JANUARY **2020**

Village of Palmetto Bay

MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN

PREPARED FOR

Village of Palmetto Bay

PREPARED BY

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EXECUTIVE SUMMARY

Marlin Engineering (MARLIN) was contracted by the Village of Palmetto Bay to provide the community with a comprehensive system of Transit Infrastructure and Mobility Hubs connecting to the South Dade Transitway. This Plan seeks to improve connectivity, mobility and safety for pedestrians, bicyclists, and transit users by identifying Transit Infrastructure improvements and Mobility Hubs throughout the Village's roadway network. The plan included a public engagement process, involving three public workshops, a Village-wide survey, and three Stakeholder Advisory Committee meetings. Through the public engagement process, MARLIN and Village staff identified four (4) Mobility Hubs, and seven (7) locations for Transit Infrastructure improvements with shared mobility options and amenities throughout the Village of Palmetto Bay. The Plan identifies the locations, amenities, improvements, and recommendations to create vibrant public spaces to garner the support needed for mode shift in the Village. Conceptual Designs were created for a bus shelter design, in addition to conceptual plan sheets with cost estimates for pedestrian and bicycle improvements for the four (4) Mobility Hub locations. Furthermore, an analysis of the Village's existing transit service, the iBus, was conducted, recommendations were developed to improve mobility, accessibility, and transit throughout the Village of Palmetto Bay. Finally, our team created a prioritization list for the proposed Mobility Hubs.

The *Village of Palmetto Bay Mobility Hubs and Transit Infrastructure Plan* builds upon the bicycle, pedestrian and transit recommendations provided from the Village's *Transportation Master Plan*, *Bicycle & Pedestrian Master Plan, Village Wide Traffic Calming Plan, Village of Palmetto Bay iBus Comprehensive Operational Analysis, Village of Palmetto Bay Strategic Plan*, the Village's various Traffic Studies, and adopted Zoning Regulations. Additionally, the Miami-Dade Transportation Planning Organization's (TPO) *First Mile/Last Mile Options for High-Trip Generator Employers Study, SW 152nd Street Mobility Solutions Report* and *Evaluation of Multimodal Mobility Options in the South Miami-Dade Area Study* were also reviewed. The Mobility Hubs Plan supports many of the recommendations previously provided and builds upon these recommendations to continue the momentum to create safer, more walkable streets for all types of users within the Village of Palmetto Bay.

OVERVIEW

What Is a Mobility Hub?

Mobility Hubs "provide a focal point in the transportation network that seamlessly integrates different modes of transportation, multi-modal supportive infrastructure, and placemaking strategies to create activity centers that maximize first-mile last mile connectivity." (*Mobility Hubs A Reader's Guide*, City of Los Angeles, 2016)

In essence, Mobility Hubs are people places which integrate multi-modal travel options, technology and support services to facilitate efficient transportation. Mobility Hubs support and are supported by Transit Oriented Development (TOD). TOD's are areas which include a mixture of commercial, residential, office and entertainment uses centered around or located near a transit station.[1] TOD's are dense, walkable, mixed-use areas near transit, which attract people and add to vibrant, connected communities.

Mobility Hubs have the potential to create a synergy with TOD's creating places for people while positively transforming the community. Successful integration of this synergy can occur best with the support of stakeholders, elected officials, residents, the business community and governing organizations. Support for this synergy must include the implementation of TOD supportive zoning and land use regulations, government policies and public/private investments. This can spur the necessary development and support needed to create vibrant, attractive places where people want to eat, work, and play.

Mobility Hubs are more than transit stops; they integrate amenities for all types and all modes of transportation. This includes, pedestrian, bicycle, transit, vehicle, information, support services, technology, and active uses. They encourage socialization, short vehicle trips and can create a sense of place for the community.

Summary of Recommendations

SHORT TERM RECOMMENDATIONS	SAFETY	ACCESSIBILITY	CONNECTIVITY	COORDIN-ATION	POLICY
Adopt Communication Plan				X	X
Include Goals, Objectives, Branding, Marketing, Social Media.				X	X
Ensure Consistency in Messaging.				X	X
Include non-English Audiences				X	X
Brand Village Transit Services.				X	X
Market Existing Transit & Service Changes.				X	X
Create Awareness Campaign on Benefits of Transit & Sidewalks.	X	X	X	X	
Coordination with FDOT & DTPW on Projects & Improvements.			X	X	X

[1] Federal Transit Administration

SHORT TERM RECOMMENDATIONS	SAFETY	ACCESSIBILITY	CONNECTIVITY	COORDIN-ATION	POLICY
Ensure Future Traffic Circles are Designed to Enhance Safety and Comfort for all Users.	X	X	X	X	X
38% of Survey Respondents Favored Bicycle Improvements, including Bicycle Access, Bicycle Parking & Bicycle Storage Lockers.	X	X	X	X	
Identify Bicycle Improvements and Locations in Conjunction with Transit.	X	X	X	X	
Adopt Policies Related to Complete Streets, Micromobility, Electric Vehicle Charging, Curbside Management, Transportation Demand Management (TDM), Carshare, Green Infrastructure, and Sustainable Development.	X	X	X	X	X
Define Transit Stops within Downtown and Throughout Village.	X	X	X		
Add Vehicles to Freebee Services to Ensure Success of the Program.		X	X	X	
Coordinate with Neighboring Communities for Existing & Future Transit Services.		X	X	X	
Extend Hours of Operation for iBus Express.		X		X	
Improve Frequency of Service for iBus & Freebee.		X		X	
Incorporate Delay Notifications into App.		X		X	
Establish Wi-Fi, Electric Bike or Electric Scooters at Key Locations.		X	X	X	
Provide Basic Transit Amenities at Key Locations.	X			X	
Continue Coordination of Integrating iBus, Freebee and Metrobus Smartphone Application.		X		X	
Use Pop-Up Bus Stop when Testing New Transit Locations.		X	X	X	
Minimize Overlap with Metrobus Routes.			X	X	
Utilize Existing Bus Stops for iBus When Feasible.		X	X	X	
Coordinate with Schools to Promote Transit. Recruit Volunteers to Transport Students from Transitway to Schools.		X		X	
Coordinate with Town of Cutler Bay and Village of Pinecrest to Address School Traffic.			X	X	
Explore the Use of Key Transit Locations and Mobility Hubs as pickup/drop-off Locations for Freebee during Peak Travel Times.		X	X	X	

SHORT TERM RECOMMENDATIONS	SAFETY	ACCESSIBILITY	CONNECTIVITY	COORDIN-ATION	POLICY
Follow 11 Principles of Placemaking				X	X
Incorporate Amenities for all Types of Users when Implementing Mobility Hub Improvements.				X	
Coordinate with Town of Cutler Bay on Implementation of Village Center / Eureka Drive East Neighborhood Mobility Hub.			X	X	
Implement Shared Mobility Options Throughout Community.		X	X	X	X
Coordinate with FDOT & DTPW on Improving Access to Transitway.	X	X	X	X	
Leverage Public Private Partnerships to Incorporate Recommendations and Mobility Hub Improvements.		X	X	X	
Collaborate with DTPW to Incorporate Mobility Hubs into Transit Station Design.				X	X
Allocate Space for Shared Services, and Consider the Flexible Use of Space within the Community.				X	X
Incorporate Mobility Hub Elements into Future Joint Development Projects.				X	X
Partner with Shared Mobility Service Providers to Integrate Shared Mobility Services into a Platform for Trip Planning and Payment.		X		X	
Adopt Off-Street Parking Requirements to Better Align with Mobility Hub Investments.				X	X
Implement Flexible Curb Space to Meet the Needs of Shared Mobility Services.				X	X
Account for Autonomous Future in Local Planning Documents.				X	X
Educate Developers, Employers, and Other Transportation Stakeholders on the Mobility Hub Concept and Gather Support.				X	
Communicate the Value of Prioritizing Drop-Off Space over Parking to Private Property Owners and Developers.				X	
Seek Pilot Projects that Enhance Transit and Bring Mobility Options to Commuters.		X	X	X	
Encourage Business and/or Developers to Test Technologies and Service Concepts in Real World Environments.		X	X	X	X
Adopt Mobility Fee to Fund Multimodal Transportation Improvements.				X	X

LONG TERM RECOMMENDATIONS	SAFETY	ACCESSIBILITY	CONNECTIVITY	COORDIN-ATION	POLICY
Construct Multi-Use Trails or Shared Use Pathways and/or Separated Facilities for Non-Motorized Traffic Along Main Roads.	X	X	X	X	
Construct Sidewalks within 1/4-Mile of All Transit Stops	X	X	X	X	
Complete ADA Improvements Adjacent to All Transit Stops, as Well as within the existing Sidewalk or Pedestrian Accessible Network	X	X	X	X	
Pilot New Routes During Peak Traffic Times, include School Times.		X	X	X	
Coordinate with Town of Cutler Bay and Village of Pinecrest to Establish Transit for Students between three (3) cities.		X	X	X	
Provide Transit Service to Proposed Mobility Hubs.		X	X	X	
Implement Florida-Friendly Landscape and/or Green Infrastructure Improvements Along Multi-Use Trails, Bus Stops, Public Spaces & Sidewalks.				X	X

