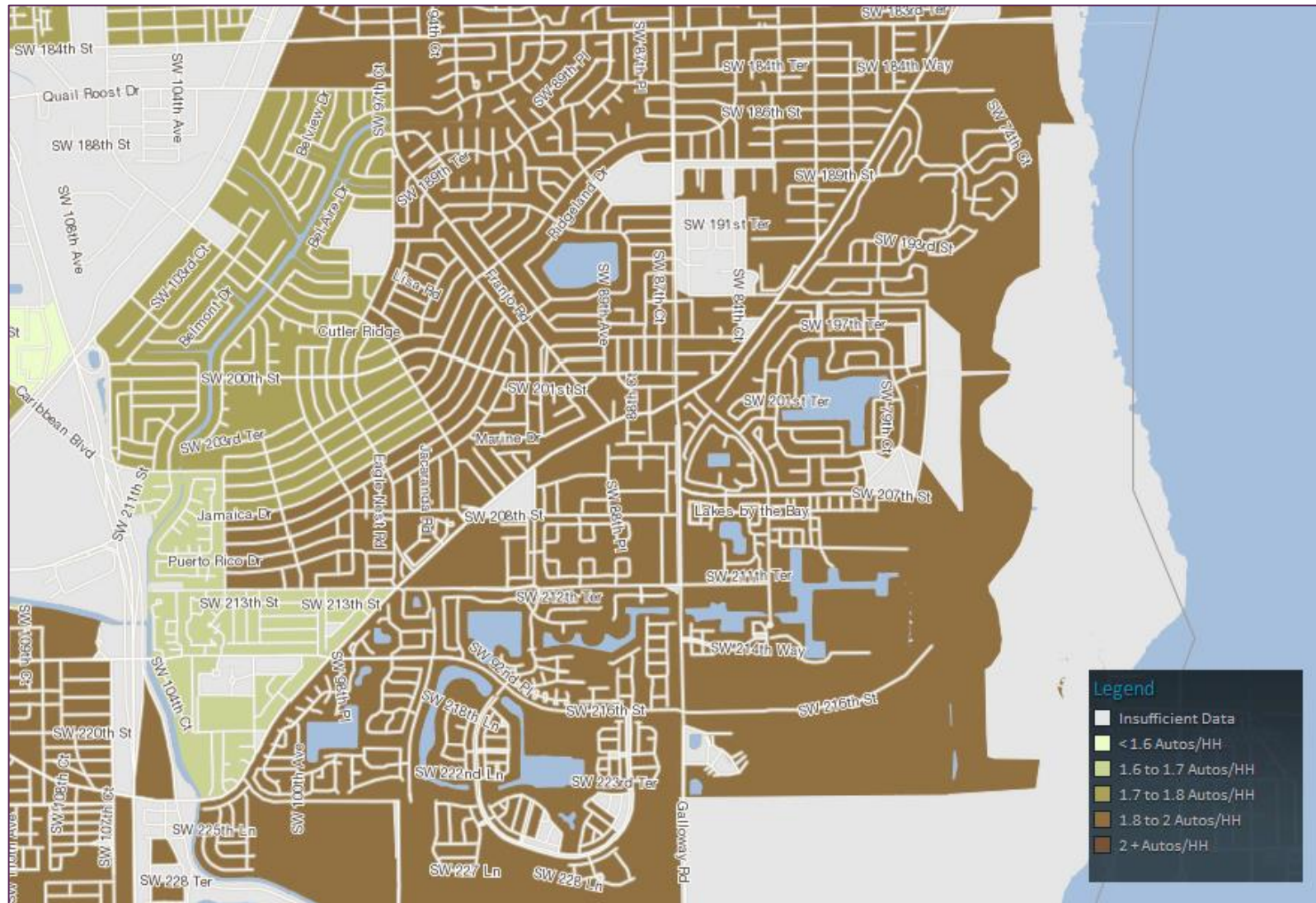
Determining the number of vehicles available per household is one of the most significant methods used to estimate actual vehicle use. A variety of socioeconomic and personal factors contribute to vehicle per household statistics, including more affordable vehicle models, increasing vehicle product lives, population growth, employment per household, income, and the number of licensed drivers per household. Nationally, statistics indicate that there are 1.03 vehicles per licensed driver and 1.52 vehicles per employed person. The Town of Cutler Bay averages 1.79 vehicles per household, below the 1.92 national figure established in 2009 by the US Department of Transportation. While the mean number of vehicles in households nationwide is 1.92 personal vehicles, households in the United States on average have 1.87 drivers who are 15 years or older, indicating more vehicles than drivers on average (US Federal Highway Administration).

Vehicle ownership is lowest in the areas adjacent to the Southland Mall/Government Center area as can be seen in **Figure 2.26**. Trends seen in the 2008 Transportation Master Plan, though at 1.64 autos per



household, is still higher than the national average of vehicles per worker. While this census block area has a significantly lower median household income, at \$31,835 per year, the census block with the second lowest number of autos per household has an annual median household income of \$68,155, which is significantly higher than the average annual median income of \$62,564 for Cutler Bay as a whole (US Census 2012 estimates).

Figure 2.26: Vehicles per Household (Source: Center for Neighborhood Technology, 2012)



While studies show a strong, positive correlation between household income and levels of automobile ownership, with higher incomes resulting in a higher likelihood of private vehicle ownership, this pattern does not seem to have a correlated trend in Cutler Bay. Rather, review of the census tracts east of Old Cutler Road indicates higher automobile ownership per household, despite having below average annual median household incomes of \$40,481 (US Census 2012 estimates). General demographic trends point to decreased automobile usage over time, which should result in less automobile ownership over time as well. However, what the current situation shows in Cutler Bay is that general trends do not necessarily hold consistently in all neighborhoods. It seems more likely that the pattern of auto ownership is partially driven by necessity in the case of Cutler Bay – the sprawl-like nature of development east of Old Cutler Road naturally demands automobile usage to navigate the transit system. Conversely, the area adjacent to the US-1 highway has immediate access to the South Dade Busway system, which can be utilized regardless of income and thus may lower demand for autos per household in the area as the previous figure indicates. Intermodal accessibility and efficiency in urban design, therefore, is an important consideration to evaluate in reducing congestion resulting from increased numbers of vehicles in the area.

Vehicle-Miles Traveled

Vehicle-Miles Traveled (VMT) is the total number of miles driven by all residential vehicles within a given period and geographic area. It is influenced by factors such as population, the number of vehicles per household, the number of car trips per day, and distance traveled. VMT is a critical factor for highway planning and management. When combined with other data, VMT are often used to estimate congestion, air quality, and potential gas tax revenues.

VMT in the past decade increased to approximately 3,000 billion miles, with annual increases until 2007, when these numbers began to decline and taper off to its current levels within the 2,950 billion miles range. VMT provide a comprehensive look at several different factors within a given area. Generally, lower VMT is an indication of an area with more intensive land-use.

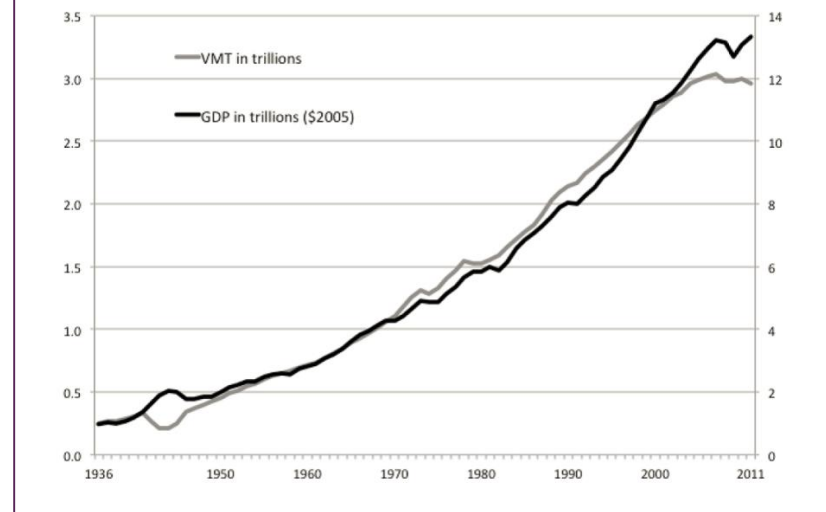
Sprawl-laden cities or places with low-density construction are most likely to experience high VMT because of the absence of reasonable mobility alternatives. High VMT is therefore generally correlated to regions that are predominantly autocentric. Network composition and connectivity is also a major contributor to VMT. Cities with defined, interconnected through-streets are more likely to feature lower VMT than areas with broken or disconnected roadway networks because of the direct link and various access points created.

However, recent national trends also indicate a strong relationship with economy and the ability of a household to afford travel may shift consumer preferences which would result in lower VMT overall, such as a rearrangement of modal split choices or generally lower amounts of non-essential travel, such as leisure-related trips. The VMT responds greatly to the conditions of the market, and a decrease in VMT can be associated with similar decreases in congestion, pollution, and increases in alternative modes of mobility such as walking, bicycling, or public transportation.

There is also a historically strong relationship between the Nation's economy and VMT. Since the 1930s, growth in the Gross Domestic Product (GDP) and vehicle-miles of travel (VMT) reflect strikingly similar patterns, including the period of energy disruptions during the 1970s (Source: US Department of Transportation).

Figure 2.27

Figure 1. Total Auto and Truck VMT (trillions) and GDP (trillions of \$2005), 1936-2011



Source: Ecola, Lisa and Martin Wachs. (2012). *Exploring the Relationship Between Travel Demand and Economic Growth*. Federal Highway Administration. http://www.fhwa.dot.gov/policy/otps/pubs/vmt_gdp/index.cfm

However, this trend is not necessarily constant, and as was found in a study presented to the Department of Transportation, general consensus indicates that both of these variables are affected by changes in population, employment and resulting productivity, as well as the price of fuel (Ecola and Watts, 2012. Exploring the Relationship Between Travel Demand and Economic Growth. Federal Highway Administration).

The Town of Cutler Bay experiences an average of approximately 19,294.36 vehicle-miles traveled annually per household. A direct correlation can be made between the regions with the highest public transportation use and VMT, equating to lower VMT than most other sections in the Town.

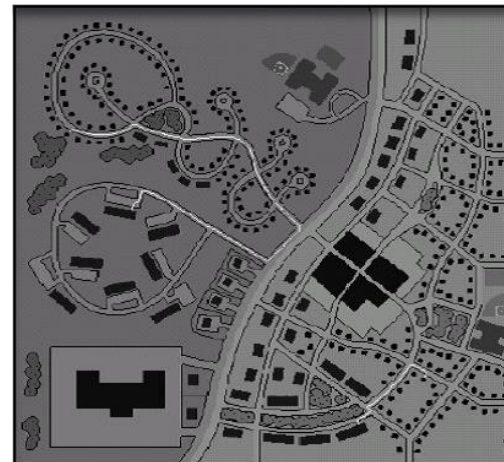
The Vehicle-Miles Traveled per household in Cutler Bay ranges from 17,318.45 to 21,425.92. Generally, the area east of Old Cutler Road experiences higher annual VMTs per households on average. The Town of Cutler Bay's VMT's per household ranks significantly lower than the national average of 25,338.55 VMT per household, but higher than Miami-Dade County's average VMT per household of 17,350.02.

The higher VMT in the area east of the Old Cutler Road is the result of sprawl-like development that has removed the local grid street system, placing further stress on the local arterial and collector roadways.

Figure 2.28 illustrates the connectivity differences

between grid networks and sprawl. The arterial in the center of the images connects two sides of a fictional city with very different land uses and planning. The right side illustrates the grid network while the left depicts a pattern of sprawl similar in pattern to eastern Cutler Bay's development. The two sides show identical land uses and units. Note: that the single access points and segregated land uses depicted by the sprawl side of the image, lead to an increase in VMT, congestion, pollution, and isolation. The connected network allows for smaller neighborhood streets with various forms of transit. The direct paths and routes to the various mixed-use facilities encourage walking, and cycling, and thus placing less stress on the local roadways.

Figure 2.28: Sprawl vs. Grid Network



(Source: Suburban Nation)



Task 2: Data Collection & Analysis

2.4.2: Transit LOS

Miami-Dade Transit (MDT) is the agency responsible for providing the public transportation needs within Cutler Bay and the entire Miami-Dade County region. Currently, MDT is the 15th largest public transit system in the United States and the largest transit agency in the state of Florida. MDT operates Metrobus, Metrorail, Metromover, and STS Paratransit, providing comprehensive coverage from Broward County south into Monroe County.

Metrobus

MDT directly operates over 800, 40-foot buses and 78 minibuses along more than 100 routes. MDT buses travel over 29 million scheduled miles throughout Miami-Dade each year. In 2013, Metrobus' total annual ridership was 6,476,776.

Metrorail

Metrorail is an electrically powered, elevated, heavy rail rapid transit system that extends from Pinecrest to Medley. Metrorail links Downtown Miami's Central Business District with Tri-Rail, the Civic Center, and Hialeah to the north and Kendall, the University of Miami, and South Miami to the south. The 25-mile system was first opened on May 20, 1983 and today experiences over 120,000 daily boardings.

Metrorail operates from 5 a.m. to midnight, seven days a week, including holidays. On weekdays, trains arrive

every 7-8 minutes during morning and afternoon peak hours, every 15 minutes during weekday midday hours, and every 30 minutes from 7:30 p.m. until closing. Weekend service runs every 30 minutes.

Metromover

Metromover is a free, automated, and elevated people-mover system that serves downtown Miami from the Omni district to Brickell. The Metromover connects with Metrorail at the Government Center and Brickell stations. Metromover links the offices, judicial courts, and retail of the central business district with the emerging condominium residences and entertainment districts in downtown Miami.

Special Transportation Service (STS)

STS is Miami-Dade Transit's complimentary Paratransit service, based on the Metrobus, Metrorail, and Metromover services. It was established in 1976 to meet the special transportation needs of disabled Miami-Dade County citizens and is available to anyone a physician certifies as unable to use regular public transit. Privately contracted sedans, vans, and vans equipped with lifts provide door-to-door service for eligible customers and service is offered with no restrictions on trip purpose. Fare is \$3.50 for a one-way trip.

Despite Miami-Dade Transit being one of the largest departments of Miami-Dade County government, it has been unable in recent times to secure enough financing

to realize the optimal desired countywide operation and frequency. Perennially operating at a deficit, MDT receives funding from the People's Transportation Plan, a plan enacted in 2002 in the countywide election, and has not achieved promised results.

Miami-Dade Busway

The initial 8.3-mile phase of South Miami-Dade Busway, the first of its kind in Florida, began operation in 1997. The South Miami-Dade Busway runs from Florida City to the Dadeland South Metrorail station in downtown Kendall, adjacent to US-1. The busway was built by the Florida Department of Transportation (FDOT) and can solely be used by Miami-Dade buses and emergency vehicles.

The first segment of the extension to Florida City opened in 2005, and extended the Busway 5 miles from SW 112th Ave. to SW 264th St. in Naranja. The second and final segment of the extension, which opened in 2007, now extends the Busway another 6.5 miles south from SW 264th St. to SW 344th St. in Florida City, Miami-Dade County's southernmost municipality.

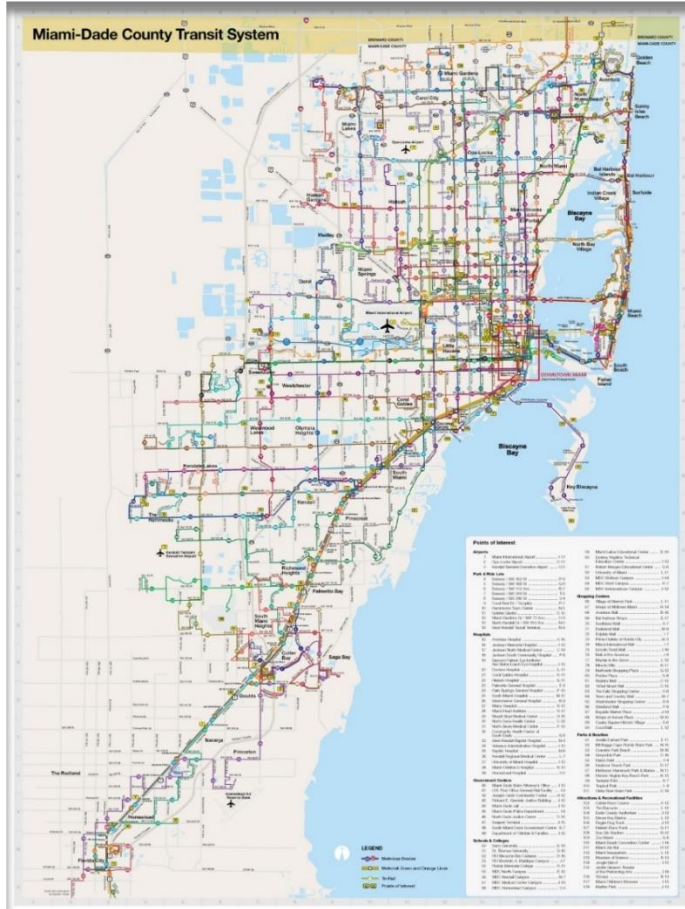
Today, the 20-mile busway links Pinecrest, Palmetto Bay, Cutler Bay, Goulds, Naranja, Homestead, and Florida City neighborhoods. Both local and express buses operate on the right-of-way, traversing the entire corridor from Pinecrest to SW 344th Street in an hour or less. Access to the adjacent neighborhoods from the busway for local bus routes is achieved at major intersections. Meanwhile,

express buses offer a limited stop service from each of the 5 park & ride facilities along the path at SW 152nd, SW 168th, SW 200th, SW 244th and SW 296th Streets, and in Cutler Bay, residents now also have a Park and Ride lot at the busway at SW 112th Avenue. Plans are in the works for a future Park & Ride lot at SW 344th St. There are a total of 28 stops along the entirety of the Busway, all of which are covered and contain transfer and route information. Daily, over 10 bus routes use the busway for all or part of their commutes, providing riders with a congestion-free connection through much of southern Miami-Dade County.

Existing Public Transportation

Uniquely situated within the Town of Cutler Bay are three regionally significant private and public structures, all of which serve as a catalyst for regional development and vital transportation links. The Southland Mall, South-Dade Government Center, and South-Dade Performing Arts Complex, comprise the dense nucleus or regional activity that requires adequate public transportation connectivity in order to minimize regional traffic. The Town of Cutler Bay benefits greatly from these regional centers, bringing ten bus routes into the area.

Figure 2.29: South Miami-Dade Busway and Routes



(Data Source: Miami-Dade County)

Figure 2.30: Existing Cutler Bay Bus Routes

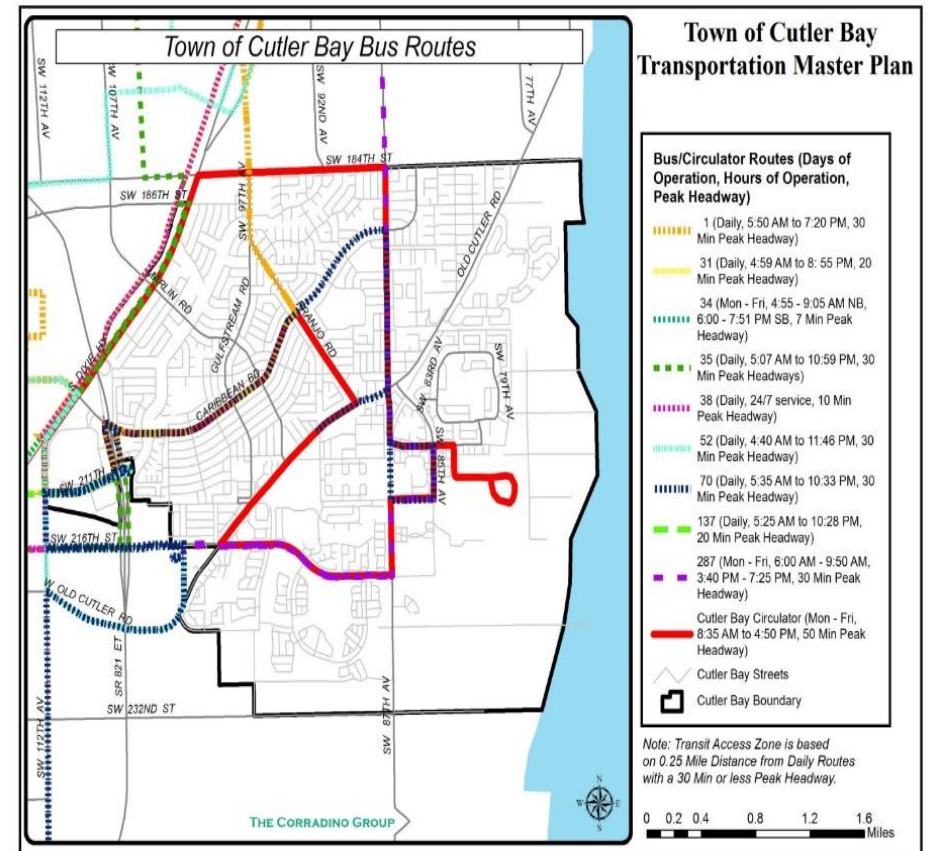
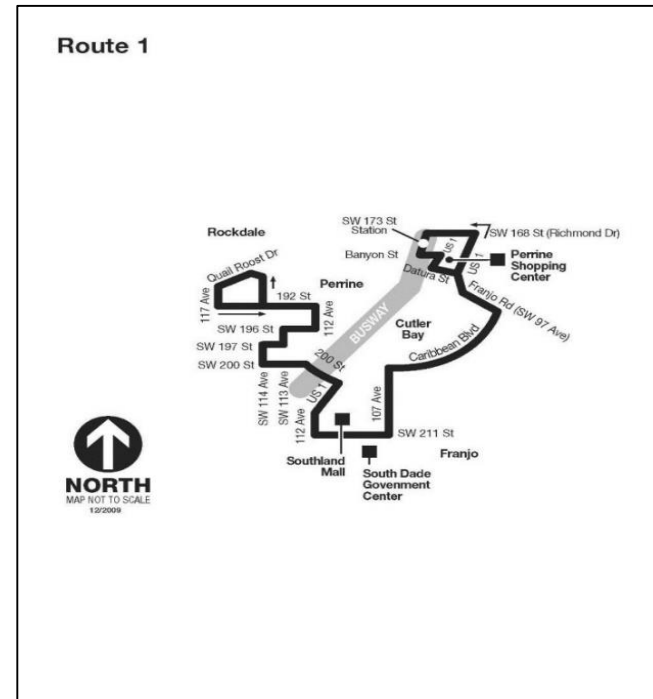


Table 2.12: Cutler Bay Bus Routes

Route	Peak Headway (Minutes)	Weekend Service	Hours of Operation		Average Weekday Ridership
			Begin	End	
1	30	Yes	5:50 AM	7:20 PM	584
31	20	Yes	4:59 AM	8:55 PM	1,952
34	7-10	No	4:55 – 9:05 AM (Northbound)	6:00 – 7:51 PM (Southbound)	1,823
35	30	Yes	5:07 AM	10:59 PM	3,166
38	10-20	Yes	24/7		7,866
52	30	Yes	4:40 AM	11:46 PM	1,952
70	30	Yes	5:35 AM	10:33 PM	1,649
137	30-35	Yes	5:25 AM	10:28 PM	2,275
Cutler Bay circulator (Route 200)	50	No	8:35 AM	4:50 PM	50
287	34	No	6:00 AM	7:25 PM	417

Cutler Bay Bus Routes:**Figure 2.31:****Route 1 (via busway):**

(Source: Miami-Dade Transit)

Bus Route 1 services a 5.3-mile segment of the busway from the Dadeland North Metrorail station to the Cutler Ridge Park & Ride. The route begins weekday service at 5:50 AM (northbound) and operates at a peak 30 minute headway (effective July 19, 2013) until 6:50 PM.

Route 1 takes approximately 40 minutes to complete half of the full route length. Saturday and Sunday schedules are similar, with peak 40-minute headways and operation from approximately 7:00 AM to 7:40 PM. Route 1 services both Dadeland North and South Metrorail stations, Cutler Ridge Mall, The Falls Mall, the 152nd Street Park & Ride lot, the 168th Street Park & Ride Lot, the Perrine Shopping Center, and the Southland Mall. The route utilizes a continuous 5.3 segment of the busway from the Dadeland South Metrorail Station to SW 168th Street.

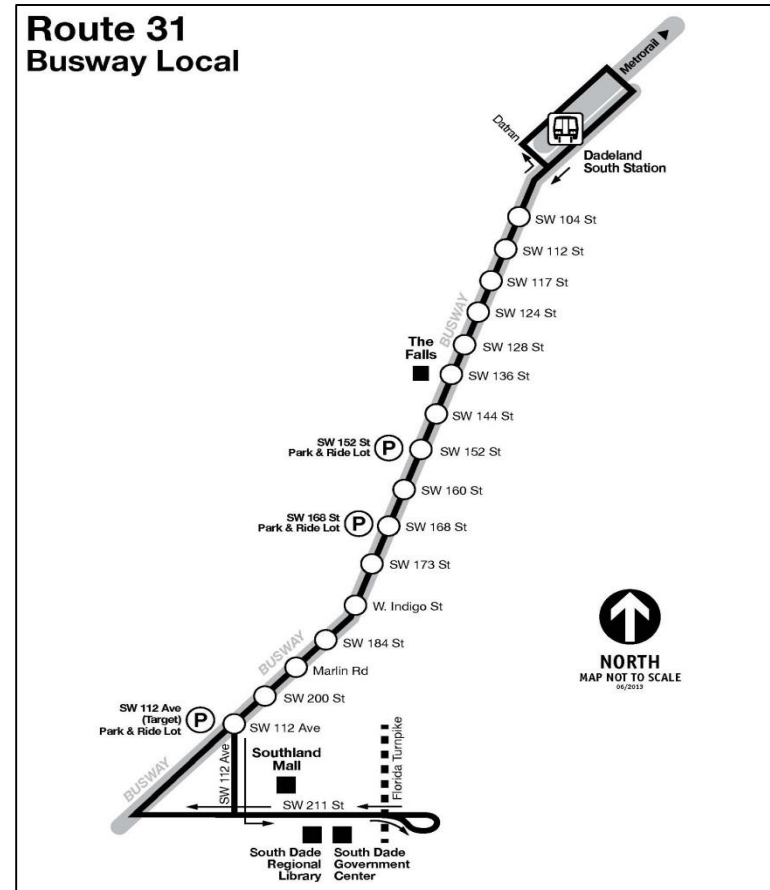
For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 584 passengers, with 187,497 passengers for the year, for an average of 15,625 passengers per month. The buses used to serve Bus Route 1 are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 1 connects Cutler Bay with Metrorail at the Dadeland South and North Stations (approx travel time from the South Dade Government Center: 40 minutes.) The route enters Cutler Bay from the north along Franjo Road. At Caribbean Boulevard, the route heads west to 107th Avenue where it turns south to SW 211th Street. The route passes along the South Dade Government Center Complex, South Dade Performing Arts Center, and Southland Mall, before exiting the town along US-1.

Route 1 makes use of the covered bus shelters along Franjo Road, Caribbean Boulevard, and SW 211th Street.

Figure 2.32:

Route 31 (busway local):



(Source: Miami-Dade Transit)

Bus Route 31 services an 8.3-mile segment of the Busway from the Dadeland North Metrorail Station to SW 112th Avenue at Southland Mall. The route begins weekday service at 4:59 AM (northbound) and operates at a peak 20 minute headway until 8:24 PM. Route 31 takes approximately 33 minutes to complete half of the full route length.

Saturday and Sunday schedules are similar, with peak 30-minute headways and operation from approximately 4:59 AM to 8:43 PM (Northbound). Route 31 services Dadeland South Metrorail Station, The Falls, Southland Mall, South Dade Government Center and the SW 152nd and SW 168th Street park & ride lots. The route utilizes a continuous 8.3 segment of the Busway from the Dadeland South Metrorail station to SW 112th Avenue.

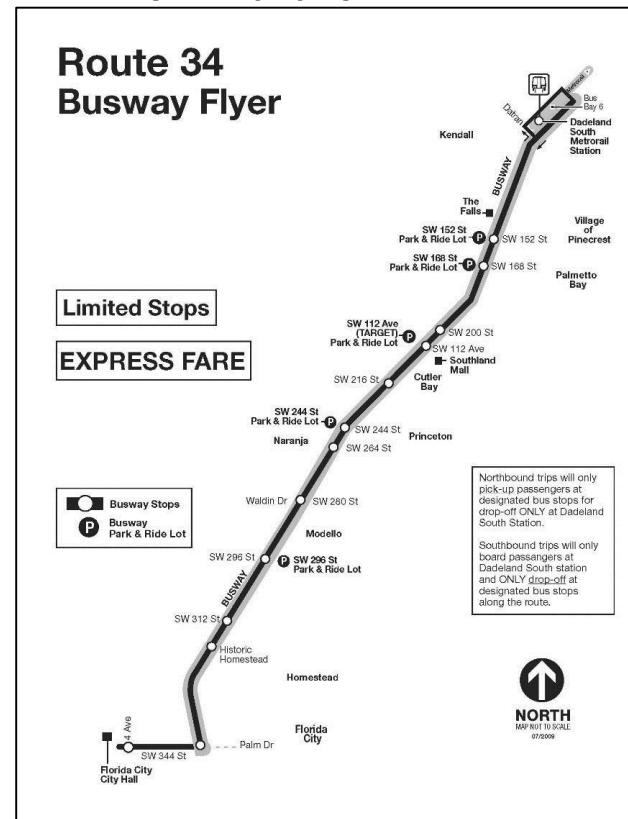
For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 1952 passengers, with 617, 216 passengers for the year, for an average of 51, 435 passengers per month. The buses used to serve Bus Route 31 are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 31 connects Cutler Bay with Metrorail at the Dadeland South Station (approx travel time from the South Dade Government Center: 30 minutes.) The route heads south to the Southland Mall via SW 112th Avenue and turns onto SW 211th Street. It then heads east and

runs a short loop after passing the South Dade Government Center complex along SW 211th Street before returning to the Busway along SW 211th Street.

Figure 2.33:

Route 34 (Busway flyer):



(Source: Miami-Dade Transit)



Task 2: Data Collection & Analysis

Bus Route 34 services the full 19.7-mile busway from the Dadeland South Metrorail Station to Florida City. The 34 Busway Flyer is a limited stop express bus, with fares of \$2.65 for full fare passengers. The route begins weekday service at 4:55 AM (northbound only) and operates at a peak 7-10 minute headway until 9 AM. The route continues service southbound beginning at 3:46PM and operates until 7:51 PM. Route 34 takes approximately 63 minutes to complete the full route length (one-way). Route 34 does not operate on Saturday or Sunday. Route 34 services the Dadeland South Metrorail Station, The Falls Mall, Southland Mall, Florida City and the SW 152nd, SW 168th, SW 200th, SW 244th, and SW 296th Streets' park & ride lots. The route utilizes the full 19.7 mile Busway from the Dadeland South Metrorail Station to Florida City.

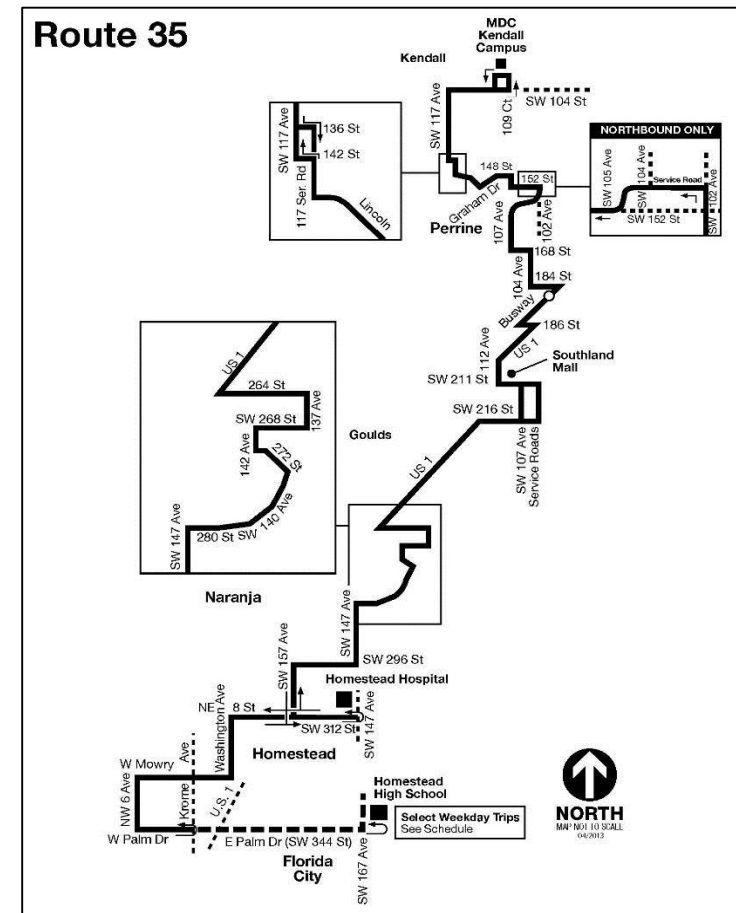
For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 1,823 passengers, with 463,828 passengers for the year, for an average of 38, 652 passengers per month. The buses used to serve Bus Route 34 are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 34 connects Cutler Bay with Metrorail at the Dadeland South Station to the north and Florida City to the south (approx. travel time from the SW 200th Street Busway Station: 40-45 minutes northbound, 37 minutes southbound.) This route has only two stops within the

Town limits, both of which are located along the Busway: the SW 112th Avenue Park & Ride lot and SW 200th Street.

Figure 2.34:

Route 35:



(Source: Miami-Dade Transit)

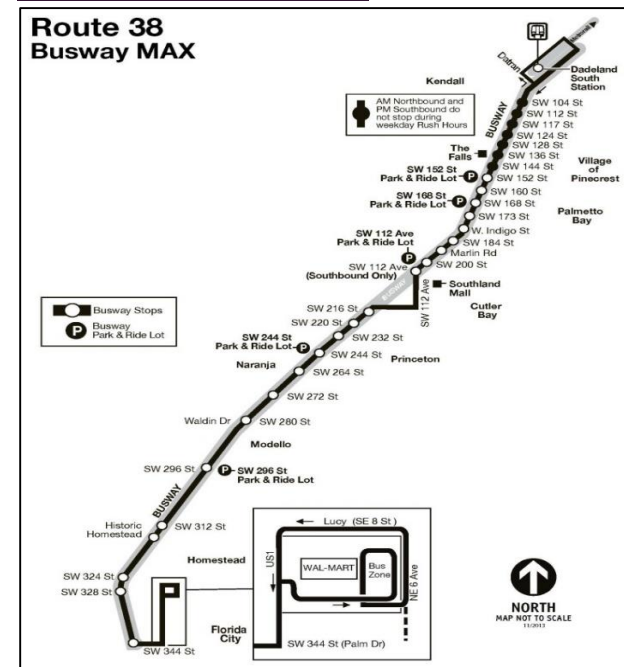
Bus Route 35 operates parallel to the Miami-Dade Busway servicing mainly the neighborhoods located Southeast of US-1 (south of 186th street) and west of US-1 into the Kendall region. The route utilizes a 0.17 mile segment of the busway between SW 186th and SW 184th Streets. The route begins weekday service at 5:22 AM and operates at 30-minute headways between 6:40 AM and 2:40 PM, after which it operates at 25-minutes headways until 4:15 PM, after which the headway increases 30 minutes until 7:25 PM before increasing to 45-65 minute headways and ceasing service at 10:05 PM (northbound). Route 31 takes approximately 100 minutes to complete half of the full route length. Saturday and Sunday schedules are different, with headways in the range of 60 minutes and operations from approximately 6:40 AM to 10:05 PM on Saturdays (Northbound) and 6:40 AM to 7:00 PM on Sundays. Route 35 services Miami-Dade College Kendall Campus Perrine, Southland Mall, South Miami-Dade Government Center, Homestead Hospital, and Homestead High School (select weekday trips only).

For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 3,166 passengers, with 945,010 passengers for the year, for an average of 78,751 passengers per month. The buses used to serve Bus Route 35 are equipped to handle handicap passengers and those commuting with bicycles.

Route 35 connects the Town of Cutler Bay with the Miami-Dade College Kendall Campus to the north and Homestead and Florida City to the south. Route 35 enters the Town limits from the north at SW 186th Street and US-1. The route travels south along US-1 to SW 112th Avenue where it continues south to SW 211th Street. The route runs east along the South Dade Government Center before exiting the Town limits at SW 108th Avenue en route to SW 216th Street.

Figure 2.35:

Route 38 (Busway max):



(Source: Miami-Dade Transit)



Task 2: Data Collection & Analysis

Bus Route 38 services the full 19.7-mile Busway from the Dadeland South Metrorail Station to Florida City. This route provides 24-hour service along the Busway and operates at peak 10-12 minute headways. Route 38 takes approximately 80 minutes to complete half of the full route length. Friday, Saturday, and Sunday schedules are similar, with peak 13-minute headways and overnight operation. Route 38 services the Dadeland South Metrorail Station, Cutler Ridge Mall, The Falls Mall, the 152nd Street Park & Ride lot, the 168th Street Park & Ride lot, the Perrine Shopping Center, and the Southland Mall. The route utilizes a continuous 5.3 segment of the Busway from the Dadeland South Metrorail Station to SW 168th Street.

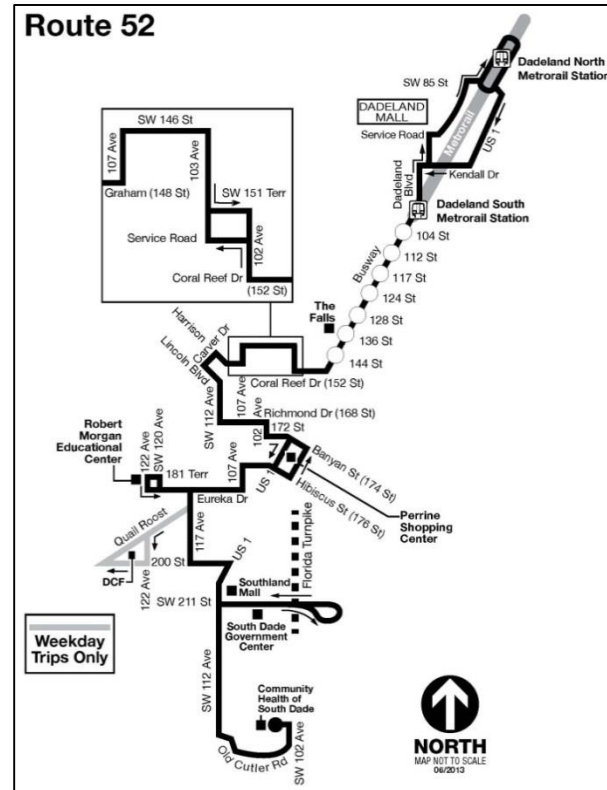
For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 7866 passengers, with 2,640,533 passengers for the year, for an average of 220,044 passengers per month. The buses used to serve route 38 are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 38 connects Cutler Bay with Metrorail to the north at the Dadeland South Station and with Florida City to the south (approx. travel time from the South Dade Government Center: 30 minutes north, 35 minutes south). The route enters Cutler Bay from the north at SW 112th Avenue and exits the town en route to SW 216th Street, where it turns west. The route passes along the

South Dade Performing Arts Center and Southland Mall before returning to the Busway.

Figure 2.36:

Route 52:



(Source: Miami-Dade Transit)

Bus Route 52 services a 4.2-mile segment of the Busway from the Dadeland North Metrorail Station to SW 152nd Street/Coral Reef Drive. The route begins weekday service

at 4:45 AM (northbound) and operates at peak 30-minute headway in the mornings until 10:00 PM (1-hour headway northbound in the afternoon/evening). Route 52 takes approximately 110 minutes to complete half of the full route length. Saturday and Sunday schedules are similar, with 1-hour headways and operation from approximately 5:45 AM to 9:00 PM.

Route 52 services the Dadeland North and Dadeland South Metrorail Stations, Dadeland Mall, The Falls, The Perrine Shopping Center, Jackson South Hospital, Robert Morgan Educational Center, DCF (weekday trips only), Southland Mall, South Miami-Dade Government Center, and the Community Health Center of South Dade. The route utilizes a continuous 4.2 segment of the busway from the Dadeland South Metrorail Station to SW 152nd Street.

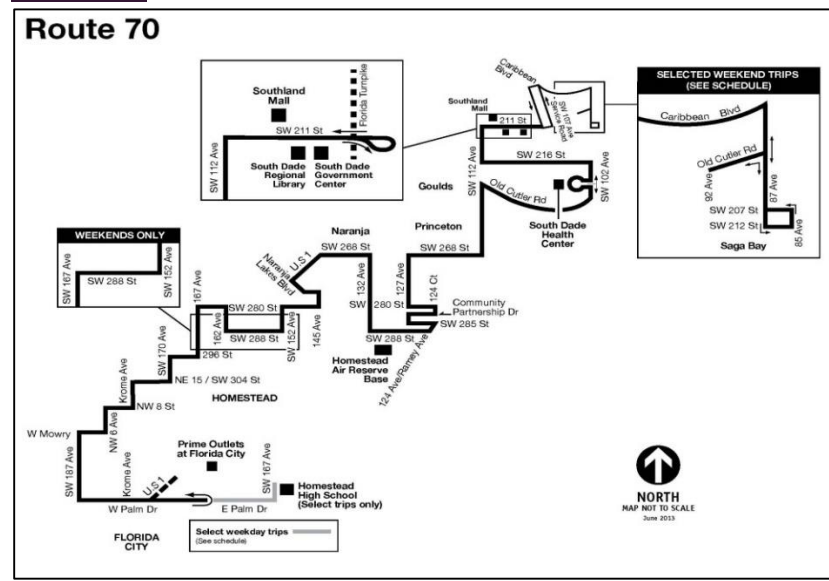
For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 1952 passengers, with 594, 918 passengers for the year, for an average of 49, 577 passengers per month. The buses used to serve Bus Route 52 are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 52 connects Cutler Bay with Metrorail at the Dadeland North and Dadeland South Stations to the north and with the Community Health of South Dade to the south (approx. travel time from the South Dade Government Center: 84 minutes northbound, 9 minutes southbound.) The route enters Cutler Bay from the north

along SW 112th Avenue. At SW 211th Street, the route turns east taking passengers to the doorstep of the South Dade Government Center Complex, South Dade Performing Arts Center, and Southland Mall, before turning around to head west and then south to exit the Town along SW 112th Street.