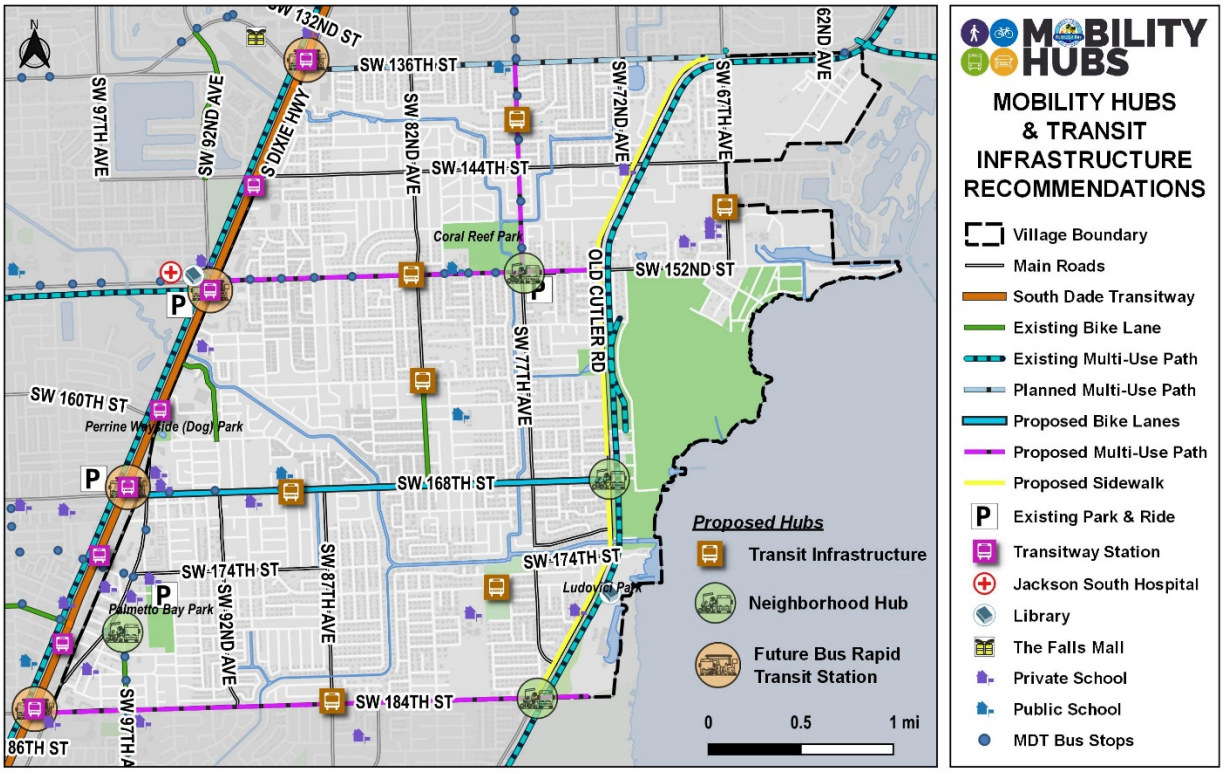


Figure 1: Map of Proposed Recommendations

iBus Route Options

Alternative transit routes were explored with the purpose of the Village increasing transit accessibility, see Figure 2. The goal of proposed routes is to enhance connectivity and accessibility to the South-Dade Transitway and Village schools.

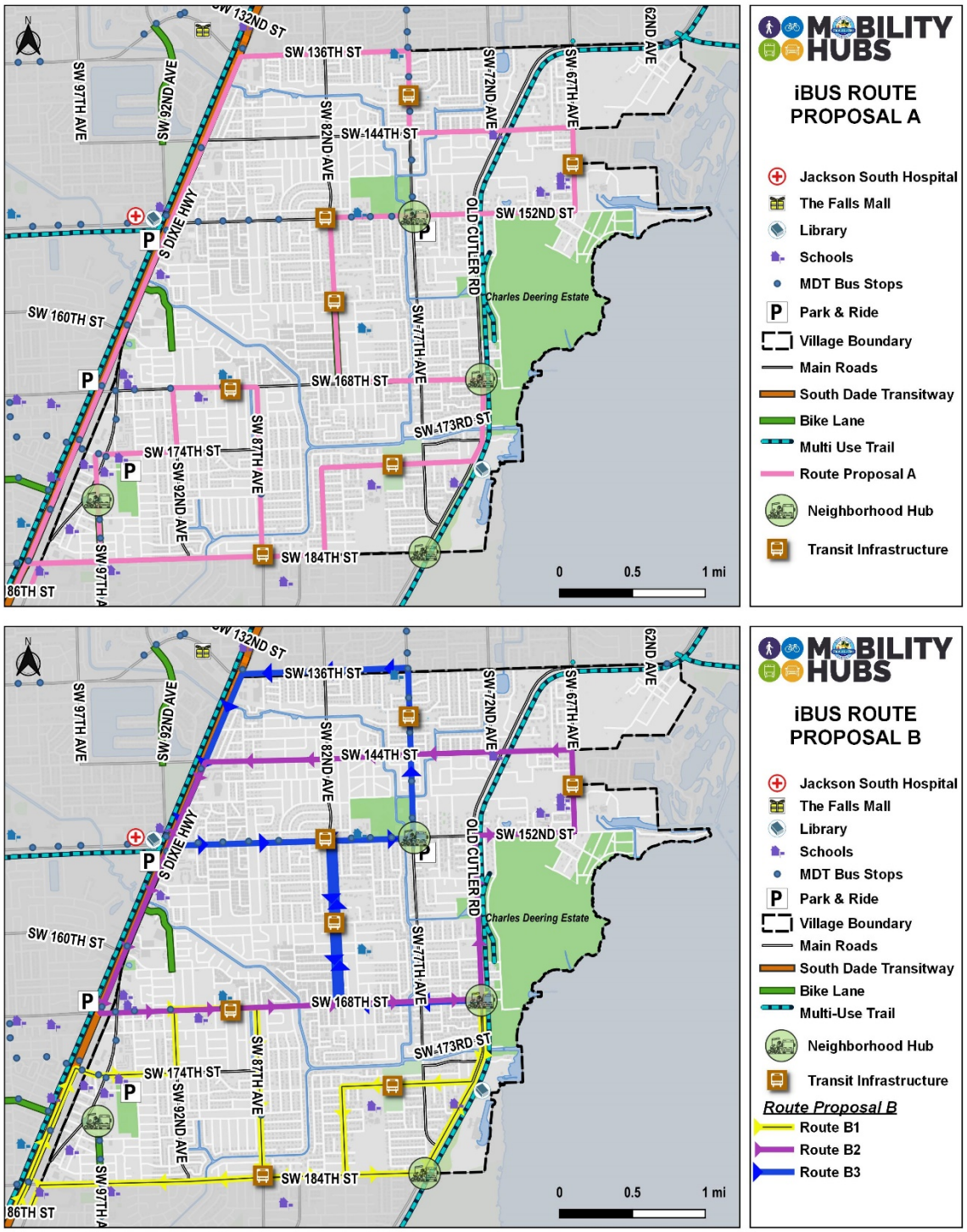


Figure 2: Proposed iBus Route Options

Conceptual Designs

Conceptual designs were created for transit stops and proposed Neighborhood Mobility Hubs for the Village of Palmetto Bay with input from Village staff, stakeholders and residents, Figure 3 is a conceptual design for a Village transit shelter with amenities. Amenities included in the design:

- Shelter
- Seating
- Lending Library
- Bicycle Parking
- Real-Time Information Display
- Trash/Recycle Receptacle
- Bicycle Share Station
- Enhanced Access
- Landscape Enhancements

Figure 3: Proposed Village Transit Shelter

Neighborhood Hubs are small scaled transit hubs, typically found within residential areas served by at least one (1) transit route. Neighborhood Mobility Hubs are proposed at the following locations:

- SW 152nd Street & SW 77th Avenue (Coral Reef Neighborhood Hub)
- SW 168th Street & Old Cutler Road (Old Cutler Commercial Neighborhood Hub)
- Franjo Road & Hibiscus Street (Downtown Neighborhood Hub)
- SW 184th Street & Old Cutler Road (Village Center / Eureka Drive East Neighborhood Hub)

Coral Reef Neighborhood Hub

Figure 4 illustrates the design proposal for the Coral Reef Neighborhood Hub, some of the recommendations include:

- Addition of pedestrian signage;
- Multi-use Trail proposed along SW 152nd Street from Old Cutler Road to the Transitway;
- Multi-use Trail proposed along SW 77th Avenue from SW 152nd Street to SW 136th Street;
- Raised intersection at SW 152nd Street and SW 77th Avenue;
- Curb extension on the northeast corner;
- Enhancements to existing bus stops on SW 77th Avenue;
- Pedestrian bridge on the southside of SW 152nd Street;
- ADA improvements at the SW 152nd Street and SW 77th Avenue intersection;
- Landscape enhancements.

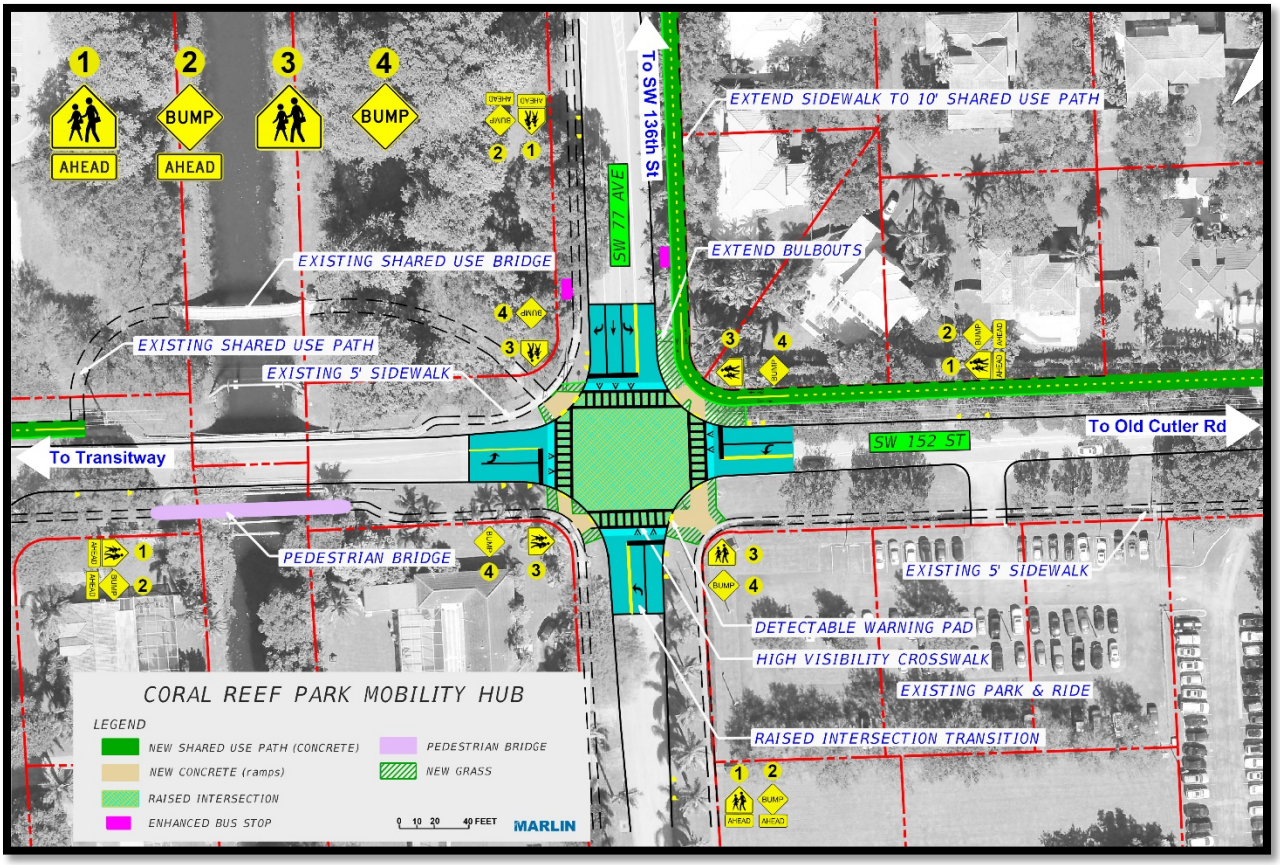


Figure 4: Coral Reef Neighborhood Hub Conceptual Design

Old Cutler Neighborhood Hub

Figure 5 depicts the design proposal for the Old Cutler Neighborhood Hub, some recommendations include:

- 5' Separated bicycle lanes on SW 168th Street from the Transitway to Old Cutler Road;
- 5' Sidewalk on the northside of SW 168th Street east of Old Cutler Road;
- 6' Sidewalk on the southside of SW 168th Street west of Old Cutler Road;
- 6' pervious sidewalk on the westside of Old Cutler Road, from SW 176th Street to SW 136th Street;
- Stamped asphalt or pavers crosswalks at Old Cutler Road and SW 168th Street;
- Stamped asphalt, pavers or raised crossing for the Old Cutler Trail at commercial driveways;
- Enhanced sidewalk crossing the gas station driveway on the northwest corner of Old Cutler Road and SW 168th Street;
- Addition of a landscape island to clearly delineate the driveway for the gas station on the northwest corner of Old Cutler Road and SW 168th Street;
- Pedestrian & Bicycle Signage at the intersection;
- Reducing speeds to 25 mph on SW 168th Street, east of Old Cutler Road to create a bicycle boulevard that connects to the Chinese Trail and Deering Estate.

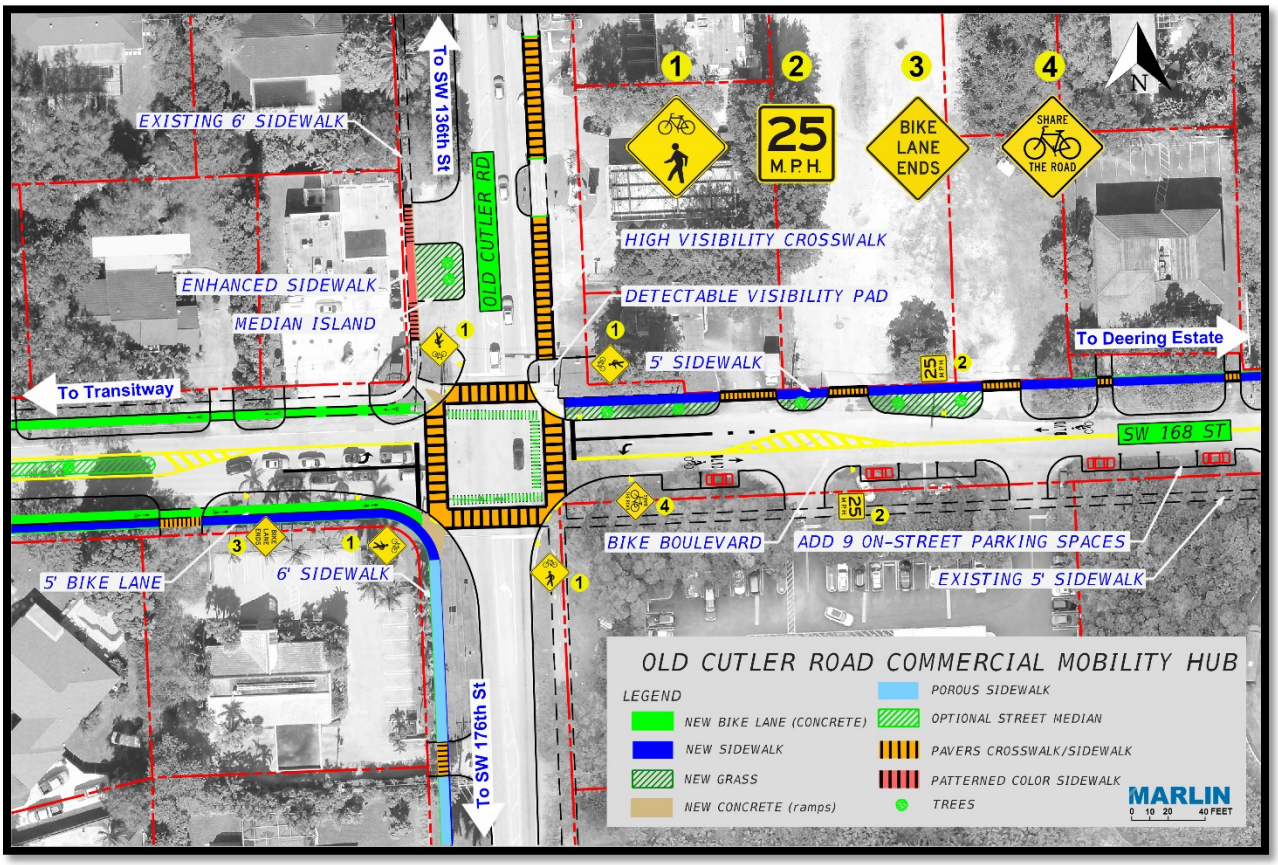


Figure 5: Old Cutler Neighborhood Hub Conceptual Design

Downtown Neighborhood Hub

Figure 6 design proposal for the Downtown Neighborhood Hub, some recommendations include:

- 4' bicycle lanes along Hibiscus Street connecting to existing bicycle lanes near U.S. 1 / South Dixie Highway and Franjo Road (under construction);
- 5' sidewalk along Hibiscus Street, filling in sidewalk gaps;
- 5' sidewalk along SW 98th Avenue Road;
- Stamped asphalt crosswalk or pavers at Hibiscus Street and U.S. 1 / South Dixie Highway;
- Pedestrian crossing signage at the intersections of Hibiscus Street and U.S 1 / South Dixie Highway and Franjo Road;
- Enhancements to the existing bus stops along Franjo Road;
- Bicycle pavement markings;
- Enhancements to landscaping.