Figure 2.37:

Route 70:



(Source: Miami-Dade Transit)

Route 70 services an area parallel to the Miami-Dade Busway, operating in the Cutler Bay, Saga Bay, Princeton, Naranja, Homestead, and Florida City neighborhoods. The route begins weekday service at

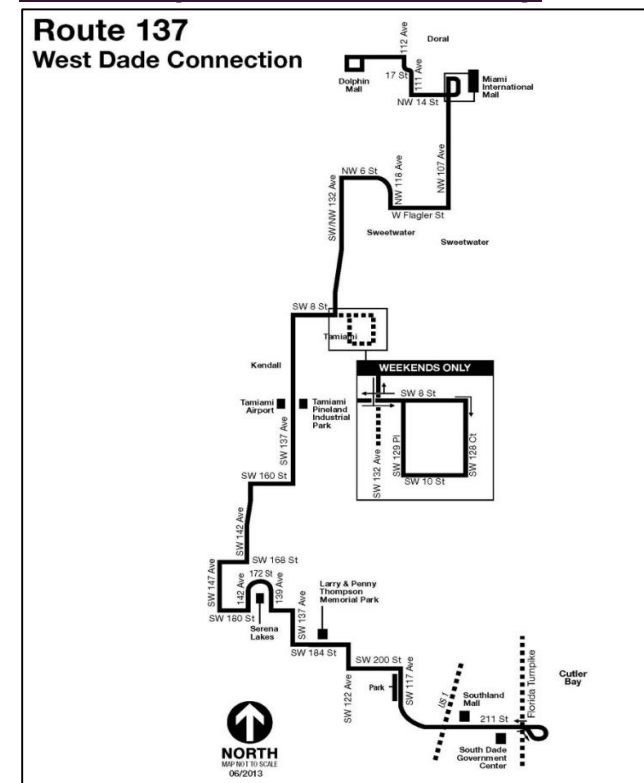
approximately 5:52 AM and operates at a peak 30 minute headway until approximately 9:32 PM. Route 70 takes approximately 70 minutes to complete half of the full route length. Saturday and Sunday schedules are similar, with 1-hour headways and operation from approximately 5:45 AM to 9:22 PM on Saturdays, and 5:47 AM to 8:16 PM on Sundays. The route services the South Dade Government Center, Southland Mall, Homestead Air Reserve Base, Prime Outlets Mall, and Homestead High School (select weekday trips only).

For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 1687 passengers, with 509, 774 passengers for the year, for an average of 42, 481 passengers per month. The buses used to serve Bus Route 70 are equipped to handle handicap passengers and those commuting with bicycles.

Route 70 connects the Town of Cutler Bay with the Homestead Air Reserve Base and Florida City to the South (approx. travel time to Homestead Air Reserve base from South Dade Government Center: 25 minutes.) The route begins its service in the heart of the Town, providing service to Saga Bay, the neighborhoods adjacent to Caribbean Boulevard, and the Regional Center. Route 70 enters the Town limits from the south along Old Cutler Road at SW 102nd Avenue, the route heads north circulating along the Health Center before turning west on SW 216th Street. At SW 112th Avenue, the route heads north again to SW 211th Street, passing by

the Southland Mall, Performing Arts Center, and South Dade Government Center. The route follows SW 107th Avenue north to Caribbean Boulevard where it then turns east. The route heads south at SW 87th Avenue, looping around Centennial Middle School on SW 212th Street before returning.

Figure 2.38:
Route 137 (West Dade Connection):

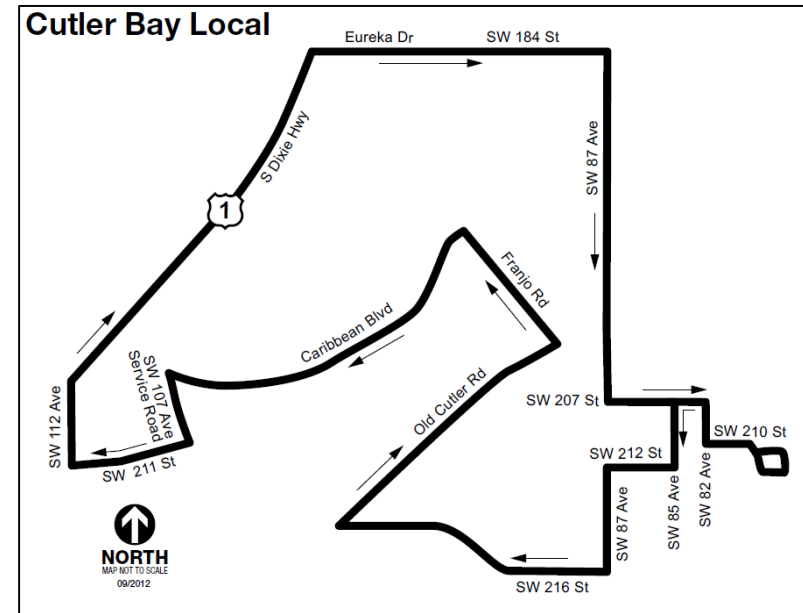


(Source: Miami-Dade Transit)

Bus Route 137 connects the Town of Cutler Bay neighborhoods with the communities in western Miami-Dade County. The route begins weekday southbound service at 5:35 AM and runs until 8:10 PM. Route 137 takes approximately 90 minutes to complete half of the full route length. Saturday and Sunday schedules are similar, with peak 40-minute headways and operating from 5:30 AM to 8:40 PM. Route 137 services the South Dade Regional Government Center, Southland Mall, Larry and Penny Thompson Memorial Park, Tamiami Industrial Park, Tamiami Airport, Miami International Mall, and Dolphin Mall. The route intersects the Miami-Dade busway at 211th Street. For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 2275 passengers, with 725,528 passengers for the year, for an average of 60,461 passengers per month. The buses used to serve Route 137 are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 137 connects Cutler Bay with Tamiami Airport and Dolphin Mall to the northwest (approx. travel time from the South Dade Government Center to Tamiami Airport: 35 minutes) The route enters Cutler Bay from the west along SW 211th Street. After looping around the South Dade Government Center, the route returns north, providing regional bus service to and from Cutler Bay to West Miami-Dade County.

Figure 2.39:

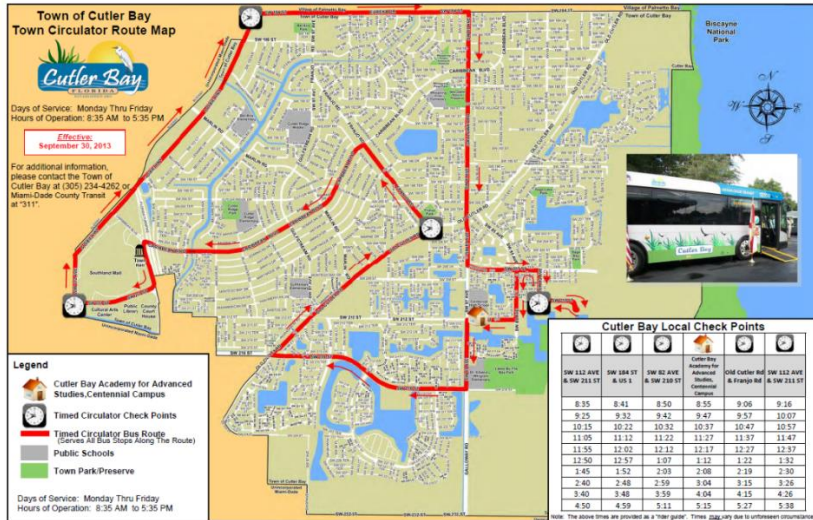
Cutler Bay Local Circulator – Route 200

(Source: Miami-Dade Transit)



Task 2: Data Collection & Analysis

Figure 2.40:
Circular Map as Provided by Town of Cutler Bay



(Source: Town of Cutler Bay)

Route 200, also known as the Cutler Bay Circulator, is operated by MDT per an interlocal agreement. This route originally ran clockwise internally in a circular loop within Cutler Bay on Mondays, Wednesdays, and Fridays from 8:35 AM to 4:50 PM. The route operates at a peak headway of 50 minutes, and takes approximately 42 minutes to complete the full length of the journey. The route's service has been recently expanded to start providing service Monday through Fridays.

The route begins at SW 112th Avenue and SW 211th Street, heading north to US-1, where it travels north until

heading east onto SW 184th Street. The route then heads south onto SW 87th Street, where it heads east again on SW 207th Street towards SW 82nd Avenue. The route then heads east into the Saga Bay neighborhood along SW 210th Street before looping back and heading west towards SW 207th Street and SW 85th Avenue, where the route heads south to SW 212th Street. On SW 212th Street, the route heads west, then south onto SW 87th Avenue, before heading west along SW 216th Avenue towards Old Cutler Road. The route then heads north onto Old Cutler Road and Franjo Road, turns west towards Caribbean Boulevard, and heads south onto SW 107th Avenue and turns to head west on SW 211th Street, thereby completing the loop.

The route services the South Dade Shopping Center, the Shopping Center on US1 / Marlin Rd, Southland Mall, the Town of Cutler Bay Town Hall, the South Miami-Dade, Cultural Arts Center, South Dade Government Center, Cutler Bay Academy for Advanced Studies – Centennial Campus, Health South on Old Cutler Road, and the Old Cutler Towne Center.

The Town of Cutler Bay's PTP monies partially funds daily operations of this route, and the circulator was purchased using the American Recovery and Reinvestment Act transit grant monies; fare is 25 cents per ride. For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 50 passengers, with 7,544 passengers for the year, for an

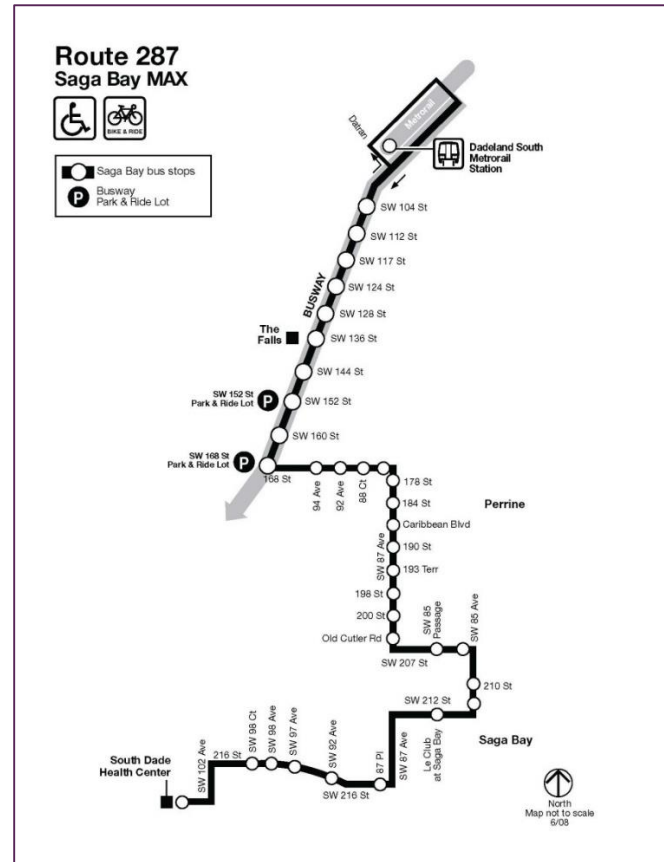
average of 629 passengers per month. Please note that given the relatively recent change in the scheduling for the bus route, these average numbers are based on Monday, Wednesday, and Friday boardings. The buses used to serve bus route 200, Town of Cutler Bay Town Circular, are equipped to handle handicap passengers and those commuting with bicycles.

Bus Route 287 services a 5.3-mile segment of the busway from the Dadeland South Metrorail Station to the SW 168th Street. The route begins weekday service at 6:00 AM (northbound) and operates at a peak 30- minute headway. Service runs between 6:00 AM and 9:08 AM and 4:28 PM and 6:03 PM on weekdays (northbound). Route 287 takes approximately 40 minutes to complete half of the full route length. Route 287 does not offer weekend service. Route 287 services the Dadeland South Metrorail Station, The Falls, SW 152nd/168th Street Park & Ride lots, and South Dade Community Health.

For the Fiscal Year October 2012 to September 2013, the average weekday boarding on the route was 417 passengers, with 106,380 passengers for the year, for an average of 8,865 passengers per month. The buses used to serve Bus Route 287 are equipped to handle handicap passengers and those commuting with bicycles.

Figure 2.41:

Route 287 (Saga Bay Max):



(Source: Miami-Dade Transit)



Task 2: Data Collection & Analysis

Heading north, Route 287 begins in Cutler Bay at the South Dade Community Health Center. The route travels east along SW 216th Street to SW 87th Avenue where it turns north. At SW 212th Street, the route heads east to SW 85th Avenue, where it turns north to turn west onto SW 207th Street. At SW 87th Avenue, the route heads north out of the Town of Cutler Bay at SW 184th Street.

Park & Ride

Miami-Dade Transit operates five park & ride facilities along the South-Miami-Dade Busway. All of the facilities are provided to transit users free of charge. The SW 112th Avenue Park & Ride facility is located adjacent to the Town of Cutler Bay, west of the town's limits. The average weekday at this Park & Ride facility features 140 vehicles or 106% of the lot's capacity. All of the Park & Ride facilities and connecting routes are listed below.

Busway/SW 152 Street

- Connecting bus routes: 31 (Busway Local), 34 (Busway Flyer), 38 (Busway MAX), 52, 57, 252 (Coral Reef MAX), and 287 (Saga Bay MAX)

Busway/SW 168 Street

- Connecting bus routes: 1, 31 (Busway Local), 34 (Busway Flyer), 38 (Busway MAX), 52, and 287 (Saga Bay MAX)

Busway/SW 112th Avenue (Target)

- Connecting bus routes: 31 (Busway Local), 34 (Busway Flyer)

Busway/SW 244 Street

- Connecting bus routes: 34 (Busway Flyer) and 38 (Busway MAX)

Busway/SW 296 Street

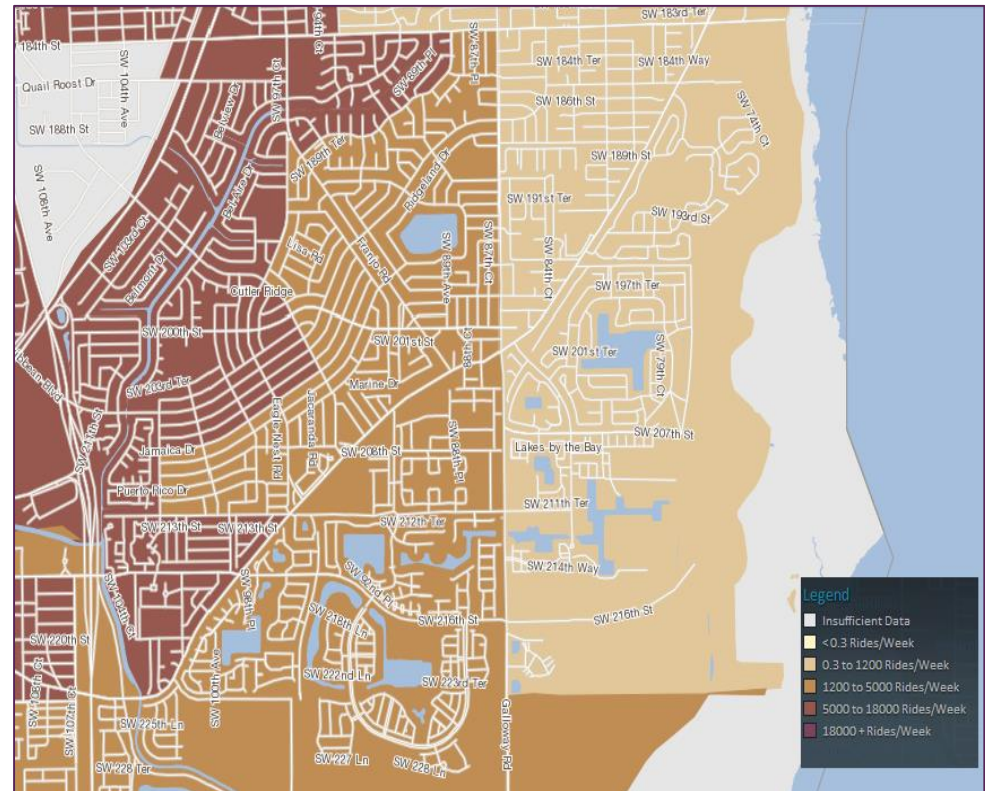
- Connecting bus routes: 34 (Busway Flyer) and 38 (Busway MAX)

Transit Use

Within the Town of Cutler Bay, transit use is highest in the corridor parallel to the Busway and around the Southland Mall/Government Center area. The level of transit use in these sections of the town is not an anomaly, but rather the result of effective land-use management and facility placement. These sections within the Town are also the regions with the most intensive land uses and thus the lowest vehicle use per person.

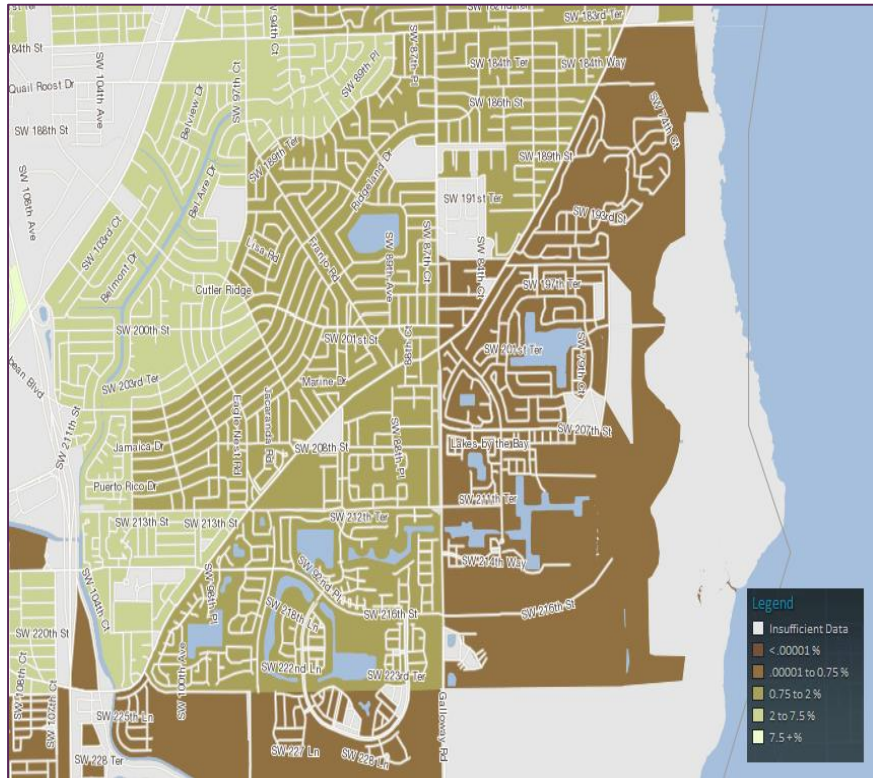
The transit connectivity index, illustrated in **Figure 2.42**, depicts the availability of transit within the Cutler Bay and surrounding area. Computing a region's connectivity index is complex, taking transit's accessibility, connectivity, and usability factors into account in order to determine a practical quantitative figure. Transit availability requires that transit be available spatially at the origin and at the destination. Accessibility is a measure of the distances passengers must walk to reach a transit stop (usually $\frac{1}{4}$ mile or 5 minutes) or drive to a park & ride facility. Transit connectivity is a measure of the public transportation readily available in a given area and takes factors such as bus routes and schedules into account. Usability, perhaps the hardest to quantify, relates to how user-friendliness of the system. Stops, stations, and transit must be easily identifiable for a system to be considered useable. In Cutler Bay, the Miami-Dade Busway provides the strongest link in transit connectivity.

Figure 2.42: Transit Connectivity Index



(Source: Center for Neighborhood Technology, 2012)

Figure 2.43: Transit Ridership as Percent of Workers



(Source: Center for Neighborhood Technology)

The easily identifiable stations, routes, and Park & Ride facilities coupled with the high frequency of certain routes, makes the Busway an accessible asset for the local public transportation system. Transit connectivity is therefore higher in the western part of the township. This may explain the distribution of workers taking transit as seen in **Figure 2.43**.

The figure shows the transit ridership as a % of all workers originating from the area. In the east brown area, we see that almost all workers drive to work.

Despite the connectivity, transit use in Cutler Bay varies from a high of 4.54% of households nearest to the regional hub and Busway to 0.43% of households along the southern and eastern fringes of the Town limits, where land use patterns tend to trend towards traditional sprawl development. On average, 2.05% of Cutler Bay households use public transportation regularly to commute to work (2012 US Census Estimate).

Transit use is greatest along the Miami-Dade busway, west of the natural barrier formed by the Cutler Drain Canal C-100B as seen in the aerial in **Figure 2.44**. The residential density of this neighborhood is 2.85 households per acre, the 2nd highest figure in Cutler Bay, while the employment density is in the 1,726 to 4,783 jobs per square mile range, and is part of the major employment core area of the Town. The area is horizontally mixed-use in nature and provides the nearest pedestrian link to the Miami-Dade Busway within the Town.

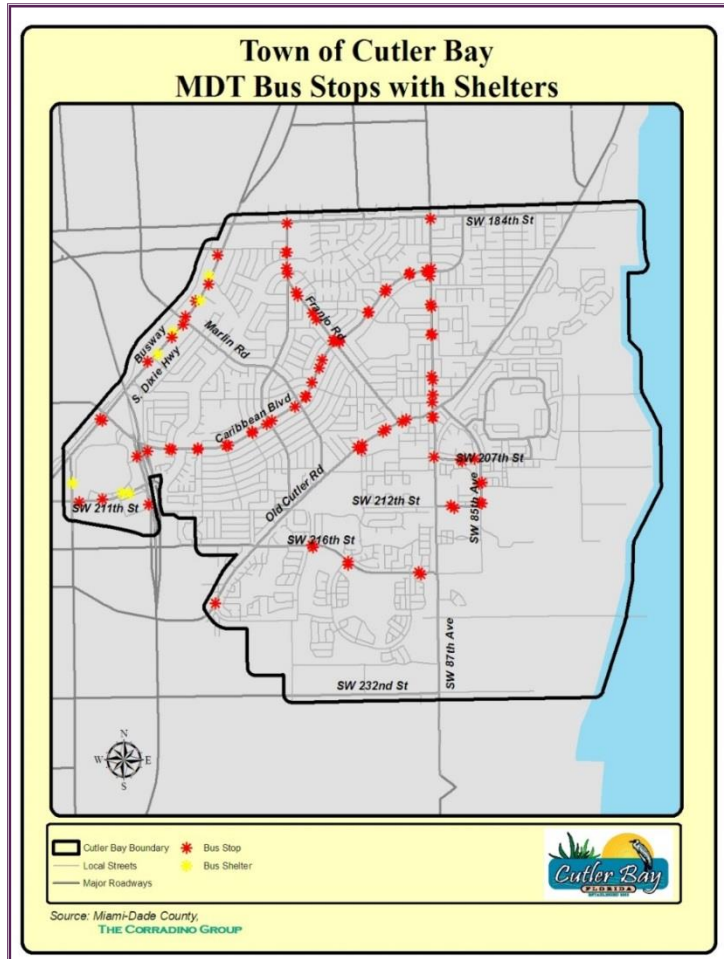
Within Cutler Bay, the neighborhoods bordering the Busway to the west and routes 1 and 70 along Caribbean Boulevard, generally experience transit use by at least 3% of workers in the region. Incidentally, the homes in this region of the Town were constructed in the 1950s along a modified grid-like pattern that enhanced

Internally, Cutler Bay has instituted a Town Circulator. This circulator provides increased access for the various neighborhood to the Southland Mall area, as well as the employment center and the Busway along US-1.

[illegible]

Bus stops, shelters, and benches are essential for maintaining an adequate rider base. These features improve the usability and accessibility of the public transportation system. Easily identifiable bus stops and routes are critical in creating a user-friendly system. Benches and shelters provide shade and comfort for passengers, facilitating the use of the system while improving the quality of life for all. **Figure 2.45** depicts the most recent data available from Miami-Dade Transit regarding bus stop location and shelter placement.

Figure 2.45: MDT Bus Stops with Shelters



Transit Level of Service

Transit Level of Service is based on proximity and timing of transit provided to the community. In order to have an adequate Level of Service it would be optimal to have transit operating at 30 minute or less headways within $\frac{1}{4}$ mile of each neighborhood. Cutler Bay is well covered with about half of the areas meeting this standard. Areas of most adequate coverage are within $\frac{1}{4}$ mile of the Busway, Caribbean Boulevard, SW 87th Avenue, parts of Old Cutler Road and the Urban Center District.

2.4.3: Bicycle/Pedestrian

The Cutler Bay Bicycle and Pedestrian Master Plan was initiated in 2011. It studied the entirety of the bicycle and pedestrian network, and projected a level of service.

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 evaluated received a PLOS score of "D" or worse, with approximately 12 percent receiving a PLOS score of "E" or "F".

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 was in moderate disrepair and needed resurfacing as of the 2011 Bike/Ped Master Plan, with necessary landscape maintenance and other general safety improvements. However, the Town has since made strides in actively applying remedial action to these needs since the adoption of that Master Plan.

The Town also consists of canals throughout. In addition, there is significant Florida Power and Light right of way dedication. These natural barriers and easements tend to block the transportation grid, thereby inhibiting vehicular flow. Furthermore, in places where the grid is curvilinear, considerations of line of sight and associated speeds have both varying levels of positive and negative effects on bicyclists sharing the road, depending the reactions of drivers and bicyclists to these existing conditions.

There are areas in the 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. However, the Town has recently made efforts to improve on this situation through the addition of sidewalk improvements.

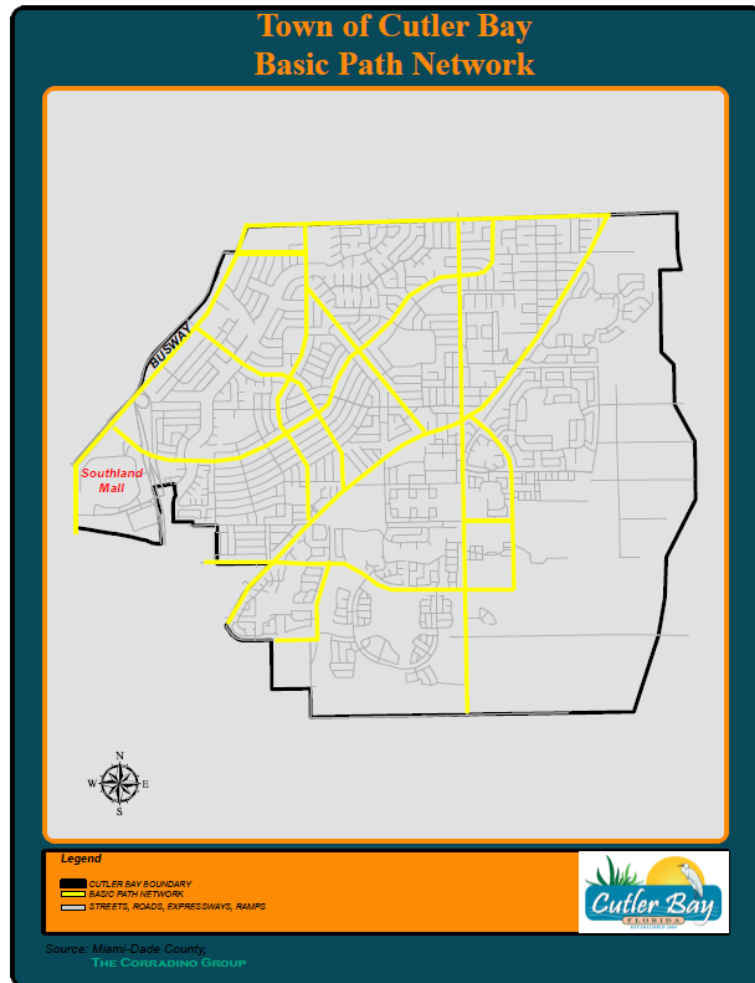
Often utilities such as power poles and fire hydrants are co-located in the sidewalk, creating another hazardous condition. Edges of travel lanes in the transportation network are, at times, not well defined. In areas where no sidewalks exist and pedestrians must walk adjacent to travel lanes which creates safety hazards.

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.

Extensive field reconnaissance to various sites around Cutler Bay indicated a need for sidewalk development in some areas, or a need to enhance the pedestrian realm in others. Long segments without crosswalks, or missing crosswalks at specific intersections are

problematic issues which negatively affect the pedestrian environment.

Figure 2.46: Town of Cutler Bay Basic Path Network



The pedestrian environment requires not only a utilitarian view, but a design conducive to positive perceptions of safety and comfort. This is generally not the case in Cutler Bay, though newer developments or streetscape redesign projects, such as that in the Old Cutler Road Commercial area, has greatly improved walkability in specific areas. However, specific areas have specific functional deficiencies which prevent access.

Northeast Cutler Bay Single-family Area between SW 87th Avenue and Old Cutler Road

This area of individual single-family homes on medium sized lots is bounded by SW 87th Avenue on the west, SW 184th Street on the north, SW 188 Street on the south, and Old Cutler Road on the east. The pedestrian network in the area is generally limited. The boundary arterial roads have sidewalks on one-side of the street at a minimum. Old Cutler Road has a wide multi-use pathway on the east side. SW 184th Street generally has sidewalks on at least one side, but these alternate on the north and south side of the street; the north side of the street is not part of Cutler Bay.

Almost all of the internal streets in the area (SW 188th, 187th, 186th, 185th, and 184th Streets, Terraces, and Lanes; SW 86th, 85th, 84th, 83rd, 80th, 79th, 78th Avenues, Courts, and Places) generally have no sidewalk at all. The ROW area where a sidewalk would go is heavily obstructed by trees, plantings, landscape elements and other items

placed by homeowners. In some areas, it appears that trees planted by the Town are in the path of a future sidewalk. Caribbean Blvd south of SW 185th Terrace has some sidewalk segments as does SW 82nd Avenue, but these are sporadic and in some cases lead to a crosswalk with no sidewalk on the opposite side. Another issue observed is that sidewalks are often not continuous through driveways, which create safety issues for pedestrians traversing driveways. Existing sidewalks also routinely dead end into grass, utility poles, fire hydrants, planters and other obstructions where they curve onto the streets with no sidewalks.

Sidewalk shading with shade trees is an important consideration in providing a comfortable pedestrian network. Shading of the minimal sidewalks in this area is limited with no general pattern discernible.

Crosswalks generally consist of minimal two white stripes. Crosswalks that lead to no sidewalk on the opposite side are particularly problematic. There are no signalized intersections in the area.

A number of new county bus shelters have been installed in several locations. In two observed locations on SW 87th Avenue, a sidewalk connection exists from the shelter to the street but leads to a mid-block crossing of a traffic lane with no marked crosswalk.

Lakes By the Bay Area

This area visited is roughly bounded by SW 97th Avenue on the west, SW 216th Street on the south, SW 87th Avenue on the east, and SW 212th Street on the north. The area consists of various stages PUD development with a mix of multi-family and small lot single-family homes. The older sections such as Windy Pointe on the east and portions of Monterrey Lakes have no sidewalks at all. The newer sections of Manatee Cove and Bay Estates have a generally continuous sidewalk but typically lack crosswalks.

Old Cutler Road Commercial Area

This is generally a low-density commercial area that is expected to undergo a transition to higher density with new development built to the street edge. A comprehensive streetscape project was recently completed from SW 87th to SW 97th Avenues. The project features a very high quality pedestrian network with wide sidewalks set back from the street lined with shade trees and numerous signalized paved crosswalks. Bus shelters feature a unique design and provide large shaded waiting areas. In several locations there are marked pedestrian connections across small parking lots from the wide sidewalks to the entrance to commercial buildings. This project provides exemplary pedestrian connectivity and intersection design.



Task 2: Data Collection & Analysis

South Dixie Highway Commercial Area

Stretching along South Dixie Highway from Eureka Drive to the Turnpike, this is a medium density typical older suburban commercial area along US-1 with retail centers set back from the street by large surface parking lots. There are 3 traffic lanes and various turn lanes in each direction and there is a high volume of traffic.

Sidewalks are very narrow and essentially the same width as those in a single family neighborhood. In some places, they are from the street by an approximately 1 ft. wide grass strip which serves no purpose, as it is not wide enough to provide separation from the street or a planting area for shade trees. Shade tree canopy along the sidewalk is very limited. Generally sidewalks from along a busy wide highway like this should be set back from the street by five or six feet with shade trees planted in the setback area.

Intersections typically have an east-west crosswalk on only one side, either the north or south, which significantly limits pedestrian access. Crosswalks consist of only the basic two stripes. There are no cross-bar striped crosswalks. This does not provide a feeling of safety for pedestrians crossing six to eight lanes of traffic. The distance between the east-west crosswalks is far too long for minimal pedestrian access. From the crosswalk at Marlin Road, the next crosswalk south is 0.9 miles away at Caribbean Blvd. The next crosswalk north from Marlin Road is 0.6 miles away at SW 186th St. These distances are far beyond the generally accepted

crosswalk spacing of at least every two blocks, if not every block. Standards for promoting walkability typically call for block lengths of 300 to 600 feet which is the length a pedestrian will comfortably walk before needing to cross the street. By contrast, the Marlin Road to Caribbean Boulevard distance is 4,752 feet. Mid-block on demand crosswalks should be considered in these areas.

In regard to the development pattern, all of the structures in the area are set back from the street by wide surface parking lots. In order for pedestrians to feel a sense of protection and comfort, new building need to be built out to an appropriate setback from the street edge that would provide for 5 to 6 foot sidewalks set back from the curb by 5 or 6 feet and planted with shade trees. The newly installed sidewalks on Old Cutler Road which service a far lower density area are an ideal example of this sidewalk cross section.

In the 18500 block of the east side of the street, a newer retail building was constructed in the recent past with its back wall with no windows facing South Dixie Highway. The lack of an active storefront edge along the street creates a negative experience for pedestrians. Backs of buildings should never face a primary street.

Sidewalks across driveways are generally adequate. Pedestrian connections from the sidewalk to the setback buildings is generally very limited so that a pedestrian must walk through a busy parking lot with no clear safe route to

a business. In some cases, it appears that a new policy of providing a street-to-building pedestrian pathway is being implemented. At the Boston Market at South Dixie Highway (US-1) and SW 186th Street, there is a newly striped pedestrian route connecting the store entrance with the street sidewalk that includes tactile surfaces where the sidewalk portion meets the striped walk across the parking lot. This is an important component of a responsive pedestrian system.

There are two South Dade Busway stations in this area, one at SW 184th Street and the other at Marlin Road. The sidewalk connections to these potentially important transit connections are minimal at best and no signage or other indications are provided to emphasize this linkage. An enhanced, wider, more direct sidewalk connection with signage would improve linkage to the stations and encourage their use.

Bus shelters include some new full shelters but many unprotected old slat benches as well.

Village Center Area

This area features the largest scale commercial development in Cutler Bay and includes a hotel, Southland Mall, Cutler Bay Town Center, and the South Dade Cultural Arts Center. The area is bounded by the Turnpike on the east, South Dixie Highway on the north, SW 112th Avenue on the west, and Black Creek on the south. Pedestrian connectivity in this area is extremely limited.

There is virtually no pedestrian route linking the minimal peripheral sidewalk to the Cutler Bay Town Hall or to the Southland Mall. Pedestrians must walk across massive hot parking lots with no marked pedestrian route.

The connections to the South Dade Busway are also very limited. To get from the northern Busway station in this area to the Mall, pedestrians must backtrack along the Busway to the intersection at Caribbean Boulevard. Dozens of pedestrians were observed crossing the busway at the station and then walking on a worn rocky path diagonally to the street edge and then rushing diagonally across the street, which is a very dangerous situation. Consideration should be given to a mid-block crossing of both the Busway and South Dixie Highway.

The pedestrian and local destinations connection between the southern busway Station in this area is also very problematic. Bus riders wishing to go to the Southland Mall must cross the Busway to the east, then cross SW 112th Avenue to the south, walk an uninviting stretch of sidewalk east to South Dixie Highway, then cross South Dixie Highway to the east, then finally cross SW 112th Avenue to the north. At this point, the pedestrian can access only the sidewalk which follows the streets around the Mall. To actually get to the Mall, the pedestrian must walk across the huge hot shade-less parking lot with no pedestrian route marked. There is a multiple route bus stop on the south side of the Mall on SW 211th Street. It can be assumed that this is a major



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access point by bus for the Mall, but again there is no marked pedestrian connection from the stop to the mall. A number of people were observed walking a circuitous route across the empty huge unshaded parking lot to the store entrance. If the parking lot was full, this would become even more of a safety issue. A direct marked safe shaded pedestrian connection should be made from the bus stop to the Mall.

There are two major hotels on Caribbean Boulevard on the north side of the Mall and it could be assumed that some lodgers would want to walk to the Mall. There is a crosswalk at the Mall service road a block east of South Dixie Highway. However, again there is no pedestrian connection from the sidewalk on the south side of Caribbean Boulevard to the Mall.

The newer car dealership on the SE corner of the Mall area has a sidewalk that extends a short way into the Mall interior lot but then dead ends at the car storage area. It does not connect with the entrance to the building. The street edge of this facility includes extensive landscaping and shade trees which serve little purpose as they are substantially inset from the sidewalk. Ideally, the sidewalk would have been inset in this area to separate it from the busy adjacent street and to allow the trees to be planted between the sidewalk and the street.

The South Dade Cultural Center is a tremendous community anchor, but it is not in any way integrated

into the local transportation network. Ideally, there would be a strong pedestrian connection with wayfinding signage from the nearest South Dade Busway stations. Farther, the mall could benefit from an on-demand signalized crosswalk across SW 211th Street with a cross parking lot connection directly to the Mall entrance, so that evening Arts Center patrons could easily visit the Mall without having to drive their cars.

Bicycle and Pedestrian 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, and the 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 Table 9, many trends were easy to notice within the Town, such as the fact that the standard sidewalk is 5 feet wide. This is a favorable standard size for many places in South Florida, and most communities would be happy with this size. Exceptions apply when the road is meant to be a walkable commercial corridor where the municipality wishes to encourage more pedestrianism and foot traffic in a pedestrian friendly design. In these areas, people will wish to walk side by side as they converse, and the pedestrian realm will also include outdoor seating; sidewalk rights of way standards for these areas would require a much larger dedication than 5 feet.

From a bicycle and pedestrian standpoint, each street has been evaluated. There is a high presence of sidewalks and areas for bike facilities. Generally pavement conditions are adequate, but obstructions and incomplete paths do exist in many cases. Of the +- 50 links measured on the Cutler Bay system, about 88% have a level of service of C or D, with only about 12% having a level of service of E or F. Since bicycle and pedestrian Level of Service is based on the quality of service rather than the quantity of service, communities should strive for LOS A. No links in Cutler Bay reach LOS A.

Figure 2.47: Town of Cutler Bay Missing Sidewalk Network

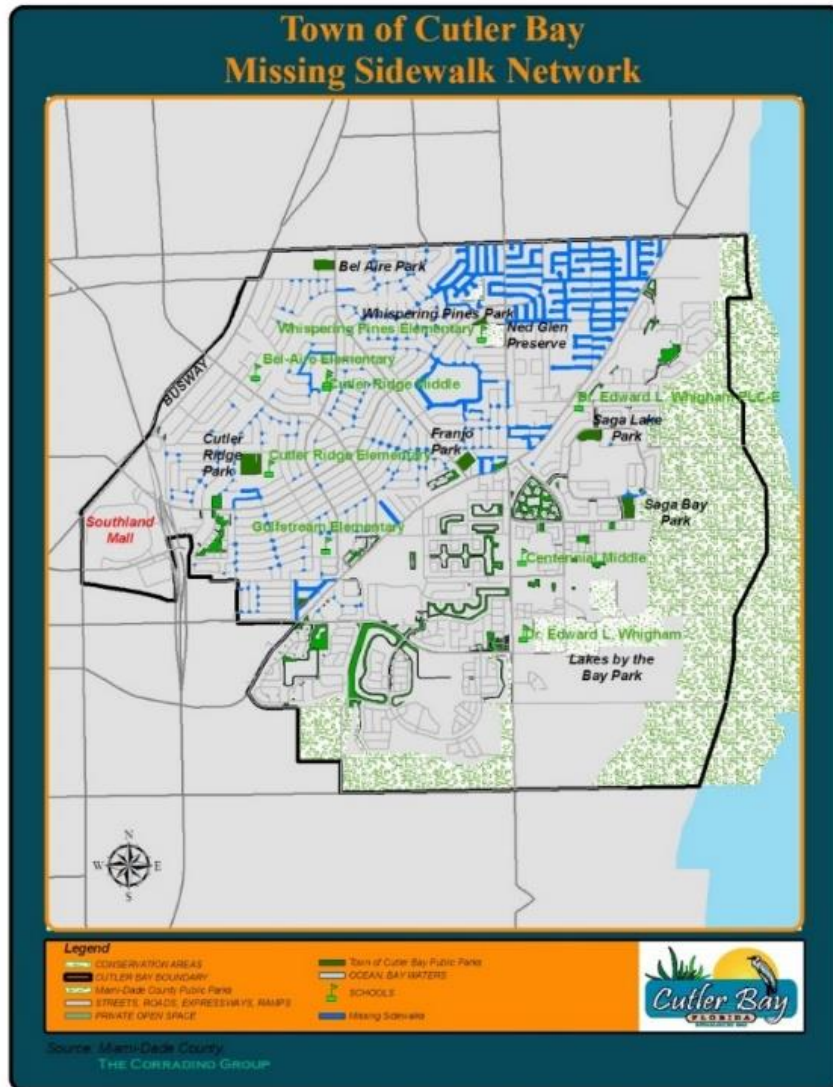


Table 2.13: 2011 Bicycle/Pedestrian Level of Service

Road	From	To	ROW Width	Pavement Width	Total Swale	Pavement 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	Tumpike	102'	68'	12	Poor	C	D
Caribbean	Tumpike	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

Another fact that seems to stand out on the existing conditions matrix is 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, and perception, both rational and irrational, is an integral aspect of the pedestrian environment. 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.

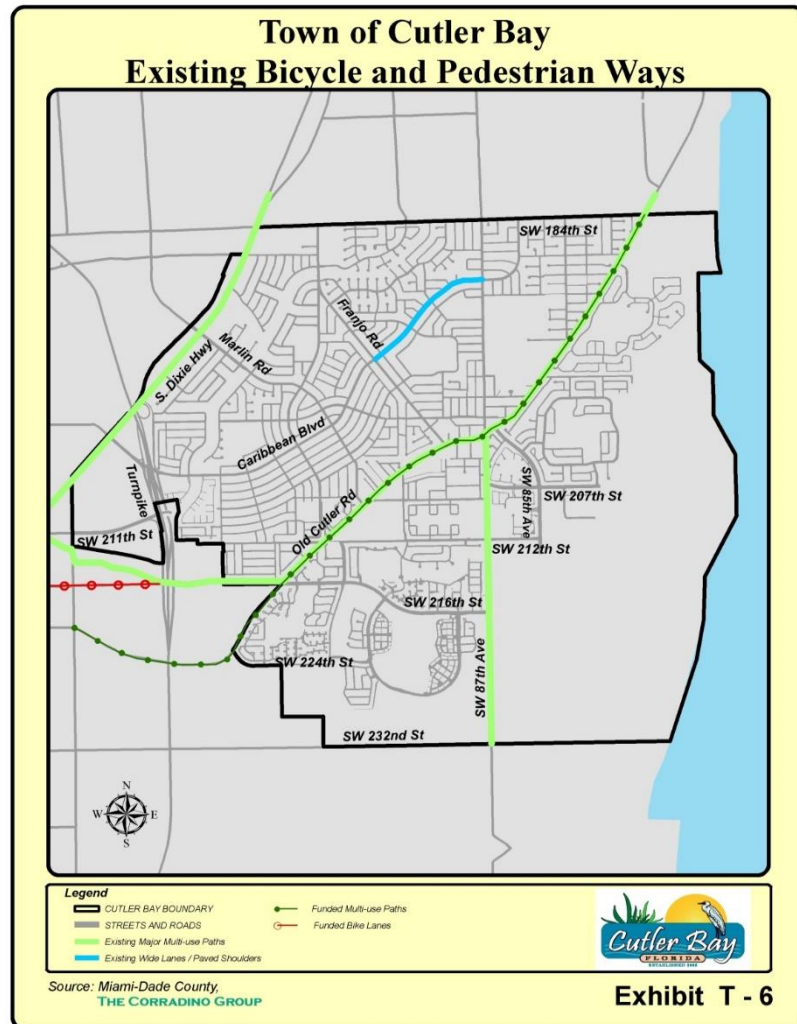
The Town of Cutler Bay does have many areas of concern. Despite the fact that sidewalks exist they have several places throughout the Town with obstructions within the sidewalk generally rendering them useless at that point. The obstructions are typically utility poles and fire hydrants. The Town has 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 realignments of the sidewalk infrastructure at these locations are in order.