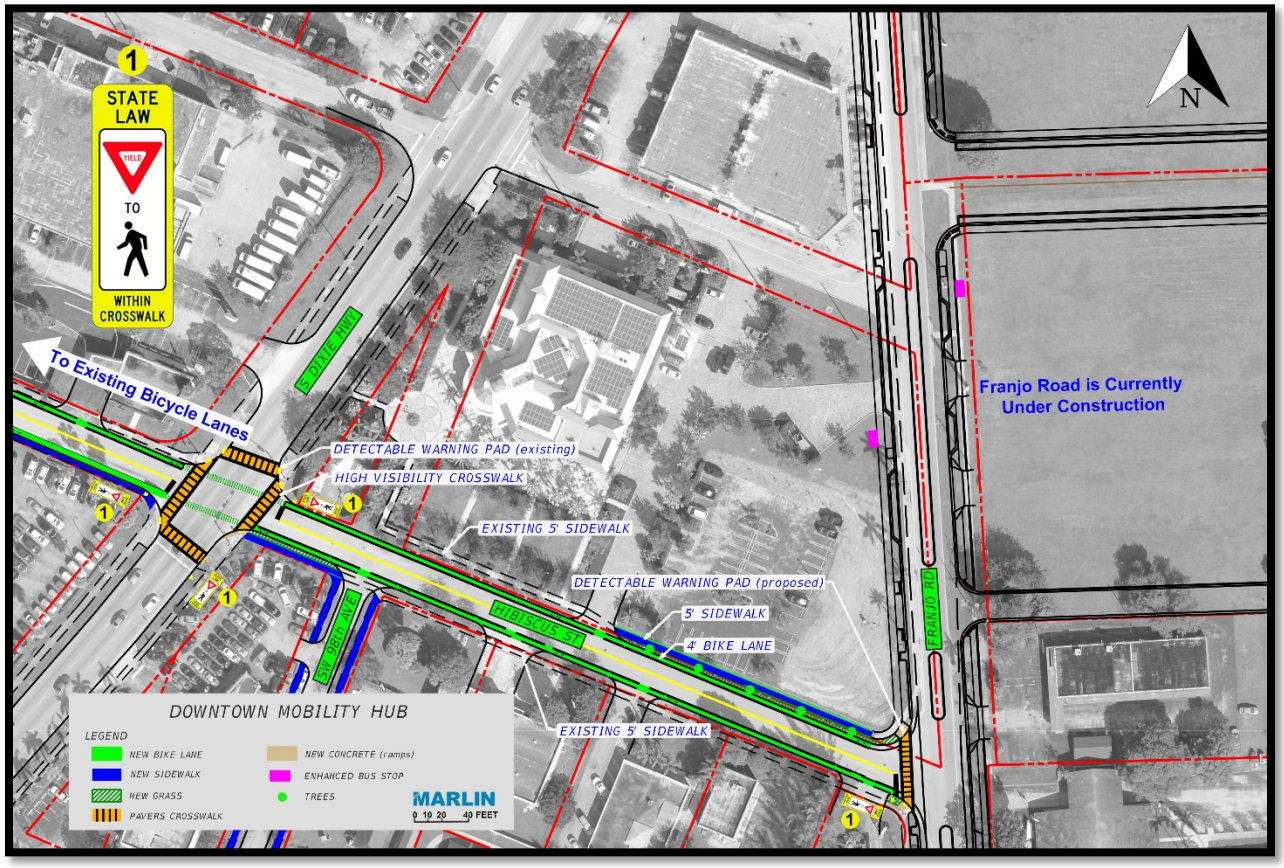


Figure 6: Downtown Neighborhood Mobility Hub Conceptual Design

Village Center / Eureka Drive East Neighborhood Hub

Figure 7 depicts the design proposal for the Village Center / Eureka Drive East Neighborhood Hub, some recommendations include:

- Utilization of proposed traffic circle under County review;
- Addition of stamped asphalt or pavers crosswalks;
- Pedestrian signage;
- Addition of 8-10' multi-use pathway along SW 184th Street from the Transitway to the Palmetto Bay Village Center;
- 6' porous sidewalk on the westside of Old Cutler Road;
- 6' sidewalk on the southside of SW 184th Street from Old Cutler Road into the Palmetto Bay Village Center.

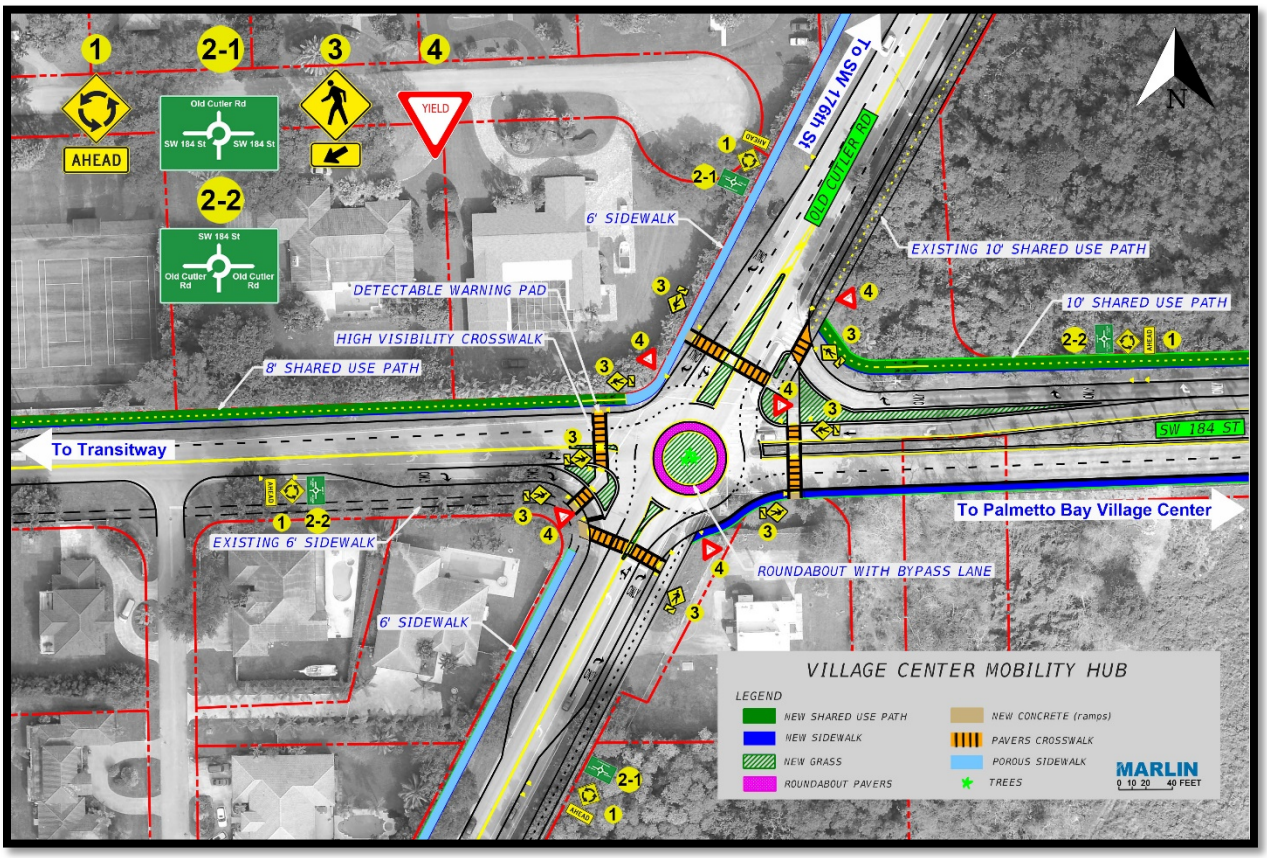


Figure 7: Village Center Neighborhood Hub Conceptual Design

1 HOW MOBILITY HUBS FIT INTO OUR TRANSPORTATION LANDSCAPE

Technology has provided people with information, data and a host of new inventions that allow the user to directly interface with data, traffic and commerce. These technological changes connect the Internet of Things (IoT)[2] in ways that can redefine our cities, infrastructure, organizations, and behavior. Technological innovations are occurring at a pace in which governments are faced with the challenge to keep pace and provide the necessary infrastructure and investments to ensure equitable growth. The Technology Industry and companies such as Uber and Lyft, are forcing states to rethink transportation. Technology, land use, population growth, climate change, and consumer behavior are driving changes to our transportation landscape through new options in mobility. These industries are leveraging technology to provide services directly to the consumer. Cities, having experience in regulating traditional businesses, have policies, rules, and regulations in place to regulate land use and how a community develops. Technological innovations are driving unforeseen market forces that are unpredictable, unknown and uncertain. Regulating these new products and services should be done in a way that allows innovation, equity and sustainability.

Land use in South Florida has been characterized by suburban auto-centric development that has encouraged sprawl and car dependency through the separation of land uses. This method of zoning has forced people into their cars for trips that could be made by other modes of transportation, such as walking and/or biking. The average American spends nine days commuting in their car each year, and that number increases for those who live in metropolitan areas.[3] The separation of land uses encourages sprawl and an auto-centric design pattern that many Americans are now abandoning, preferring more compact, urban landscapes that promote mixed-use development and transportation options. Last year, a survey of over 2,800 Americans across 28 major cities, including Miami, found that 23% of workers quit their job because of a bad commute – over a third of respondents were millennials.[4] Studies have indicated that millennials – the largest generation of Americans born between 1983 and 2000 – are behaving differently than previous generations. Millennials are less car dependent, more likely to use transit, and more likely to be multimodal. They are also less interested in owning or relying on their vehicles. Cities across the nation have rezoned and revitalized their urban cores by introducing mixed-use, compact development that promotes and encourages livability.

In 2014, Florida overtook New York as the third most populous state in the nation with over 21 million residents. Miami-Dade County is the most populous county in Florida, with approximately 2.5 million residents in 2010 and projected to grow over 30% by 2040 - that's over 3.3 million new residents! This growth will put tremendous pressure on the transportation network and drive up already high commute times. The additional vehicles from this future growth have the potential to place pressure on existing infrastructure, reduce air quality, increase pollution, and reduce livability standards. With good planning, communities can improve quality of life for current and future residents through a forward-thinking approach to transportation. This can include a shift in land use, multimodal infrastructure investment and alternative transportation modes.

[2] The concept of connecting any device with an on and off switch to the internet (and/or to each other). (Forbes)
[3] U.S. Census Bureau
[4] HR Firm Robert Half

The transportation sector contributes approximately 30% of carbon emissions to the overall carbon being emitted into our atmosphere. Carbon emission are one of the largest contributors of greenhouse gases and climate change, which contribute to changes in precipitation, temperature changes, sea level rise and reduced air quality. As local governments take action to reduce the effects of climate change, curb greenhouse gas emissions and promote sustainability, more Americans are making eco-conscious decisions to reduce their personal environmental impact. Walking, biking, and using transit are some of the most effective ways an individual can contribute to reducing their carbon footprint and encourage a healthy lifestyle. Cities can support and encourage their resident's transportation mode choice through land use, zoning, policies, and infrastructure investments that encourage multimodal transportation. Multimodal investments provide options to residents, encourage healthy lifestyles, and promote economic development.

Technology and the Internet have led to a change in consumer behavior. For example, smartphones are providing people with the power of information, data, and options in their everyday lives. E-commerce, one of the largest growing industry sectors today, is changing people's consumption behaviors and travel patterns. Retailers are now providing customers with grocery delivery services, food delivery services, free shipping, and a number of goods and services that save you a trip to the store. These services have forced more cars and trucks onto our already congested roadways, further straining the transportation network. As e-commerce continues to grow, technology is being explored to handle the ever-increasing demand for delivery services.

In today's ever-changing transportation landscape, cities and government agencies are struggling to become mobility managers, through regulating the different options in mobility. Mobility Hubs are a new and innovative concept, which is the center for all types of mobility options. By connecting to the largest transportation network, Mobility Hubs aggregate services, such as package delivery, and aim to become smart centers of mobility for seamless user experience.

Figure 8: Mobility Hub Concept

(Source: SANDAG)

Mobility Hubs, integrated with technology, have the potential to provide transportation solutions to land use, population growth, climate change, and e-commerce. Through the strategic placement of these hubs, cities can provide residents and visitors with amenities, services and the information needed to create appealing choices for the mode shift required to handle the increasing demand on the transportation network.

2 BACKGROUND

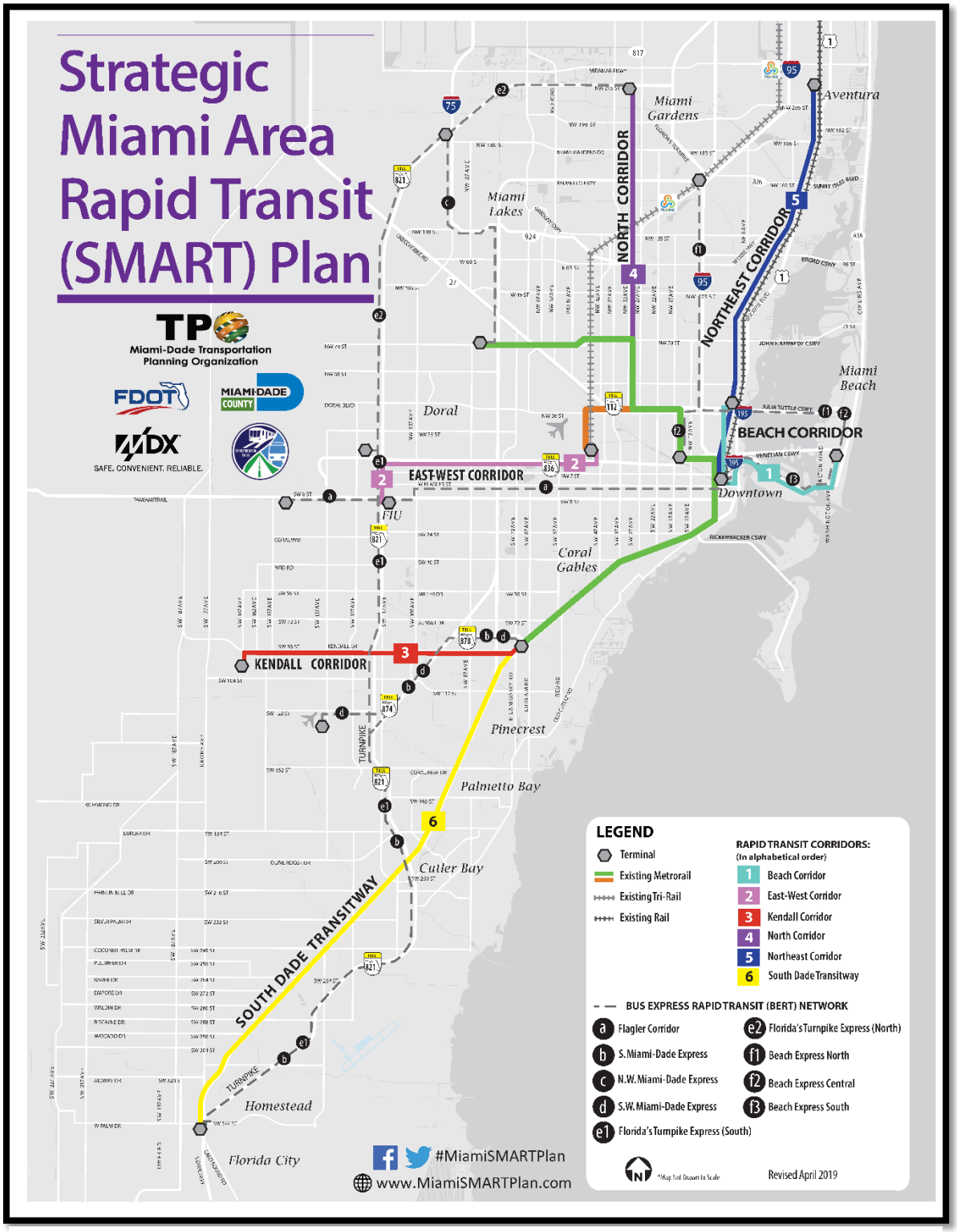


Figure 9: SMART Plan Map, 2016

(Source: Miami-Dade TPO)

Marlin Engineering (MARLIN) has been contracted by the Village of Palmetto Bay to provide professional services to fulfill the needs of the recently awarded Miami-Dade Transportation Planning Organization (TPO) Strategic Miami Area Rapid Transit (SMART) Mobility Grant. This study provides the community with a comprehensive plan identifying transit improvement and a system of transit mobility hubs connecting to the South-Dade Transitway and Village of Palmetto Bay. The goal of this study is to improve connectivity, mobility, and safety for pedestrians, bicyclists, and transit users through identifying transit improvements and four (4) locations for Mobility Hubs along the Village's roadway network. Each Mobility Hub is accompanied by the appropriate scale of transportation infrastructure and amenities to facilitate usage of the Hubs through recommendations, conceptual designs, and visualizations. The study also includes an assessment of the Village's iBus and transit system, including recommendations to improve the Village's overall transit performance.

The SMART Plan, adopted in 2016, is a TPO adopted blueprint with the goal of improving transportation through the advancement of rapid transit corridors and transit supportive projects for Miami-Dade County (see Figure 9 on the previous page). The South-Dade Transitway is one of the six major corridors identified for Bus Rapid Transit (BRT) service, and is one of the first corridors to begin implementation with an estimated ground breaking to occur mid-2020. The South-Dade Transitway is a 20.1-mile exclusive busway parallel to U.S. 1 / South Dixie Highway, connecting the Dadeland South Metrorail Station in Miami to SW 344th Street / Palm Drive in Florida City, with 29 existing stations. The South-Dade Transitway connects Miami's Central Business District with the Village of Pinecrest, Village of Palmetto Bay, Town of Cutler Bay, Homestead, Florida City and unincorporated Miami-Dade County neighborhoods.

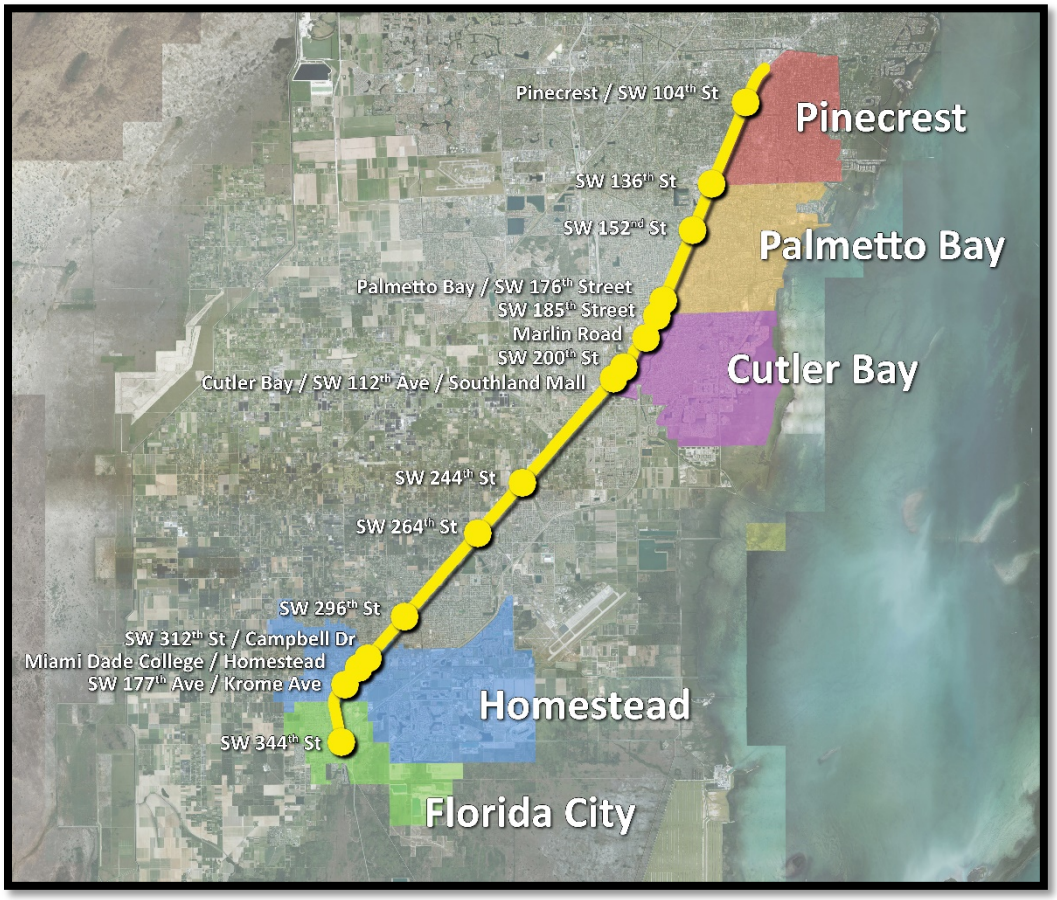


Figure 10: Map of Proposed BRT Station

(Source: Miami-Dade TPO

NOTE: SW 176th Street Station has moved just north to SW 168th Street)