Bicycle and Pedestrian Corridors

Given the limitations of the Park & Ride facilities along the Busway and the financial constraints of vehicle ownership, bicycle and pedestrian paths provide the best link to public transit. An adequate pedestrian and bicycle network helps reduce local traffic as residents opt to walk or bike to close destinations. Increased cycling and pedestrian alternatives leads to healthier lifestyles for residents, reduced local congestion and pollution, and an increase in public transportation use.

Cutler Bay's existing greenways are limited to the US-1/Busway, Old Cutler Road, and SW 87th Avenue corridors. Comparatively speaking, Cutler Bay's existing facilities are well connected and provide access to various local and regional activity centers.

Figure 2.48: Existing Greenways/Trails



2.4.4: Indicators

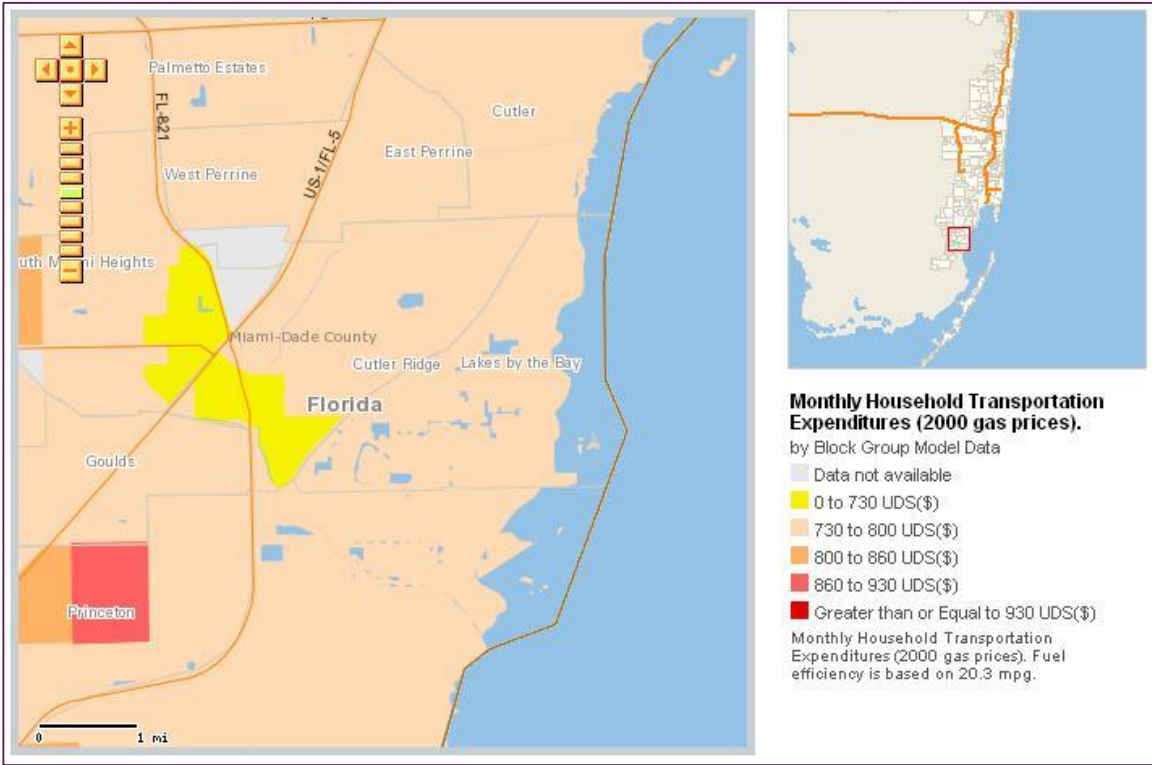
There are several indicators of a well-rounded mobility system and a healthy community. These include Mode Split, Vehicles Per Household, Vehicle Miles Traveled, Travel Time to Work and a balance of sites being used as an Origin and a Destination. It may be a valuable experiment and a very “green” initiative to benchmark Cutler Bay with these indicators and track the progression of the standings over time. This would indicate how well transportation and green policies are working. Actual data, as opposed to 3-year estimates, however, is sporadic as it is tied to the U.S. Census. It is both suburban and urban, unlike all but a few cities in Miami-Dade County. In fact, it is more of a microcosm of a major city, because it encompasses a wide variety of intensities, transportation options and reactions to those options.

Fuel Costs

The rise in gas prices over the decade, from \$1.29 in January 2000 to \$3.63 in 2012, combined with periodic spikes, has altered the transportation costs, needs, and drivers across the country (US Department of Transportation). Many municipalities reported needs to increase public transit, with some studies indicating permanent increases in ridership existing past the spikes in gasoline prices. Due to the increased household costs of gasoline, combined with generally poor economic conditions resulting from the recession, use of lower cost alternative modes of transportation, including walking,

bicycling, and public transit, has surged nationwide. Nationally, vehicle-miles traveled have decreased as drivers work to curb the rising expenses associated with automobile use.

Figure 2.49: Monthly Household Transportation Expenditures, 2000



(Source: Center for Neighborhood Technology)

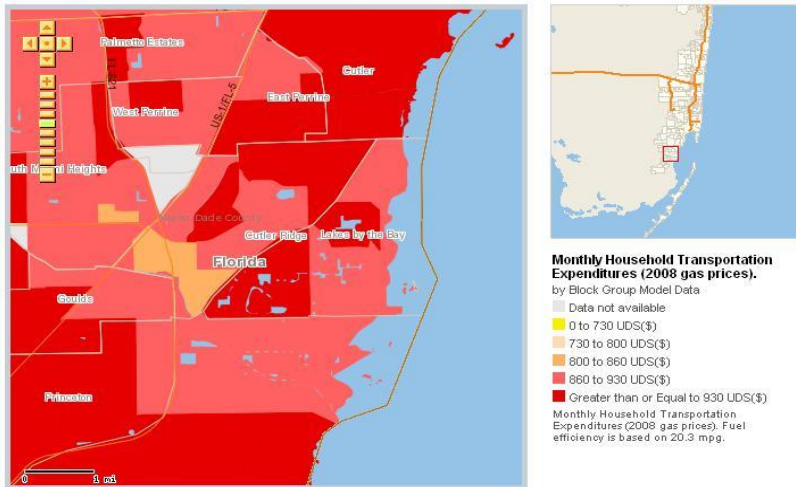
Figure 2.49 illustrates the monthly transportation costs endured by households in the Town of Cutler Bay in the year 2000, when the average tank of gasoline cost \$1.51. The Town's average in 2000 for monthly transportation costs was \$757. At the time of the last Transportation Master Plan, in 2008, with the median gas prices reaching \$4.21, it was estimated by the Center for

Neighborhood Technology that the monthly transportation costs for the Town of Cutler Bay had increased 18.44% to \$928. Since then, the average household transportation costs have increased an additional 23.7% from \$928 to approximately \$1148 per month (Center for Neighborhood Technology 2012).

A critical distinction can be made when comparing the effects of rising transportation expenditures from 2000 to 2012. It is not a coincidence that the neighborhoods of Cutler Bay that have experienced the most drastic increases in transportation costs are also the least dense, most isolated, contain the highest numbers of vehicles per household, and have

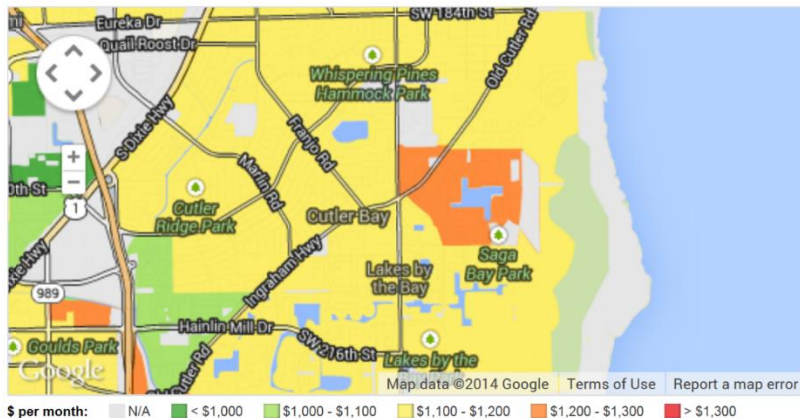
the highest vehicle-miles traveled.

Figure 2.50: Monthly Household Transportation Expenditures, 2008



(Source: Center for Neighborhood Technology)

Figure 2.51: Monthly Household Transportation Expenditures, 2013



(Source: Center for Neighborhood Technology).

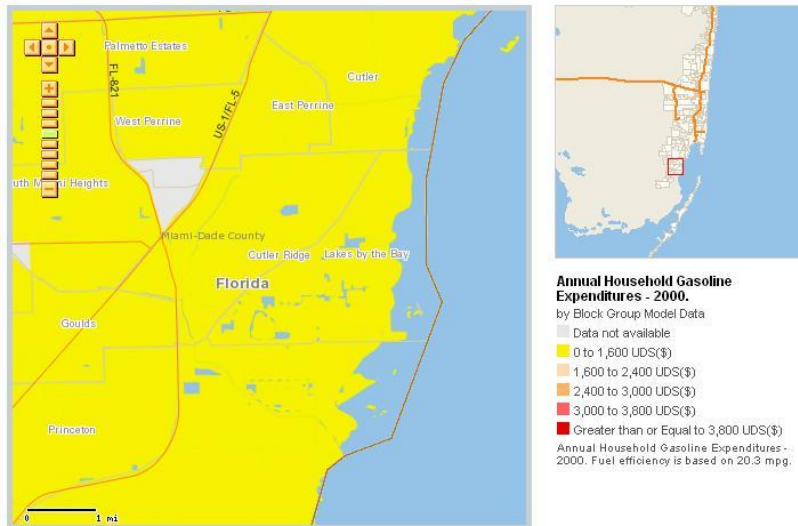
The neighborhoods impacted the worst by the increases in transportation expenditures witnessed a 20.5% jump from 2000 to 2008. When we compare the price increase from 2000 to 2012, however, the most conservative estimate of transportation costs indicate an increase of at least 50% for some of the neighborhoods east of the Old Cutler Road. Comparatively, the CPI for the United States increased by 33.3% in the same time period (US Department of Labor). The neighborhoods affected by the largest increases in transportation costs are also the regions with the highest median incomes in the Town. The neighborhoods without direct access to premium transit or the limited access arterials witnessed the most significant increases.

Gasoline is generally viewed as an elastic commodity - that is, when prices change, there is a change in the quantity demanded. As such, the rising cost of fuel has had an impact on the commuting habits of residents. Various studies have indicated that if the price of fuel goes, and stays, up by 10%, the result is a process of adjustment such that:

- The volume of traffic will go down by approximately 1% within a year, increasing up to a reduction of about 3% in the longer term (about five years).
- The volume of fuel consumed will go down by about 2.5% within a year, building up to a reduction of over 6% in the longer term.

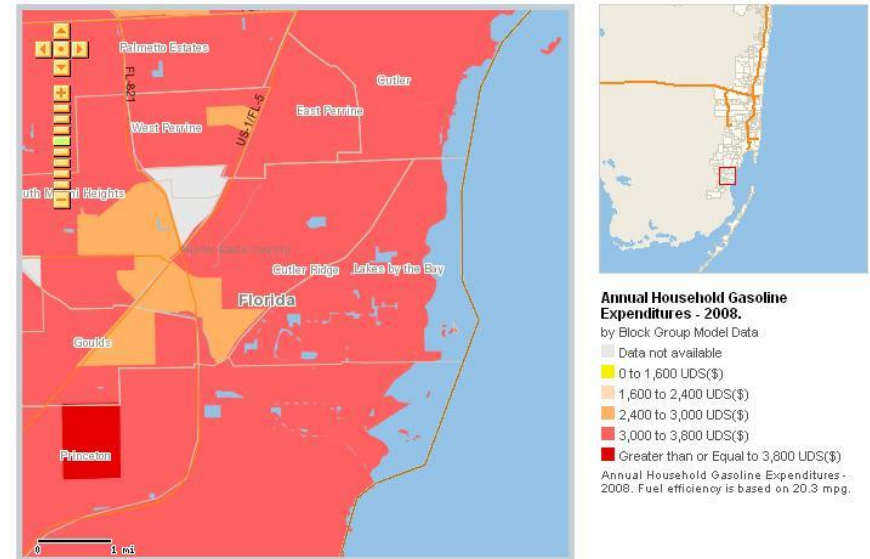
It is widely believed that the reason why fuel consumption decreases by a value greater than the volume of traffic is that the price increases trigger more efficient uses of fuel.

Figure 2.52: Annual Household Gasoline Expenditures, 2000



(Source: Center for Neighborhood Technology)

Figure 2.53: Annual Household Gasoline Expenditures, 2008

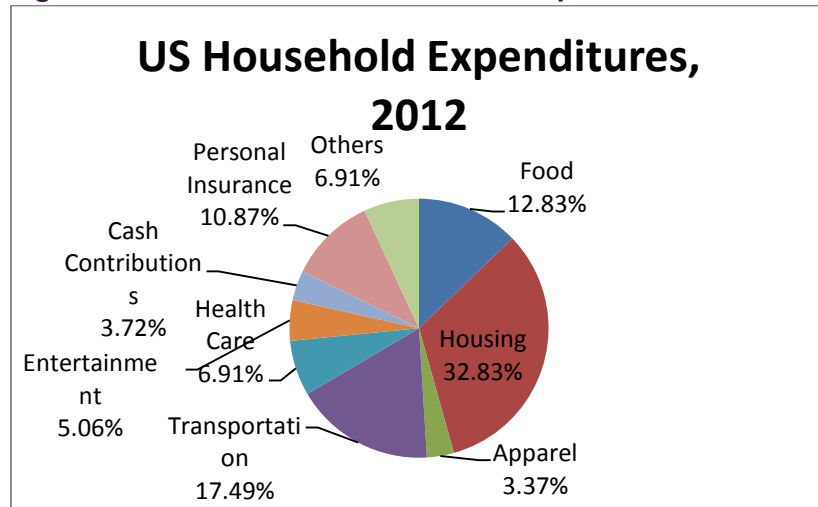


(Source: Center for Neighborhood Technology)

Nationally, after housing (32.82%), transportation (17.49%) accounts for the largest single household expenditure. Purchase and upkeep of personal vehicles, including gasoline, accounts for over 90 percent of household transportation costs. Between 1991 and 2011, the costs of owning and operating a personal vehicle has increased by 60 percent, similar to the increase of 67 percent of all costs in the same time period nationally. The top three drivers of these expenditures, in order, are vehicle purchases; maintenance and insurance, the latter of which has

doubled in price in the past 20 years; and fuel costs (US Department of Transportation).

Figure 2.54: Annual U.S. Household Expenditures, 2012



(Source: U.S. Department of Labor, Bureau of Labor Statistics)

Travel Time to Work

Travel time to work refers to the total number of minutes that it usually takes a person to get from home to work each day during a specific period. The elapsed time includes time spent waiting for public transportation, picking up passengers in carpools, and time spent in other activities related to getting to work (Source: U.S. Department of Transportation).

The average travel time to work in the Town of Cutler Bay is 35.3 minutes (US Census 2012 estimate), which has increased from the last Transportation Master Plan adopted by the Town, when average travel time to work was 33.35 minutes. This travel time is higher than the US average of 25.7 minutes, Florida's average of 26.2 minutes, and Miami-Dade County's average of 29.5 minutes (US Census 2012 estimate). On average, residents closer to US-1 and Florida's Turnpike experience lower travel times than those located to the east. The disparity in travel time is attributed to the connectivity of the different neighborhoods and the direct access to the principal arterial roadways.

Figure 2.55: Estimated Travel Time

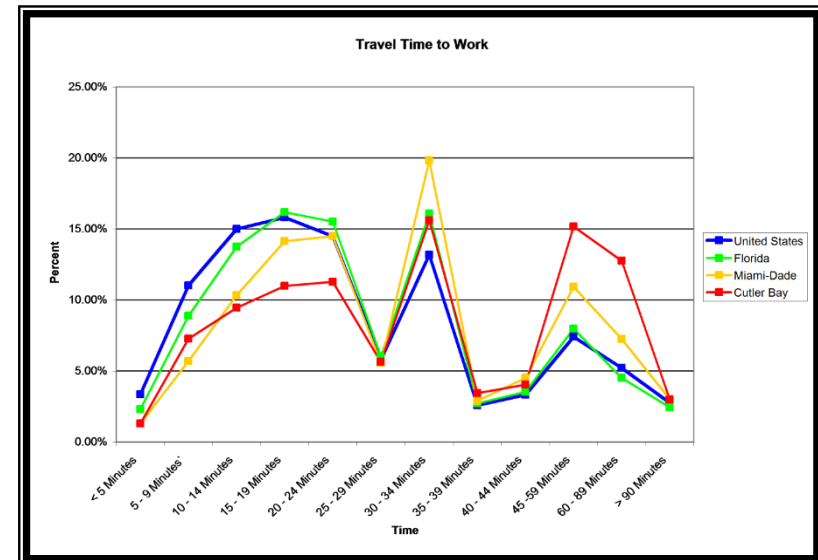


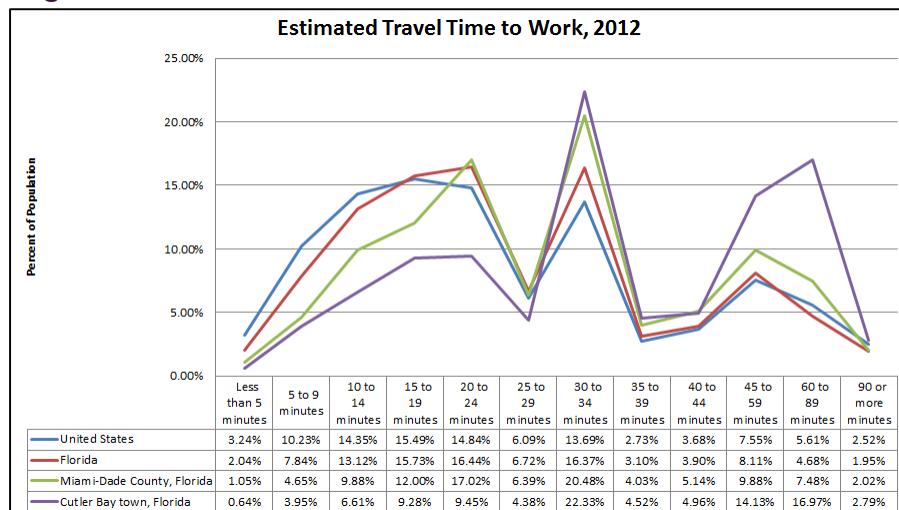
Figure 2.56: Estimated Travel Time to Work, 2012

Figure 2.55 on the previous page depicts Cutler Bay's travel times when compared to the United States, Florida, and the rest of Miami-Dade County in 2008. Source: US Census.

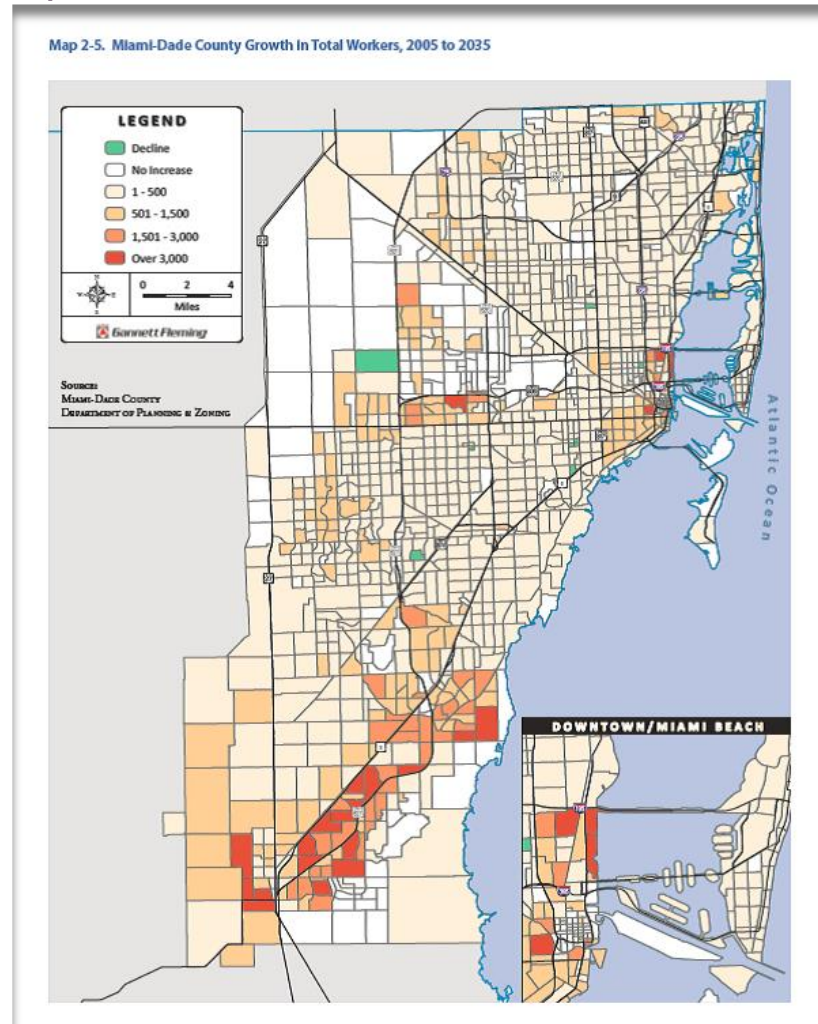
Figure 2.56 shows the travel times experienced by the various census tract block groups in the Cutler Bay region in 2012. Source: US Census.

A smaller percentage of Cutler Bay residents have commutes of less than 30 minutes when compared to national, State, and Miami-Dade County figures. In addition, the percentage of Cutler Bay residents who have commutes of less than 30 minutes have decreased significantly from the last Transportation Master Plan, when it was noted to be 46%, to its current 29.9%. 14.1% of Cutler

Bay residents are estimated to have commutes of 45 to 59 minutes, and almost 17% of residents are estimated to have commutes of 60 to 89 minutes. Both these figures are significantly higher than national, State, and County trends. Of particular concern is the estimated trend shift, from the last Transportation Master Plan, in the significant increase in the proportion of Cutler Bay residents who travel between 60 to 89 minutes. The growth of this group has moved it from the third largest to the second largest category of transit time. This in turn, supports the noted average travel time increase in Cutler Bay over the past several years.

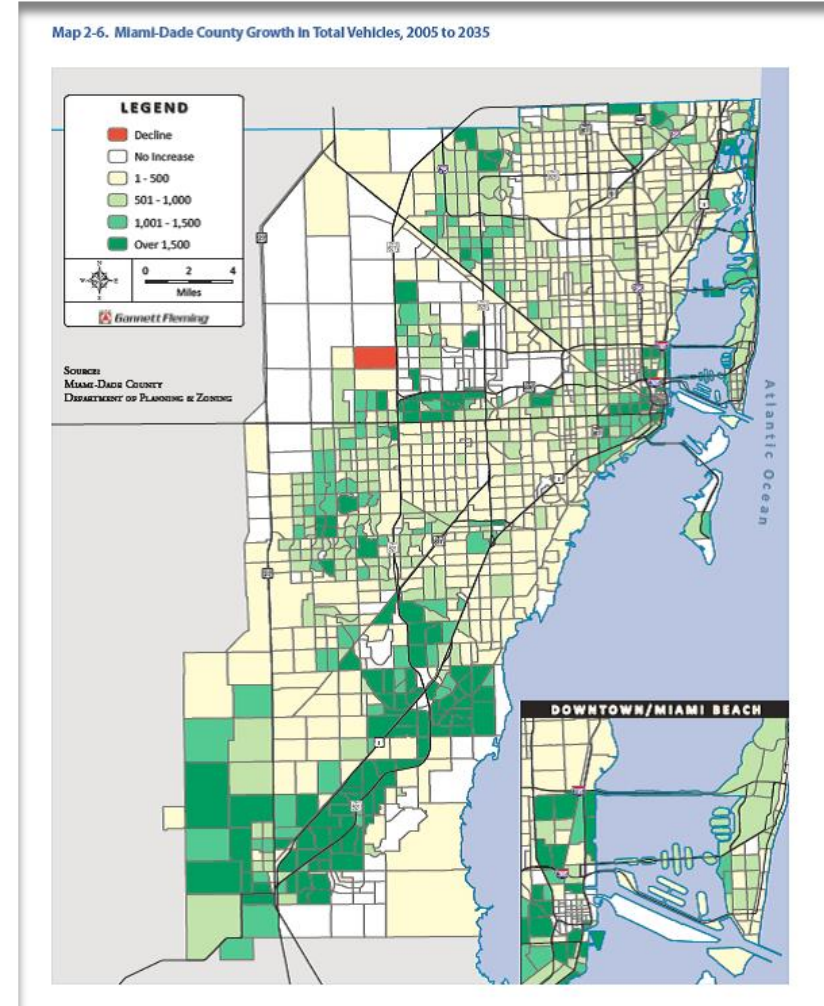
Various trends may explain this shift. Changes in the location of employment of residents may have increased travel time to work for some individuals. Increased local congestion or regional congestion may also contribute to this drastic shift. The latter would apply more if any shift in employment location for Cutler Bay residents moves their location of employment from Cutler Bay into the greater Miami-Dade county area. This explanation is in line with the growth projections noted by the Miami-Dade 2035 LRTP, which noted a projected increase the number of vehicles in the Cutler Bay area, and a projected increase in the number of workers and households in southern and eastern Cutler Bay, but with employment growth primarily trending towards centers of growth activity in the north, as demonstrated by the following figures:

Figure 2.57: 2005-2035 Projected Growth in Worker Populations

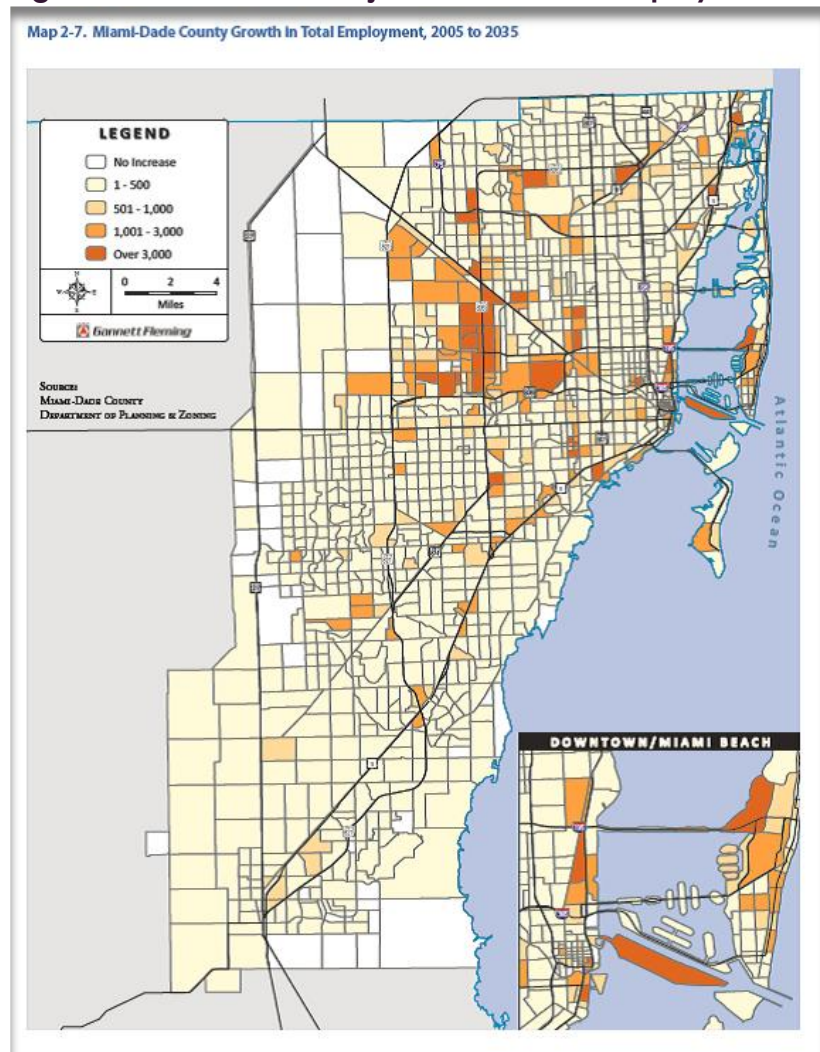


Source: Miami-Dade MPO LRTP 2035

Figure 2.58: 2005-2035 Projected Growth in Total Vehicles



Source: Miami-Dade MPO LRTP 2035

Figure 2.59: 2005-2035 Projected Growth in Employment

Source: Miami-Dade MPO LRTP 2035

What these figures indicate is a trend of declining local jobs to housing ratios – there is a large increase in the population, but not enough corresponding local jobs, which will increase average travel time as an increasing workforce must travel out of the local community to find employment. In addition, this trend will contribute to increasing local traffic and congestion over time because of the increased number and length of trips that traverse the whole of the township as opposed to a smaller portion of the township in cases where employment is local.

Table 1 in **Figure 2.60** on the following page illustrates the number of trips made daily in Miami-Dade County that originated in Cutler Bay in 2000. Of the 19,627 trips within the Miami-Dade County geographic regions 35.2% remain within the southern region. The next largest destination for trips that originate in Cutler Bay is the Central Planning area, with 30% of the trips. The northwest, Beach/CBD, west, and north planning regions garner significantly less and nearly equal amounts of trips at 14.4%, 8.8%, 6.3%, and 5.5%, respectively.

Table 2 in **Figure 2.60** also on the following page, illustrates the number of trips made daily in Miami-Dade County that terminate in Cutler Bay. Of the 8,906 trips, the vast majority or 79.88% of the trips originate within the southern MPO planning area. The west region, the next largest producer, accounts for 12.2% while the central, northwest, north, and Beach/CBD account for only 4.7%, 1.8%, 0.75%, and 0.67% of trips, respectively.



Task 2: Data Collection & Analysis

Cutler Bay Project - Year 2000 Model Results

Total vehicular trips with origin and destination within Cutler Bay Study Area = 1,367

Figure 2.60: Work trips in Miami-Dade County

Table 1 Work Trips from Study Area to the rest of the County		
From	To (Miami Dade County Planning Areas*)	Number of Trips
Cutler Bay Study Area	Northwest	2,824
	North	1,107
	Beach CBD	1,730
	Central	5,827
	West	1,229
	South	6,910
Total Trips from Cutler Bay Study Area to rest of County		19,627

Table 2 Work Trips from rest of the County to the Study Area		
From (Miami Dade County Planning Areas*)	To	Number of Trips
Northwest	Cutler Bay Study Area	155
North		65
Beach CBD		58
Central		407
West		1,054
South		6,906
Total Trips from rest of County to Cutler Bay Study Area		8,645

Economics

General Trends and Implications:

In addition to effects of employment and the socioeconomic factors of households in Cutler Bay, it is important to also consider general economic trends. Traffic is a direct output of most forms of economic development; generally, with higher amounts of economic activity, higher pedestrian, bicycling, or vehicular traffic is expected, with the exception of economic development related to some internet-reliant services. The recent economic downturn across the United States, therefore, may reflect in some communities as a downward shift not only in employment or income, but also in reduced amounts of traffic as people reduce their transportation or discretionary household costs.

Traffic growth over the course of the recession may therefore have grown more slowly than predicted, declined, or have temporarily held itself in a level range. Consequently, as economic conditions improve again post-recession, a stronger rate of growth in traffic may be expected as a result of increased economic activity contributing to increased movements between origins and destinations; however, this is contingent on the relative success of employment centers within Cutler Bay and regional and local market trends. These trends influence, but is separate from, the effects of the age trend previously discussed, providing an additional layer of variability in future projections of traffic in Cutler Bay.

In addition, it is likely that market trends based on age groups have more influence over shifts in patterns of behavior than the recent downturn, as the downward trend began before the recession, though in this case the recession had a hastening effect on the trend. Primarily, the effects of economic conditions on traffic reinforces the necessity that considerations of economic development and current and future land use be a vital component in the evaluation and planning of future traffic improvement projects within the Town of Cutler Bay.

Major Trip Generators in Cutler Bay:

There are few major trip generators in Cutler Bay because there are no significant employment centers in South Dade. Primarily, the existing trip generators are concentrated along US-1, particularly in the Southland Mall and Government Center area.

Employment

Cutler Bay's commercial and judicial centers make the town a regional employment hub for southern Miami-Dade County. The nearly one million square foot Southland Mall is the largest mall in South Miami-Dade County and serves a regional area that extends down into the Florida Keys. The South Miami-Dade Justice Center handles civil, family, and small claims cases in addition to passport, code, and traffic citation services.

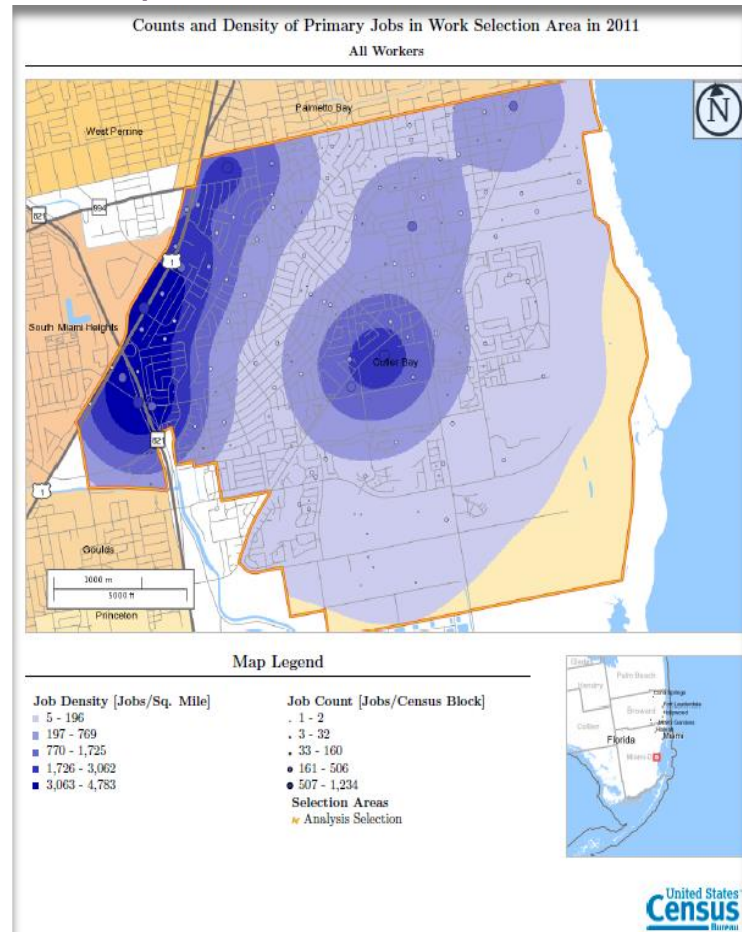
The largest employment concentration in Cutler Bay is located along the US-1 commercial corridor. 221 Acres (3.3%) of the Town is designated in the future as Mixed Use

including commercial development; this designation is lined along US-1, from SW 211th Street to SW 184th Street, and Old Cutler Road from SW 212th Street to SW 200th Street. There is also another small cluster of commercial property located along the intersection of Old Cutler Road and Franjo Road.

The Southland Mall, formerly the Cutler Ridge Mall, was built in 1959, and is the cornerstone of an approximately 220-acre metropolitan urban center that includes office, institutional, and retail uses. This established but underutilized urban center will be redeveloped as a true mixed-use downtown for Cutler Bay during the planning period, in accordance with the charrette and community-visioning efforts detailed in the growth management plan.

The following figure illustrates the job density (2011) of Cutler Bay.

Figure 2.61: Concentrations of Employment in the Town of Cutler Bay

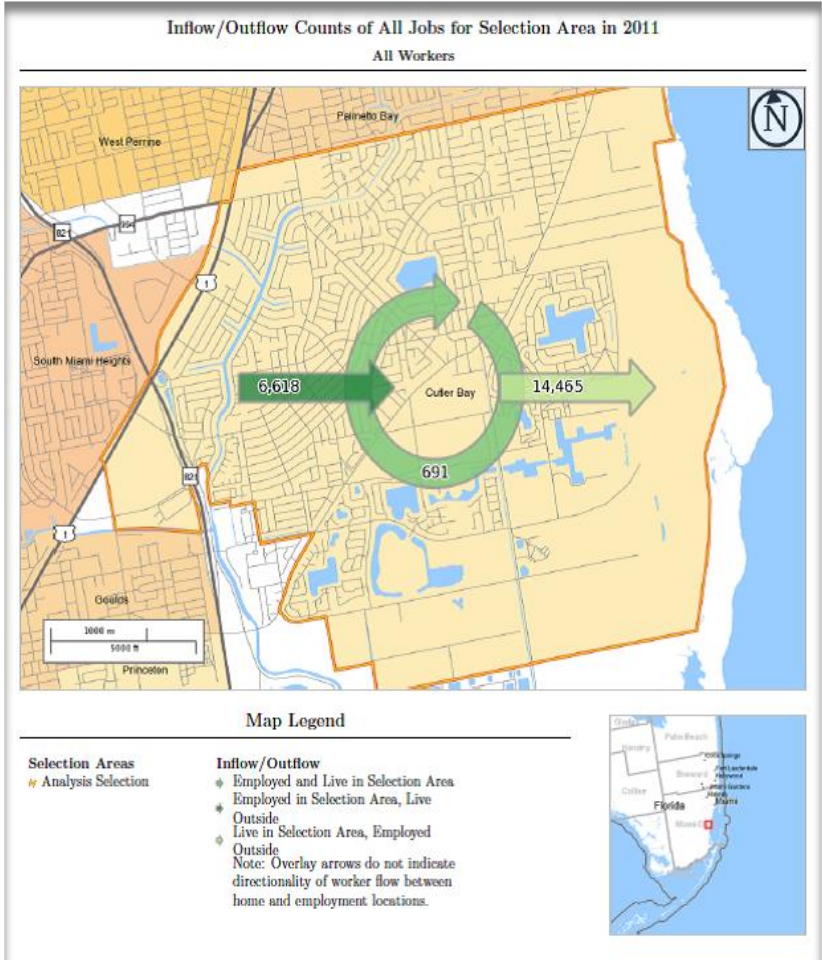


Source: US Census Bureau OnTheMap

As can be seen from the figure, Cutler Bay's employment density is primarily concentrated in the Town Center area and along Routes 821 (Florida Turnpike) and US-1, and ranges upward of 4,783 jobs/sq. mi. along the edge of the Town and 3,062 jobs/sq. mi. in the employment core located around the intersection of Franjo Road and Old Cutler Road. Retail, food services, health care and waste management form the 4 largest components of employment in the area. These jobs generally are on-site services, and telecommuting may not necessarily be usable as a travel demand management tactic. Variable results may occur from any work-staggering or flex hour policies for some these jobs, as opposed to general office jobs, due to the nature of the work.

Furthermore, Cutler Bay's population primarily commutes out of Cutler Bay to work. Approximately 3% of the population of the workers of Cutler Bay live in Cutler Bay, with more than 66% of Cutler Bay's workers commuting out of the Town to go to work. Evaluation of the housing to jobs ratio within the Town, therefore, will be integral to understanding future traffic patterns and mitigation techniques, and opens up the possibility of solutions related less to the capital improvement infrastructure and related more towards less expensive options, such as local and regional economic development.

Figure 2.62: Worker Inflow/Outflow – 2011 LODS/LEHD Data



Source: US Census Bureau OnTheMap

Demographics

Projections of population change in Cutler Bay show slight increases in the share of the area's population through 2015, after which the population growth will occur faster outside of Cutler Bay. Past 2020, household sizes are expected to decline to 2.64 per unit from its current 3.21 person per unit, and new housing will result from urban infill and redevelopment. Population growth during this timeframe will therefore result in increases in density and provide associated challenges for future transportation development in Cutler Bay. However, residential development is expected to occur outside of Cutler Bay, due to the ready availability of vacant, developable land. In cases where new development occurs, trends in traffic growth will be impacted by the size and type of development as well as the rate of development. A variable shift in projected and actual traffic growth rates will be affected by residential development, and will be related to the market absorption rates of such developments, reflecting expected changes in population growth.

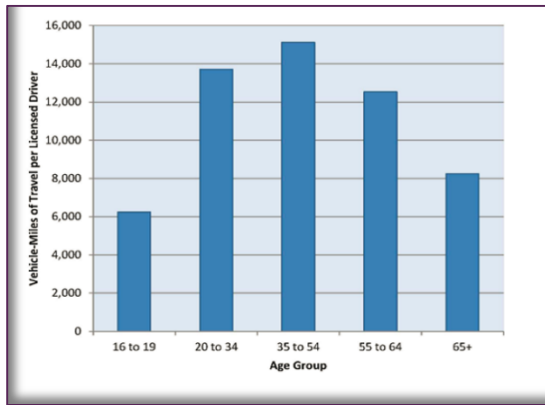
Age Trends:

At first glance, Cutler Bay seems to have a slight trend towards becoming a younger community. In 2008, the median age was 35.2, and has since decreased to 35.1 in 2012 (US Census estimates). Yet, this change as seen is both small and counter intuitive. In reality, while the overall community is slightly younger, this is tempered by the fact that much of this change results from a significant decrease of the elderly population aged 75 and older, while the growth of the youth population and 20-24 year old population grew slower than what should have been a normal rate of increase for Cutler Bay in the same five year span. Meanwhile, the 25 to 34 and

45 to 54 year old population groups provided the basis for population growth in Cutler Bay.

Atypically of Miami-Dade County and national trends, the 45 to 54 year old population forms a larger percentage of the population in Cutler Bay than elsewhere. This is significant because market conditions show that the younger population's trends are contributing to a decrease in traffic, due to higher preferences for mass transit and alternative forms of transportation, and there is the expectation that the 45-54 year old population will typically prefer personal vehicles as their primary mode of transportation, as seen in **Figure 2.63**.

Figure 2.63: Vehicle Miles Traveled Per Licensed Driver By Age, 2009



Source: *A New Direction: Our Changing Relationship with Driving and the Implications on America's Future*. US PIRG and Frontier Group, 2013.

When combined with a slower comparative rate of growth of the youth and young professional population, these trends indicate an expectation that the rate of decline in traffic levels currently seen in the County would be tempered or partially reversed in Cutler Bay.