Figure 10 is a map of the locations for proposed BRT stations along the South-Dade Transitway. Figure 11 are conceptual designs for the BRT Stations. The BRT Stations will be located at the following locations:

1. Dadeland South Terminal Station (Metrorail)
2. SW 104th Street (Target)
3. **SW 136th Street (Howard Drive / The Falls)***
4. **SW 152nd Street (SR-992 / Coral Reef Drive)***
5. **SW 168th Street (Richmond Drive)***
6. **SW 185th Street ***
7. Marlin Road
8. SW 200th Street (Caribbean Boulevard)
9. SW 112th Avenue (SR-989/Allapattah Road/ Target)
10. SW 244th Street (Coconut Palm Drive)
11. SW 264th Street (Bauer Drive)
12. SW 296th Street
13. SW 312th Street (Campbell Drive)
14. NE 4th Drive (MDC – Homestead Campus)
15. SW 177th Avenue (SR-997 / Krome Avenue / Homestead Multimodal)
16. SW 344th Street Terminal Station (SR-9336 / Palm Drive / Florida City)

**Indicates Stations proposed within or bordering Palmetto Bay*

Proposed improvements for the South-Dade Transitway include: 16 BRT Stations – 14 new stations, improvements to two (2) existing terminals, rehabilitation of the existing 29 transitway stations. Amenities for the proposed BRT Stations include:

- Level Boarding
- Overhead Cooling Fans
- Air-Conditioned Vestibules
- Ticket Vending Machines
- Transit Signal Preemption
- Wi-Fi
- Identification Signage
- Real-Time Information
- Closed-Circuit Television (CCTV)
- Pedestrian and Safety Improvements

Figure 11: SMART Plan, BRT Station Concepts
(Source: Miami-Dade TPO)

2.1 Village of Palmetto Bay

The Village of Palmetto Bay, incorporated in 2002, is located in South Miami-Dade County, bordered by the Biscayne Bay to the east, the South-Dade Transitway and Unincorporated Miami-Dade County to the west, SW 184th Street / Town of Cutler Bay to the south, and SW 136th Street / Village of Pinecrest to the north (see Figure 12).

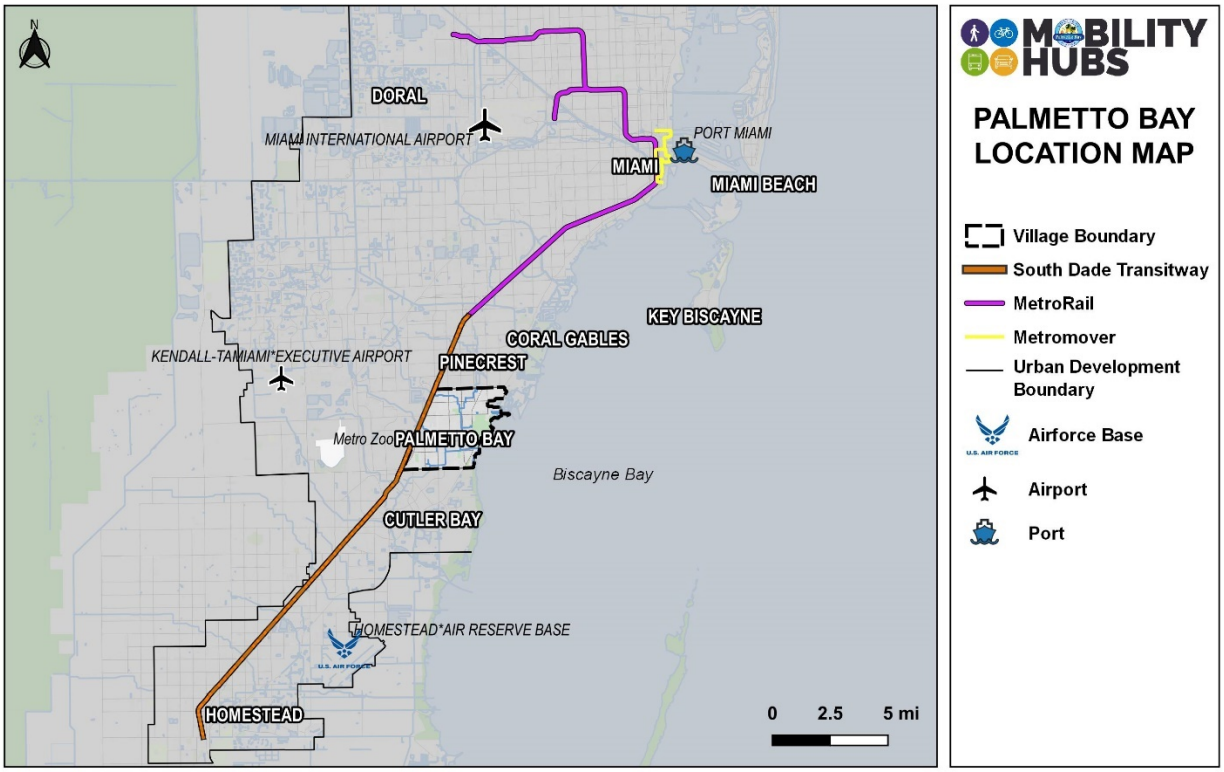


Figure 12: Palmetto Bay Location Map

The South-Dade Metropolitan area, which includes Palmetto Bay, Cutler Bay, Florida City, Homestead, Kendall, and parts of Unincorporated Miami-Dade County, is one of the fastest growing areas in the County. This includes 50% of the County land area, 25% of the County's population, and 12% of the County's employment. Miami-Dade County expects a growth rate of 30% through 2040, with approximately 50% of the projected population growth to occur within the South-Dade Metropolitan Area, which includes Palmetto Bay.[5]

As of 2018, the Village's population is estimated at 24,589[6] with approximately 3.4 persons per household. Over 90% of Palmetto Bay's residents travel an average 36 minutes by car to work each way. This is a result of traffic congestion from the imbalance of jobs available in the area. This imbalance of jobs within the South-Dade Metropolitan Area in combination with the auto-centric development pattern has contributed to not only traffic congestion, but also carbon emissions and a preference for single occupant vehicle travel. Currently, 14.5% of Village residents carpool, approximately 5% higher than the national average.[7] Many

[5] 2040 Miami-Dade County Long Range Transportation Plan
[6] U.S. Census Bureau, Population Estimates Program
[7] American Community Survey, 2013-2017

of the residents who live in the Village travel north for work, oftentimes, along the Village's only major arterial roadway, U.S. 1 / South Dixie Highway.

The Village, in recent years, has been subject to a number of studies to improve mobility, reduce traffic congestion, and improve quality of life for those living in the area. In 2015, in an effort to spark redevelopment and create a vibrant downtown core, the Village rezoned the Franjo Triangle and Commercial Island to the Downtown Urban Village (DUV), see Figure 13.