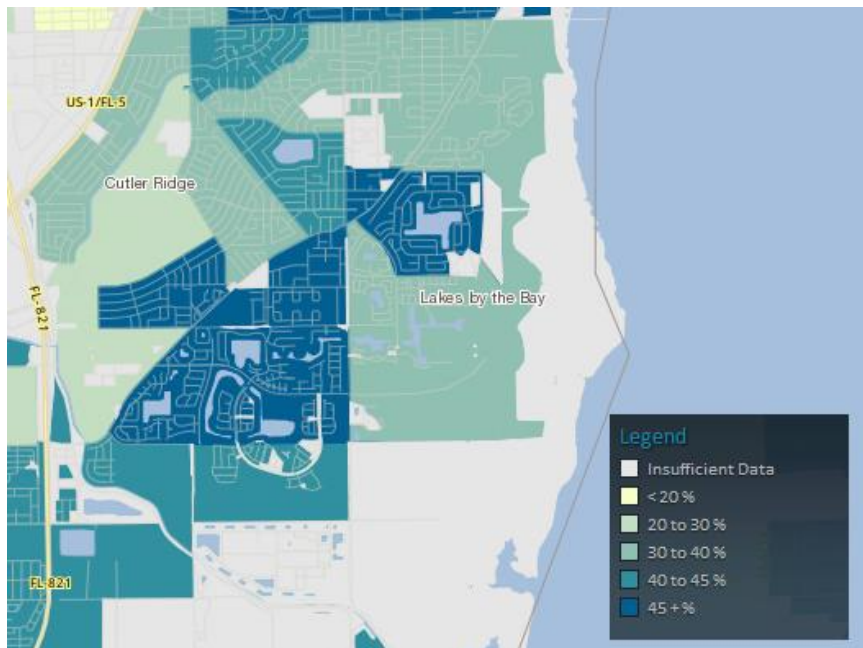
Household Characteristics

Aside from serving as a regional commercial and institutional hub, the Town of Cutler Bay is also home to over 41,000 residents and approximately 13,000 households (US Census 2012 Estimate). The approximately 10 square mile community has an average population density of 4126/mi² (US 2012 Census Estimate). Household density is concentrated to the east of Old Cutler Road. Median Income (2012 dollars) in Cutler Bay is 62,564 (US Census 2012), and Mean household income (2012 dollars) is 77,259 (US Census 2012).

On average, housing accounts for approximately 37% of household costs in the Town of Cutler Bay. The most common notion of affordable housing implies that households that spend more than 30 percent of their income on housing have an affordability problem (Source: MIT Center for Real Estate.) It is important to note that the price of a house is not only affected by its structural composition but also by amenities such as adequate access to jobs, school quality, and environmental amenities associated with a house's location. **Figure 2.64** illustrates housing costs as percent of household income which in Cutler Bay ranges from as low as 16% to over 56%.

Of particular concern is the cost of housing to the east of Old Cutler Road, where housing costs tend to be a significantly higher proportion of household income. As the combination of housing and transportation costs provide the two largest components of household expenditures, high housing costs may result in a desire for lower transportation costs in order to create a more economically sustainable neighborhood.

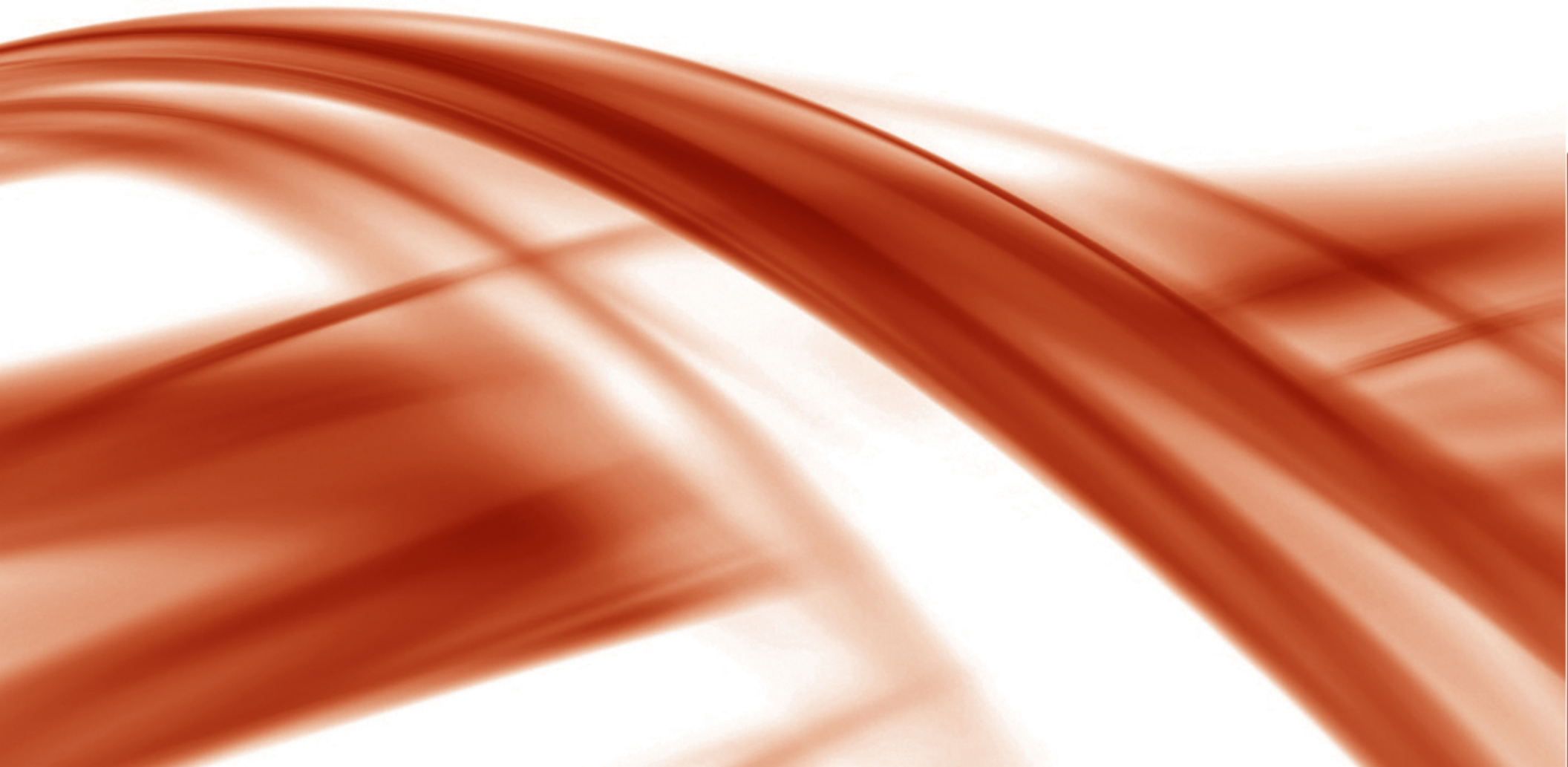
Figure 2.64: 2012 Housing Costs as a Percent of Income



(Source: Center for Neighborhood Technology, 2012)

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NEEDS ASSESSMENT





TASK 3: NEEDS ASSESSMENT

The analyses provided in Task 2 points to various levels of need for various modes. From this assessment, a list of potential projects has been developed. Roadways that meet or exceed the existing Level of Service standard will need improvements to assure that they meet the Town's adopted Level of Service standards. The roadway Level of Service is not the only consideration of need. The transit network has been examined to determine the adequacy of the system, as well as other modes. Public perception of need was also considered as part of the extensive public engagement process. The four project categories will be developed including:

Capacity

Projects have been developed to address streets that have roadway capacity issues. These projects generally will focus on improving intersections and links that are at LOS D or worse, in the existing or future year. These have been mapped. There are seventeen (17) projects in this category, at a potential cost of \$15,678,000

Alternative Mode

This has focused on areas of transit, pedestrian, and bicycle and their levels of service, particularly as they interface with major intersections, trip generators and transit stations. There are eight (8) projects in this category, at a potential cost of approximately \$2,250,000.



Task 3: Needs Assessment

Corridor Enhancement

This took into consideration arterial roads that function as major conduits of traffic through the Town. There are twelve (12) projects in this category, at a potential cost of \$2,787,000.

Policy

This focused on policy initiatives which may help mitigate lack of mobility. They generally involve working across political boundaries on common problems and initiatives that impact us all regionally. There are twenty-five (25) projects in this category, at a potential cost of \$295,000.

Individual projects are detailed in the next task.

3.1 CAPACITY PROJECTS

Projects have been developed to address streets that have roadway capacity issues. These projects generally will focus on improving intersections and links that are at LOS D or worse in the existing or future year.

3.1.1 Key Capacity Initiatives

Based on the Traffic projections and resulting LOS changes, the following twenty-three (23) road linkages within the limits of the Town of Cutler Bay will be below the adopted LOS standard by 2020.

- Caribbean Blvd between SW 117th Ave and SW 110th Ave
- Caribbean Blvd between SW 110th Ave and US-1

- Caribbean Blvd between US-1 and SR 821
- Caribbean Blvd between SR 821 and SW 97th Ave.
- Caribbean Blvd between SW 97th Ave. and Marlin Road
- Caribbean Blvd between Marlin Road and Franjo Road
- SW 216th St between SR 821 and Old Cutler Road
- SW 216th St between Old Cutler Road and SW 87th Ave.
- Old Cutler Rd between SW 112th Ave. and SW 224th St.
- Old Cutler Rd between SW 224th St. and SW 216th St.
- Old Cutler Rd between SW 216th St. and SW 97th Ave.
- Old Cutler Rd between SW 97th Ave. and Marlin Rd.
- Old Cutler Rd between Marlin Road and SW 87th Ave.
- Old Cutler Rd between SW 87th Ave. and SW 184th St.
- SR 821 between SW 211th St. and Caribbean Blvd.
- SR 821 between Caribbean Blvd. and US-1
- SR 821 between US-1 and Quail Roost Drive
- Gulfstream Rd/SW 97 Ave. between Franjo Road and SW 184th St.
- Marlin Rd between Caribbean Blvd. and SW 97th Ave.
- Marlin Rd between SW 97th Ave. and US-1
- Marlin Rd between US-1 and SW 107th Ave.
- Franjo Rd between Old Cutler Road and Caribbean Blvd.
- Franjo Rd between Caribbean Blvd. and SW 97th Ave.

It should be noted that the determination of potential concurrency issues included currently existing improvements, such as the Caribbean Boulevard projects. With the exception of SR-821, all of the above roads are

classified as Class II roads based on roadway classification and posted speed limits. Analysis of potential remedial actions included an evaluation of the LOS grades if the roads were reclassified as Class I, possible through a change in the posted speed limit, and if the roadways had lane expansion.

It was determined that changing the roads to Class I had a negligible effect. Altering the class of the roads by changing the speed limit to 40 MPH or above would allow the following linkages to meet concurrency standards:

- Caribbean Blvd between US-1 and SR 821
- Caribbean Blvd between SW 97th Ave and Marlin Road
- SW 216th St between Old Cutler Road and SW 87th Ave

Due to the nature of Old Cutler Road as a historical road, which poses limitations on roadway expansion, as well as the fact that roadway expansion would negate the positive improvements to the pedestrian environment which were recently completed, Old Cutler Road does not receive a recommendation for lane additions.

Caribbean Boulevard, because of its current lane expansions, was also not evaluated for further lane expansions.

Evaluation of lane expansions involved a look at the necessary right-of-way as well as the existing right-of way. Determination of necessary right-of-way dedication is based on the concept of Complete Streets. It is this concept that is an overriding focus of project development in all modes because it looks at our Rights of Way and aspires to provide capacity for each mode where possible.

Complete Streets

The Complete Streets Initiative is a transportation planning policy that was first instated in the U.S. in 1971 in Oregon. Complete Streets focuses on the design of roadways to incorporate all of its users. Many streets do not incorporate bicyclists, pedestrians and handicapped individuals, as we live in a society dominated by the automobile.

In an urban area, a Complete Street might consist of a lane dedicated solely to buses, proper bus stops, a bicycle lane or wide paved shoulder, sidewalks, traditional or raised crosswalks, a median island, and all crosswalks & sidewalks will be American Disabilities Act (ADA) compliant.

Incomplete Streets create unsafe situations for all. Complete Streets create opportunities for more than just the automobile. They make public transportation more attractive, as a bus will be able to move faster through a bus lane, or simply having proper stops. Pedestrians will be safer and more likely to use the crosswalks and sidewalks if they are in good condition as well as in necessary places.

These factors add up to better food access, more jobs and a safer community.

For the purposes of this analysis, the necessary right-of-way was judged to include roadways, bike lanes, and sidewalks for bi-directional pedestrian, bicycling, and vehicular traffic, as well as any necessary buffer zones.

The following are diagrammatic examples of urban Complete Streets:

Figure 3.1: Diagrammatic examples of urban Complete Streets

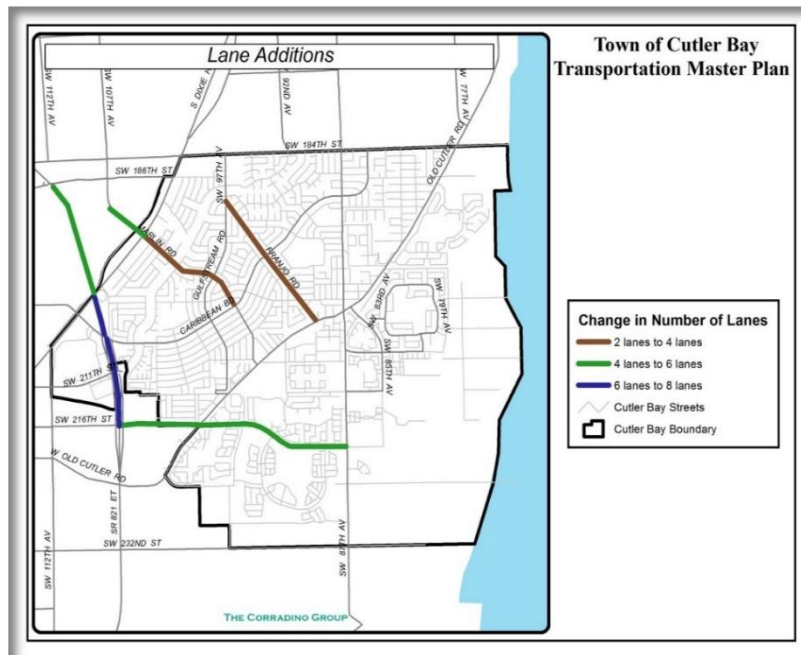




Based on this analysis, the following lane additions will allow their associated roadways to meet the adopted LOS:

- SW 216th St. from SR – 821 to Old Cutler Road – 4 lanes to 6 lanes
- SW 216th St. from Old Cutler Road to SW 87th Ave. – 4 lanes to 6 lanes
- SR 821 from SW 211th St. to Caribbean Blvd. – 4 lanes to 6 lanes
- SR 821 from Caribbean Blvd to US-1 – 6 lanes to 8 lanes
- SR 821 from US-1 to Quail Roost Drive – 6 lanes to 8 lanes

Figure 3.2: Lane Additions



- Marlin Road from Caribbean Blvd to SW 97th Ave – 2 lanes to 4 lanes
- Marlin Road from SW 97th Ave. to US-1 – 2 lanes to 4 lanes
- Marlin Road from US-1 to SW 107th Ave. – 4 lanes to 6 lanes
- Franjo Road from Old Cutler Road to Caribbean Blvd. – 2 lanes to 4 lanes
- Franjo Road from Caribbean Blvd. to SW 97th Ave – 2 lanes to 4 lanes

No right-of-way acquisitions are necessary to implement these additions based on minimum requirements for Complete Streets. However, while some of these roadways can be expanded to accommodate the higher levels of vehicular traffic, in cases such as Franjo Road and Marlin Road, expansion of the roadways will create four (4) or six (6) lane roadways next to low density neighborhoods. These neighborhoods currently consist of single story, bungalow style housing, and road expansions in these developed areas may be counter to the character of current development, especially in relation to the zoning and future land use designations of the area. Thus, only the following are recommended for lane expansions at this time:

- SR 821 from SW 211th St. to Caribbean Blvd – 4 lanes to 6 lanes
- SR 821 from Caribbean Blvd to US-1 – 6 lanes to 8 lanes
- SR 821 from US-1 to Quail Roost Drive – 6 lanes to 8 lanes
- SW 216th from SR – 821 to Old Cutler Road – 4 lanes to 6 lanes

- SW 216th from Old Cutler Road to SW 87th Ave – 4 lanes to 6 lanes

Franjo Road and Marlin Road provide cross-sectional connections between US-1, Caribbean Boulevard, and Old Cutler Road, which run virtually parallel to each other within Cutler Bay. This is important as without these connecting roads, the major routes connection all three routes would be SW 87th Avenue and the Florida Turnpike. While the posted speeds are consistent with the need of a collector road to flow traffic in a Northwest and Southeast manner, these speeds are higher than what one would expect in a low density residential neighborhood. In addition, there seems to be a seeming disconnect between the perceived function of the road as a Collector and its actual function, which given posted speed limits and actual AADT numbers, are closer to an arterial roadway which runs as a connecting route between other collectors and arterials. This is particularly true of Marlin Road when one considers its continued route once out of the Town of Cutler Bay's Town Limits. While the expansion of Franjo Road and Marlin Road are potentially projects the Town can employ, these should be considered carefully to avoid disconnect with the land use.

In addition, instead of roadway expansion, given its effect on the nature and character of the area, alternative modes of transportation should be encouraged in order to reduce the reliance on the private automobile.

3.1.2 Intersections Analysis

Intersection analyses were performed at specific intersections within the Town in order to identify

improvement needs affecting roadway Levels of Service. These intersections were identified from the roadway Level of Service analysis based on the failing roadway segments.

Intersection turning movement counts were collected on Thursday, May 22, 2014 between 7:00 AM - 8:45 AM & 4:00 PM - 5:45 PM at the following eight intersections:

1. SW 97th Ave and SW 184th St.
2. Old Cutler Road and SW 216th St
3. Caribbean Boulevard and Franjo Road
4. Franjo Road and Old Cutler Road
5. Gulfstream Road and Franjo Road
6. Gulfstream Road and Caribbean Boulevard
7. Gulfstream Road and Marlin Road
8. Caribbean Boulevard and Marlin Road

The peak hour counts were collected while school was in session making sure that the typical traffic weekday pattern with school session is captured.

Intersection capacity/level of service analyses were conducted for the above intersections. The analyses were undertaken by using Synchro 8 software which follows the capacity/level of service procedures outlined in the Highway Capacity Manual 2010 (HCS). The results of this analysis are summarized in **Table 3.1**:



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Table 3.1

			Overall Level of Service			
			AM		PM	
Intersection #	Intersection	Type	LOS	Delay	LOS	Delay
Intersection 1	SW 97th Ave & SW 184th St	Signalized	D	35.4	C	32.7
Intersection 2	Old Cutler Rd & SW 216 St	Signalized	C	32.3	C	30.5
Intersection 3	Caribbean Blvd & Franjo Rd	Signalized	B	14.9	B	15.9
Intersection 4	Franjo Rd & Old Cutler Rd	Signalized	B	18.0	B	18.0
Intersection 5	Gulfstream Rd & Franjo Rd	Unsignalized	*	*	*	*
Intersection 6	Gulfstream Rd & Caribbean Blvd	Roundabout	A	4.9	A	5.5
Intersection 7	Gulfstream Rd & Marlin Rd	Unsignalized	B	11.3	B	13.6
Intersection 8	Caribbean Blvd & Marlin Rd	Signalized	B	15.1	C	27.4

Although some specific roadway segments are failing, the analysis performed for the above intersections indicate that these intersections perform adequately during AM and PM peak hours.

3.1.3. Capacity Projects Listing

A listing of Capacity Projects is shown on **Table 3.2**.

Table 3.2: Capacity Projects Los of Selected Intersection in Cutler Bay

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Capacity 1	SW 216th Street/SW 87th Avenue Left Turn Lanes	\$8,500	Operational analysis of existing left turn lanes at SW 87th Ave. and SW 216th St.	Citizen request/concern.										1
Capacity 2	Traffic Circle/Signal - SW 216th Street/SW 92nd Avenue/SW 227th Street Traffic Circle	\$400,000	Study and determine if a traffic circle is necessary at SW 216th St/SW 92nd Ave./SW 227th St. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										2
Capacity 3	Traffic Circle - Marlin and Gulfstream	\$400,000	Study and determine if a traffic circle is necessary at Marlin Road and Gulfstream Road. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										2
Capacity 4	Traffic Circle - Marlin and Bel Aire Drive Traffic Circle	\$400,000	Study and determine if a traffic circle is necessary at Marlin Road and Sterling Road. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										2
Capacity 5	Traffic Study - Intersection of SW 85th Avenue and Old Cutler Road	\$7,000	Conduct traffic study at Old Cutler Road and SW 85th Avenue.	Traffic Circle installation at SW 87th Avenue and Old Cutler Road has changed traffic flow through speed on Old Cutler Road, and may have an effect ingress/egress to Saga Bay at SW 85th Avenue/Old Cutler Road intersection. Citizen Concern.										2
Capacity 6	Intersection Analyses - Gulfstream Rd, between Franjo and 184th St.	\$20,000	Intersection and operations analyses on Gulfstream Road between Franjo Road and SW 184th St.	Noted LOS deficiencies in 2008 Master Plan and current analysis, all time horizons.										3
Capacity 7	Intersection Operational Analysis - Franjo/Cutler Ridge Drive	\$8,500	Study operations at the Cutler Ridge Drive/Franjo Road intersection and implement any necessary changes.	Addresses deficiencies found in traffic study.										3
Capacity 8	Traffic Circle - SW 216th Street/SW 87th Avenue	\$400,000	Study and determine if a traffic circle is necessary at SW 216th St./SW 87th Ave. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										3
Capacity 9	Left Turn Lane - Franjo/SW 186th Intersection	\$350,000	Determine if a left turn lane at Franjo/SW 186th intersection is necessary to address traffic back-up.	Addresses deficiencies found in traffic study.										3
Capacity 10	Connect SW 97th Avenue to Gulfstream and SW 212th Street	\$105,000	Extend SW 97th Avenue to Gulfstream Road to SW 212th St.. (Appx. 500 ft.)	Allows for more direct route to Old Cutler Road and SW 212th St.										3

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3.2 ALTERNATIVE MODES PROJECTS

This has focused on areas of transit, pedestrian, and bicycle and their levels of service, particularly as they interface with major intersections, trip generators and transit stations. There are Eight (8) projects in this category, at a potential cost of approximately \$2,250,000.

3.2.1 Key Transit Initiatives

Transit level of service (LOS) is a qualitative measure of the transit system and its accessibility along various links within the Town. Frequencies of service, available amenities at the bus stop locations, as well as the accessibility of the route and bus stops all contribute to quality and level of service.

Within Cutler Bay, the Bus routes run along Caribbean Boulevard, Franjo Road, SW 97th Avenue, SW 184th Street, US-1/Busway, SW 211th Street, Old Cutler Road, SW 85th Avenue, SW 87th Avenue, SW 112th Street, and SW 112th Avenue.

Transit LOS for the community was evaluated on the basis of access and coverage. The Miami-Dade County Master Plan evaluates transit level of service evaluation goals based on peak headway. For areas of at least 10,000 per square mile density, transit service should be at peak headway of at least 30 minutes with a route spacing of 1 mile.

While the town of Cutler Bay only has a density of 4,000 person/sq. mi, when there are few alternative modes of mass transportation in a local area, such as in Cutler Bay, transit LOS should be primarily be evaluated on frequency and ability to access.

At the most basic level, the ability to access transit that runs frequently enough to be viable as an alternative form of transit is the most important factor, and far outweighs items such as bus stop amenities and in-transit items such as on-board wi-fi or comfort of seating. While these factors are undoubtedly important in assessing desirability of transit, these factors become moot if the traveler is unable to or must make extraordinary efforts to reach an area serviced by transit with appropriate headways for their traveling plans. At this stage, these factors effectively measure the desirability of the system for current user, and while essential for customer service from a transit operator's standpoint, do not always result in the best gauge of necessity or potential of service needs. When thresholds for frequency and ability to access are sufficiently met, additional measures such as comfort and amenities then play a greater role in evaluating transit service.

While Cutler Bay has areas with good transit access, notably along US-1, it also has areas of gaps in service, defined in this Plan as areas more than 0.25 miles away from transit with headways of 30 minutes or less. While the Town has made good strides in planning for transit, with efforts to increase the connectivity of the pedestrian environment,

meet ADA compliance, and replace/emplace bus shelters, it should take a moment to re-evaluate the routing system to close some of these service gaps.

Various gaps in service, based on a 0.25 mile distance can be seen in the Town from the map in figure 3.3. Some of these gaps can be remediated via rerouting or the creation of additional routes. To address these gaps, the Town should consider supporting a study of emplacing routes which traverse the whole of Marlin Road and Old Cutler Road.

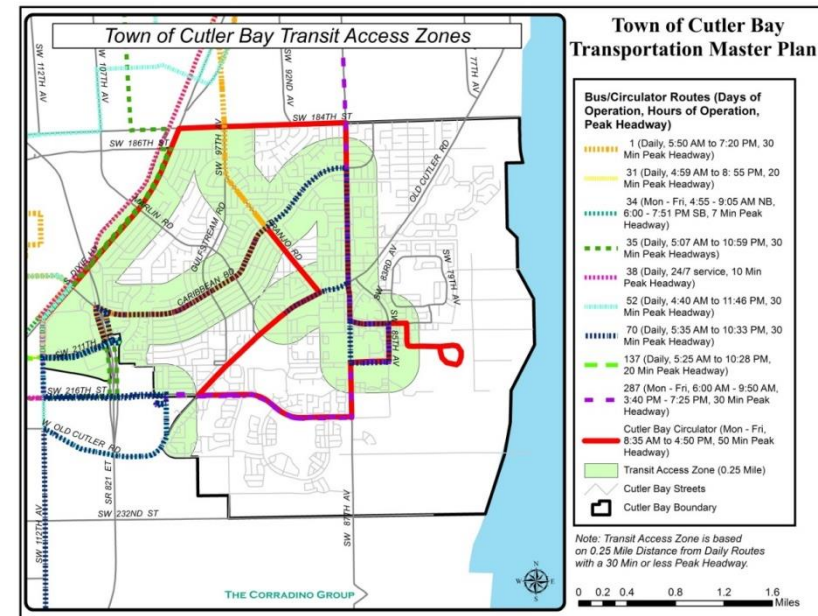
Alternatively, revisions to the Town's circulator may be able to address some of these gaps, though the circulator should be increased to run with peak headways of 30 minutes or less to address these service gaps. Ideally, this service should be extended to 7 days a week.

In some cases, the ability to access transit is hindered by the Town's cul-de-sac pattern of local roads; in these cases, service access may be improved by either improving sidewalk access or opening up a road connection. There are concerns that the latter will open up residential areas to more vehicular access. However, roads can be created and restricted to bus only use in residential neighborhoods, which will allow for increased transit access for the neighborhood.

In addition, the Town should amend its Transportation Element in its Growth Management Plan to incorporate a

Transit LOS standard by which it can measure future local performance. This LOS standard should be first based on whether all sectors of the Town are serviced, and at what frequency.

Figure 3.3: Town of Cutler Bay transit Access Zones



The US-1 Busway: Light Rail vs Bus Rapid Transit

In the debate between utilizing Bus Rapid transit versus developing Light Rail transit, capital and operating costs, as well as the financing of such projects presents constraining restrictions in short and long term transportation planning. While a Bus Rapid system is less expensive to implement, it technically has more staffing expenses over time due to the need for additional operators. However, Light Rail transit is exponentially more expensive to implement, though operational costs may not be as high given the need to hire less staff; capital costs, depending on the length of the systems, may greatly exceed the increased operational/staffing costs, even over time. In comparisons between the two systems, the amount of ridership because of the capacity, service frequency, and fixed-variable costs mix indicates a need to meet certain ridership thresholds for a system to be cost effective.

One of the more successful Bus Rapid Transit systems can be found in Los Angeles's Orange Line, which is an 18-mile BRT system with a dedicated right-of-way, traffic light priority, and prepayment stations. This system has an average weekday boarding of 31,303 riders, or approximately 1,739 riders per mile (March 2014, Los Angeles County Metro). Cleveland's HealthLine, which was developed at a cost of \$7 million per mile, is another example of a successful BRT system and boasts an annual ridership of 5 million, or approximately 19,000 daily riders (2013). At 7.1 miles, this equates to approximately 2,700

riders per route mile (Greater Cleveland Regional Transportation Authority).

By comparison, San Jose's Light Rail transit, which had an initial cost of \$30 million/mile and which is noted frequently as a failure with budgetary shortfalls, has an average daily ridership of 34,300, or an average daily boarding by mile of 813 passengers (Q4 2013; American Public Transportation Association). Not all Light Rail transit systems are created equal or are unsuccessful, however. Some routes have better ridership in some areas, such as Boston's Green Line & Ashmont-Mattapan High Speed Line and San Francisco's Muni Metro, which have 8,515 and 6,011 average daily boardings, respectively. However, these systems have been developed in highly compact areas and have connectivity to a cohesive, highly utilized network that affords a large range in addressing transit needs from an origin-destination standpoint.

US-1 Busway

Currently, the US-1 busway is a Bus Rapid transit system consisting primarily of a dedicated busway, with 56 stops beginning at Dadeland South Metrorail station and ending in Florida City. Average daily boardings along the Busway are in excess of 20,000 riders per day. Ridership, though high along the Busway, does not indicate a need to do implement a light rail transit system. Bus Rapid transit technology in addition to the current dedicated Right of Way may be incorporated into the Busway's services as a means of enhancing service and encouraging ridership.



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Field visits, however, indicate a higher priority in the need to enhance the corridor through the utilization of pedestrian environment improvements and inclusion of more parking areas in proximity to the Busway will aid ridership, which will develop over time.

Support MDT - Bus Grid System Initiatives

Miami Dade Transit periodically evaluates and modifies its bus routing system. As part of this evaluation process, alternative routes and route systems are constructed. One potential system which is being considered is based on a grid system. With a grid system, circuitous routes would be reduced or eliminated in favor of a system which bases its routes on straight line approach east to west or north to south, with transfers at intersections. Grid systems require an existing road network which is primarily based on an irongrid system, such as those found in Los Angeles and Miami.

The ability to utilize a grid system allows a bus operator to develop routes on a local and a rapid/express route on the same road, with the latter route utilizing the same path as the local route, but with fewer stops. By creating a route with lesser stops, some of the time lost in a system due to the need for acceleration and deceleration for each stop could be eliminated. One example of this described local/express system is the Los Angeles Metro system, where the Local "Red" buses stop at regular intervals, but the Rapid "Orange" buses only stop at major intersections, which are also serviced by the Local "Red" buses. These

express routes essentially act as a rudimentary Bus Rapid Transit system.

Generally, grid systems are employed with the intent of increasing the efficiency of the system from both an operator and a user standpoint. In some communities, bus routing changes that switch from more circuitous routes to a grid pattern results in a new system which is more reliable and easier to operate due to the ability to quickly assess and dedicate resources on a real-time scale, and which would notably increase efficiency in some areas, such as average travel speed, with time savings resulting from, but not limited to, reduction or elimination of time needed to turn the vehicle, or elimination of some previously overlapping route segments. As an example, Los Angeles Metro's Rapid service runs 36% faster on Wilshire Boulevard during the morning rush hour when compared to its Local counterpart. In addition, some passengers may see a reduction in the number of transfers necessary to reach their final destination, and because transfers involve wait times at bus stops, this may result in an additional time savings for these travelers.

However, grid system routes which have express routes need to meet certain thresholds to be effective. These considerations include the average speed of the line, the average trip length, and the ridership level of the route. Determination of which roads should have express routes will largely be affected by vehicular traffic as well as regional origins/destinations.

A grid route system initiative could re-align the current bus system's routing in Cutler Bay, and such a change would present an opportunity for increased efficiency in the community. It is expected that with any potential re-route that the South Dixie Highway (US-1) will still serve as a major transportation route. While SW 216th Street, SW 87th Avenue, and SW 184th Street would all fit within a rigid grid system, much of the Town is curvilinear. However, there are overlaps in the bus routes which serve the Town. Elimination of some of the overlap may free up resources which can then be re-allocated towards increasing or changing the nature of services such as that of the Town's Circulator, which currently has a peak headway of 50 minutes and only runs in a clockwise pattern. Theoretically, within a grid system, a re-allocation of resources could potentially allow the current circulator to be a local circulator which serves as the feeder system to major regional routes, such as the South Dixie Highway, with more frequent or bi-directional service that more efficiently serves the same or more of the Town's population.

The challenge with re-routing Cutler Bay's system stems from its curvilinear structure and in the need to account for both internal circulation and regional connectivity in a balanced rider-friendly manner, which involves not only the actual ease of understanding in trip planning but perceptions of service by these riders. Any resource re-allocation resulting from a route system would depend on the specific routes and their effect on the ridership's ability to reach their destinations, and the Town should continue

to work with Miami-Dade Transit in evaluating ways to increase the mass transit system's efficiency.

3.2.2 Alternative Mode Subsection: Bicycle/Pedestrian Considerations as Alternative Transit in Cutler Bay

As Cutler Bay rises to regional prominence, it is expected that the number of short trips will continue to 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 this trend, which hold truer in Cutler Bay than in the rest of Miami-Dade County, is because of the lack of options and conditions necessary to reduce private vehicular usage. 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, if the conditions are planned for now. 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.

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, and has led to Cutler Bay commissioning a Safe Routes to School audit. 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



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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 was a positive step forward towards achieving a very safe community where a higher percentage of non-motorized trips are taken.

Nearly seventy projects were developed in the 2011 Bicycle/Pedestrian Master Plan via examination of the basic pedestrian network, issues of local connectivity and regional connections. The projects needed out-paced the resources to implement the various programs; the potential cost to implement this program in its entirety was estimated to potentially be over \$20 Million, resulting in a need to implement the most effective projects and seek grant opportunities and partnerships for less financially feasible efforts.

Considerations of Planning Objectives in Bicycle/Pedestrian Planning

Objectives in planning for the Pedestrian and Transportation environment of the Town of Cutler Bay include the provision of 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.

This involves:

- Encouraging parents to allow their children to walk or bike to school and/or recreation areas.
- Providing for safe, unobstructed use of rights of way for non-motorized alternative modes of transportation.
- Providing a bicycle and pedestrian system as an incentive for providing mobility, conserving energy, being environmentally friendly and becoming healthier.
- Providing more experienced cyclists with paths for longer trips through the community, connecting with regional facilities, eventually encouraging cycling commuters.
- Providing 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.

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

- Providing connections between parks and schools, and residential neighborhoods.
- Assuring 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.
- Providing access within the primary commercial areas along US-1, in the Urban Center District, and the Old Cutler Road District.
- Providing access to the Busway across US-1.
- Connecting the municipal bicycle and pedestrian network with the County network and potential networks in other cities.

Facilities Needed

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.

Secure bicycle 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 many of the 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 for these rentals are processed by mail.

In addition, "last mile" ridership requires a closer look at not simply bicycle parking, but whether alternative methods can be used to reduce localized traffic congestion through the provision of vehicular parking facilities. Perhaps a driver is willing to drive to the edge of the Town, park, and then



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bike the last mile into the Town. “First Mile” alternative transit development applies in the same manner, where perhaps a traveler is willing to drive, walk, or bicycle to a hub or transfer facility. Development of facilities to encourage first and last mile transit options will require facilities investments such as showers, lockers, and bicycle racks for those who wish to utilize them, as well as a cohesive network.

Future Project Planning

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 project planning can be placed in three main areas:

- The Basic Network
- Local Connectivity
- Regional Access

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.

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 feet 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 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 feet and 6 feet 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 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.

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 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 feet and 6 feet wide on one or both sides of the right of way. These types of projects would be through neighborhoods. Many of these interior connections already exist.

Connections created by local connectivity projects 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.



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The Town generally has an extraordinarily well developed sidewalk network that is more prevalent in urban areas, but with some places for improvement with missing sidewalks in some areas. However, this sidewalk network's overall efficiency is hampered by the low ability for a pedestrian to cross roads easily. The Town has recently undertaken efforts to have streetscape development, such as the recently completed streetscape development on Old Cutler Road between SW 87th and SW 97th Avenues. While short segment improvements are important, as are any improvements, it should be remembered that short segments serves specific local areas; this means that in prioritization between different segments, short segments are more conducive towards creating situations where parking can be forced to the edge, and will only partially mitigate the traffic along the specific segment based on placement of the parking lots/structures. Intermodal development requires continuous connectivity which allows for a transit mode change to be forced or entertained. More appropriately, the continuous stretch must be, to the pedestrian, safe and an enjoyable experience as well.

The Town should continue its development momentum in further developing the network while utilizing these short segments as a core starting area, especially by including and enforcing stringent guidelines on new areas of development or redevelopment.

While much of South Dade is thought of as, and is, suburban, the development pattern of Cutler Bay's

sidewalk and other indicators in comparison with the region 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 sidewalk network was also in place prior to Cutler Bay's incorporation. This is important to consider because this means that the challenge of system enhancement has less emphasis of emplacing a new sidewalk, and more towards redesign of a right-of-way, which in some cases involves the acquisition of new rights-of-way or the reallocation of existing rights-of-way.

The primary area in need of sidewalks is the neighborhood areas 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, guywires, 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, do not have efficient, effective, and safe connections between these origin and destination points. 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. Advanced planning with land use considerations will also provide a better gauge for the level of intervention necessary in improving the overall design of the pedestrian realm. 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.

The Regional Access Level would provide through connectivity to other sub-regional or inter-city routes. It would be categories by 4 feet to 6 feet on-road bike lanes on each side of the through roads, or 8 feet to 12 feet wide 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 Avenue, 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.

3.2.3. Alternative Modes Projects Listing

Table 3.3 lists the Alternative Modes Projects.

Figure 3.4 graphically depicts these projects.



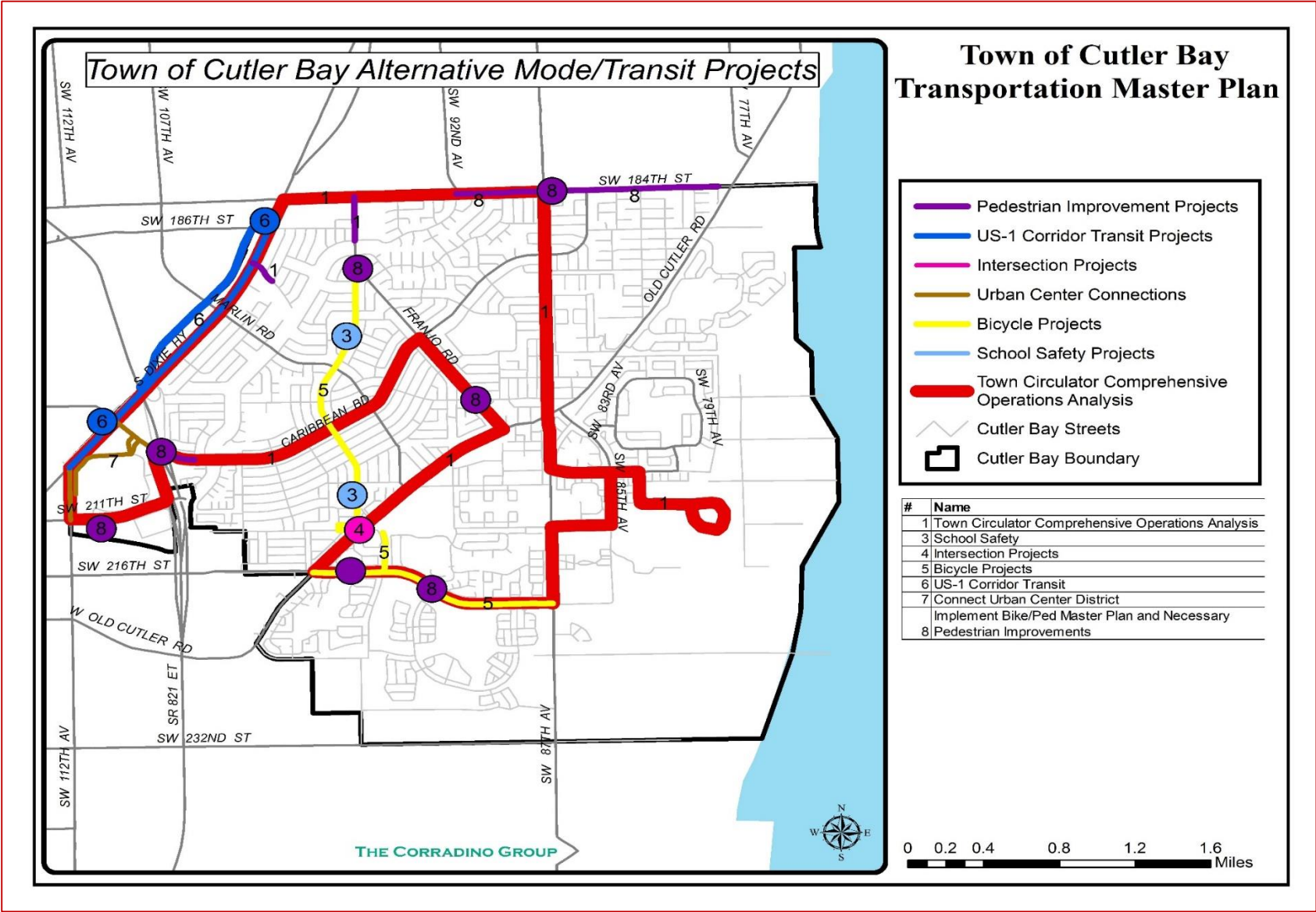
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Table 3.3: Alternative Modes Projects

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Alternative Mode 1	Town Circulator Comprehensive Operations Analysis	\$75,000	Conduct Study/Operational Analysis of the Town Circulator with consideration of headway times and expansion of days of service, improvement to the bus stop facilities for ADA compliance and general services, and route adjustments to connect to Southland Mall, high schools, and Circulators in adjacent communities.	Addresses citizen requests, American Disabilities Act, and gaps in transit service within Cutler Bay. Allows for greater mobility and potential for regional auto usage reduction.										1
Alternative Mode 2	Develop technology and applications to collect real-time bicycling data for alternative mode transportation planning	\$50,000	Develop and implement usage of bicycling and pedestrian pathways app to collect real-time data for pedestrian/bicycle planning.	Bicycle and pedestrian usage counts are needed in order to better prioritize projects.										1
Alternative Mode 3	School Safety	\$492,000	Implement recommendations for Gulfstream Elementary and Cutler Bay Academy of Advanced Studies. Install bicycle racks at schools as needed.	Improvements noted in Safe Routes to School report are necessary to enhance safety and create accessible routes to these two schools. Enhances bicycling mobility and its attractiveness as form of alternative transit.										1 and 2
Alternative Mode 4	Intersection Projects	TBD	Install pedestrian signals where necessary at intersections within Cutler Bay.	Pedestrian signals enhance the safety of the pedestrian environment at intersections and crosswalks; need determined by LOS analysis from the 2011 Bicycle/Ped Master Plan; corrects deficiencies in the pedestrian network.										2
Alternative Mode 5	Bicycle Projects	\$1,254,000	Install Bicycle lanes in Cutler Bay - Gulfstream Road, SW 216th St between SW 87th Avenue and Old Cutler Road to South Dade Trail, SW 97th Ave. between SW 216th Street and SW 212th Street, from Performing Arts Center to Black Creek Trail, shared use paths.	Provides for a need to fill in gap in network development; enhance bicycle mobility and regional access.										2
Alternative Mode 6	US-1 Corridor Transit	\$75,000	Install necessary crossing points and pedestrian pathways from major generators to transit points. Provide a Park and Ride feasibility study for the US-1 Busway. Study feasibility of cross access easements.	Provision of Park and Ride facilities with good multimodal connections will aid in encouraging higher transit use. Additional crossing areas as well as sidewalk connections are necessary for enhancement of pedestrian and transit mobility, access to businesses in Cutler Bay, and will reduce "T" walking.										3
Alternative Mode 7	Connect Urban Center District	\$7,500	Build multiple sidewalk connections to Town Hall from the rest of the network. Provide landscaping along path.	Provides for better pedestrian access from transit to entrance of Town Hall. While there are sidewalks by transit stops, paths to the Town Hall from the closest transit stops generally have to cut through parking lots and are not well defined.										3
Alternative Mode 8	Implement Bike/Ped Master Plan and Necessary Pedestrian Improvements	\$300,000	Implement 2011 Bike/Ped Master Plan. Upgrade sidewalk facilities and remove obstacles in the Right-of-Way to ensure ADA compliance. Install and repaint crosswalks where necessary. Continuous Evaluation and Maintenance of existing and future sidewalk needs.	Addresses needs determined by LOS analysis in the 2011 Bicycle/Ped Master Plan; corrects deficiencies in pedestrian network which will enhance pedestrian accessibility and mobility.										Years 1 to 5



Figure 3.4: Alternative Mode/Transit Projects





3.3 CORRIDOR ENHANCEMENT

This took into consideration arterial roads that function as major conduits of traffic through the Town. There are 12 projects in this category, at a potential cost of \$ 2,787,000.