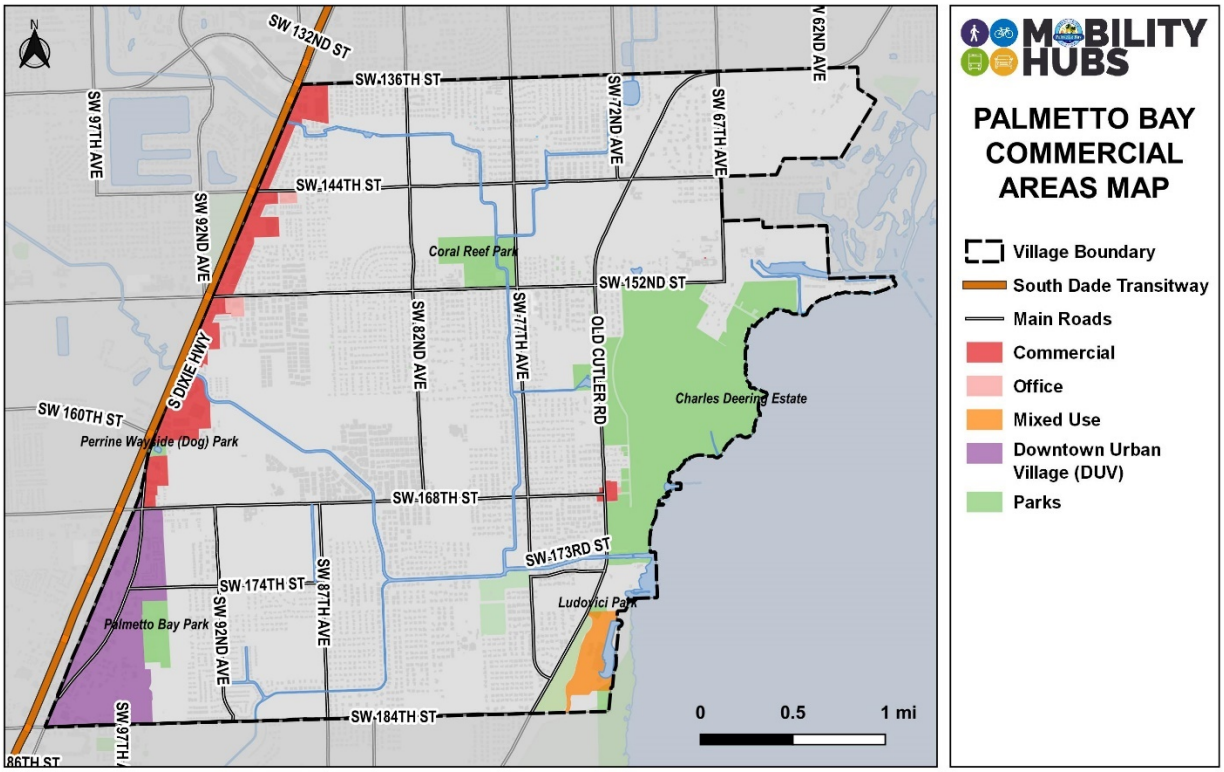


Figure 13: Village Commercial Areas

The DUV zoning category has been subject to much discussion and some resistance from residents. It is a form-based code encouraging mixed-use development through zoning regulations that seek to provide appropriate building and architectural scale, enhance commercial and civic street activity and enhance the architectural character. Figure 14 is an illustration of the Vision Plan for the Village's Downtown.

Figure 14: Village of Palmetto Bay Downtown Illustrative Vision Plan

2.1.1 Land Use and Zoning

Figures 15 and 16 illustrate how the Village of Palmetto Bay is dominated by low density residential development (in green and yellow to beige shades).

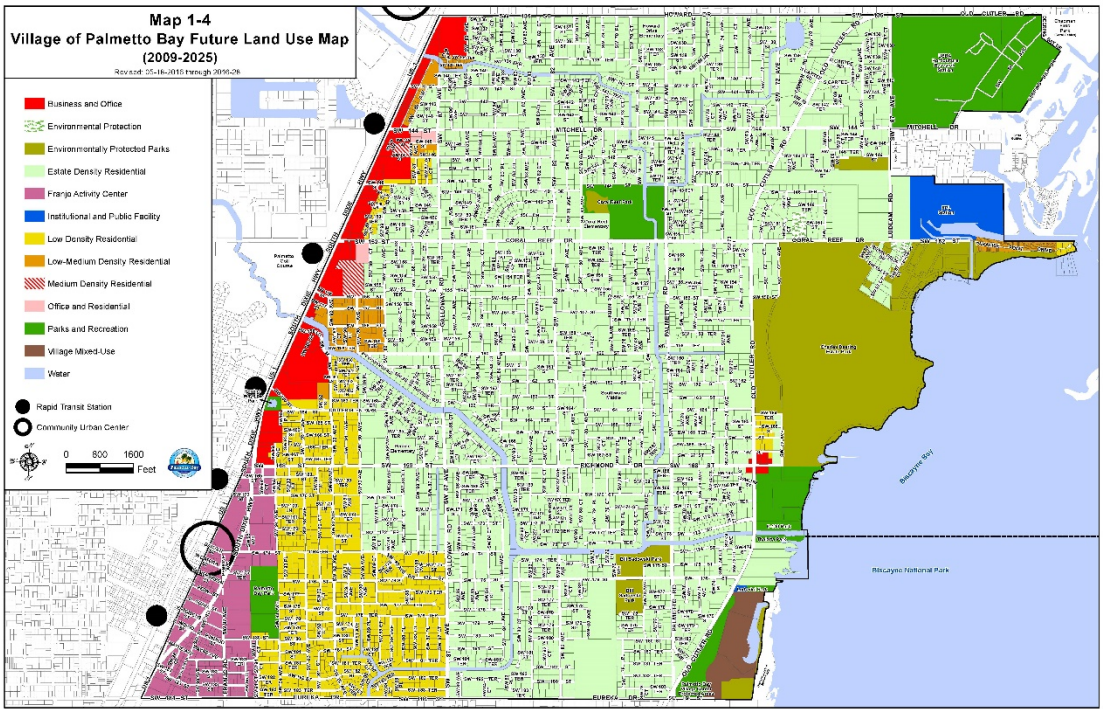


Figure 15: Village Land Use Map

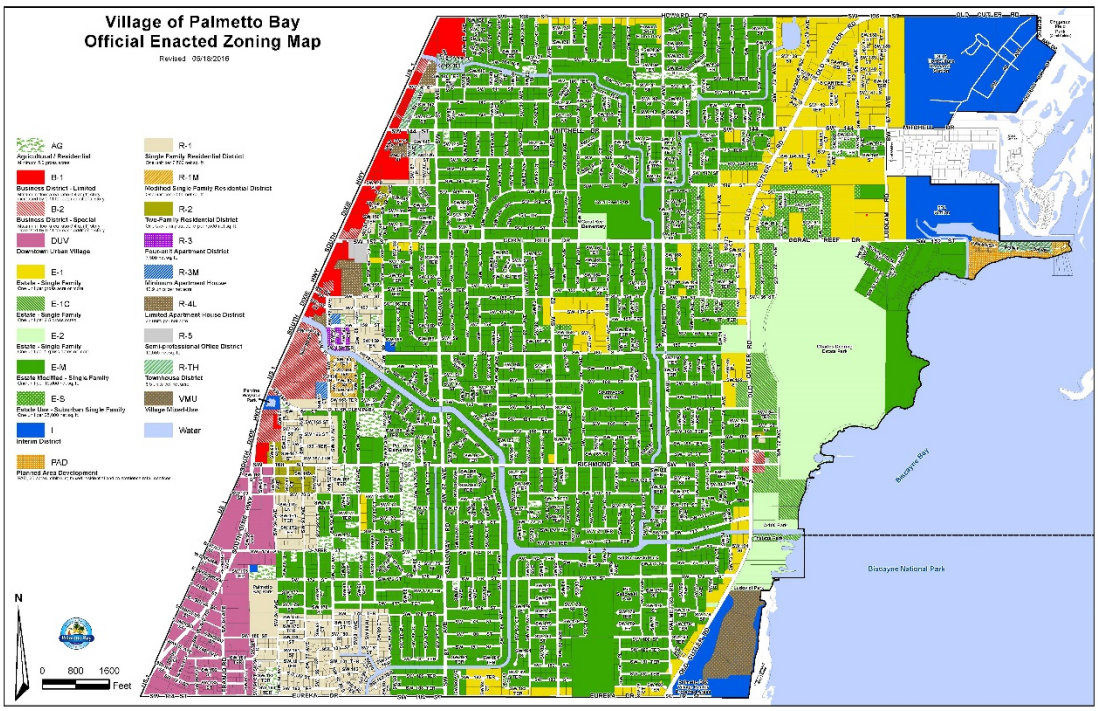


Figure 16: Village Zoning Map

2.1.1.1 Village TOD

In 2004, the County led the Villages first charrette in Palmetto Bay to revitalize the commercial corridor and establish the Franjo Triangle as an authentic town center for the Village of Palmetto Bay. The Franjo Triangle, also known as Downtown Palmetto Bay, lies on the southeastern border of the Village, and includes US-1/ South Dixie Highway to the west, SW 94th Avenue to the east, SW 168th Street / Richmond Drive to the north, and SW 184th Street / Eureka Drive to the south. Through this process, guidelines were set into place and the creation of the Franjo Triangle & Island (FT&I) zoning district was adopted in 2007. Implementation of this vision did not occur as originally planned in 2013. The Downtown Redevelopment Task Force (DRTF) was created to transform the existing FT&I into a vibrant work-live-play community, and was tasked with building upon the FT&I and propose strategies and recommendations to achieve the Village's redevelopment goals.

The Downtown Urban Village (DUV) zoning district, was adopted in early 2016 and is composed of four sectors that progress in development from intense to less intense: Downtown Village (DV), Downtown General (DG), Urban Village (UV), and Neighborhood Village (NV), see Figure 17. Furthermore, the DUV includes a number of development incentives. These include parking bonuses, landscape and open space bonuses, and a green or sustainability bonus.

The Village's DUV zoning code is a form-base code, with principles of complete streets. Form-Based Code includes mixed land uses, is pedestrian and bicycle oriented, interrelated into the urban form, and incorporates principles of Transit Oriented Development. Conventional Zoning, the most common type of zoning, includes the separation of land uses, is auto-oriented, development pattern is lot by lot, the design is focused away from the street and inward to segregate uses.