3.3.1 Corridor Enhancement Initiatives

Corradino reviewed the following studies conducted over the last few years in order to highlight intersection improvement projects:

1. Shoppes of Cutler Bay Traffic Study
2. El Dorado Plaza Mixed-Use Commercial Development Traffic Study
3. Caribbean Boulevard Roadway Improvements Traffic Study Report
4. Intersection of Old Cutler Road and Old Cutler Towne Center Traffic Warrant Analysis
5. Old Cutler Neighborhood Center Traffic Study Report
6. Village of Early Education Day Care Center Traffic and Parking Study
7. Waldorf International School Traffic Study
8. 97th Avenue Street Closure Feasibility Study

Based on a thorough review of the above studies, the following intersections along with the associated Level of Service (LOS) were reviewed:

- Old Cutler Road & SW 208 Street (Shoppes of Cutler Bay Traffic Study)

- Old Cutler Road & Marlin Road (Shoppes of Cutler Bay Traffic Study)
- Old Cutler Road & Snapper Place (Shoppes of Cutler Bay Traffic Study)
- SR-5/US-1 & Marlin Road (El Dorado Plaza Mixed-Use Commercial Development Traffic Study)
- SR-5/US-1 & Quail Roost Drive (El Dorado Plaza Mixed-Use Commercial Development Traffic Study)
- Marlin Road & SW 106th Avenue (El Dorado Plaza Mixed-Use Commercial Development Traffic Study)
- Marlin Road & Belview Drive (El Dorado Plaza Mixed-Use Commercial Development Traffic Study)
- Caribbean Boulevard & Coral Sea Road (Caribbean Boulevard Roadway Improvements Traffic Study Report)
- Caribbean Boulevard & Gulfstream Road (Caribbean Boulevard Roadway Improvements Traffic Study Report)
- Caribbean Boulevard & Marlin Road (Caribbean Boulevard Roadway Improvements Traffic Study Report)
- Caribbean Boulevard & Franjo Road (Caribbean Boulevard Roadway Improvements Traffic Study Report)
- Caribbean Boulevard & SW 192nd Road (Caribbean Boulevard Roadway Improvements Traffic Study Report)
- Caribbean Boulevard & 89th Road (Caribbean Boulevard Roadway Improvements Traffic Study Report)

- Caribbean Boulevard & SW 87th Avenue (Caribbean Boulevard Roadway Improvements Traffic Study Report)
- Old Cutler Road and Old Cutler Towne Center (Traffic Warrant Analysis Study)
- Old Cutler Road & SW 216th Street (Old Cutler Neighborhood Center Traffic Study Report)
- Old Cutler Road & SW 213th Street (Old Cutler Neighborhood Center Traffic Study Report)
- Caribbean Boulevard & US-1 (Village of Early Education Day Care Center Traffic and Parking Study)
- Caribbean Boulevard & Coral Sea Road (Village of Early Education Day Care Center Traffic and Parking Study)
- Old Cutler Road & SW 199th Street (Waldorf International School Traffic Study)
- SW 87th Avenue & SW 199th Street (Waldorf International School Traffic Study)
- SW 87th Avenue & SW 198th Street (Waldorf International School Traffic Study)
- SW 224th St & Old Cutler Road (SW 97th Avenue Street Closure Feasibility Study)
- SW 232nd St & 97th Ave (SW 97th Avenue Street Closure Feasibility Study)
- SW 216th St & 87th Ave (SW 97th Avenue Street Closure Feasibility Study)
- SW 232nd St & 87th Ave (SW 97th Avenue Street Closure Feasibility Study)
- SW 248th St & 97th Ave (SW 97th Avenue Street Closure Feasibility Study)

Based on a thorough review of the Level of Service (LOS) for the above the following intersections are recommended for improvements:

1. Caribbean Boulevard & US-1 (Signal optimization and lane re-configuration)
2. SR-5/US-1 & Marlin Road (Signal optimization)
3. SR-5/US-1 & Quail Roost Drive (Signal optimization)

3.3.2 Traffic Calming in Miami-Dade County

Traffic calming in Miami-Dade County follows procedures as outlined in the Miami-Dade County Traffic Flow Modification(s)/Street Closure(s) Procedure Manual. For each location being evaluated for traffic calming, traffic counts and speeds are taken. An analysis would typically show whether the thresholds for traffic calming have been surpassed. To appropriately justify traffic calming, a traffic volume threshold and one of five other criteria must be met. These criteria include evaluations on whether the speeds at which 85% of motorist travel are more than 10 MPH above the speed limit, or concurrence from affected residents/property owners, which are determined on a case-by-case basis.

Traffic calming includes changes to the roadway system to effect narrowing or to shift the lanes horizontally. Applied techniques range from actual physical roadway constraints, such as traffic circles, chicanes, lateral shifts, neckdowns, and chokers, to visual changes, such as



Task 3: Needs Assessment

adding trees along the right of way to create an optical illusion of a more narrowly defined space.

Traffic calming also may include full or half closures of roads, diverters, and forced-turn islands. However, closures does not reduce the overall amount of traffic in the system, but rather, forces the traffic towards the corridors, with the additional effect of adding vehicle miles with some networks due to detours on longer, alternative routes. Thus, congestion gets worse on the main transportation networks.

Traffic calming on residential local streets and residential collector streets, as related directly to pedestrian crossing volumes, can be effected if the minimum traffic volume exists and if pedestrian crossings, during a.m. or p.m. hours, are greater than 25 for local streets or greater than 50 for collector streets. Traffic calming techniques utilized at pedestrian crossings include textured crosswalks. Textured crosswalks may be paved with bricks to create the visual and physical cues signaling a need to slow down. However, in areas like South Florida, where rain can be common, refractive striping is important in improving visibility, but may be missing from brick paved areas. In addition, bricks and cobblestones may contribute to uneven surfaces as they settle, leading to potential trip hazards as well as uncomfortable vibrations while crossing for those in wheelchairs. Lastly, bricks may cost more than colored striping which can be created to mimic the same visual effect as brick or cobblestones. Reflective,

thermodynamic striping, such as that utilizing in some parts of Coral Gables, can achieve the same visual effect if properly applied to existing pavement, and may be a suitable alternative to bricks and cobblestones. Application of this traffic calming is also less intrusive than having to rip out currently existing street pavement to emplace alternative paving materials.

Alternatively, a combination of different techniques can be applied to produce traffic calming results. Bulbouts and marked/painted crosswalks can be used in conjunction to create a narrowing constraint on the road and to visually call out the crossing point, while at the same time providing pedestrians with a shorter crossing distance. In some areas, raised crosswalk tables have been used in conjunction with patterning.

Based on citizen concerns the following areas were identified for further review for traffic calming:

- SW 87th Avenue: between Eureka (SW 184th St.) to Old Cutler Road
- Marlin Road @ Belle Aire Elementary
- Traffic Calming - SW 199th St (Between SW 87th Avenue and Old Cutler Road)

3.3.3. Corridor Enhancement Projects Listing

Table 3.4 lists the various Corridor Enhancement Projects; **Figure 3.5** graphically depicts these.

Table 3.4: Corridor Enhancement Projects

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Corridor Enhancement 1	Road Connection - Cutler Ridge Drive/SW 200th St. - Connect to Old Cutler Road	\$190,000	Connect Cutler Ridge Drive/SW 200th St. to Old Cutler Road, approx. 200 ft.	Addresses gap in the roadway network. Provides mobility and capacity.										1
Corridor Enhancement 2	Truck Routing Study Throughout Major Corridors	\$20,000	Evaluate appropriate truck routes, to assure trucks are provided a clear path through the community.	Truck traffic management will help the Town with increasing mobility.										1
Corridor Enhancement 3	Street Repaving Program	\$2,100,000	Continue to maintain and repave roadways as necessary.	Provides greater access and promotes traffic dispersion. Requires coordination with MDCPW.										1
Corridor Enhancement 4	Operational Analysis - Franjo/Cutler Ridge Drive	\$10,000	Determine exact problem and most efficient way to mitigate.	Visual Obstruction at Intersection.										2
Corridor Enhancement 5	Operational Analysis - Marlin Road between Old Cutler Road and SW 107th Ave.	\$200,000	Conduct operational analysis on Marlin Road between Old Cutler Road and SW 107th Ave. Will lead to design and construction if warranted.	Marlin Road between US-1 and Caribbean Boulevard failing LOS in 2008, 2014; Marlin Road between Old Cutler Road and SW 107th Ave. below adopted level of service standards by 2035.										2
Corridor Enhancement 6	Signal Progression Analysis - for US-1, Marlin, Old Cutler Road, SW 184th St., Franjo/SW 97th Ave.	\$130,000	Evaluate the main corridors' signal progression.	Adequate signal progression can improve a safe, casual flow of vehicles, moving more traffic while maintaining moderate speeds and a safe pedestrian environment.										2
Corridor Enhancement 7	Stop Sign/Traffic Signal Warrant Analysis - SW 216th St. and SW 92nd Avenue	\$7,000	Determine whether stop signs/traffic signal/traffic circle are necessary at SW 216th St. and SW 92nd Ave.	Based on traffic on SW 216th St. Citizen concerns.										2
Corridor Enhancement 8	Street Lights - SW 87th Ave.	\$100,000	Install street lights on SW 87th Ave. (\$8000/light).	Current lighting levels are inadequate.										3
Corridor Enhancement 9	Traffic Calming - Marlin Road @ Belle Aire Elementary	\$10,000	Calm speeding and enhance pedestrian safety near Belle Aire Elementary.	Reduces traffic speeds on Marlin Road by the Elementary School during school drop off/pick up times. Citizen Complaints.										4
Corridor Enhancement 10	Address Electronic Digital Monument Sign on Marlin Road	\$3,000	Determine whether Electronic Digital Monument Sign on Marlin Rd. should be constructed.	Citizen complaints related to monument signs. Lack of road entry feature on Marlin and US-1.										4
Corridor Enhancement 11	Traffic Calming - SW 87th Avenue: between Eureka (SW 184th St.) to Old Cutler Road	\$10,000	Study and implement traffic calming between Eureka (SW 184th St.) to Old Cutler Road.	Citizens complain about high volumes and speeding along the SW 87th Avenue Corridor.										5
Corridor Enhancement 12	Remove Parking on Swale (SW 184th Street, Franjo Road)	\$7,000	Prohibit parking on swale on SW 184th St. and Franjo Rd.	Parking in this area destroys landscaping and sod. Visual obstruction. Citizen complaints.										5

Town of Cutler Bay Corridor Enhancement Projects

Town of Cutler Bay Transportation Master Plan

Legend:

- Corridor Enhancement Projects (Blue Circle)
- Corridor Enhancement Projects (Blue Line)
- Cutler Bay Streets (Grey Line)
- Cutler Bay Boundary (Black Outline)

#	Name
	Road Connection - Cutler Ridge Drive/SW 200th St.
1	St. - Connect to Old Cutler Road
4	Operational Analysis - Franjo/Cutler Ridge Drive
5	Operational Analysis - Marlin Road between Old Cutler Road and SW 107th Ave.
6	Signal Progression Analysis - for US-1, Marlin, Old Cutler Road, SW 184th St., Franjo/SW 97th Ave.
7	Stop Sign/Traffic Signal Warrant Analysis - SW 216th St. and SW 92nd Avenue
8	Street Lights - SW 87th Ave.
9	Traffic Calming - Marlin Road @ Belle Aire Elementary
10	Address Electronic Digital Monument Sign on Marlin Road
11	Traffic Calming - SW 87th Avenue: between Eureka (SW 184th St.) to Old Cutler Road
12	Remove Parking on Swale (SW 184th Street, Franjo Road)

THE CORRADINO GROUP

0 0.2 0.4 0.8 1.2 1.6 Miles

3.4 POLICY

This focused on policy initiatives which may help mitigate lack of mobility. They generally involve working across political boundaries on common problems and initiatives that impacts us all regionally. There are 26 projects in this category, at a potential cost of \$ 295,000.

3.4.1 Policy Initiatives

Managed Lanes

Managed Lanes are an important aspect of the future of the transportation network for the Town of Cutler Bay, with the Turnpike (SR-821) running through the western portion of the Town. In addition, the Miami-Dade Expressway Authority (MDX) is currently evaluating a managed express lane system on the US-1/Busway right-of way, which is designed to determine whether these managed lanes will alleviate congestion on the US-1 Corridor.

Managed Lanes are road systems which allow for a set amount of lanes or highway facilities to be actively managed, and operate by using at least one or a combination of three categories: pricing, vehicle eligibility, or access control. Managed Lanes can be utilized to regulate demand, to separate different types of traffic, or to utilize available unused capacity.

Some Managed Lanes have roadway or congestion pricing. This tolling can be set as a choice; that is, not all of the lanes are tolled, but rather, a specific lane is open for usage by drivers willing or able to pay for the lane. One example of

express Managed Lanes can be found on I-95, which uses a separate toll lane with time-variable peak and off-peak pricing. Pricing can either be set by the time or day, accounting for peak hours, or by the level of congestion, as is the case with Interstate 15 in San Diego, California.

In addition to pricing, encouragement of carpooling in High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) lanes have been utilized as well. Another form of vehicular eligibility utilized in managed lane systems are preferential treatment provided to cars that are environmentally friendly, such as hybrids and electric cars.

Access control to a managed lane is achieved by limiting the entry and exit points from the lane to specific areas of the road; this is utilized in order to create a microsystem to optimize the flow speed of the vehicles, and can be used in conjunction with pricing and/or vehicle eligibility techniques.

Varying conditions exist for managed lanes, and is dependent on the local authorities' goals and set performance criteria.

Transit Funding

It is clear for many reasons that the region must take advantage of the growing appetite for transit. The Town would like to encourage local, regional and national funding allocations for transit to increase. This begins at home with encouraging MDX to allocate a portion of its



Task 3: Needs Assessment

funding to higher forms of transit, as opposed to the construction or maintenance of roads.

Economic Development

The Town is uniquely set up geographically and from the standpoints of land use and transportation. The Center District has been re-land used and re-zoned to accommodate up to 18 story buildings at nearly 250 units/acre. This sits at the confluence of the US-1 Busway, US-1 and Florida's Turnpike. Data shows that high population growth in South Dade has not been supported with commensurate growth in jobs. An economic development strategy that would attract industry and jobs to the Town and region would have a profound impact on traffic and congestion without significant capital investments in transportation.

3.4.2 Policy Projects Listing

Table 3.5 and **Figure 3.6** illustrate the Policy Projects.

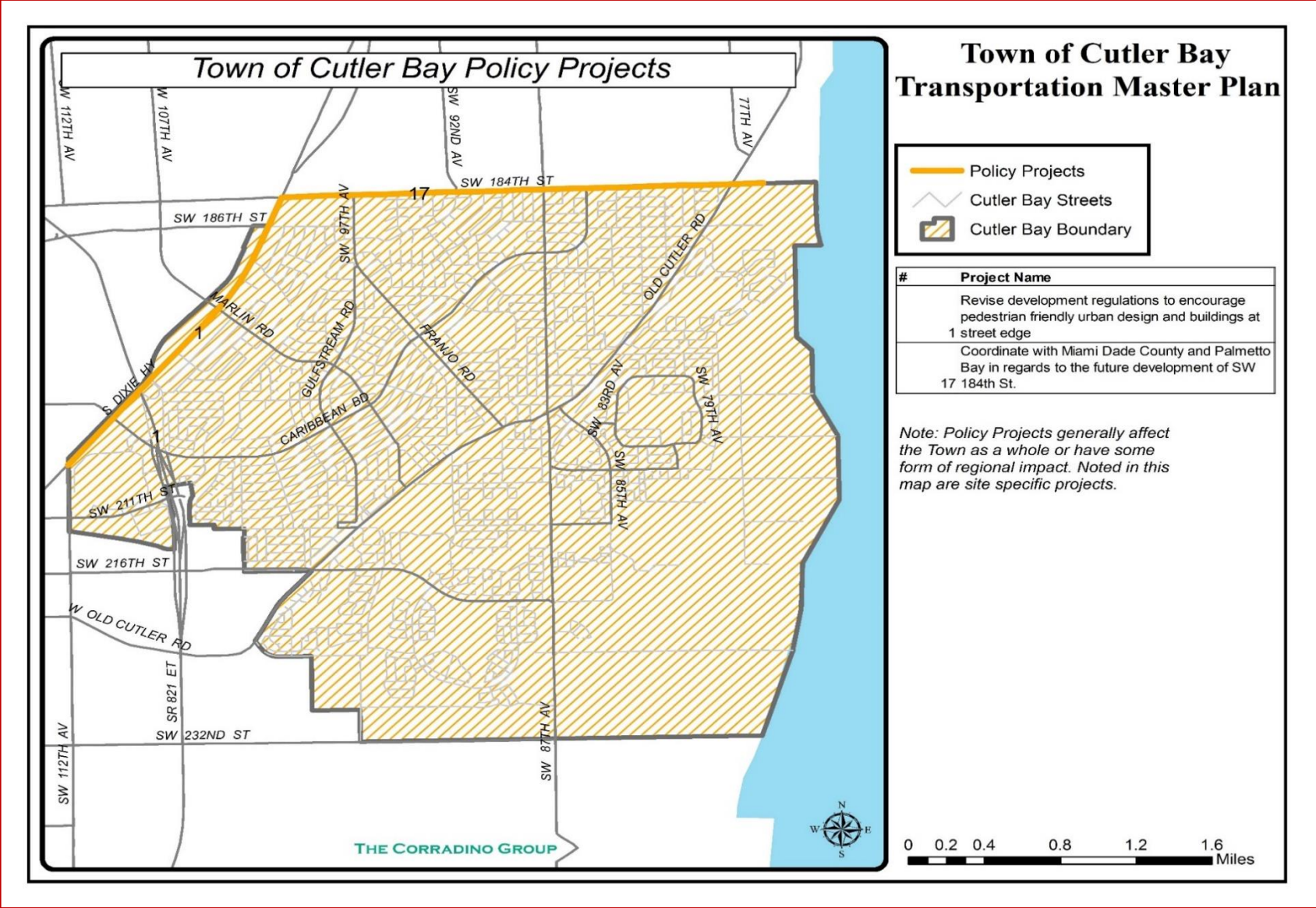
Table 3.5: Policy Projects

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Policy 1	Revise development regulations to encourage pedestrian friendly urban design and buildings at street edge	\$15,000	Revise land development regulations to place buildings closer to street ROW and parking behind buildings.	Provides for pedestrian friendly design in future development; enhances pedestrian mobility. Field observations during study indicate land use patterns create more automobile trips.										1
Policy 2	Define Cost Recovery Process For Private Development	\$	Reinforce cost recovery processes in Cutler Bay to assure that municipal resources used for development review is paid for by applicants as appropriate.	Cost recovery is necessary in order to preserve governmental funds with development when government services are being provided to non-governmental entities.										1
Policy 3	Promote Local Economic Development	TBD	Adopt policies and goals to increase local jobs and service sector opportunities.	Providing more needed services locally and local jobs will help to address trends of high-flow through traffic and increasing travel times to work found in analysis.										1
Policy 4	Continue Townwide Streetscape Program - Livable Communities Program	\$30,000	Continue to evaluate main corridor rights of way and implement street scape programs, including street trees, benches, trash cans, lighting, and other street furniture.	Aesthetics are important to enhancing the character of the Town and are vital for the development of the pedestrian and bicycling modes of travel. From 2008 Transportation Master Plan.										1
Policy 5	Actively coordinate with other governments and agencies	\$	Coordinate with other regional governments to help plan the regional network.	Many issues impacting Cutler Bay also impact all of South Dade and the US-1 Corridor. Coordination and communication with neighboring communities will help arrive at common solutions for common problems.										1
Policy 6	Support connecting all County Greenways	\$	Support connecting all County greenways.	Provides for a connected County system which enhances bicycling/pedestrian mobility regionally. From 2008 Master Plan.										1
Policy 7	Adopt and Encourage Further Development of County Bicycle Network	\$	Support Miami-Dade County in development of additional bicycling infrastructure in the South Dade Area.	Additional linkages connected to the Town's bicycling infrastructure will increase bicycling mobility and provides for increased regional access. From 2008 Master Plan.										1
Policy 8	Liaison with South Florida Commuter Services	TBD	Liaise with the South Florida Commuter Services regarding programs usable or needed by Town residents.	Promote ride-sharing options for commuters.										1
Policy 9	Support Increased MDT headways	\$	Support increased frequency of bus service in the Town.	Increased frequency of bus service allows transit to have better access and be more competitive against auto usage.										1
Policy 10	Search for Federal Partnerships on pilot transit/transportation programs	\$5,000	Research and apply for federal monies to enact local transportation/transit programs.	Grant monies will assist the Town in completing necessary improvements in a timely manner.										1
Policy 11	Bicycle/Pedestrian Committee	\$	Implement a Bicycle/Pedestrian Committee, to meet on a quarterly basis.	Allows Citizens to provide regular feedback for consideration by the Town on pedestrian/bicycling projects, facility maintenance, and plan implementation. From 2008 Master Plan.										1
Policy 12	Support County Funding for Transit	TBD	Support additional funding for transit in Miami-Dade County.	Additional funding is needed to enhance service frequency and access for mass transit to be able to effectively compete with and reduce auto usage.										1
Policy 13	Support MDX Reallocation of Funding to Transit	TBD	Support reallocation of additional funding to transit.	Additional transit services is necessary to develop mobility, and requires more funding.										1

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Figure 3.6: Policy Projects



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DEVELOPMENT OF POTENTIAL PROJECTS





TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS

INTRODUCTION

This chapter introduces the actual projects, each of which are listed in the accompanying Project Bank with a stated purpose, need, description of the project, and an estimated cost. The Transportation Master Plan has identified multimodal transportation and mobility issues across the community by talking with the citizens and analyzing transit, roadway and intersection data and existing pedestrian and bicycling facilities. A set of multimodal and roadway projects were developed based on these analyses, focused on identifying the major facilities or the movement of people.

Projects were listed in the following categories:

- Capacity
- Alternative Mode
- Corridor Enhancement
- Policy

As part of this process the issues that were initially discussed and presented in the previous chapter were organized, streamlined and defined as projects.



Task 4: Development of Potential Projects

Corridor Enhancement Projects

Corridor Enhancement projects take into consideration arterial roads that function as major conduits of traffic through the Town. These projects have a variety of focuses, ranging from traffic calming to lighting.

TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Corridor Enhancement

Project Number: 1

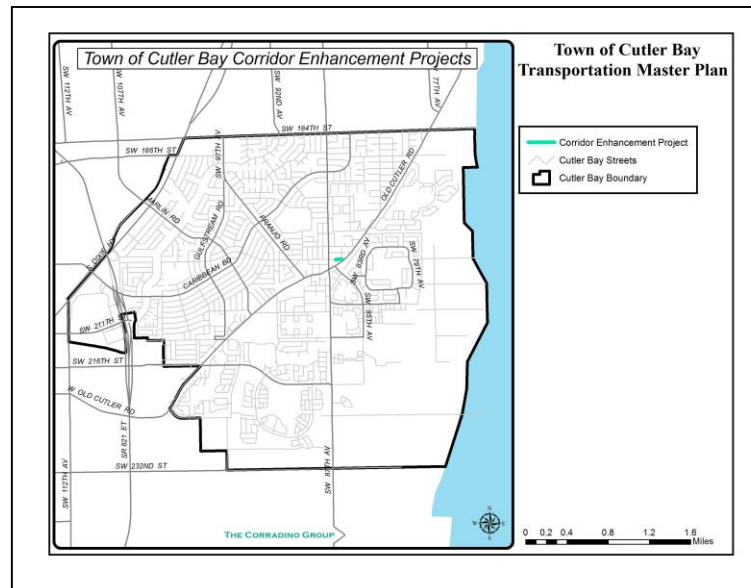
Project Name: Road Connection - Cutler Ridge Drive/SW 200th Street - Connect to Old Cutler Road

Purpose: Connect Cutler Ridge Drive/SW 200th Street to Old Cutler Road, appx. 200 ft.

Need: Addresses gap in the roadway network. Provides mobility and capacity.

Description: Fills in an approximately 200 ft. gap in roadway. Project will involve bidding the design and construction of the roadway.

Cost: \$ 190,000





Task 4: Development of Potential Projects

Project Category: Corridor Enhancement

Project Number: 2

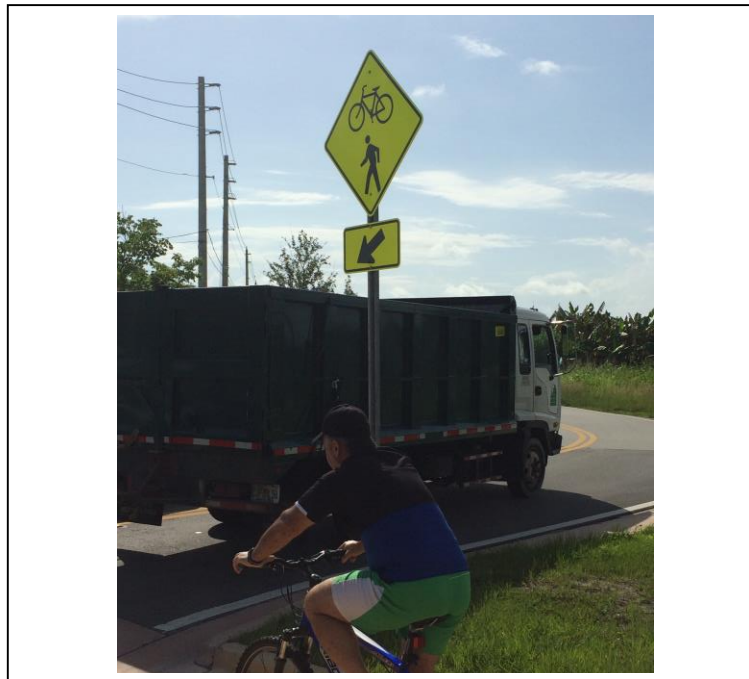
Project Name: Truck Routing Study Throughout Major Corridors

Purpose: Evaluate appropriate truck routes, to assure trucks are provided a clear path through the community.

Need: Truck traffic management will help the Town with increasing mobility.

Description: The implementation of specific truck routes is partially created through the classification of truck restricted routes. A balance between truck traffic and the pedestrian and bicycling environments requires a more specific approach. Current route traffic was also noted by participants in the public workshops as traveling near residential areas and was a concern brought up multiple times. Evaluate truck routes and make specific recommendations as to their turning radii/segregation/lane width/enforcement.

Cost: \$ 20,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Corridor Enhancement

Project Number: 3

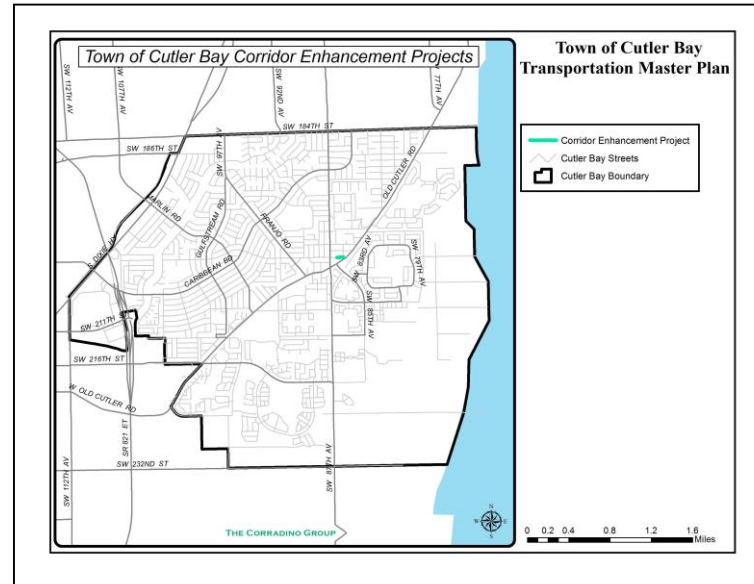
Project Name: Street Repaving Program

Purpose: Continue to maintain and repave roadways as necessary.

Need: Provides greater access and promotes traffic dispersion. Requires coordination with MDCPW.

Description: Continuation from the 2008 Transportation Master Plan. Roadways need consistent upkeep and maintenance. Part of this upkeep which was identified in the last Master Plan was the repaving of roadways, which has already been partially undertaken by the Town. Continuation of this effort will also require future reviews of necessary repaving of roadways.

Cost: \$ 2,100,000





Task 4: Development of Potential Projects

Project Category: Corridor Enhancement

Project Number: 4

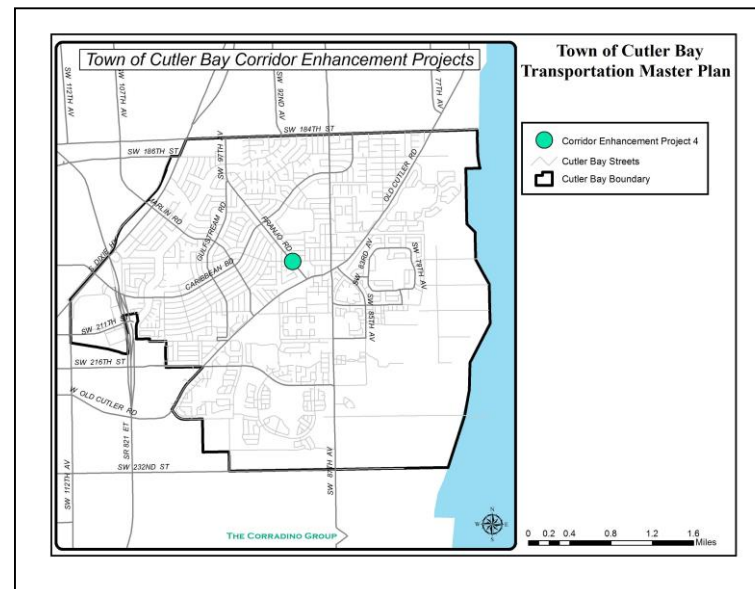
Project Name: Operational Analysis - Franjo/Cutler Ridge Drive

Purpose: Determine exact problem and most efficient way to mitigate traffic issues in the vicinity of Franjo Road and Cutler Ridge Drive.

Need: Citizen Complaints about parking and traffic congestions at various times.

Description: An operational analysis will review existing conditions at the intersection and identify specific traffic issues and potential treatments to be applied, which can then be bid out by the Town.

Cost: \$10,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Corridor Enhancement

Project Number: 5

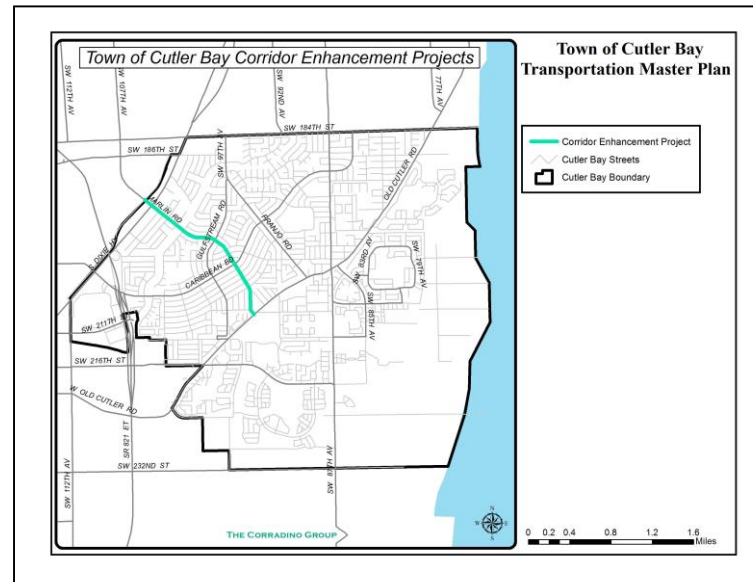
Project Name: Operational Analysis - Marlin Road between Old Cutler Road and SW 107th Avenue.

Purpose: Conduct operational analysis on Marlin Road between Old Cutler Road and SW 107th Avenue. Will lead to design and construction if warranted.

Need: Marlin Road between US-1 and Caribbean Boulevard has a failing LOS grade in 2008, 2014; Marlin Road between Old Cutler Road and SW 107th Avenue will fall below adopted Level of Service standards by 2035.

Description: An operational analysis will review existing conditions of the corridor and identify specific traffic issues and potential treatments to be applied, which can then be bid out by the Town.

Cost: \$ 200,000





Task 4: Development of Potential Projects

Project Category: Corridor Enhancement

Project Number: 6

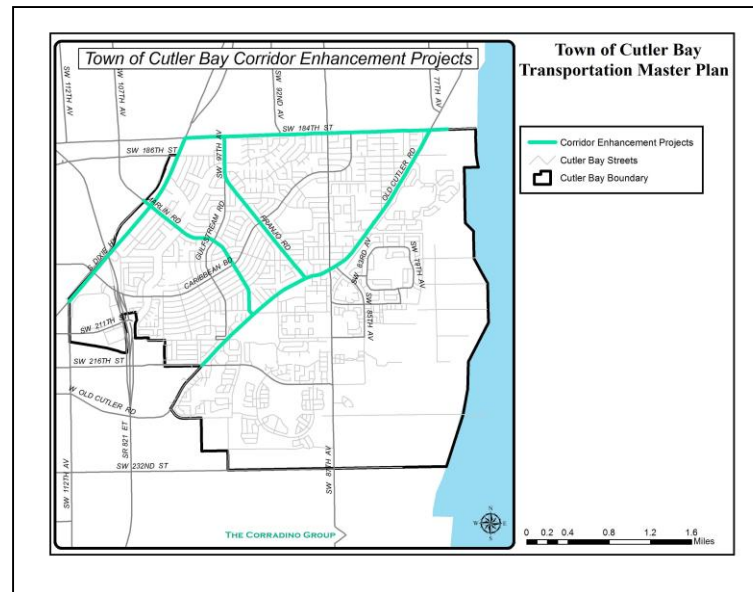
Project Name: Signal Progression Analysis - for US-1, Marlin, Old Cutler Road, SW 184th Street, Franjo/SW 97th Avenue.

Purpose: Evaluate the main corridors' signal progression.

Need: Adequate signal progression can improve a safe, casual flow of vehicles, moving more traffic while maintaining moderate speeds and a safe pedestrian environment.

Description: Flow through speed is a consideration of traffic; incorrect signalization may result in chokepoints which can be alleviated through proper signalization timing between multiple signals along a route. Signal progression analyses provide for a study along the entire corridor, to determine if traffic flow can be improved through signalization.

Cost: \$ 130,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Corridor Enhancement

Project Number: 7

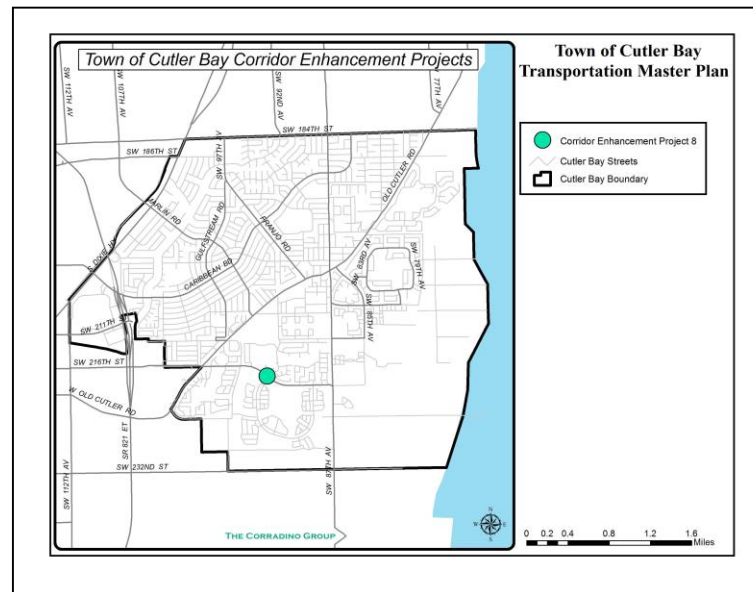
Project Name: Stop Sign/Traffic Signal Warrant Analysis - SW 216th Street and SW 92nd Avenue

Purpose: Determine whether stop signs/traffic signal/traffic circle are necessary at SW 216th Street and SW 92nd Avenue.

Need: Based on traffic on SW 216th Street. Citizen concerns.

Description: A Stop Sign/Traffic Signal Warrant Analysis is the first step in determining whether a Stop Sign or a Traffic Signal should be installed at specific location. These studies review the current existing conditions of the site, and makes a determination based on MUTCD threshold criteria.

Cost: \$ 7,000





Task 4: Development of Potential Projects

Project Category: Corridor Enhancement

Project Number: 8

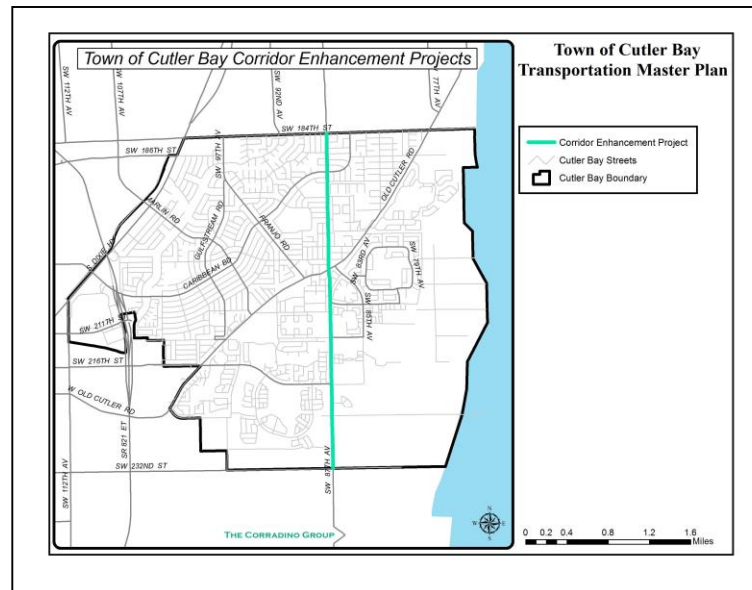
Project Name: Street Lights - SW 87th Avenue

Purpose: Install street lights on SW 87th Avenue (\$8000/light).

Need: Current lighting levels are inadequate.

Description: Street lights provide luminance for the roadways which aids in safety. Height design and spacing of lighting should be evaluated to determine where to situate light posts. Where possible, street lights should be emplaced to illuminate the vehicular and pedestrian Rights of Way but without creating an unnecessary obstacle on the sidewalks.

Cost: \$100,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Corridor Enhancement

Project Number: 9

Project Name: Traffic Calming - Marlin Road @ Belle Aire Elementary

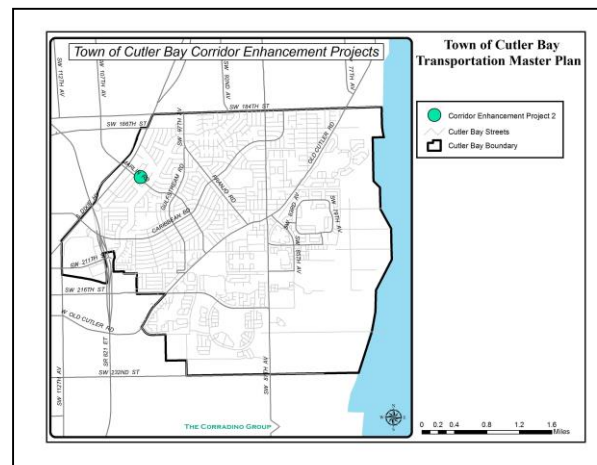
Purpose: Calm speeding and enhance pedestrian safety near Belle Aire Elementary.

Need: Reducing traffic speeds on Marlin Road by the Elementary School during school drop off/pick up times. Citizen Complaints.

Description: Traffic calming in Miami-Dade County follows procedures as outlined in the Miami-Dade County Traffic Flow Modification(s)/Street Closure(s) Procedure Manual. For each location being evaluated for traffic calming, traffic counts and speeds are taken. An analysis would typically show whether the thresholds for traffic calming have been surpassed. To appropriately justify traffic calming, a traffic volume threshold and one of five other criteria must be met. These criteria include evaluations on whether the speeds at which 85% of motorist travel are more than 10 MPH above the speed limit, or concurrence from affected residents/property owners, which are determined on a case-by-case basis.

Traffic calming includes changes to the roadway system to effect narrowing or to shift the lanes horizontally. Applied techniques range from actual physical roadway constraints, such as traffic circles, chicanes, lateral shifts, neckdowns, and chokers, to visual changes, such as adding trees along the right of way to create an optical illusion of a more narrowly defined space.

Cost: \$10,000





Task 4: Development of Potential Projects

Project Category: Corridor Enhancement

Project Number: 10

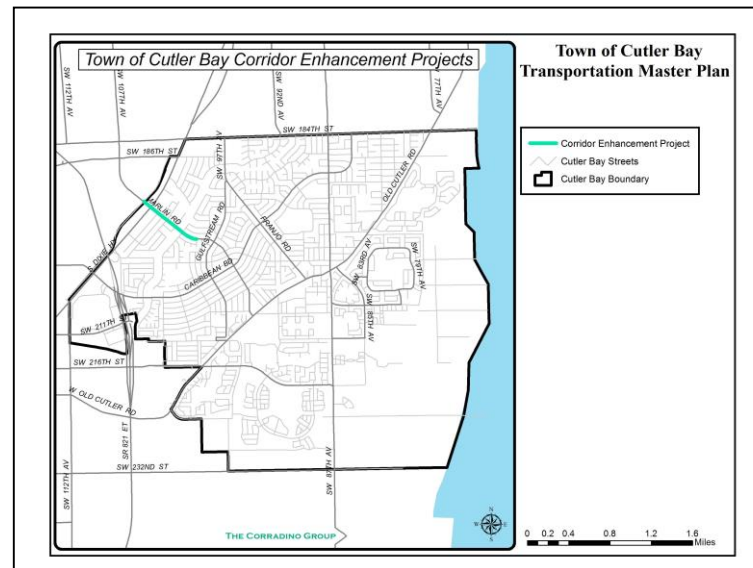
Project Name: Address Electronic Digital Monument Sign on Marlin Road

Purpose: Determine whether Electronic Digital Monument Sign on Marlin Road should be constructed.

Need: Citizen complaints related to monument signs. Lack of road entry feature at Marlin Road and US-1.

Description: Digital Monument signs provide information and may be constructed if allowed by the Town's code of ordinances. However, such signs cannot pose issues to traffic, such as visual obstruction of traffic, and must adhere to all portions of signs relations within the Town of Cutler Bay.

Cost: \$ 3,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Corridor Enhancement

Project Number: 11

Project Name: Traffic Calming - SW 87th Avenue: between Eureka (SW 184th Street) to Old Cutler Road

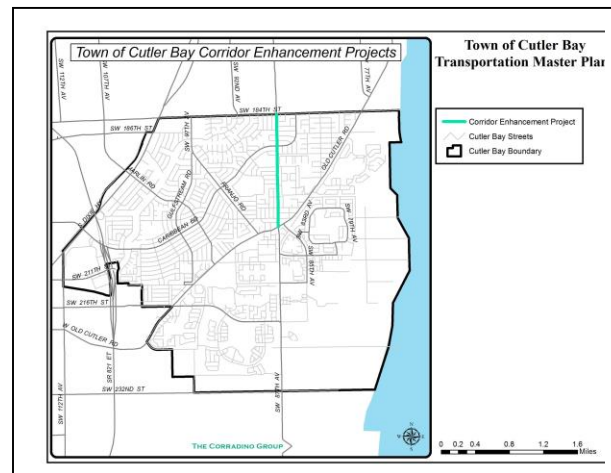
Purpose: Study and implement traffic calming between Eureka (SW 184th Street) to Old Cutler Road.

Need: Citizens complain about high volumes and speeding along the SW 87th Avenue Corridor.

Description: Traffic calming in Miami-Dade County follows procedures as outlined in the Miami-Dade County Traffic Flow Modification(s)/Street. Closure(s) Procedure Manual. For each location being evaluated for traffic calming, traffic counts and speeds are taken. An analysis would typically show whether the thresholds for traffic calming have been surpassed. To appropriately justify traffic calming, a traffic volume threshold and one of five other criteria must be met. These criteria include evaluations on whether the speeds at which 85% of motorist travel are more than 10 MPH above the speed limit, or concurrence from affected residents/property owners, which are determined on a case-by-case basis.

Traffic calming includes changes to the roadway system to effect narrowing or to shift the lanes horizontally. Applied techniques range from actual physical roadway constraints, such as traffic circles, chicanes, lateral shifts, neckdowns, and chokers, to visual changes, such as adding trees along the right of way to create an optical illusion of a more narrowly defined space.

Cost: \$10,000





Task 4: Development of Potential Projects

Project Category: Corridor Enhancement

Project Number: 12

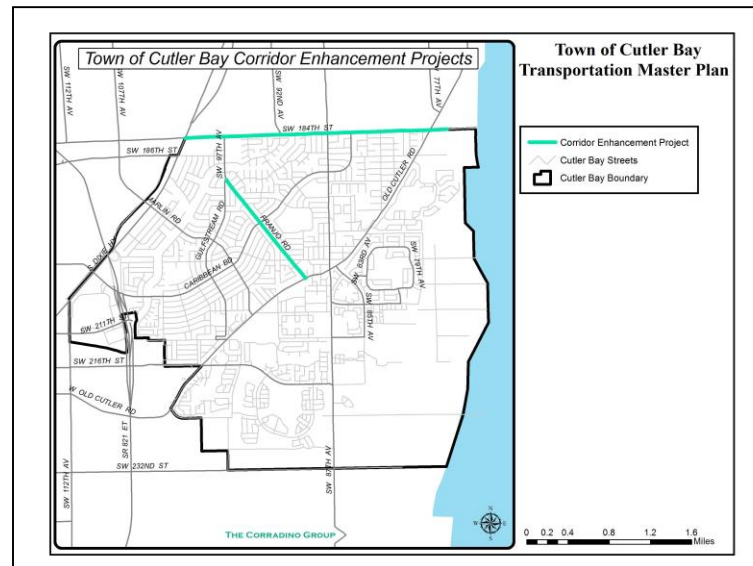
Project Name: Remove Parking on Swale (SW 184th Street, Franjo Road)

Purpose: Prohibit parking on swale on SW 184th Street and Franjo Road.

Need: Parking in this area destroys landscaping and sod. Visual Obstruction. Citizen complaints.

Description: Parking on swales are not only aesthetically unpleasing, but create visual obstructions and destroys landscaping. In instances where the sidewalk is of an inadequate width or is non-existent, the swale provides an alternative for pedestrians to walking in the vehicular roadway. When cars are parked on swales, this option is constrained. Adoption of strict measures and enforcement is key to this parking removal.

Cost: \$7,000





Policy Projects

The development of priorities and standards are essential in planning for improvements in the future. Policy projects involve transportation and land use planning decisions on direction of growth and the standards to be applied to that growth, which when implemented, affect an individual person's environment and available options for transit choices. Policy decisions generally involve funding dedication and the scope of focus on future development. These decisions are also sometimes codified in a City's Comprehensive Plan and its ordinances and land development regulations. Often these issues are regional and involve consideration of issues outside of the Town boundaries.



Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 1

Project Name: Revise development regulations to encourage pedestrian friendly urban design and buildings at street edge

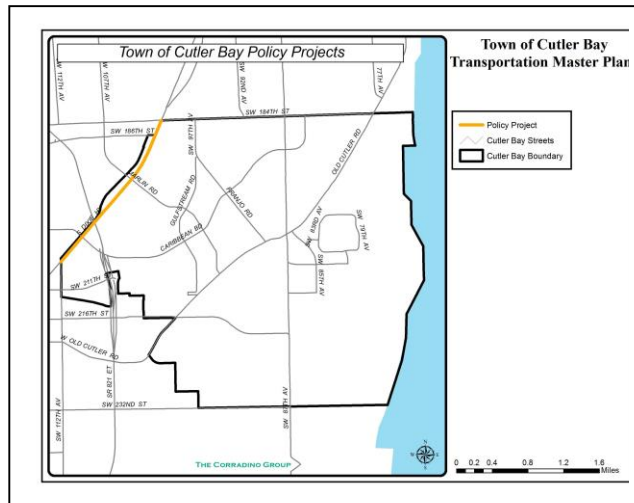
Purpose: Revise land development regulations to place buildings closer to street ROW and parking behind buildings. Completed, however may undergo review in the future.

Need: Provides for pedestrian friendly design in future development; enhances pedestrian mobility. Field observations during study indicate land use patterns create more automobile trips.

Description: In addition, incorporation of developmental regulations to provide a specific, landscaped pedestrian path to the entrance of the building, which will aid in pedestrian mobility, may require a slight reduction in parking requirements.

Where possible, especially in mixed-use districts, required parking should be reduced, and placed to the rear of the building. This will allow buildings to be built close to the pedestrian right-of-way, and allow for positive development of the pedestrian realm, which will increase walking as a mode of transit over time.

Cost: \$ 15,000



Project Category: Policy

Project Number: 2

Project Name: Define Cost Recovery Process For Private Development

Purpose: Reinforce cost recovery processes in Cutler Bay to assure that municipal resources used for development review is paid for by applicants as appropriate.

Need: Cost recovery is necessary in order to preserve governmental funds with development when government services are being provided to non-governmental entities.

Description: Cost recovery processes involve the reimbursement of governmental funds; this may occur with an initial deposit by applicants with subsequent follow-ups for payment when the application requires review above the initially deposited amount, which must be paid before the issuance of certificates of approval and permits.

Cost: TBD





Cost: TBD



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 4

Project Name: Continue Townwide Streetscape Program - Livable Communities Program

Purpose: Continue to evaluate main corridor Rights of Way and implement streetscape programs, including street trees, benches, trash cans, lighting, and other street furniture.

Need: Aesthetics are important to enhancing the character of the Town and are vital for the development of the pedestrian and bicycling modes of travel. From 2008 Transportation Master Plan.

Description: Streetscaping provides for the development of the pedestrian realm, which is disproportionately rated by individuals using the system based on the perception of aesthetic appeal. In addition, positive streetscaping programs provide for enhance walkability by providing for areas of rest, lighting, and shade through the provision of trees and other foliage.

Cost: \$30,000





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 5

Project Name: Actively coordinate with other governments and agencies

Purpose: Coordinate with other regional governments to help plan the regional network.

Need: Many issues impacting Cutler Bay also impact all of South Dade and the US-1 Corridor. Coordination and communication with neighboring communities will help arrive at common solutions for common problems.

Description: Coordination with other regional governments includes not only the County government, but also partnerships with Palmetto Bay and Pincecrest as the two closest municipalities. In addition, due to the commuter nature of the working population in Cutler Bay, Transit Demand Management techniques are difficult to apply directly to the Town itself, but rather, must be worked on in partnership with the County and the municipalities where Cutler Bay residents work.

Cost: N/A



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 6

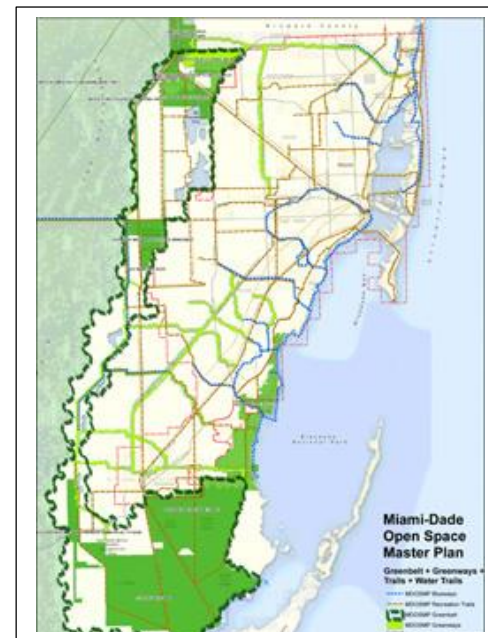
Project Name: Support connecting all County Greenways

Purpose: Support connecting all County greenways.

Need: Provides for a connected County system which enhances bicycling/pedestrian mobility regionally. From 2008 Master Plan.

Description: The County's current greenway system, allows access for bicyclists and pedestrians. Connection of county greenways allow for alternative transit as well as recreation activities for residents.

Cost: N/A





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 7

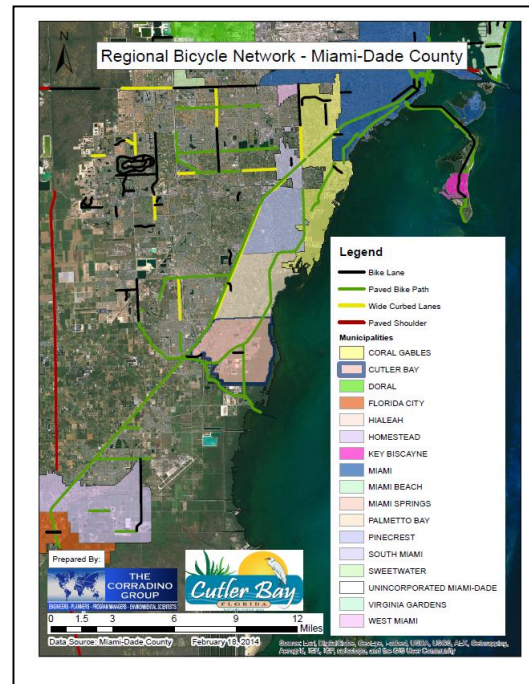
Project Name: Adopt and Encourage Further Development of County Bicycle Network

Purpose: Support Miami-Dade County in development of additional bicycling infrastructure in the South Dade Area.

Need: Additional linkages connected to the Town's bicycling infrastructure will increase bicycling mobility and provides for increased regional access. From 2008 Master Plan.

Description: Miami-Dade County's network currently provides linkages to Cutler Bay. While the Town will benefit from installing bicycle facilities internally to internal circulation purposes, regional access for residents and visitors alike is dependent on the existence and extent of the County's bicycle network.

Cost: N/A



Project Category: Policy

Project Number: 8

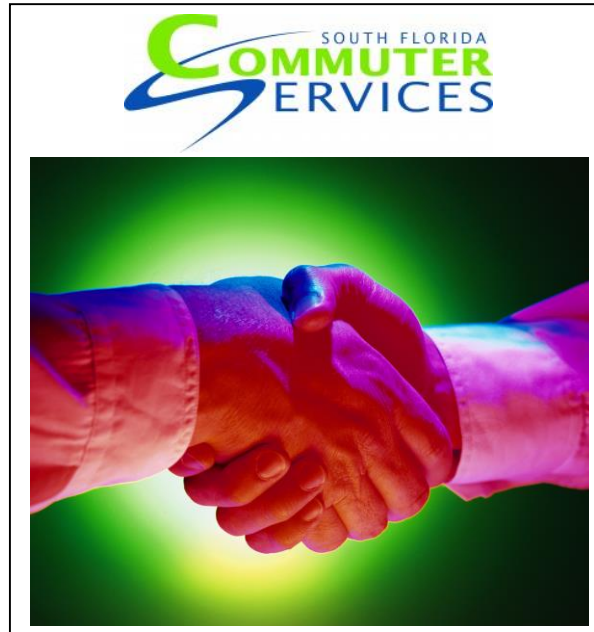
Project Name: Liaison with South Florida Commuter Services

Purpose: Liaise with the South Florida Commuter Services regarding programs usable or needed by Town residents.

Need: Roadway capacity is almost completely consumed by automobiles. It is recognized that the Right of Way will need to be used in a different way if any meaningful impacts to congestion or travel time will be made. The most logical step is to first encourage people to ride together in higher capacity vehicles, primarily carpools. At the same time, as alternative mode and transit linkages are made, encourage people to use those instead of the automobile.

Description: Work with South Florida Commuter Services to determine appropriate programs to put in place for the city and explore working with the private sector to encourage these alternatives.

Cost: TBD





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 9

Project Name: Support Increased MDT headways

Purpose: Support increased frequency of bus service in the Town.

Need: It is customary for transit agencies to reevaluate their systems on a periodic basis. This project would encourage MDT to evaluate boarding's and alighting's in the Town of Cutler Bay and potentially locate its stops in more advantageous positions. Increased frequency of bus service allows transit to have better access and be more competitive against auto usage.

Description: Increased service of bus routes allows for more frequent access to transit to and from destinations, and provides for bus travel to be competitive against the personal vehicle. Modal shifts towards mass transit is important in order to reduce the amount of cars on the roadways.

Cost: N/A



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 10

Project Name: Search for Federal Partnerships on pilot transit/transportation programs

Purpose: Research and apply for federal monies to enact local transportation/transit programs.

Need: Grant monies will assist the Town in completing necessary improvements in a timely manner.

Description: Various federal grants exist for the implementation of transportation programs. These should be researched with grants and innovative programs should have applications prepared for funding.

Cost: \$ 5,000





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 11

Project Name: Bicycle/Pedestrian Committee

Purpose: Implement a Bicycle/Pedestrian Committee, to meet on a quarterly basis.

Need: Allows Citizens to provide regular feedback for consideration by the Town on pedestrian/bicycling projects, facility maintenance, and plan implementation. From 2008 Master Plan.

Description: Develop a bicycle/pedestrian committee from Town of Cutler Bay citizenry which will meet on a quarterly basis to provide feedback on matters of concern for Bicycle/Pedestrian facilities issues. This will provide a regular forum for public input and feedback into the process.

Cost: N/A



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 12

Project Name: Support County Funding for Transit

Purpose: Support additional funding for transit in Miami-Dade County.

Need: Additional funding is needed to enhance service frequency and access for mass transit to be able to effectively compete with and reduce auto usage.

Description: Resolution or other support for additional County funding for transit.

Cost: TBD





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 13

Project Name: Support MDX Reallocation of Funding to Transit

Purpose: Support reallocation of additional funding to transit.

Need: It is widely acknowledged that the region cannot build its way out of congestion with roadway projects. While roadway projects are absolutely necessary, there is a lack of funding for transit projects. The Miami Dade Expressway Authority (MDX) receives funding from tolls. This funding stays in the county for county projects. It is suggested that a certain percentage of this funding be allocated for the funding of transit projects, so that transit can take advantage of its surging popularity.

Description: Resolution or other support for the shift in MDX funding.

Cost: TBD



Project Category: Policy

Project Number: 14

Project Name: Support MDT Grid Initiative

Purpose: To implement greater mobility within the parameters of the existing transit cost structure.

Need: Miami Dade Transit, like most transit agencies faces challenges resulting from number of factors including the recent recession. Circuitous routes increase costs, travel time, and trip planning complexity. Capital and operating dollars are stretched. The irony is that the population is becoming more receptive to transit, for multiple reasons. It is customary for transit systems to evaluate their route performance on a periodic basis. Miami Dade Transit is considering reorganizing its route from a system that is more linear to a system that is based on connecting on the gridded street network. More simply put, routes would no longer wind through communities in a serpentine manner using multiple streets, they would typically run east and west or north and south on the street grid, not departing that street. Connections would be made at the cross streets. Reorganization of the MDT routes would provide more direct routes for Doral residents, and potentially provide Doral with an opportunity to sync its Trolley with the MDT system for cost and service efficiency improvements.

Description: It is suggested a Town council resolution supporting this be adopted, and sent to the County Commission, MPO, and MDT.

Cost:TBD





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 15

Project Name: Maintain Local Agency Program Certification

Purpose: Maintain FDOT Local Agency certification to assist in funding processes for transportation projects.

Need: LAP certification is necessary for many funding grants from FDOT, and must be renewed every 3 years (2015, 2018). Continuation from 2008 Master Plan.

Description: The Local Agency Program (LAP) allows FDOT to forge contractual relationships with local governmental agencies that have the authority to plan, develop, design, acquire right-of-way, and construct transportation facilities. Local agencies must be LAP-certified before entering into a LAP Agreement, and allows for reimbursement with Federal funds administered by the Federal Highway Administration. Cutler Bay received its LAP certification, which must be renewed every three years, in 2009. The LAP is administered in each District by a District LAP Administrator designated by the District Secretary. The level of assistance provided is based on the nature of each project and the demonstrated capabilities of the Local Agency. In addition, the District Administrator annually selects certain projects for a Process Review.

Cost: TBD



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 16

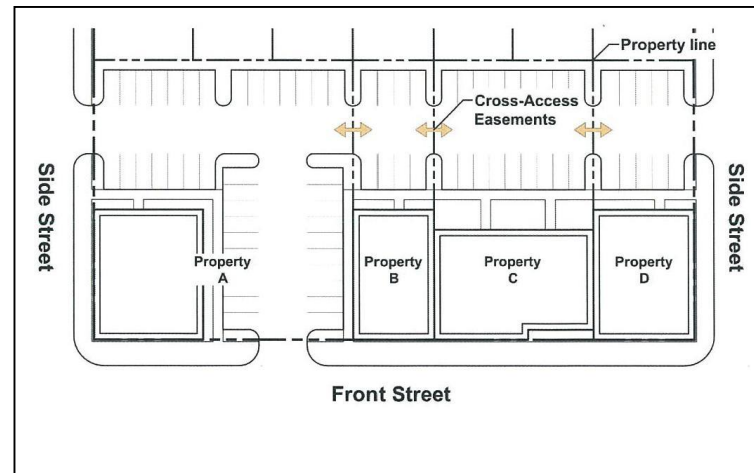
Project Name: Allow Cross Access Easements

Purpose: Study feasibility and impacts of cross access easements.

Need: Cross access easements would allow vehicles and pedestrians to cross between properties along transportation corridors like US-1 without having to reenter the roadway facility. This would improve traffic flow and safety.

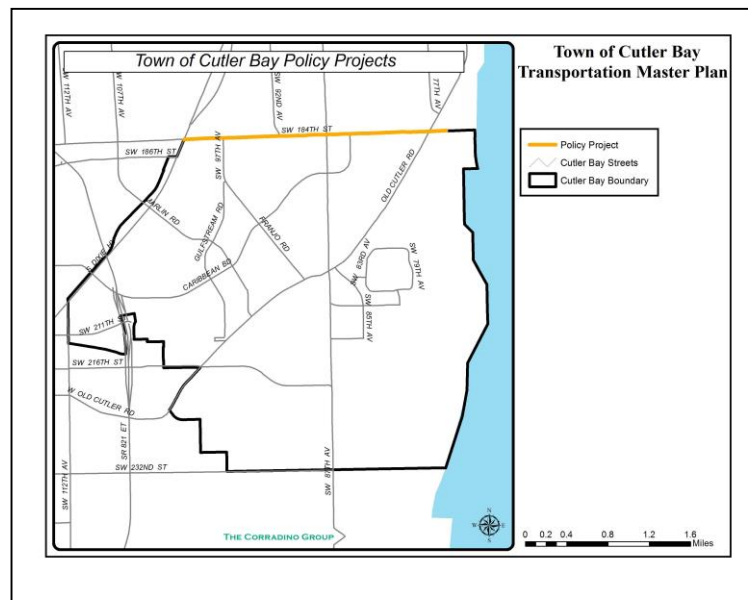
Description: Cross access easements allow for pedestrians and vehicles to walk between businesses; this allows the facility to essentially serve in a manner similar to shared parking, but without necessary having to construct new facilities which may be costly. By reducing the need to drive short distances, traffic may be improved through the elimination of some of these short trips.

Cost: \$ 15,000





Cost: N/A



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 18

Project Name: Removal of Bus Shelter Advertising

Purpose: Reduce or eliminate advertising at bus stops in the Town of Cutler Bay.

Need: Citizen Complaints. Use of advertising on public Right-of-Way.

Description: Bus shelter advertising provides a potential source of revenue for the installation of bus shelter facilities. In some cases, however, the existence of advertising on benches have affected the spatial orientation of benches, which are now angled towards the road or installed in such a way as to be detrimental towards the aesthetic environment of the transit environment. Bus Shelter advertising would fall under regulations covering signs within the Town and will require code amendment.

Cost: TBD





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 19

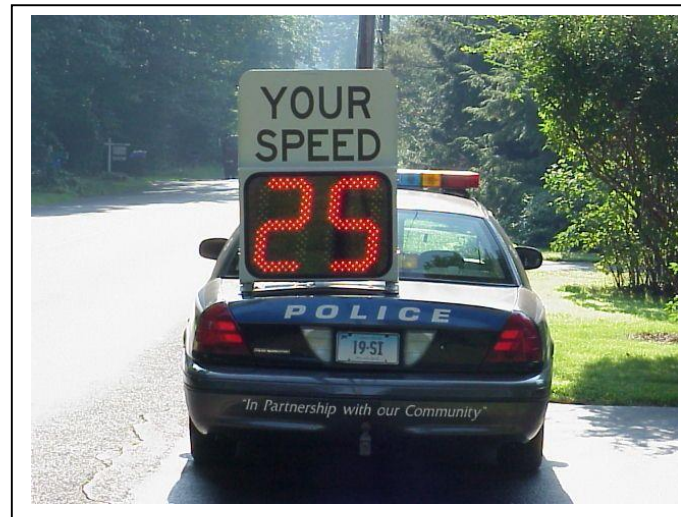
Project Name: Traffic Enforcement

Purpose: Provide a higher level of traffic enforcement at certain locations.

Need: Citizen complaints. A primary form of traffic calming is enforcement. Increased enforcement of speeding and stop sign running at locations identified as problems will act as a first step in traffic calming, as well as assisting local police in assessing the problems.

Description: Traffic enforcement can be utilized at specific intersections where speeding and stop sign running has been noted to be prevalent. This may involve the dedication of active policing or usage of technology. Active policing involves the situating of an officer at the site for enforcement purposes. Alternatively, cameras and other technology can be installed at these intersections as a tool for law enforcement officials.

Cost: TBD



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 20

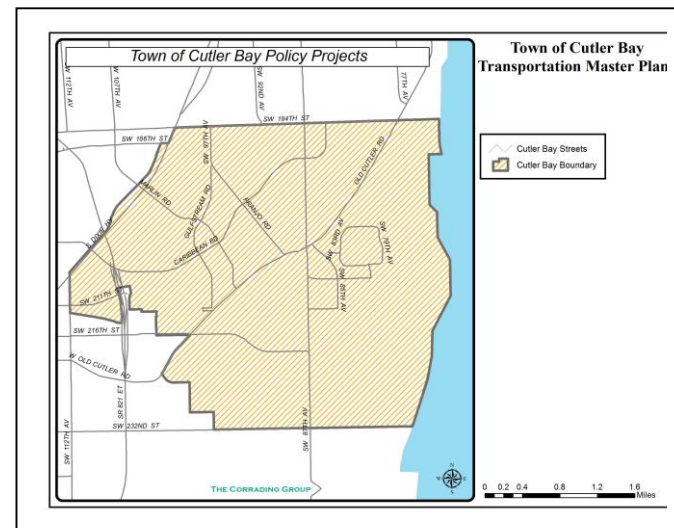
Project Name: Complete Streets/Connections

Purpose: Create and adopt specific and consistent guidelines for streets to accommodate all modes of travel. Completed, however may undergo review in the future.

Need: Design guidelines will allow for positively guided future development.

Description: Complete Streets represent an incremental approach to enhancing the safety of the street network. Over time, it will have great impact on this community. Develop a handbook of design guidelines for complete streets, which would provide ways measurements for sidewalks, bike lanes, street furniture, and landscaping and transit infrastructure to be applied to Cutler Bay's streets. Utilize these design guidelines by codifying relevant ordinances in the Town's Land Development Regulations. Future projects can utilize these concepts as a method of integrating this critical infrastructure.

Cost: \$ 25,000





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 21

Project Name: Designate and Implement Shared Parking in Cutler Bay

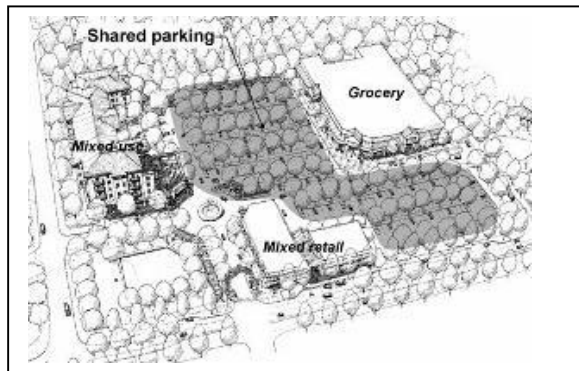
Purpose: Designate locations close to commercial areas in Cutler Bay and build shared parking with pedestrian connections to local businesses.

Need: Little shared parking exists in Cutler Bay, and this segregated parking system adds to local congestion by creating auto trips which could have been walked or biked.

Description: Parking ordinances should be reviewed and amended to provide for reduced parking during land development. Ideas which have been incorporated in other municipalities include a reduction in parking in return for a contribution to a shared parking structure fund, density bonuses, and other shared parking regulations. Street parking generally does not exist close to existing commercial areas, but would be a form of shared parking that could reduce short distance vehicular trips.

In addition, incorporation of developmental regulations to provide a specific, landscaped pedestrian path to the entrance of the building, which will aid in pedestrian mobility, may require a slight reduction in parking requirements. However, where possible, especially in mixed-use districts, required parking should be reduced, and placed to the rear of the building. This will allow buildings to be built close to the pedestrian Right-of-Way, and allow for positive development of the pedestrian realm, which will increase walking as a mode of transit over time.

Cost: TBD



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 22

Project Name: Park and Ride Facilities in Cutler Bay

Purpose: Study locations within Cutler Bay for shared parking which can be placed near Busway and/or the Circulator, and provide for land use designations as necessary.

Need: Bus and ride facilities will allow for shared parking and increased transit usage.

Description: Explore options for providing Park and Ride lots, intermodal transfer centers at the edges of the city. Synergy can be gained by linking with the Managed Lanes concepts and projects where Bus Rapid Transit and Variable Tolling are combined on expressway lanes. Typically a lane or lanes are cordoned off from the general use lanes on an expressway. At the termini of these routes or stops, there may be a need to either park a car to utilize the transit or transfer to another mode of transit to get from the managed lane to the final destination. Develop the concept and work with the Miami Dade MPO, FDOT, MDX to identify managed lanes projects. Along those routes seek potential locations for these facilities. Estimate the cost to acquire, build, design, construct, operate and maintain each. Select an alternative and implement. This project would be a good candidate for an MPO municipal grant, typically due in January of each year.

Cost: \$ 75,000





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 23

Project Name: Evaluate Adoption of Policy Against Red Light Cameras

Purpose: Study and evaluate whether red light cameras should be utilized or banned in Cutler Bay. Completed, however further intersections may be studied in the future

Need: Citizen Request. Evaluation of effectiveness of current red light program.

Description: Red light cameras at intersections have been used in other municipalities to better control and reduce speeding through red lights. The levying of fines on persons driving through red lights or those who do not stop before making a right lane turn with these cameras allows the Town to utilize this technology as a deterrent against breaking traffic laws. However, some municipalities have opted not to use them, citing safety concerns from front-rear collisions due to sudden braking at intersections as well as privacy concerns. Usage of red light cameras is a policy decision which has been brought up by Citizens, and a study should be assembled to evaluate the pros and cons of red light cameras at various intersections within the Town.

Cost: \$ 15,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Policy

Project Number: 24

Project Name: Examine Usage of Golf Carts on County Roads

Purpose: Examine feasibility of being able to utilize golf carts on County Roads. May need reexamination of Town Ordinance 10-03.

Need: Golf carts may provide an alternative, green form of transportation for local convenience trips. They also are restricted by Miami Dade County in certain instances.

Description: Golf carts provide an alternative to the single occupant vehicle, and are utilized in the Town of Cutler Bay. However, current usage is restricted to Town roads. Though golf carts are allowed to cross County roads where Town roads intersect with the County roads, they cannot operate on other sections of the road; this limits mobility of the carts. Coordination and agreements with the County is necessary in order to implement any changes.

Cost: \$ 15,000





Task 4: Development of Potential Projects

Project Category: Policy

Project Number: 25

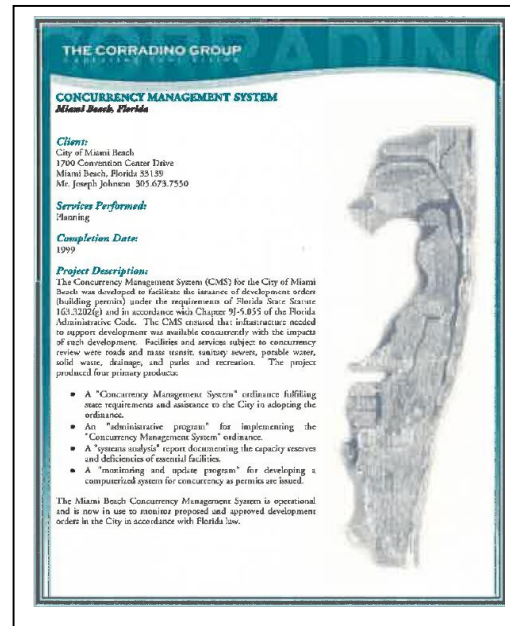
Project Name: Concurrency Management System

Purpose: Continue implementation of system to track and manage concurrency as mandated by law.

Need: System development will allow for tracking of remaining capacities in all categories.

Description: Concurrency Management is required by law and involves accounting for the impacts of development. Through the tracking of impacts and comparison to the overall system, projected changes in the actual Level of Service grades allows for more informed management of developmental impacts.

Cost: \$50,000





Capacity Projects

Capacity projects typically involve projects which provide for necessary roadway improvements that have roadway capacity issues. These projects generally will focus on improving intersections and links that are at or projected to be at LOS D or worse as noted in the traffic analysis. Other projects which affect roadway capacity are derived from operational functions, such as signal timing and roadway design.

Roadway projects concern the connectivity of the roadway system, as well as the level of congestion. Roadway systems should be complete and provide for the most direct route between origin and destination. In addition, as where and how long one can park their car affects an individual's need to drive their car, roadway projects also take into consideration where parking facilities are and how they can be accessed.



Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 1

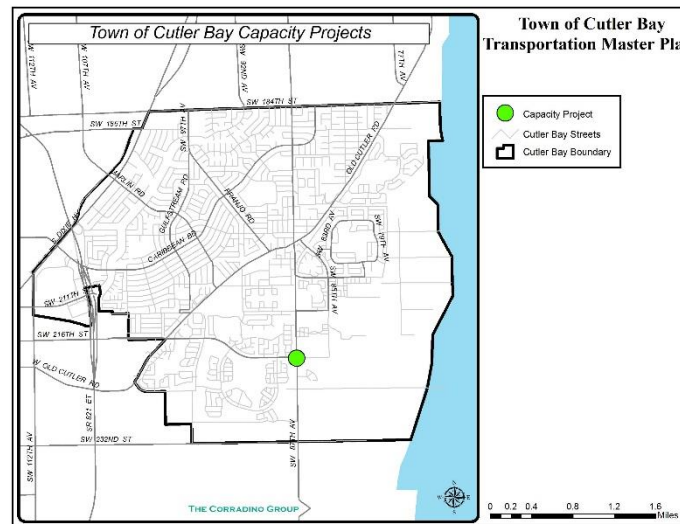
Project Name: Traffic Circle - SW 216th Street/SW 87th Avenue

Purpose: Study and determine if a traffic circle is necessary at SW 216th Street/SW 87th Avenue. If feasible enter into design and construction.

Need: Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.

Description: Determine via analysis if a traffic circle is needed. The Town may then bid out the design and construction as needed.

Cost: \$400,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 2

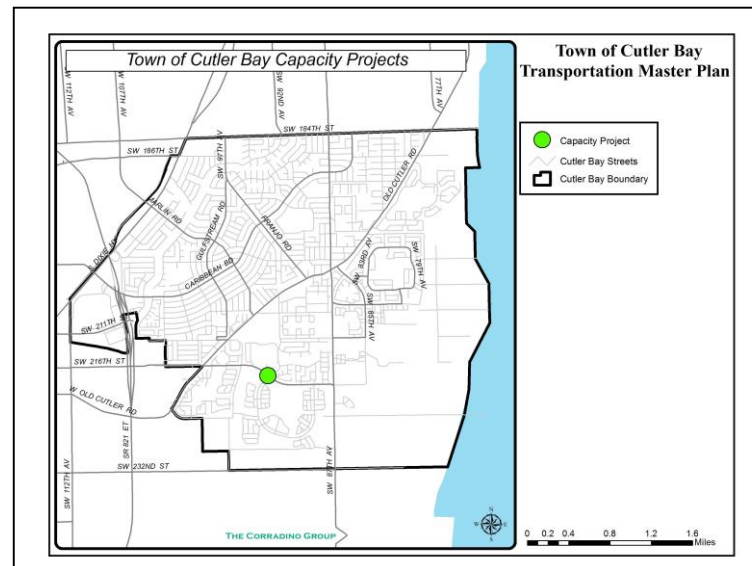
Project Name: Traffic Circle/Signal - SW 216th Street/SW 92nd Avenue/SW 227th Street Traffic Circle

Purpose: Study and determine if a traffic circle/traffic signal is necessary at SW 216th Street/SW 92nd Avenue/SW 227th Street. If feasible enter into design and construction.

Need: Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.

Description: Determine via analysis if a traffic circle/traffic signal is needed. The Town may then bid out the design and construction as needed.

Cost: \$ 400,000





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 3

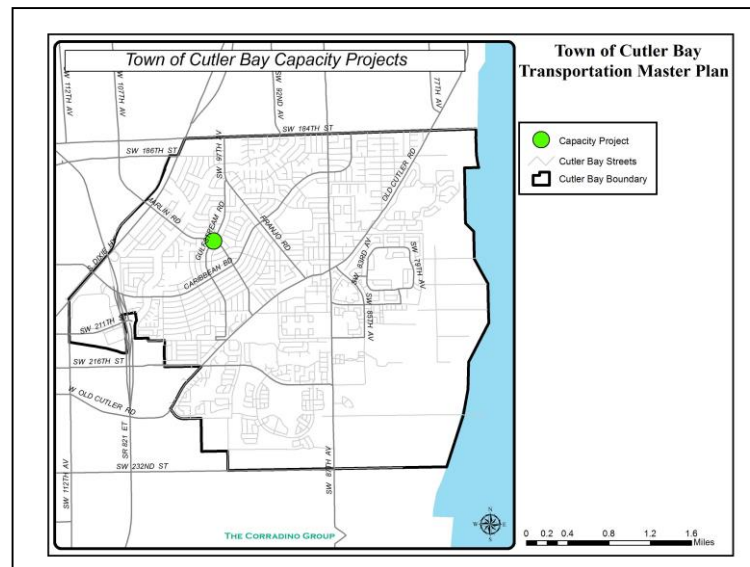
Project Name: Traffic Circle - Marlin and Gulfstream

Purpose: Study and determine if a traffic circle is necessary at Marlin Road and Gulfstream Road. If feasible enter into design and construction.

Need: Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.

Description: Determine via analysis if a traffic circle is needed. The Town may then bid out the design and construction as needed.

Cost: \$ 400,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 4

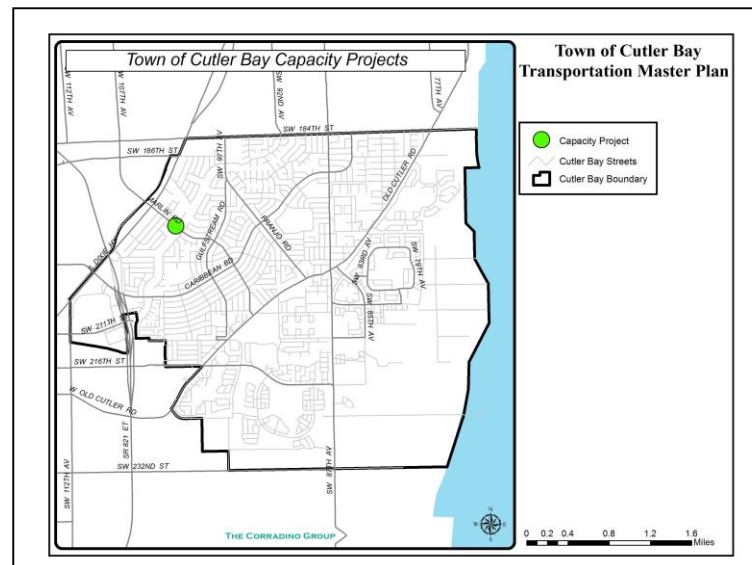
Project Name: Traffic Circle - Marlin and Bel Aire Drive Traffic Circle

Purpose: Study and determine if a traffic circle is necessary at Marlin Road and Sterling Road. If feasible enter into design and construction.

Need: Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.

Description: Determine via analysis if a traffic circle is needed. The Town may then bid out the design and construction as needed.

Cost: \$ 400,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 6

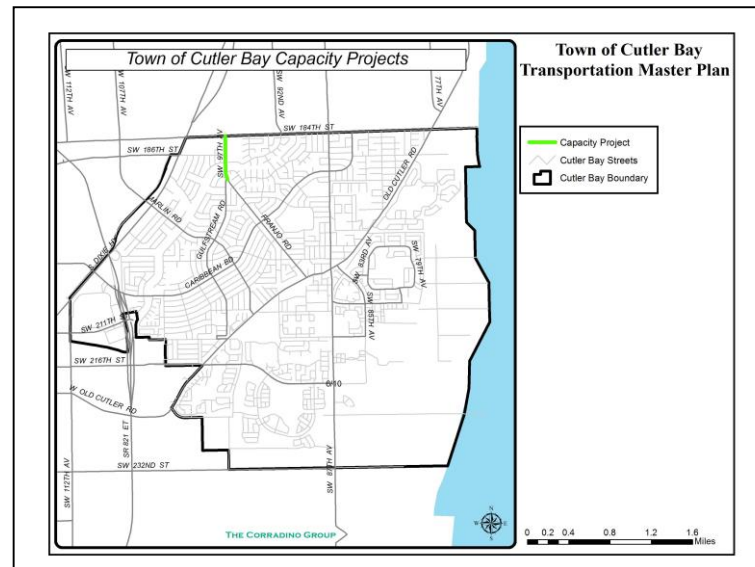
Project Name: Intersection Analyses - Gulfstream Road between Franjo and 184th Street.

Purpose: Intersection and operations analyses on Gulfstream Road between Franjo Road and SW 184th Street.

Need: Noted LOS deficiencies in 2008 Master Plan and current analysis in all time horizons.

Description: Conduct an intersection operational analysis. Determine if any changes are necessary based on the current conditions of the intersection. Bid and construct any necessary treatments.

Cost: \$ 20,000





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 7

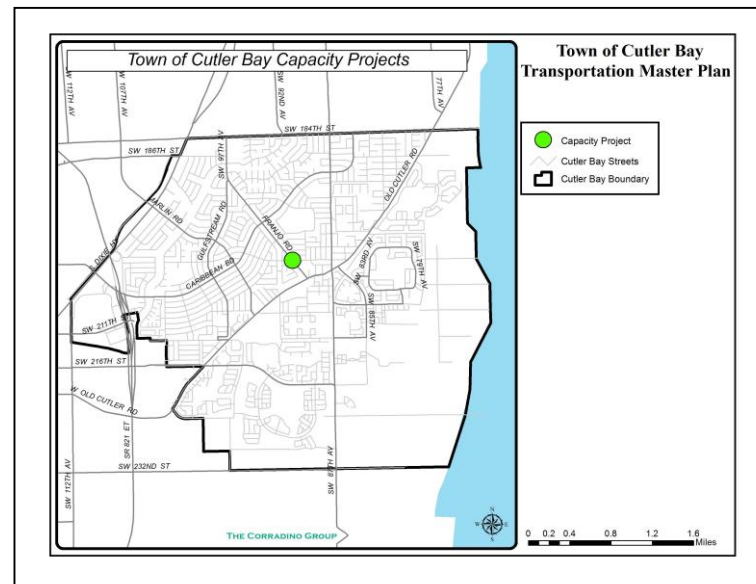
Project Name: Intersection Operational Analysis - Franjo/Cutler Ridge Drive

Purpose: Study operations at the Cutler Ridge Drive/Franjo Road intersection and implement any necessary changes.

Need: Addresses deficiencies found in traffic study.

Description: Conduct an intersection operational analysis. Determine if any changes are necessary based on the current conditions of the intersection. Bid and construct any necessary treatments.

Cost: \$ 8,500



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 8

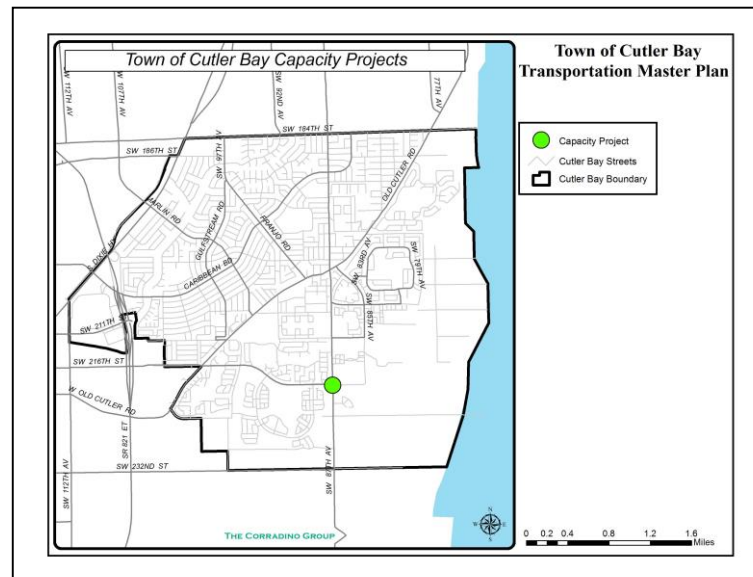
Project Name: Traffic Circle - SW 216th Street/SW 87th Avenue

Purpose: Operational analysis of existing left turn lanes at SW 87th Avenue and SW 216th Street.

Need: Citizen Request/Concern.

Description: Determine via analysis if a left turn lane extension or other treatment is needed at SW 87th Avenue and SW 216th Street. The Town may then bid out the design and construction as needed.

Cost: \$ 8,500





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 9

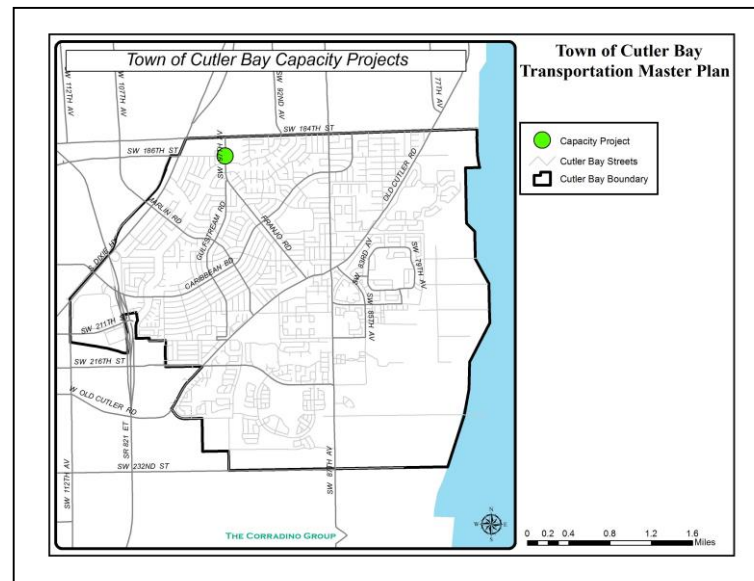
Project Name: Left Turn Lane - Franjo/SW 186th Intersection

Purpose: Determine if a left turn lane at Franjo/SW 186th intersection is necessary to address traffic back-up.

Need: Addresses deficiencies found in traffic study.

Description: Determine via analysis if a left turn lane is needed at Franjo Road and SW 186th Street. The Town may then bid out the design and construction as needed.

Cost: \$ 350,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 10

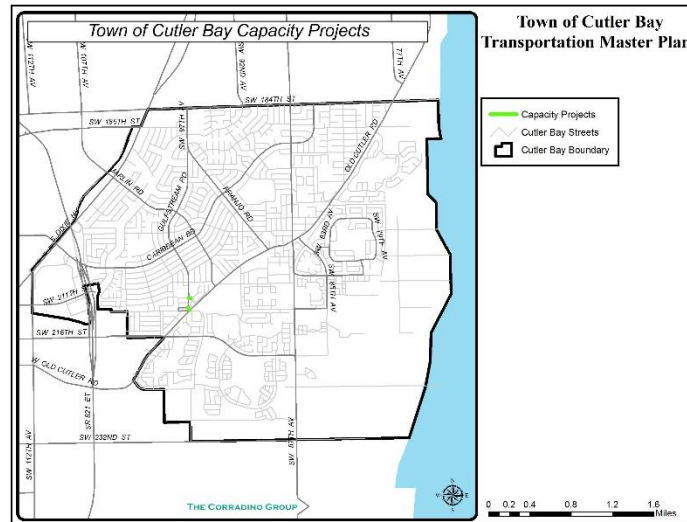
Project Name: Connect SW 97th Avenue to Gulfstream and SW 212th Street

Purpose: Extend SW 97th Avenue to Gulfstream Road to SW 212th Street (Appx. 500 ft.).

Need: Allows for more direct route to Old Cutler Road and SW 212th Street.

Description: Project will involve bidding the design and construction of the roadway.

Cost: \$ 105,000





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 11

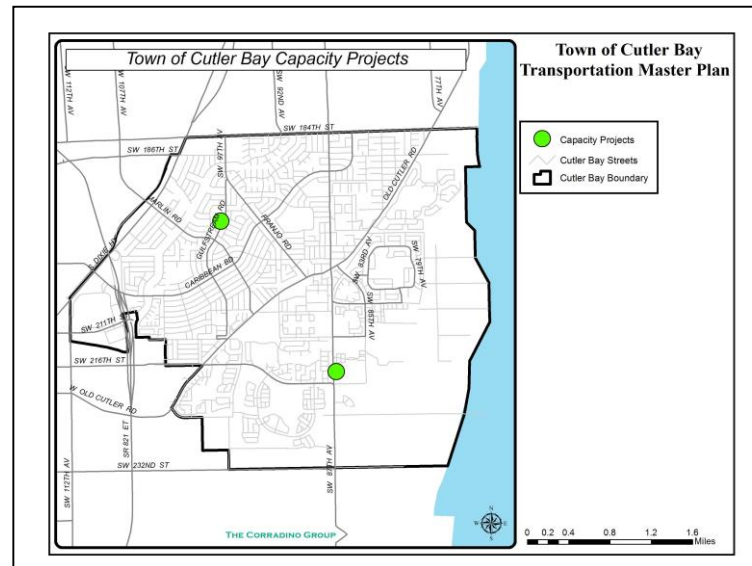
Project Name: School Loading Zones

Purpose: Analysis and implementation of loading zone (drop off and pick-up points) at schools.

Need: Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic. Primary concerns are Cutler Ridge Middle School, and Wigham Elementary.

Description: Loading zones for schools provide an area where parents or buses can drop off or pick up their children without impeding the flow of normal traffic. In addition, allowing for an area where parents can pull up to may in some cases reduce the need for children to cross the street by providing a drop-off point closer to the entrance.

Cost: \$ 12,000



Project Category: Capacity

Project Number: 12

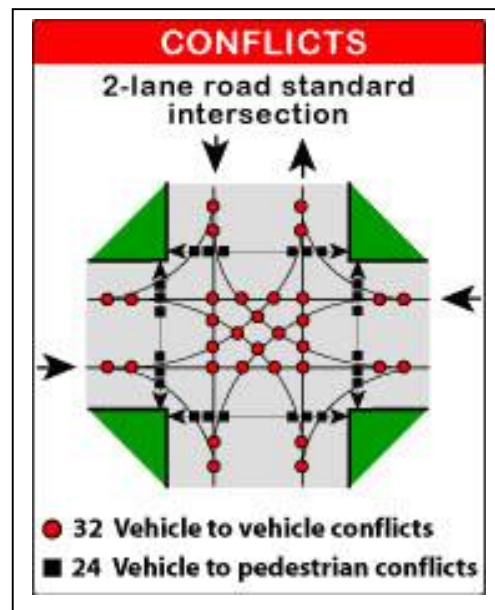
Project Name: Intersection Safety Analysis for Accident Prone Intersections

Purpose: Analyze and address most dangerous intersections.

Need: Safety is a critical priority in Cutler Bay. Each year, the Town should review accident data and locate every accident. The most dangerous 10% should undergo safety operational analysis to recommend remedies.

Description: Preliminary Safety Studies are necessary at each of these intersections to determine what changes, if any, may be needed at each intersection. Should the intersection merit further review based on criteria, additional safety operational studies and implementation of corrective measures should be undertaken at these intersections.

Cost: \$ 100,000





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 13

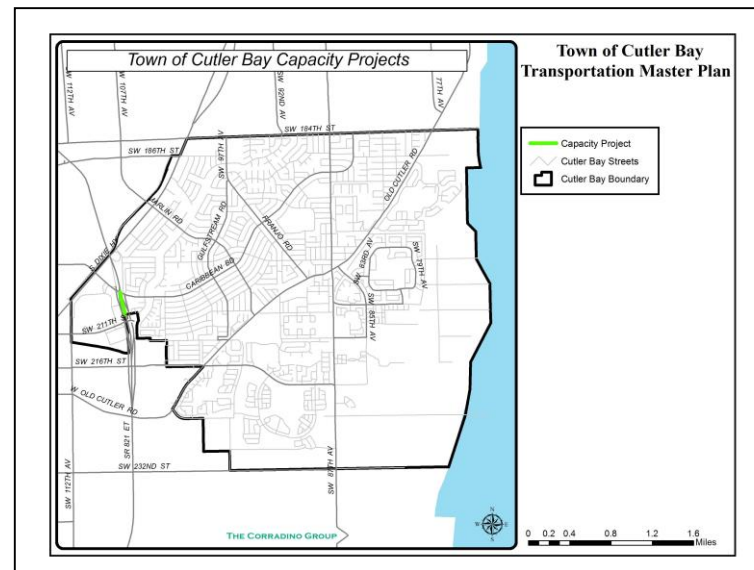
Project Name: Roadway Expansion - Florida Turnpike from 4 to 6 lanes between SW 211th Street and Caribbean Boulevard

Purpose: Add 2 lanes to SR 821 between SW 211th Street and Caribbean Boulevard (Appx. 0.5 mile).

Need: Both current analysis and 2008 Master Plan noted LOS deficiencies in all time horizons.

Description: Additional lanes are necessary to provide for increased capacity on the Turnpike based on project LOS deficiencies. An addition of 2 lanes for this segment will allow for acceptable Level of Service.

Cost: \$ 3,400,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 14

Project Name: Traffic Calming - SW 199th Street (Between SW 87th Avenue and Old Cutler Road)

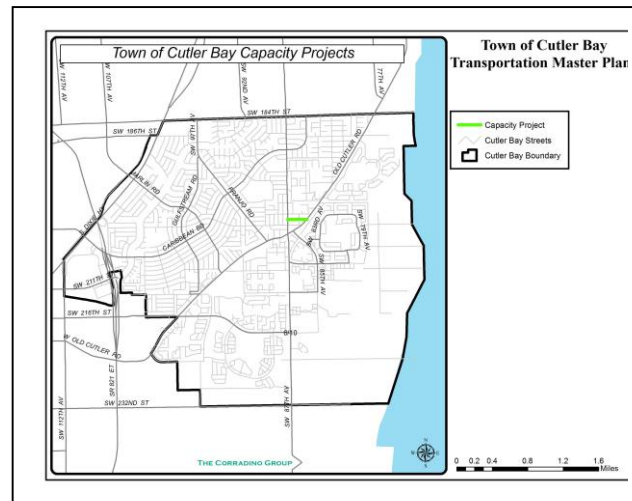
Purpose: Study and implement traffic calming on SW 199th Street.

Need: Addresses deficiencies found in traffic study.

Description: Traffic calming in Miami-Dade County follows procedures as outlined in the Miami-Dade County Traffic Flow Modification(s)/Street Closure(s) Procedure Manual. For each location being evaluated for traffic calming, traffic counts and speeds are taken. An analysis would typically show whether the thresholds for traffic calming have been surpassed. To appropriately justify traffic calming, a traffic volume threshold and one of five other criteria must be met. These criteria include evaluations on whether the speeds at which 85% of motorist travel are more than 10 MPH above the speed limit, or concurrence from affected residents/property owners, which are determined on a case-by-case basis.

Traffic calming includes changes to the roadway system to effect narrowing or to shift the lanes horizontally. Applied techniques range from actual physical roadway constraints, such as traffic circles, chicanes, lateral shifts, neckdowns, and chokers, to visual changes, such as adding trees along the right of way to create an optical illusion of a more narrowly defined space.

Cost: \$ 10,000





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 15

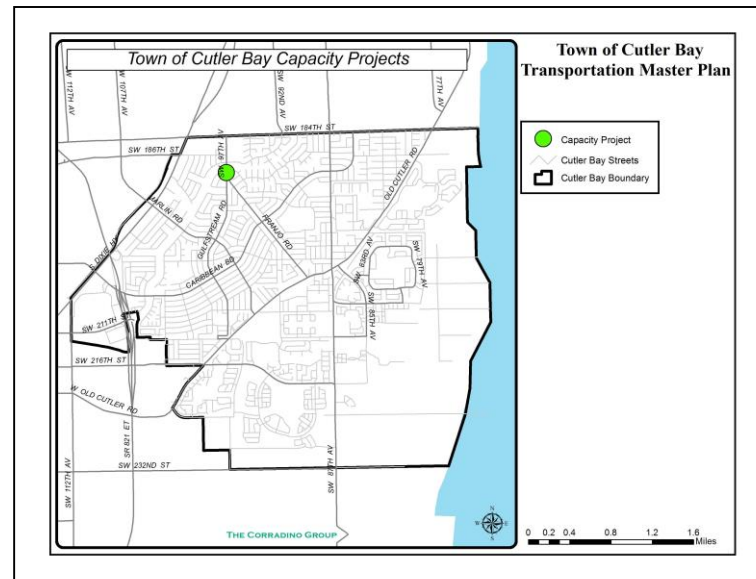
Project Name: Signal Warrant Analysis - Sterling and Franjo

Purpose: Conduct signal warrant analysis at Sterling and Franjo and implement results as necessary.

Need: Noted LOS deficiencies in 2008 Master Plan and current analysis, all time horizons.

Description: A signal warrant analysis should be conducted to determine if a traffic signal is warranted for the intersection. If warranted, the Town can bid out the construction and design.

Cost: \$ 7,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Capacity

Project Number: 16

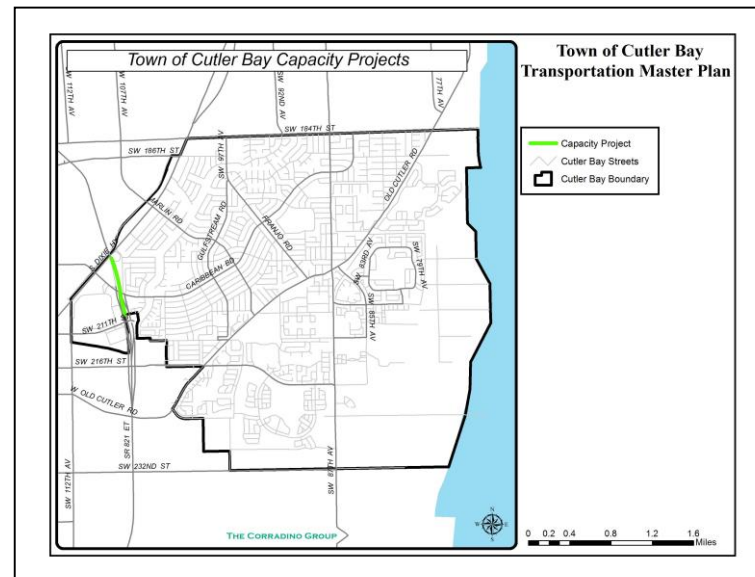
Project Name: Turnpike Interchange @ OCR, NB entrance, SB exit

Purpose: Work with FDOT to have them undertake an Interchange Justification Study to locate and eventually implement ingress/egress from the Turnpike in relation to Old Cutler Road.

Need: Citizen concern. Believed it would relieve through traffic on Old Cutler Road, northbound, as well as relieve congestion on other corridors. Must coordinate with FDOT and Turnpike authorizes to initiate studies. Have additional planning level analysis placed on next LRTP.

Description: The siting of entry/exit points to the Turnpike has an impact on surrounding roadways as it limits the access to the roadway – one cannot simply drive onto the Florida Turnpike, a limited access facility, whenever they please. As a major transit corridor, heavy levels of traffic traverse the Turnpike regularly; points of entry and exit from the system will thus face heavier traffic as well, requiring careful siting to provide optimal relationships with other corridors.

Cost: \$ 50,000





Task 4: Development of Potential Projects

Project Category: Capacity

Project Number: 17

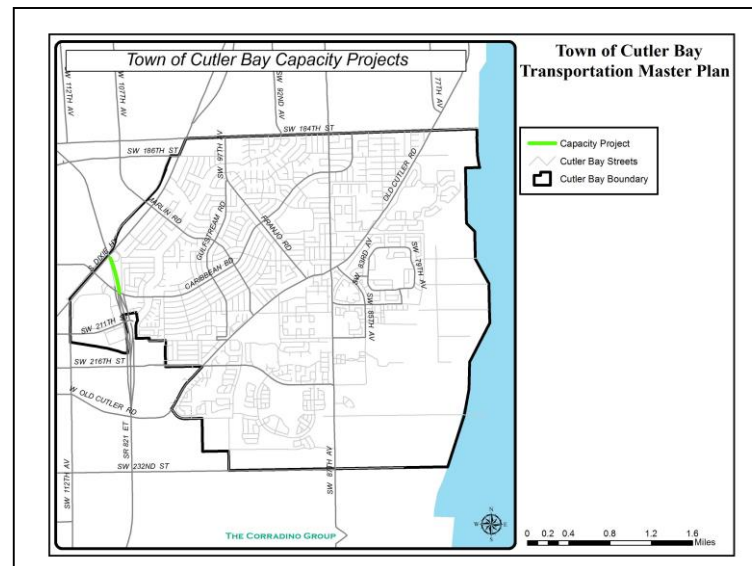
Project Name: Roadway Expansion - Florida Turnpike from 6 to 8 lanes between Caribbean Boulevard and Quail Roost Drive

Purpose: Add 2 lanes to SR 821 between SW 211th Street and Caribbean Boulevard (Appx. 1.34 miles).

Need: Addresses deficiencies found in traffic study.

Description: Additional lanes are necessary to provide for increased capacity on the Turnpike based on project LOS deficiencies. An addition of 2 lanes for this segment will allow for acceptable Level of Service.

Cost: \$ 10,000,000





Alternative Mode Projects

Alternative Transit projects focus on improvements that affect pedestrian and bicycling environment and public transit services. For all three modes, accessibility to origins and destinations, as well as amenities, such as signage, guide maps, and shaded rest areas, among other factors, provide the basis for evaluation and opportunities for improvements.

Transit projects focus primarily on mass transit and how to improve an individual's access to different areas through the usage of buses, trolleys, or the MetroRail. Pedestrian projects involve an individual's person to walk to their destination. Critical aspects affecting the quality of the pedestrian realm include the connectivity and quality of the system, including perceptions of safety and comfort. Bicycling projects provide dual purposes: they create connections from where one is coming from to where they wish to go, and they may serve as a form of outdoors recreation.



Task 4: Development of Potential Projects

Project Category: Alternative Mode

Project Number: 1

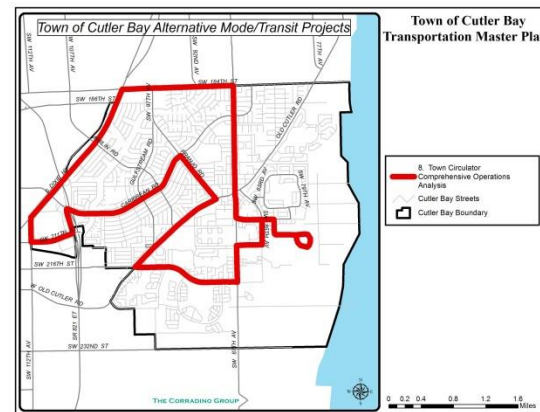
Project Name: Town Circulator Comprehensive Operations Analysis

Purpose: Conduct Study/Operational Analysis of the Town Circulator with consideration of headway times and expansion of days of service, improvement to the bus stop facilities for ADA compliance and general services, and route adjustments to connect to Southland Mall, high schools, and Circulators in adjacent communities.

Need: Addresses citizen requests, American Disabilities Act, and gaps in transit service within Cutler Bay. Allows for greater mobility and potential for regional auto usage reduction.

Description: Using the data available and possibly collecting new data on headways, ridership, boarding's and alighting's by route and stop, as well as public involvement through ridership surveys or workshops, evaluate the performance of the current routes and stops. Devise plan for changing the routes or the service times to include weekend service and increased headways and range of access. In addition, evaluate bidirectional routing for the circulator. Recommendations can then be made for changes, with provided costs for the needed capital, operations and maintenance of the changes.

Cost: \$ 75,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Alternative Mode

Project Number: 2

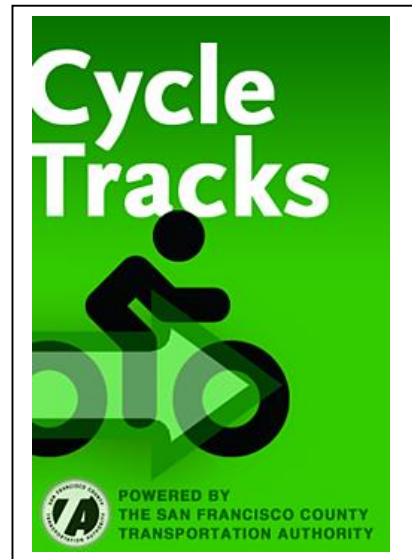
Project Name: Develop technology and applications to collect real-time bicycling data for alternative mode transportation planning

Purpose: Develop and implement usage of bicycling and pedestrian pathways app to collect real-time data for pedestrian/bicycle planning.

Need: Bicycle and pedestrian usage counts are needed in order to better prioritize projects.

Description: Other municipalities around the United States have utilized public participation with GPS enabled technology, such as CycleTracks in San Francisco, to collect real-time usage and routing data from cyclists. This could be adapted for both cyclists and pedestrians using available open-source application source codes in order to collect necessary traffic data which will enable better, in-demand planning for improvements throughout the Town. Implementation of this technology involves adapting existing software to create a Town of Cutler Bay specific application, marketing to ensure usage by the public, and analysis of data collected in order to better prioritize and implement bicycle and pedestrian projects.

Cost: \$ 50,000





Task 4: Development of Potential Projects

Project Category: Alternative Mode

Project Number: 3

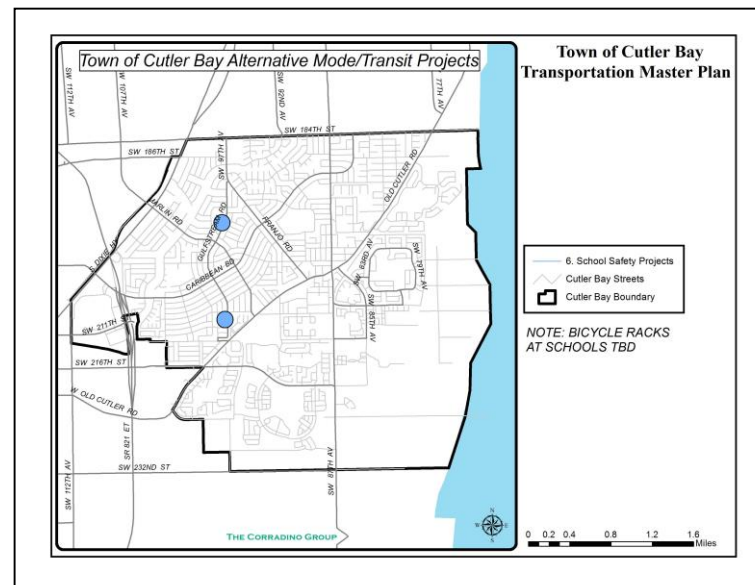
Project Name: School Safety

Purpose: Implement recommendations for Gulfstream Elementary and Cutler Bay Academy of Advanced Studies. Install bicycle racks at schools as needed.

Need: Improvements noted in Safe Routes to School report are necessary to enhance safety and create accessible routes to these two schools. Enhances bicycling mobility and its attractiveness as form of alternative transit.

Description: Implements the results of the 2013 Safe Routes to School Study's recommendations, which includes sidewalks, crosswalks, and other safety improvements. In addition, bicycle racks should be located at these schools. These racks should strive to provide a safe, secure location for storage of bicycles against theft and damage.

Cost: \$ 492, 000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Alternative Mode

Project Number: 4

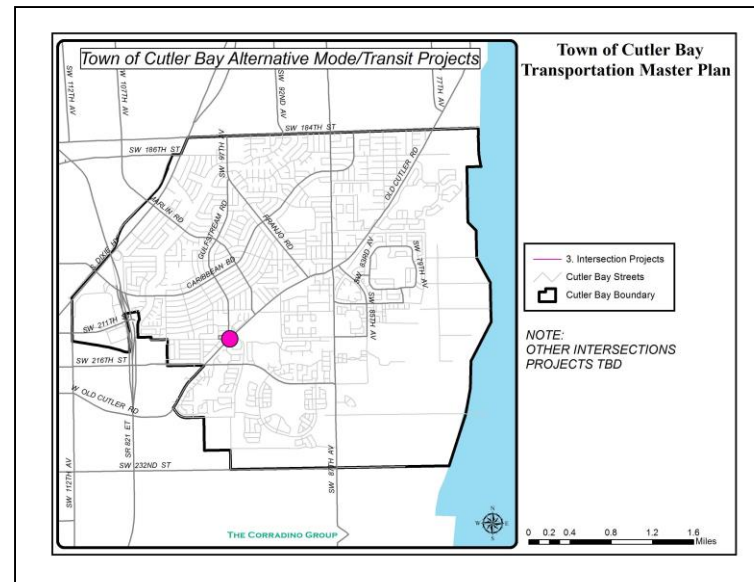
Project Name: Intersection Projects

Purpose: Install pedestrian signals where necessary at intersections within Cutler Bay.

Need: Pedestrian signals enhance the safety of the pedestrian environment at intersections and crosswalks; need determined by LOS analysis from the 2011 Bicycle/Ped Master Plan; corrects deficiencies in the pedestrian network.

Description: Install pedestrian signals at all designated crossing points within the Town. Determine which intersections require additional treatment and implement.

Cost: TBD





Task 4: Development of Potential Projects

Project Category: Alternative Mode

Project Number: 5

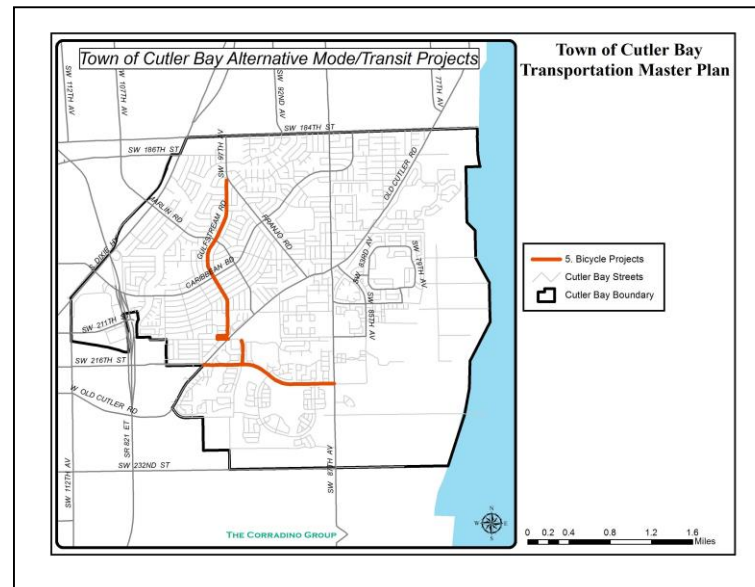
Project Name: Bicycle Projects

Purpose: Install Bicycle lanes in Cutler Bay - Gulfstream Road, SW 216th St between SW 87th Avenue and Old Cutler Road to South Dade Trail, SW 97th Avenue between SW 216th Street and SW 212th Street, from Performing Arts Center to Black Creek Trail, shared use paths.

Need: Provides for a need to fill in gap in network development; enhance bicycle mobility and regional access.

Description: Bicycle lanes provide an alternative mode of transportation, but require a dedicated space in the Right-of-Way. Connections between different areas can be provided in order to link to the Miami-Dade regional system.

Cost: \$ 1,254,000



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Alternative Mode

Project Number: 6

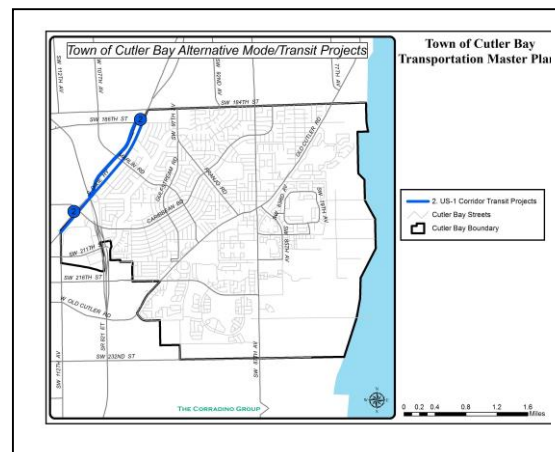
Project Name: US-1 Corridor Transit

Purpose: Install necessary crossing points and pedestrian pathways from major generators to transit points. Provide a Park and Ride feasibility study for the US-1 Busway. Study feasibility of cross access easements.

Need: Provision of Park and Ride facilities with good multimodal connections will aid in encouraging higher transit use. Additional crossing areas as well as sidewalk connections are necessary for enhancement of pedestrian and transit mobility, access to businesses in Cutler Bay, and will reduce "j" walking.

Description: Explore options for providing Park and Ride lots, intermodal transfer centers at the edges of the town. Synergy can be gained by linking with the Managed Lanes concepts and projects where Bus Rapid Transit and Variable Tolling are combined on expressway lanes. Typically a lane or lanes are cordoned off from the general use lanes on an expressway. At the termini of these routes or stops, there may be a need to either park a car to utilize the transit or transfer to another mode of transit to get from the managed lane to the final destination. Develop the concept and work with the Miami Dade MPO, FDOT, MDX to identify managed lanes projects. Along those routes seek potential locations for these facilities. Estimate the cost to acquire, build, design, construct, operate and maintain each. Select an alternative and implement. This project would be a good candidate for an MPO municipal grant, typically due in January of each year.

Cost: \$ 120,000





Task 4: Development of Potential Projects

Project Category: Alternative Mode

Project Number: 7

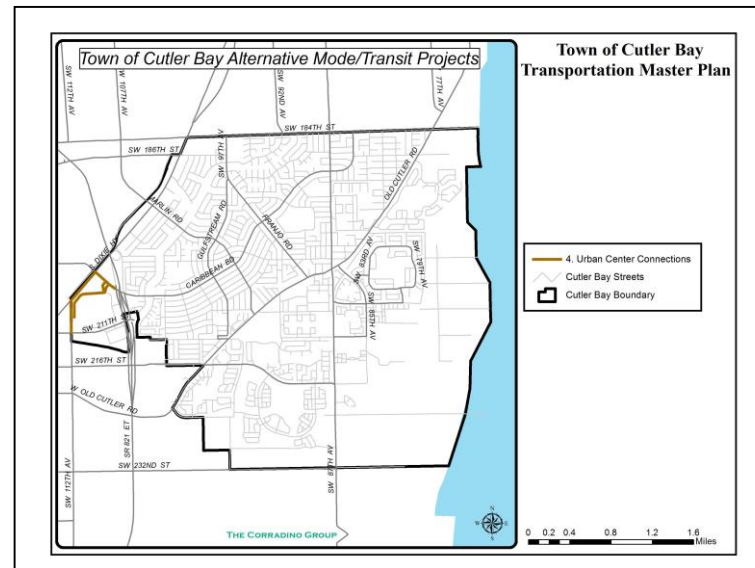
Project Name: Connect Urban Center District

Purpose: Build multiple sidewalk connection to Town Hall from the rest of the network. Provide landscaping along path.

Need: Provides for better pedestrian access from transit to entrance of Town Hall. While there are sidewalks by transit stops, paths to the Town Hall from the closest transit stops generally have to cut through parking lots and are not well defined.

Description: Currently, the Town Hall and other areas of the Civic Center have sidewalks, but these sidewalks do not define direct paths to the entrances of the buildings well. For example, while there are sidewalks next to the bus stop by the Town Hall, the most direct route from the bus stop to the Town Hall runs across landscaping and the parking lot. As the Town Center develops, additional connections are needed in order to better provide pedestrian access to the urban center district.

Cost: TBD



TASK 4: DEVELOPMENT OF POTENTIAL PROJECTS



Project Category: Alternative Mode

Project Number: 8

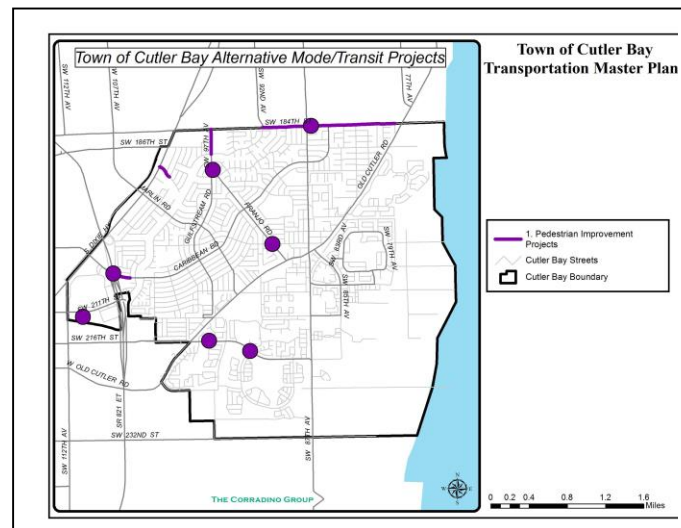
Project Name: Implement Bike/Ped Master Plan and Necessary Pedestrian Improvements

Purpose: Implement 2011 Bike/Ped Master Plan. Upgrade sidewalk facilities and remove obstacles in the Right-of-Way to ensure ADA compliance. Install and repaint crosswalks where necessary. Continuous Evaluation and Maintenance of existing and future sidewalk needs.

Need: Addresses needs determined by LOS analysis in the 2011 Bicycle/Ped Master Plan; corrects deficiencies in pedestrian network which will enhance pedestrian accessibility and mobility.

Description: Locations of missing gaps designated for improvement by the 2011 Bike/Ped Master Plan are noted in the map below. Prioritization of these sidewalk improvements should be based on proximity to residential areas, schools, parks, and bus or trolley stops, and then to existing businesses. Primarily, the purpose is to create a cohesive, connected walking network.

Cost: \$ 250,000



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IMPLEMENTATION STRATEGY





TASK 5: IMPLEMENTATION STRATEGY

This chapter presents a priority listing of projects. After detailed consideration of the costs, benefits and community desire, ideas from the initial lists have been utilized, consolidated, or dropped. In creating a formal prioritized listing, projects from the initial lists that had no significant impact because they were not addressing a formal need were generally dropped from consideration. Some projects were consolidated in order to create a more easily read report, but have individual components which may be implemented separately, such filling in specific gaps in the sidewalk system or addressing crosswalk issues at intersections. Redundant projects or ideas that approached a similar problem or area were also consolidated.

The prioritization aspect of the task reviewed the projects nominated and selected for the Project Bank. Each project was evaluated on how well they would address a series of criteria developed from concepts taken from the initial Strategic Plan, the Cutler Bay Growth Management Plan, as well as the ideas stemming from the public involvement portion of this study.

Addressing transportation, land use, effect on intermodal transit, and quality of life issues are important in evaluating the projects. A simplified scoring system was developed measuring how well the projects met the criteria. Eight criteria were utilized in the scoring system:



Task 5: Implementation Strategy

- Ease of Implementation
- Efficiency
- Effectiveness
- Promotes Safety
- Environmentally Friendly
- Promotes Casual Flow
- Maintains/Enhances Town Character
- Reduces Traffic Intrusion

In the project charts, a green box was colored if the project matched the criteria in a positive manner. A yellow box was colored if the projects were neutral to the criteria. A red box was colored if the projects matched up negatively with the criteria. Those with the most positive ratings were ranked highest.

The goal in prioritization was to rank projects and assign a time horizon in which they could be implemented. Utilizing this prioritization, a list of projects with time horizons was developed.

The initial approach was to undertake projects where mitigated problems could be most easily implemented and then move to projects that could solve Level of Service deficiencies in an inexpensive manner.

The remaining sixty-two (62) projects have been placed in one of several lists:

1. Year 1 – Capital Improvement Program (CIP)
2. Year 2 – CIP
3. Year 3 – CIP
4. Year 4 – CIP
5. Year 5 – CIP

These lists and this Master Plan should act as a guideline for project efforts. It is anticipated that the staff would consider these lists as a component of all the issues that go into the annual budgeting and project prioritization process. They should be revisited each year in an effort to match projects with changing needs of the community and particularly in light of outside funding resources which may be available for these projects. The document should be updated every several years to evaluate changes in traffic volumes, development patterns, funding streams as well as shifts in policy.

Capacity Projects

The original twenty-five (25) Capacity projects were reviewed, with seventeen (17) projects selected through the prioritization process, representing a potential cost of \$15,678,000.

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Capacity 1	SW 216th Street/SW 87th Avenue Left Turn Lanes	\$8,500	Operational analysis of existing left turn lanes at SW 87th Ave. and SW 216th St.	Citizen request/concern.										1
Capacity 2	Traffic Circle/Signal - SW 216th Street/SW 92nd Avenue/SW 227th Street Traffic Circle	\$400,000	Study and determine if a traffic circle is necessary at SW 216th St./SW 92nd Ave./SW 227th St. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										2
Capacity 3	Traffic Circle - Marlin and Gulfstream	\$400,000	Study and determine if a traffic circle is necessary at Marlin Road and Gulfstream Road. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										2
Capacity 4	Traffic Circle - Marlin and Bel Aire Drive Traffic Circle	\$400,000	Study and determine if a traffic circle is necessary at Marlin Road and Sterling Road. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										2
Capacity 5	Traffic Study - Intersection of SW 85th Avenue and Old Cutler Road	\$7,000	Conduct traffic study at Old Cutler Road and SW 85th Avenue.	Traffic Circle installation at SW 87th Avenue and Old Cutler Road has changed traffic flow through speed on Old Cutler Road, and may have an effect ingress/egress to Saga Bay at SW 85th Avenue/Old Cutler Road intersection. Citizen Concern.										2
Capacity 6	Intersection Analyses - Gulfstream Rd. between Franjo and 184th St.	\$20,000	Intersection and operations analyses on Gulfstream Road between Franjo Road and SW 184th St.	Noted LOS deficiencies in 2008 Master Plan and current analysis, all time horizons.										3
Capacity 7	Intersection Operational Analysis - Franjo/Cutler Ridge Drive	\$8,500	Study operations at the Cutler Ridge Drive/Franjo Road intersection and implement any necessary changes.	Addresses deficiencies found in traffic study.										3
Capacity 8	Traffic Circle - SW 216th Street/SW 87th Avenue	\$400,000	Study and determine if a traffic circle is necessary at SW 216th St./SW 87th Ave. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.										3
Capacity 9	Left Turn Lane - Franjo/SW 186th Intersection	\$350,000	Determine if a left turn lane at Franjo/SW 186th intersection is necessary to address traffic back-up.	Addresses deficiencies found in traffic study.										3
Capacity 10	Connect SW 97th Avenue to Gulfstream and SW 212th Street	\$105,000	Extend SW 97th Avenue to Gulfstream Road to SW 212th St., (Appx. 500 ft.)	Allows for more direct route to Old Cutler Road and SW 212th St.										3



Task 5: Implementation Strategy

Capacity 11	School Loading Zones	\$12,000	Analysis and implementation of loading zone (drop off and pick-up points) at schools.	Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic. Primary concerns are Cutler Ridge Middle School, and Wigham Elementary.															3
Capacity 12	Intersection Safety Analysis for Accident Prone Intersections	\$100,000	Analyze and address most dangerous intersections.	Safety is a critical priority in Cutler Bay. Each year, the Town should review accident data and locate every accident. The most dangerous 10% should undergo safety operational analysis to recommend remedies.															3
Capacity 13	Roadway Expansion - Florida Turnpike from 4 to 6 lanes between SW 211th St and Caribbean Boulevard	\$3,367,126	Add 2 lanes to SR 821 between SW 211th St. and Caribbean Boulevard (Appx. 0.5 mile).	Both current analysis and 2008 Master Plan noted LOS deficiencies in all time horizons.															4
Capacity 14	Traffic Calming - SW 199th St (Between SW 87th Avenue and Old Cutler Road)	\$10,000	Study and implement traffic calming on SW 199th St.	Addresses deficiencies found in traffic study.															4
Capacity 15	Signal Warrant Analysis - Sterling and Franjo	\$7,000	Conduct signal warrant analysis at Sterling and Franjo and implement results as necessary.	Noted LOS deficiencies in 2008 Master Plan and current analysis, all time horizons.															4
Capacity 16	Turnpike Interchange @ OCR, NB entrance, SB exit	\$50,000	Work with FDOT to have them undertake an Interchange Justification Study to locate and eventually implement ingress/egress from the Turnpike in relation to Old Cutler Road.	Citizen concern. Believed it would relieve through traffic on Old Cutler Road, northbound, as well as relieve congestion on other corridors. Must coordinate with FDOT and Turnpike authorizes to initiate studies. Have additional planning level analysis placed on next LRTP.															5
Capacity 17	Roadway Expansion - Florida Turnpike from 6 to 8 lanes between Caribbean Boulevard and Quail Roost Drive	\$10,000,000	Add 2 lanes to SR 821 between SW 211th St. and Caribbean Boulevard (Appx. 1.34 miles).	Addresses deficiencies found in traffic study.															5

Corridor Enhancement Projects:

Of the original sixteen (16) Corridor Enhancement projects, twelve (12) were selected through the prioritization process, representing \$2,787,000 in potential costs.

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Corridor Enhancement 1	Road Connection - Cutler Ridge Drive/SW 200th St. - Connect to Old Cutler Road	\$190,000	Connect Cutler Ridge Drive/SW 200th St. to Old Cutler Road, appx. 200 ft.	Addresses gap in the roadway network. Provides mobility and capacity.										1
Corridor Enhancement 2	Truck Routing Study Throughout Major Corridors	\$20,000	Evaluate appropriate truck routes, to assure trucks are provided a clear path through the community.	Truck traffic management will help the Town with increasing mobility.										1
Corridor Enhancement 3	Street Repaving Program	\$2,100,000	Continue to maintain and repave roadways as necessary.	Provides greater access and promotes traffic dispersion. Requires coordination with MDCPW.										1
Corridor Enhancement 4	Operational Analysis - Franjo/Cutler Ridge Drive	\$10,000	Determine exact problem and most efficient way to mitigate.	Visual Obstruction at Intersection.										2
Corridor Enhancement 5	Operational Analysis - Marlin Road between Old Cutler Road and SW 107th Ave.	\$200,000	Conduct operational analysis on Marlin Road between Old Cutler Road and SW 107th Ave. Will lead to design and construction if warranted.	Marlin Road between US-1 and Caribbean Boulevard failing LOS in 2008, 2014; Marlin Road between Old Cutler Road and SW 107th Ave. below adopted level of service standards by 2035.										2
Corridor Enhancement 6	Signal Progression Analysis - for US-1, Marlin, Old Cutler Road, SW 184th St., Franjo/SW 97th Ave.	\$130,000	Evaluate the main corridors' signal progression.	Adequate signal progression can improve a safe, casual flow of vehicles, moving more traffic while maintaining moderate speeds and a safe pedestrian environment.										2
Corridor Enhancement 7	Stop Sign/Traffic Signal Warrant Analysis - SW 216th St. and SW 92nd Avenue	\$7,000	Determine whether stop signs/traffic signal/traffic circle are necessary at SW 216th St. and SW 92nd Ave.	Based on traffic on SW 216th St. Citizen concerns.										2
Corridor Enhancement 8	Street Lights - SW 87th Ave.	\$100,000	Install street lights on SW 87th Ave. (\$8000/light).	Current lighting levels are inadequate.										3
Corridor Enhancement 9	Traffic Calming - Marlin Road @ Belle Aire Elementary	\$10,000	Calm speeding and enhance pedestrian safety near Belle Aire Elementary.	Reduces traffic speeds on Marlin Road by the Elementary School during school drop off/pick up times. Citizen Complaints.										4
Corridor Enhancement 10	Address Electronic Digital Monument Sign on Marlin Road	\$3,000	Determine whether Electronic Digital Monument Sign on Marlin Rd. should be constructed.	Citizen complaints related to monument signs. Lack of road entry feature on Marlin and US-1.										4
Corridor Enhancement 11	Traffic Calming - SW 87th Avenue: between Eureka (SW 184th St.) to Old Cutler Road	\$10,000	Study and implement traffic calming between Eureka (SW 184th St.) to Old Cutler Road.	Citizens complain about high volumes and speeding along the SW 87th Avenue Corridor.										5
Corridor Enhancement 12	Remove Parking on Swale (SW 184th Street, Franjo Road)	\$7,000	Prohibit parking on swale on SW 184th St. and Franjo Rd.	Parking in this area destroys landscaping and sod. Visual obstruction. Citizen complaints.										5



Task 5: Implementation Strategy

Policy Projects

The original twenty-three (23) Policy projects were ranked and compiled, with some projects from other sections being reclassified as more policy oriented projects for the Town. Policy projects represent twenty-five (25) projects at a potential cost of \$295,000.

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Policy 1	Revise development regulations to encourage pedestrian friendly urban design and buildings at street edge	\$15,000	Revise land development regulations to place buildings closer to street ROW and parking behind buildings.	Provides for pedestrian friendly design in future development; enhances pedestrian mobility. Field observations during study indicate land use patterns create more automobile trips.										1
Policy 2	Define Cost Recovery Process For Private Development	\$	Reinforce cost recovery processes in Cutler Bay to assure that municipal resources used for development review is paid for by applicants as appropriate.	Cost recovery is necessary in order to preserve governmental funds with development when government services are being provided to non-governmental entities.										1
Policy 3	Promote Local Economic Development	TBD	Adopt policies and goals to increase local jobs and service sector opportunities.	Providing more needed services locally and local jobs will help to address trends of high-flow through traffic and increasing travel times to work found in analysis.										1
Policy 4	Continue Townwide Streetscape Program - Livable Communities Program	\$30,000	Continue to evaluate main corridor rights of way and implement street scape programs, including street trees, benches, trash cans, lighting, and other street furniture.	Aesthetics are important to enhancing the character of the Town and are vital for the development of the pedestrian and bicycling modes of travel. From 2008 Transportation Master Plan.										1
Policy 5	Actively coordinate with other governments and agencies	\$	Coordinate with other regional governments to help plan the regional network.	Many issues impacting Cutler Bay also impact all of South Dade and the US-1 Corridor. Coordination and communication with neighboring communities will help arrive at common solutions for common problems.										1
Policy 6	Support connecting all County Greenways	\$	Support connecting all County greenways.	Provides for a connected County system which enhances bicycling/pedestrian mobility regionally. From 2008 Master Plan.										1
Policy 7	Adopt and Encourage Further Development of County Bicycle Network	\$	Support Miami-Dade County in development of additional bicycling infrastructure in the South Dade Area.	Additional linkages connected to the Town's bicycling infrastructure will increase bicycling mobility and provides for increased regional access. From 2008 Master Plan.										1
Policy 8	Liaison with South Florida Commuter Services	TBD	Liaise with the South Florida Commuter Services regarding programs usable or needed by Town residents.	Promote ride-sharing options for commuters.										1
Policy 9	Support Increased MDT headways	\$	Support increased frequency of bus service in the Town.	Increased frequency of bus service allows transit to have better access and be more competitive against auto usage.										1
Policy 10	Search for Federal Partnerships on pilot transit/transportation programs	\$5,000	Research and apply for federal monies to enact local transportation/transit programs.	Grant monies will assist the Town in completing necessary improvements in a timely manner.										1
Policy 11	Bicycle/Pedestrian Committee	\$	Implement a Bicycle/Pedestrian Committee, to meet on a quarterly basis.	Allows Citizens to provide regular feedback for consideration by the Town on pedestrian/bicycling projects, facility maintenance, and plan implementation. From 2008 Master Plan.										1
Policy 12	Support County Funding for Transit	TBD	Support additional funding for transit in Miami-Dade County.	Additional funding is needed to enhance service frequency and access for mass transit to be able to effectively compete with and reduce auto usage.										1
Policy 13	Support MDX Reallocation of Funding to Transit	TBD	Support reallocation of additional funding to transit.	Additional transit services is necessary to develop mobility, and requires more funding.										1

Task 5: Implementation Strategy



Policy 14	Support MDT Grid Initiative	TBD	To implement greater mobility within the parameters of the existing transit cost structure.	Circuitous routes increase costs, travel time, and trip planning complexity.															1
Policy 15	Maintain Local Agency Program certification	\$-	Maintain FDOT Local Agency certification to assist in funding processes for transportation projects.	LAP certification is necessary for many funding grants from FDOT, and must be renewed every 3 years [2015, 2018]. Continuation from 2008 Master Plan.															1 and 4
Policy 16	Allow Cross Access Easements	\$15,000	Study feasibility and impacts of cross access easements.	Cross access easements would allow vehicles and pedestrians to cross between properties along transportation corridors like US-1 without having to reenter the roadway facility. This would improve traffic flow and safety.															2
Policy 17	Coordinate with Miami Dade County and Palmetto Bay in regards to the future development of SW 184th St.	\$-	Coordinate with County and Palmetto Bay in regards to the future development of SW 184th St.	SW 184th St. is on the border with Palmetto Bay; as an arterial, considerations of flow-through traffic from the rest of the County is important for the road's future development.															3
Policy 18	Removal of Bus Shelter Advertising	\$-	Reduce or eliminate advertising at bus stops in the Town of Cutler Bay.	Citizen Complaints. Use of advertising on public right-of-way.															3
Policy 19	Traffic Enforcement	TBD	Provide a higher level of traffic enforcement at certain locations.	Citizen complaints. A primary form of traffic calming is enforcement. Increased enforcement of speeding and stop sign running at locations identified as problems will act as a first step in traffic calming, as well as assisting local police in assessing the problems.															3
Policy 20	Complete Streets/Connections	\$25,000	Create and adopt specific and consistent guidelines for streets to accommodate all modes of travel.	Design guidelines will allow for positively guided future development.															3
Policy 21	Designate and Implement Shared Parking within Cutler Bay	TBD	Designate locations close to commercial areas in Cutler Bay and build shared parking with pedestrian connections to local businesses.	Little shared parking exists in Cutler Bay, segregated parking system adds to local congestion by creating auto trips which could have been walked or biked.															4
Policy 22	Park and Ride Facilities in Cutler Bay	\$75,000	Study locations within Cutler Bay for shared parking which can be placed near Busway and/or the Circulator, and provide for land use designations as necessary.	Bus and ride facilities will allow for shared parking and increased transit usage.															4
Policy 23	Evaluate Adoption of Policy Against Red Light Cameras	\$15,000	Study and evaluate whether red light cameras should be utilized or banned in Cutler Bay.	Citizen Request. Evaluation of effectiveness of current red light program.															5
Policy 24	Examine Usage of Golf Carts on County Roads	\$15,000	Examine feasibility of being able to utilize golf carts on County Roads. May need reexamination of Town Ordinance 10-03.	Golf carts may provide an alternative, green form of transportation for local convenience trips. They also are restricted by Miami Dade County in certain instances.															5
Policy 25	Concurrency Management System	\$50,000	Continue implementation of system to track and manage concurrency as mandated by law.	System development will allow for tracking of remaining capacities in all categories.															Years 1 to 5



Task 5: Implementation Strategy

Alternative Mode Projects

The Alternative Mode projects were condensed into eight (8) projects from the original fifty-five (55), at a potential cost of \$2,250,000.

CATEGORY/No.	Name	Cost	Purpose	Need	Ease of Implementation	Efficiency	Effectiveness	Promotes Safety	Environmentally Friendly	Promotes Casual Flow	Maintains/Enhances Town Character	Reduces Traffic Intrusion	Overall Priority	Year
Alternative Mode 1	Town Circulator Comprehensive Operations Analysis	\$75,000	Conduct Study/Operational Analysis of the Town Circulator with consideration of headway times and expansion of days of service, improvement to the bus stop facilities for ADA compliance and general services, and route adjustments to connect to Southland Mall, high schools, and Circulators in adjacent communities.	Addresses citizen requests, American Disabilities Act, and gaps in transit service within Cutler Bay. Allows for greater mobility and potential for regional auto usage reduction.										1
Alternative Mode 2	Develop technology and applications to collect real-time bicycling data for alternative mode transportation planning	\$50,000	Develop and implement usage of bicycling and pedestrian pathways app to collect real-time data for pedestrian/bicycle planning.	Bicycle and pedestrian usage counts are needed in order to better prioritize projects.										1
Alternative Mode 3	School Safety	\$492,000	Implement recommendations for Gulfstream Elementary and Cutler Bay Academy of Advanced Studies. Install bicycle racks at schools as needed.	Improvements noted in Safe Routes to School report are necessary to enhance safety and create accessible routes to these two schools. Enhances bicycling mobility and its attractiveness as form of alternative transit.										1 and 2
Alternative Mode 4	Intersection Projects	TBD	Install pedestrian signals where necessary at intersections within Cutler Bay.	Pedestrian signals enhance the safety of the pedestrian environment at intersections and crosswalks; need determined by LOS analysis from the 2011 Bicycle/Ped Master Plan; corrects deficiencies in the pedestrian network.										2
Alternative Mode 5	Bicycle Projects	\$1,254,000	Install Bicycle lanes in Cutler Bay - Gulfstream Road, SW 216th St between SW 87th Avenue and Old Cutler Road to South Dade Trail, SW 97th Ave. between SW 216th Street and SW 212th Street, from Performing Arts Center to Black Creek Trail, shared use paths.	Provides for a need to fill in gap in network development; enhance bicycle mobility and regional access.										2
Alternative Mode 6	US-1 Corridor Transit	\$75,000	Install necessary crossing points and pedestrian pathways from major generators to transit points. Provide a Park and Ride feasibility study for the US-1 Busway. Study feasibility of cross access easements.	Provision of Park and Ride facilities with good multimodal connections will aid in encouraging higher transit use. Additional crossing areas as well as sidewalk connections are necessary for enhancement of pedestrian and transit mobility, access to businesses in Cutler Bay, and will reduce "J" walking.										3
Alternative Mode 7	Connect Urban Center District	\$7,500	Build multiple sidewalk connections to Town Hall from the rest of the network. Provide landscaping along path.	Provides for better pedestrian access from transit to entrance of Town Hall. While there are sidewalks by transit stops, paths to the Town Hall from the closest transit stops generally have to cut through parking lots and are not well defined.										3
Alternative Mode 8	Implement Bike/Ped Master Plan and Necessary Pedestrian Improvements	\$300,000	Implement 2011 Bike/Ped Master Plan. Upgrade sidewalk facilities and remove obstacles in the Right-of-Way to ensure ADA compliance. Install and repaint crosswalks where necessary. Continuous Evaluation and Maintenance of existing and future sidewalk needs.	Addresses needs determined by LOS analysis in the 2011 Bicycle/Ped Master Plan; corrects deficiencies in pedestrian network which will enhance pedestrian accessibility and mobility.										Years 1 to 5

Capital Improvement Projects

YEAR 1

Category/No.	Name	Cost	Purpose	Need
Policy 1	Revise development regulations to encourage pedestrian friendly urban design and buildings at street edge	\$15,000	Revise land development regulations to place buildings closer to street ROW and parking behind buildings.	Provides for pedestrian friendly design in future development; enhances pedestrian mobility. Field observations during study indicate land use patterns create more automobile trips.
Policy 2	Define Cost Recovery Process For Private Development	\$ -	Reinforce cost recovery processes in Cutler Bay to assure that municipal resources used for development review is paid for by applicants as appropriate.	Cost recovery is necessary in order to preserve governmental funds with development when government services are being provided to non-governmental entities.
Policy 3	Promote Local Economic Development	TBD	Adopt policies and goals to increase local jobs and service sector opportunities.	Providing more needed services locally and local jobs will help to address trends of high-flow through traffic and increasing travel times to work found in analysis.
Policy 4	Continue Townwide Streetscape Program - Livable Communities Program	\$30,000	Continue to evaluate main corridor rights of way and implement street scape programs, including street trees, benches, trash cans, lighting, and other street furniture.	Aesthetics are important to enhancing the character of the Town and are vital for the development of the pedestrian and bicycling modes of travel. From 2008 Transportation Master Plan.
Policy 5	Actively coordinate with other governments and agencies	\$ -	Coordinate with other regional governments to help plan the regional network.	Many issues impacting Cutler Bay also impact all of South Dade and the US-1 Corridor. Coordination and communication with neighboring communities will help arrive at common solutions for common problems.
Policy 6	Support connecting all County Greenways	\$ -	Support connecting all County greenways.	Provides for a connected County system which enhances bicycling/pedestrian mobility regionally. From 2008 Master Plan.
Policy 7	Adopt and Encourage Further Development of County Bicycle Network	\$ -	Support Miami-Dade County in development of additional bicycling infrastructure in the South Dade Area.	Additional linkages connected to the Town's bicycling infrastructure will increase bicycling mobility and provides for increased regional access. From 2008 Master Plan.
Policy 7	Liaison with South Florida Commuter Services	TBD	Liaise with the South Florida Commuter Services regarding programs usable or needed by Town residents.	Promote ride-sharing options for commuters.
Policy 8	Support Increased MDT headways	\$ -	Support increased frequency of bus service in the Town.	Increased frequency of bus service allows transit to have better access and be more competitive against auto usage.
Policy 9	Search for Federal Partnerships on pilot transit/transportation programs	\$5,000	Research and apply for federal monies to enact local transportation/transit programs.	Grant monies will assist the Town in completing necessary improvements in a timely manner.
Policy 10	Bicycle/Pedestrian Committee	\$ -	Implement a Bicycle/Pedestrian Committee, to meet on a quarterly basis.	Allows Citizens to provide regular feedback for consideration by the Town on pedestrian/bicycling projects, facility maintenance, and plan implementation. From 2008 Master Plan.
Policy 11	Support County Funding for Transit	TBD	Support additional funding for transit in Miami-Dade County.	Additional funding is needed to enhance service frequency and access for mass transit to be able to effectively compete with and reduce auto usage.
Policy 12	Support MDX Reallocation of Funding to Transit	TBD	Support reallocation of additional funding to transit.	Additional transit services is necessary to develop mobility, and requires more funding.
Policy 13	Support MDT Grid Initiative	TBD	To implement greater mobility within the parameters of the existing transit cost structure.	Circuitous routes increase costs, travel time, and trip planning complexity.
Policy 14	Maintain Local Agency Program certification	\$ -	Maintain FDOT Local Agency certification to assist in funding processes for transportation projects.	LAP certification is necessary for many funding grants from FDOT, and must be renewed every 3 years (2015, 2018). Continuation from 2008 Master Plan.



Task 5: Implementation Strategy

Capacity 1	SW 216th Street/SW 87th Avenue Left Turn Lanes	\$8,500	Operational analysis of existing left turn lanes at SW 87th Ave. and SW 216th St.	Citizen request/concern.
Alternative Mode 1	Town Circulator Comprehensive Operations Analysis	\$75,000	Conduct Study/Operational Analysis of the Town Circulator with consideration of headway times and expansion of days of service, improvement to the bus stop facilities for ADA compliance and general setrvices, and route adjustments to connect to Southland Mall, high schools, and Circulators in adjacent communities.	Addresses citizen requests, American Disabilities Act, and gaps in transit service within Cutler Bay. Allows for greater mobility and potential for regional auto usage reduction.
Alternative Mode 2	Develop technology and applications to collect real-time bicycling data for alternative mode transportation planning	\$50,000	Develop and implement usage of bicycling and pedestrian pathways app to collect real-time data for pedestrian/bicycle planning.	Bicycle and pedestrian usage counts are needed in order to better prioritize projects.
Alternative Mode 3	School Safety	\$492,000	Implement recommendations for Gulfstream Elementary and Cutler Bay Academy of Advanced Studies. Install bicycle racks at schools as needed.	Improvements noted in Safe Routes to School report are necessary to enhance safety and create accessible routes to these two schools. Enhances bicycling mobility and its attractiveness as form of alternative transit.
Corridor Enhancement 1	Road Connection - Cutler Ridge Drive/SW 200th St. - Connect to Old Cutler Road	\$190,000	Connect Cutler Ridge Drive/SW 200th St. to Old Cutler Road, appx. 200 ft.	Addresses gap in the roadway network. Provides mobility and capacity.
Corridor Enhancement 2	Truck Routing Study Throughout Major Corridors	\$20,000	Evaluate appropriate truck routes, to assure trucks are provided a clear path through the community.	Truck traffic management will help the Town with increasing mobility.
Corridor Enhancement 3	Street Repaving Program	\$2,100,000	Continue to maintain and repave roadways as necessary.	Provides greater access and promotes traffic dispersion. Requires coordination with MDCPW.



YEAR 2

Category/No.	Name	Cost	Purpose	Need
Policy 16	Allow Cross Access Easements	\$15,000	Study feasibility and impacts of cross access easements.	Cross access easements would allow vehicles and pedestrians to cross between properties along transportation corridors like US-1 without having to reenter the roadway facility. This would improve traffic flow and safety.
Capacity 2	Traffic Circle/Signal - SW 216th Street/SW 92nd Avenue/SW 227th Street Traffic Circle	\$400,000	Study and determine if a traffic circle is necessary at SW 216th St/SW 92nd Ave./SW 227th St. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.
Capacity 3	Traffic Circle - Marlin and Gulfstream	\$400,000	Study and determine if a traffic circle is necessary at Marlin Road and Gulfstream Road. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.
Capacity 4	Traffic Circle - Marlin and Bel Aire Drive Traffic Circle	\$400,000	Study and determine if a traffic circle is necessary at Marlin Road and Sterling Road. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.
Capacity 5	Traffic Study - Intersection of SW 85th Avenue and Old Cutler Road	\$7,000	Conduct traffic study at Old Cutler Road and SW 85th Avenue.	Traffic Circle installation at SW 87th Avenue and Old Cutler Road has changed traffic flow through speed on Old Cutler Road, and may have an effect ingress/egress to Saga Bay at SW 85th Avenue/Old Cutler Road intersection. Citizen Concern.
Alternative Mode 3	School Safety	\$492,000	Implement recommendations for Gulfstream Elementary and Cutler Bay Academy of Advanced Studies. Install bicycle racks at schools as needed.	Improvements noted in Safe Routes to School report are necessary to enhance safety and create accessible routes to these two schools. Enhances bicycling mobility and its attractiveness as form of alternative transit.
Alternative Mode 4	Intersection Projects	TBD	Install pedestrian signals where necessary at intersections within Cutler Bay.	Pedestrian signals enhance the safety of the pedestrian environment at intersections and crosswalks; need determined by LOS analysis from the 2011 Bicycle/Ped Master Plan; corrects deficiencies in the pedestrian network.
Alternative Mode 5	Bicycle Projects	\$1,254,000	Install Bicycle Lanes in Cutler Bay - Gulfstream Road, SW 216th St between SW 87th Avenue and Old Cutler Road to South Dade Trail, SW 97th Ave. between SW 216th Street and SW 212th Street, from Performing Arts Center to Black Creek Trail, shared use paths.	Provides for a need to fill in gap in network development; enhance bicycle mobility and regional access.
Corridor Enhancement 4	Operational Analysis - Franjo/Cutler Ridge Drive	\$10,000	Determine exact problem and most efficient way to mitigate.	Visual Obstruction at Intersection.
Corridor Enhancement 5	Operational Analysis - Marlin Road between Old Cutler Road and SW 107th Ave.	\$200,000	Conduct operational analysis on Marlin Road between Old Cutler Road and SW 107th Ave. Will lead to design and construction if warranted.	Marlin Road between US-1 and Caribbean Boulevard failing LOS in 2008, 2014; Marlin Road between Old Cutler Road and SW 107th Ave. below adopted level of service standards by 2035.
Corridor Enhancement 6	Signal Progression Analysis - for US-1, Marlin, Old Cutler Road, SW 184th St., Franjo/SW 97th Ave.	\$130,000	Evaluate the main corridors' signal progression.	Adequate signal progression can improve a safe, casual flow of vehicles, moving more traffic while maintaining moderate speeds and a safe pedestrian environment.
Corridor Enhancement 7	Stop Sign/Traffic Signal Warrant Analysis - SW 216th St. and SW 92nd Avenue	\$7,000	Determine whether stop signs/traffic signal/traffic circle are necessary at SW 216th St. and SW 92nd Ave.	Based on traffic on SW 216th St. Citizen concerns.



Task 5: Implementation Strategy

YEAR 3

Category/No.	Name	Cost	Purpose	Need
Policy 17	Coordinate with Miami Dade County and Palmetto Bay in regards to the future development of SW 184th St.	\$ -	Coordinate with County and Palmetto Bay in regards to the future development of SW 184th St.	SW 184th St. is on the border with Palmetto Bay; as an arterial, considerations of flow-through traffic from the rest of the County is important for the road's future development.
Policy 18	Removal of Bus Shelter Advertising	\$ -	Reduce or eliminate advertising at bus stops in the Town of Cutler Bay.	Citizen Complaints. Use of advertising on public right-of-way.
Policy 19	Traffic Enforcement	TBD	Provide a higher level of traffic enforcement at certain locations.	Citizen complaints. A primary form of traffic calming is enforcement. Increased enforcement of speeding and stop sign running at locations identified as problems will act as a first step in traffic calming, as well as assisting local police in assessing the problems.
Policy 20	Complete Streets/Connections	\$25,000	Create and adopt specific and consistent guidelines for streets to accommodate all modes of travel.	Design guidelines will allow for positively guided future development.
Capacity 6	Intersection Analyses - Gulfstream Rd, between Franjo and 184th St.	\$20,000	Intersection and operations analyses on Gulfstream Road between Franjo Road and SW 184th St.	Noted LOS deficiencies in 2008 Master Plan and current analysis, all time horizons.
Capacity 7	Intersection Operational Analysis - Franjo/Cutler Ridge Drive	\$8,500	Study operations at the Cutler Ridge Drive/Franjo Road intersection and implement any necessary changes.	Addresses deficiencies found in traffic study.
Capacity 8	Traffic Circle - SW 216th Street/SW 87th Avenue	\$400,000	Study and determine if a traffic circle is necessary at SW 216th St./SW 87th Ave. If feasible enter into design and construction.	Citizen Concern; Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic.
Capacity 9	Left Turn Lane - Franjo/SW 186th Intersection	\$350,000	Determine if a left turn lane at Franjo/SW 186th intersection is necessary to address traffic back-up.	Addresses deficiencies found in traffic study.
Capacity 10	Connect SW 97th Avenue to Gulfstream and SW 212th Street	\$105,000	Extend SW 97th Avenue to Gulfstream Road to SW 212th St., (Appx. 500 ft.)	Allows for more direct route to Old Cutler Road and SW 212th St.
Capacity 11	School Loading Zones	\$12,000	Analysis and implementation of loading zone (drop off and pick-up points) at schools.	Peak hours at schools may cause localized congestion due to dropping off/pick-up children without space to prevent impediment of other flow-through traffic. Primary concerns are Cutler Ridge Middle School, and Wigham Elementary.
Capacity 12	Intersection Safety Analysis for Accident Prone Intersections	\$100,000	Analyze and address most dangerous intersections.	Safety is a critical priority in Cutler Bay. Each year, the Town should review accident data and locate every accident. The most dangerous 10% should undergo safety operational analysis to recommend remedies.
Alternative Mode 6	US-1 Corridor Transit	75,000	Install necessary crossing points and pedestrian pathways from major generators to transit points. Provide a Park and Ride feasibility study for the US-1 Busway. Study feasibility of cross access easements.	Provision of Park and Ride facilities with good multimodal connections will aid in encouraging higher transit use. Additional crossing areas as well as sidewalk connections are necessary for enhancement of pedestrian and transit mobility, access to businesses in Cutler Bay, and will reduce "J" walking.
Alternative Mode 7	Connect Urban Center District	\$7,500	Build multiple sidewalk connections to Town Hall from the rest of the network. Provide landscaping along path.	Provides for better pedestrian access from transit to entrance of Town Hall. While there are sidewalks by transit stops, paths to the Town Hall from the closest transit stops generally have to cut through parking lots and are not well defined.
Corridor Enhancement 16	Street Lights - SW 87th Ave.	\$100,000	Install street lights on SW 87th Ave. (\$8000/light).	Current lighting levels are inadequate.

YEAR 4

Category/No.	Name	Cost	Purpose	Need
Policy 15	Maintain Local Agency Program certification	\$-	Maintain FDOT Local Agency certification to assist in funding processes for transportation projects.	LAP certification is necessary for many funding grants from FDOT, and must be renewed every 3 years (2015, 2018). Continuation from 2008 Master Plan.
Policy 21	Designate and Implement Shared Parking within Cutler Bay	TBD	Designate locations close to commercial areas in Cutler Bay and build shared parking with pedestrian connections to local businesses.	Little shared parking exists in Cutler Bay, segregated parking system adds to local congestion by creating auto trips which could have been walked or biked.
Policy 22	Park and Ride Facilities in Cutler Bay	\$75,000	Study locations within Cutler Bay for shared parking which can be placed near Busway and/or the Circulator, and provide for land use designations as necessary.	Bus and ride facilities will allow for shared parking and increased transit usage.
Capacity 13	Roadway Expansion - Florida Turnpike from 4 to 6 lanes between SW 211th St and Caribbean Boulevard	\$3,367,126	Add 2 lanes to SR 821 between SW 211th St. and Caribbean Boulevard (Appx. 0.5 mile).	Both current analysis and 2008 Master Plan noted LOS deficiencies in all time horizons.
Capacity 14	Traffic Calming - SW 199th St (Between SW 87th Avenue and Old Cutler Road)	\$10,000	Study and implement traffic calming on SW 199th St.	Addresses deficiencies found in traffic study.
Capacity 15	Signal Warrant Analysis - Sterling and Franjo	\$7,000	Conduct signal warrant analysis at Sterling and Franjo and implement results as necessary.	Noted LOS deficiencies in 2008 Master Plan and current analysis, all time horizons.
Corridor Enhancement 9	Traffic Calming - Marlin Road @ Belle Aire Elementary	\$10,000	Calm speeding and enhance pedestrian safety near Belle Aire Elementary.	Reduces traffic speeds on Marlin Road by the Elementary School during school drop off/pick up times. Citizen Complaints.
Corridor Enhancement 10	Address Electronic Digital Monument Sign on Marlin Road	\$3,000	Determine whether Electronic Digital Monument Sign on Marlin Rd. should be constructed.	Citizen complaints related to monument signs. Lack of road entry feature on Marlin and US-1.



Task 5: Implementation Strategy

YEAR 5

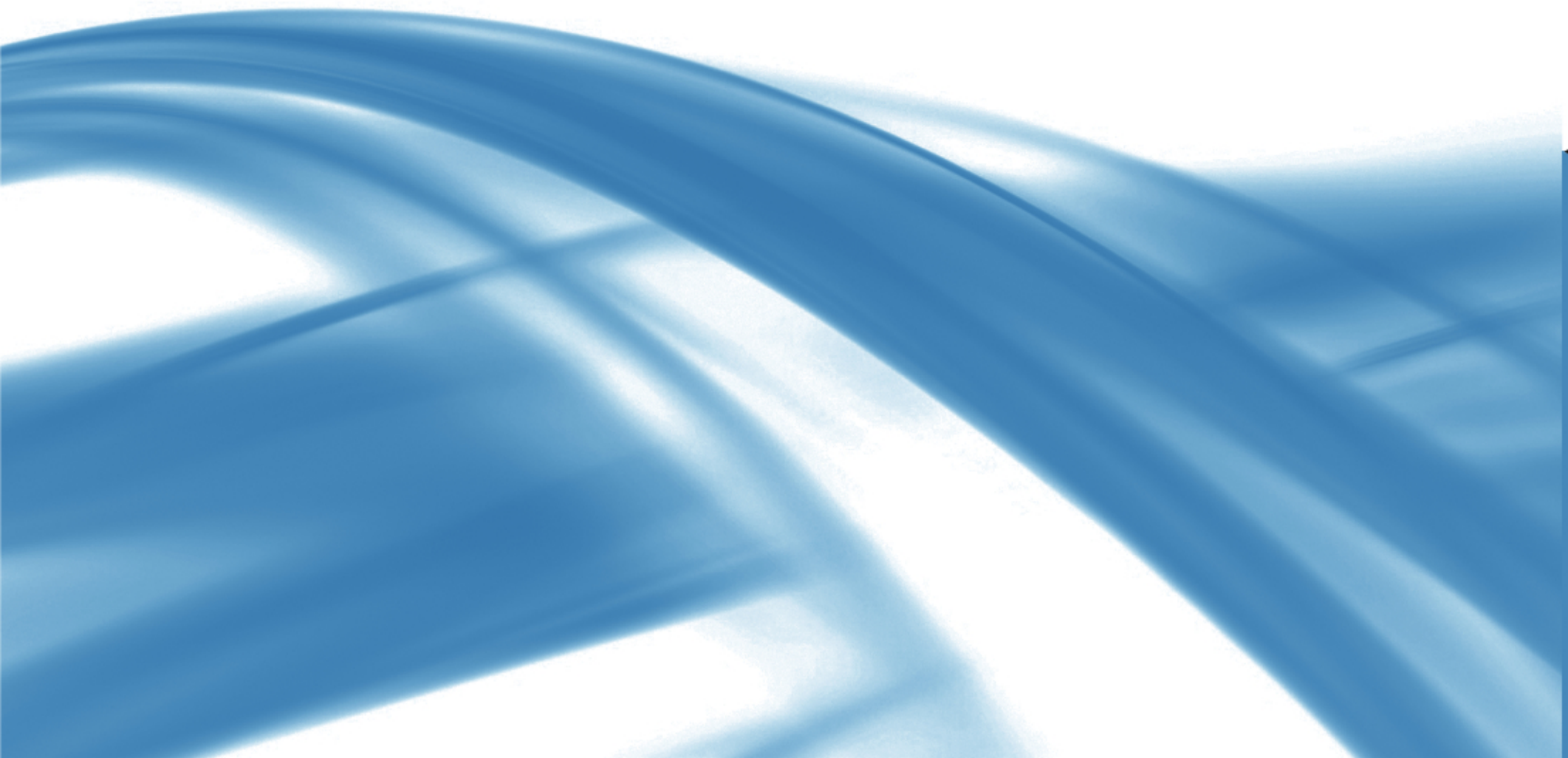
Category/No.	Name	Cost	Purpose	Need
Policy 23	Evaluate Adoption of Policy Against Red Light Cameras	\$15,000	Study and evaluate whether red light cameras should be utilized or banned in Cutler Bay.	Citizen Request. Evaluation of effectiveness of current red light program.
Policy 24	Examine Usage of Golf Carts on County Roads	\$15,000	Examine feasibility of being able to utilize golf carts on County Roads. May need reexamination of Town Ordinance 10-03.	Golf carts may provide an alternative, green form of transportation for local convenience trips. They also are restricted by Miami Dade County in certain instances.
Capacity 16	Turnpike Interchange @ OCR, NB entrance, SB exit	\$50,000	Work with FDOT to have them undertake an Interchange Justification Study to locate and eventually implement ingress/egress from the Turnpike in relation to Old Cutler Road.	Citizen concern. Believed it would relieve through traffic on Old Cutler Road, northbound, as well as relieve congestion on other corridors. Must coordinate with FDOT and Turnpike authorizes to initiate studies. Have additional planning level analysis placed on next LRTP.
Capacity 17	Roadway Expansion - Florida Turnpike from 6 to 8 lanes between Caribbean Boulevard and Quail Roost Drive	\$10,000,000	Add 2 lanes to SR 821 between SW 211th St. and Caribbean Boulevard (Appx. 1.34 miles).	Addresses deficiencies found in traffic study.
Corridor Enhancement 11	Traffic Calming - SW 87th Avenue: between Eureka (SW 184th St.) to Old Cutler Road	\$10,000	Study and implement traffic calming between Eureka (SW 184th St.) to Old Cutler Road.	Citizens complain about high volumes and speeding along the SW 87th Avenue Corridor.
Corridor Enhancement 12	Remove Parking on Swale (SW 184th Street, Franjo Road)	\$7,000	Prohibit parking on swale on SW 184th St. and Franjo Rd.	Parking in this area destroys landscaping and sod. Visual obstruction. Citizen complaints.

CONTINUOUS

Category/No.	Name	Cost	Purpose	Need	Years
Policy 25	Concurrency Management System	\$50,000	Continue implementation of system to track and manage concurrency as mandated by law.	System development will allow for tracking of remaining capacities in all categories.	Years 1 to 5
Alternative Mode 8	Implement Bike/Ped Master Plan and Necessary Pedestrian Improvements	\$300,000	Implement 2011 Bike/Ped Master Plan. Upgrade sidewalk facilities and remove obstacles in the Right-of-Way to ensure ADA compliance. Install and repaint crosswalks where necessary. Continuous Evaluation and Maintenance of existing and future sidewalk needs.	Addresses needs determined by LOS analysis in the 2011 Bicycle/Ped Master Plan; corrects deficiencies in pedestrian network which will enhance pedestrian accessibility and mobility.	Years 1 to 5

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APPENDIX



2035

					LOS STANDARD								2007		2008	2008 EXISTING				2014 Projection													2020											2035										No. OF LANES	Annual Growth Factor	AVERAGE DAILY VOLUME (vpd)	PEAK HOUR/PEAK DIRECTION FOOT LOS MANUAL VOLUME THRESHOLD (vph)			PEAK HOUR/PEAK DIRECTION		
No. of SIGNALS	LENGTH (MILE)	SIGNALS/ MILE	SPEED LIMIT (MPH)	CLASS									AADT	VOLUME	PK HR - DIR	GROWTH RATE	AADT	PEAK HR PEAK DR VOLUME (vph)	LOS	Available Capacity	No. OF LANES	C VOLUME	D VOLUME	E VOLUME	Annual Growth Factor	AADT (vpd)	PEAK HR PEAK DR VOLUME (vph)	LOS	Available Capacity	No. OF LANES	C VOLUME	D VOLUME	E VOLUME	Annual Growth Factor	AADT (vpd)	PEAK HR PEAK DR VOLUME (vph)	LOS	Available Capacity				No. OF LANES	C VOLUME	D VOLUME	E VOLUME	Annual Growth Factor	AADT (vpd)	PEAK HR PEAK DR VOLUME (vph)	LOS	Available Capacity	C VOLUME	D VOLUME	E VOLUME	PEAK HR PEAK DR VOLUME (vph)	LOS 2035	Available Capacity						
7	3.0	2.0	40	I	E	1719	1800	1800		18809	910		1.04	19542	942	C	858	4	1719	1800	1800	1.029	22360	1121	C	1.004	4	1719	1800	1800	1.004	23846	1150	C	4	1719	1800	1800	1.001	24145	1164	C	636	4	1.002	24145	1719	1800	1800	1164	C	636										
			40	I	E	1719	1800	1800		20235	976		1.04	20957	1010	C	790	4	1719	1800	1800	0.976	18129	874	C	1.049	4	1719	1800	1800	1.049	24168	1165	C	4	1719	1800	1800	1.010	27905	1345	C	455	4	1.004	27905	1719	1800	1800	1345	C	455										
			40	I	E	747	792	792		13659	658		1.04	14146	682	C	110	2	747	792	792	0.976	12237	590	C	1.036	2	747	792	792	1.036	15090	727	C	2	747	792	792	1.007	16756	808	F	-16	2	1.002	16756	747	792	792	808	F	-16										
			40	I	E	747	792	792		15893	680		1.04	16459	704	C	88	2	747	792	792	0.976	14238	609	C	1.035	2	747	792	792	1.035	17534	750	D	2	747	792	792	1.007	19458	833	F	-41	2	1.003	19458	747	792	792	833	F	-41										
13	4.5	2.7	40	I	E	747	792	792		8882	476		1.04	9199	493	C	299	2	747	792	792	1.011	9812	526	C	1.006	2	747	792	792	1.006	10186	546	C	2	747	792	792	1.001	10378	556	C	236	2	1.002	10378	747	792	792	556	C	236										
			35	II	D	333	675	720		18547	977		1.04	19208	1012	F	-337	2	333	675	720	0.995	18598	980	F	1.072	2	333	675	720	1.072	28234	1488	F	2	333	675	720	1.014	34789	1833	F	-1158	2	1.033	34789	333	675	720	1833	F	-1158										
			35	II	D	657	1467	1530		30630	1614		1.04	31722	1672	F	-205	4	657	1467	1530	1.001	31912	1682	F	1.070	4	657	1467	1530	1.070	47834	2521	F	4	657	1467	1530	1.014	58563	3086	F	-1619	4	1.031	58563	657	1467	1530	3086	F	-1619										
			35	II	D	657	1467	1530		10317	544		1.04	10685	563	C	904	4	657	1467	1530	1.036	13184	695	D	1.140	4	657	1467	1530	1.140	20866	1521	E	4	657	1467	1530	1.026	42712	2251	F	-784	4	1.070	42712	657	1467	1530	2251	F	-784										
			35	II	D	333	675	720		15224	837	1025	1.28	19553	1025	F	-350	2	333	675	720	1.041	24910	1306	F	1.013	2	333	675	720	1.013	20558	1413	F	2	333	675	720	1.000	20941	1412	F	-737	2	1.010	20941	333	675	720	1412	F	-737										
			35	II	D	333	675	720		8931	471		1.04	9249	487	D	188	2	333	675	720	1.086	15189	800	F	1.013	2	351	712	760	1.013	16414	865	F	2	351	712	760	0.994	15002	791	F	-116	2	1.011	15002	333	675	720	791	F	-116										
			35	II	D	333	675	720		7070	329		1.04	7322	340	D	335	2	333	675	720	1.126	14937	694	E	1.018	2	351	712	760	1.018	16594	771	F	2	351	712	760	0.986	13377	622	D	53	2	1.001	13377	333	675	720	622	D	53										
			35	II	D	333	675	720		5810	320		1.04	6017	341	D	334	2	333	675	720	1.017	6674	378	D	1.029	2	351	712	760	1.029	7922	449	D	2	351	712	760	1.006	8632	489	D	186	2	1.011	8632	333	675	720	489	D	186										
6	1.2	4.2	35	II	D	333	675	720	-	-	89	1.04	1338	89	C	586	2	333	675	720	1.061	1907	127	C	1.014	2	333	675	720	1.014	2074	138	C	2	333	675	720	1.003	2163	144	C	531	2	1.024	2163	333	675	720	144	C	531											
			35	II	E	657	1467	1530		12965	691		1.04	13428	715	D	815	4	657	1467	1530	1.019	15057	802	D	1.035	4	657	1467	1530	1.035	18515	986	D	4	657	1467	1530	1.007	20532	1094	D	436	4	1.009	20532	657	1467	1530	1094	D	436										
			40	II	E	1053	2268	2304		16370	872		1.04	16954	903	C	1401	6	1053	2268	2304	1.020	19094	1017	C	1.015	6	1053	2268	2304	1.015	20875	1112	D	6	1053	2268	2304	1.003	21827	1163	D	1141	6	1.009	21827	1053	2268	2304	1163	D	1141										
1	0.3	0.0	40	II	E	1053	2268	2304		18075	963	C	1307	6	1053	2268	2304	1.015	20437	1089	D	1.047	6	1053	2268	2304	1.047	20911	1453	D	6	1053	2268	2304	1.009	30881	1645	D	659	6	1.022	30881	1053	2268	2304	1645	D	659														
			30	II	E	657	1467	1530		12433	677	890	1.16	14427	890	D	640	4	657	1467	1530	1.014	15638	966	D	1.081	4	657	1467	1530	1.081	23353	1538	F	4	657	1467	1530	1.016	31462	1941	F	-411	4	1.028	31462	657	1467	1530	1941	F	-411										
0	1.2	0.0	30	II	D	370	750	800	1689	90		1.04	1749	93	C	657	2	333	675	720	1.080	2772	148	C	1.062	2	333	675	720	1.062	3983	212	C	2	333	675	720	1.012	4775	254	C	496	2	1.010	4775	370	750	800	254	C	496											
0	0.8	0.0	35	II	D	657	1467	1530	3750	200		1.04	3884	207	C	1260	4	657	1467	1530	1.064	5633	300	C	0.989	4	657	1467	1530	0.989	5257	280	C	4	657	1467	1530	0.998	5079	271	C	1196	4	1.017	5079	730	1630	1700	271	C	1196											
7	4.8	1.3	35	II	D	333	675	720	-	-	591	1.04	9796	591	D	84	2	333	675	720	1.020	11000	664	D	1.142	2	333	675	720	1.142	24423	1473	F	2	333	675	720	1.027	36393	2196	F	-1521	2	1.006	36393	333	675	720	2196	F	-1521											
			35	II	D	333	675	720	-	-	597	1.04	9638	597	D	78	2	333	675	720	1.020	10822	670	D	1.128	2	333	675	720	1.128	22310	1382	F	2	333	675	720	1.024	32034	1984	F	-1309	2	1.006	32034	333	675	720	1984	F	-1309											
			35	II	E	333	675	720		19249	839		1.04	19935	869	F	-149	2	333	675	720	1.003	20340	886	F	1.029	2	333	675	720	1.029	24100	1050	F	2	333	675	720	1.006	26234	1143	F	-423	2	1.006	26234	333	675	720	1143	F	-423										
			35	II	E	333	675	720		18198	952		1.04	18847	986	F	-246	2	333	675	720	1.001	18940	990	F	1.025	2	333	675	720	1.025	22027	1152	F	2	333	675	720	1.005	23754	1242	F	-522	2	1.006	23754	333	675	720	1242	F	-522										
			35	II	E	333	675	720		20616	920		1.04	21351	962	F	-242	2	333	675	720	0.993	20511	924	F	1.027	2	333	675	720	1.027	24108	1086	F	2	333	675	720	1.005	26138	1178	F	-458	2	1.007	26138	333	675	720	1178	F	-458										
			35	II	E	333	675	720		14708	857	793	0.91	13346	793	F	-73	2	333	675	720	0.907	23260	878	C	1.026	2	333	675	720	1.026	17530	1024	F	2	333	675	720	1.005	18926	1164	F	-136	2	1.010	24145	333	675	720	1164	F	-249										
			35	II	E	333	675	720		26444	1295		1.04	27387	1341	F	-621	2	333	675	720	0.995	26557	1301	F	1.019	2	333	675	720	1.019	29788	1459	F	2	333	675	720	1.004	31548	1545	F	-825	2	1.003	31548	333	675	720	1545	F	-825										
			≤2mile Interchanges	60	I	D	3020	3660	3940		32080	1757		1.04	34156	1819	C	1841	4	3020	3660	3940	1.046	42481	2387	C	1.036	4	3020	3660	3940	1.036	55393	2951	C	10	7680	9220	10360	1.007	61581	3280	C	5940	6	1.033	61581	2660	3440	3910	3280	C	160									
				60	I	D	3020	3660	3940		43315	2307		1.04	44859	2390	C	1270	4	3020	3660	3940	1.036	55353	2948	C	1.046	4	3020	3660	3940	1.046	72293	3851	E	10	7680	9220	10360	1.009	82618	4401	C	4819	6	1.030	82618	2660	3440	3910	4401	C	-961									
				60	I	D	4580	5500	6080		74862	3988		1.04	77531	4130	C	1370	6	4580	5500	6080	1.036	95666	5096	D	1.018	6	4580	5500	6080	1.018	106215	5658	E	10	7680	9220	10360	1.003	111918	5962	C	3258	8	1.020	111918	7220	5410	6150	5962	C	-552									
60	I	D		4580	5500	6080		94017	5008		1																																																			

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