Figure 17: Village Downtown Urban Development Sector Plan

Transit Oriented Development (TOD) principles include creating vibrant, livable, and sustainable communities that promote pedestrian, bicycle, and transit-oriented development standards from the traditional suburban community that is prominent in South Florida. The existing development pattern in most South Florida communities are largely dependent on separating uses promoting an auto-centric design pattern. TOD promotes multimodal transportation, integrates urban downtown with an array of facilities for people to enjoy and is an important element of the Palmetto Bay DUV Code. The success of a TOD is dependent on access and density around transit stations. Benefits of TOD include:[8]

- Increased ridership and associated revenue gains
- Revitalization of neighborhoods
- A larger supply of affordable housing
- Congestion relief and associated environmental benefits
- Improved safety for pedestrians and cyclists through non-motorized infrastructure

[8] Federal Transit Administration (FTA)

To develop a transit-supportive area within the urban core, t**he Village should consider clearly defined transit stops with fixed transit routes for transporting residents and visitors from the community and the South-Dade Transitway to the Downtown.** Safer and more walkable facilities near the Franjo Triangle, along with multiple transit stops within the Franjo Triangle, can improve the transit system in and around Downtown. Additionally, investments in pedestrian and bicycle infrastructure is vital, not only within the Franjo Triangle, but throughout the community to ensure connectivity and safe access.

2.1.2 Employment[9]

The Village of Palmetto Bay is characterized as a bedroom community with 94% of the Village's population traveling outside for work and only 6% of residents living and employed within the Village (see Figure 18).

As of 2017, there were approximately 7,833 jobs within the Village, with the majority of these jobs located along the U.S. 1 / South Dixie Highway corridor, as illustrated by Figure 19 (darker areas signify heavier concentrations of employment). The top three industries within the Village include:

- Retail Trade (30%),
- Health Care and Social Assistance (14%), and
- Accommodation and Food Services (10%).

Table 1 provides additional information on the percentage of industry sector jobs available within the Village. There are an estimated 19,320 workers aged 16 and over within the Village and approximately 65% of workers are in the labor force. The Village's unemployment rate is 7.7%.[10]

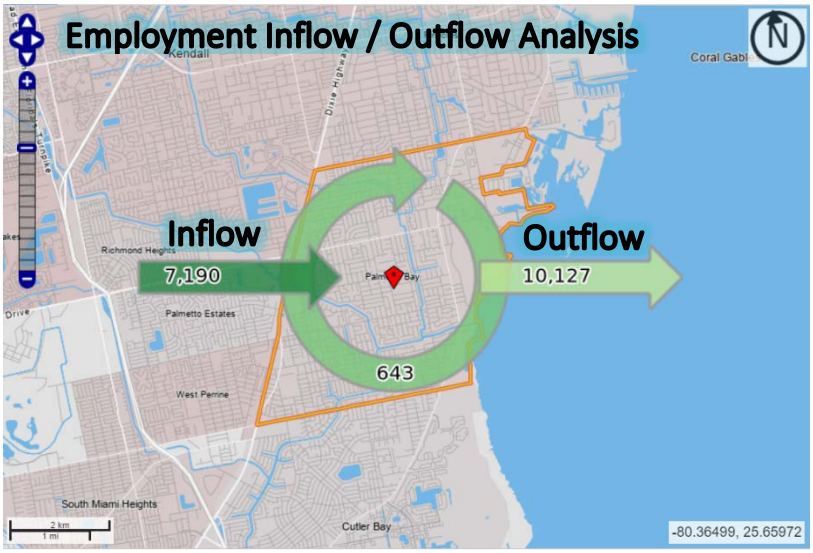


Figure 18: Census on the Map (2017)

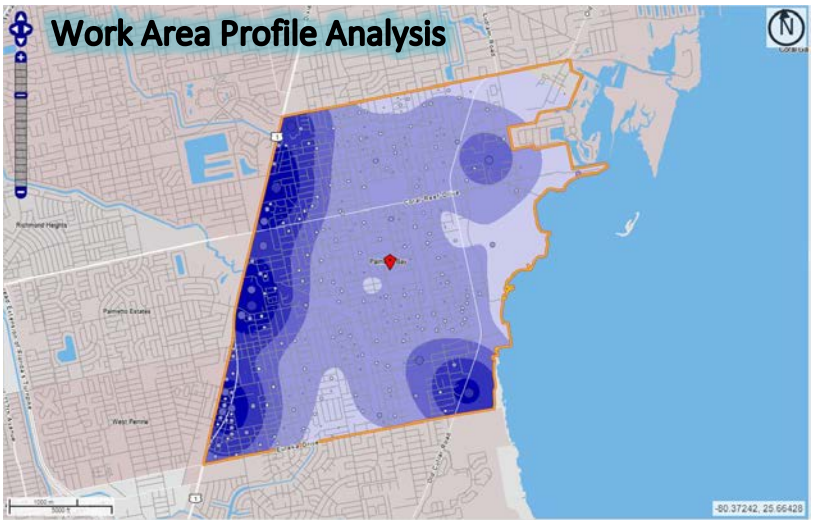
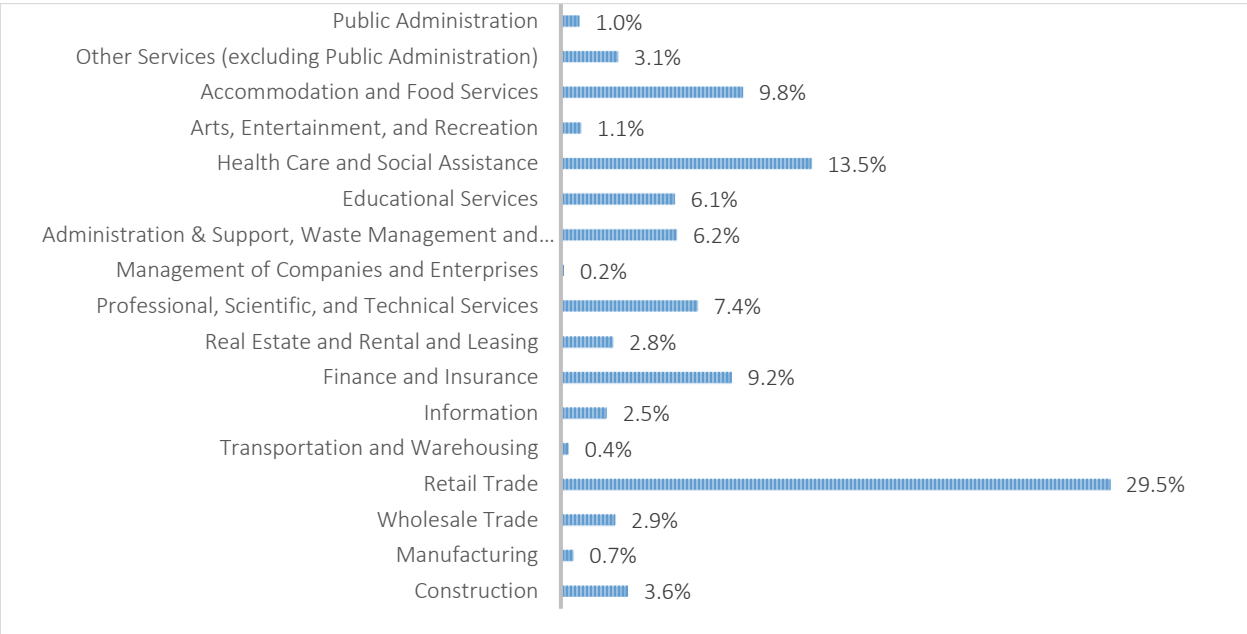


Figure 19: Census on the Map (2017)

[9] Census on the Map (2017)
[10] American Community Survey, 2013 - 2017

Table 1: Village of Palmetto Bay Industry Sectors, Census on the Map (2017)



2.1.3 Demographics[11]

Between 2000 and 2010, the Village experienced a 4% population decline, however, an increase is expected with the upcoming 2020 Census. Figure 20 illustrates the race and ethnic makeup of the Village. Approximately 48% of Village residents speak a language other than English at home and almost 12% speak English less than "very well." **It is important the Village create a communication strategy that reaches these populations.** The median age for the Village is 41.9 years, with approximately 38% of the population between the age of 25 and 54 years. Average household size within the Village is 3.38 people. 85% of the population is characterized as family households, with 4.5% of the population having a disability.

The medium household income is $107,612, which is significantly higher than the County and national averages. The Village's average per capita income is $45,772, which is also higher than the County and national averages of $25,481 and $31,177.

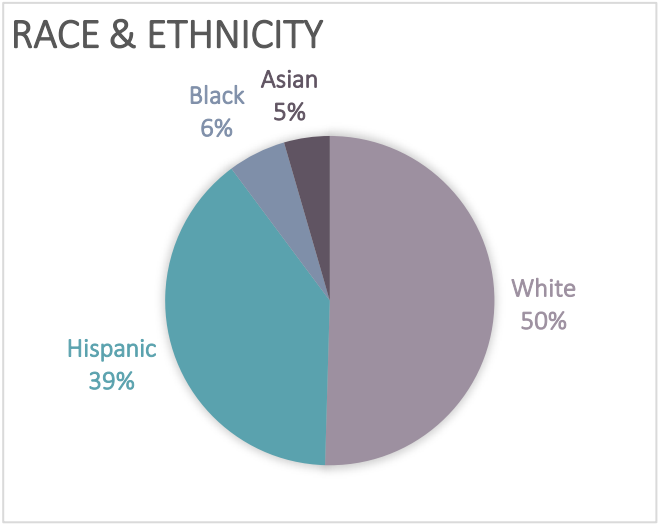


Figure 20: Race & Ethnicity, ACS 2013 - 2017

[11] American Community Survey, 2013 - 2017

2.2 Existing Conditions

2.2.1 Roadway Network

The Village of Palmetto Bay is characterized as having an interrupted grid network, with only U.S. 1 / South Dixie Highway and Old Cutler Road as the north/south corridors. Throughout the Village there are a number of canals disconnecting the roadway network, forcing all traffic traveling north/south onto these two main roadways, see Figure 21. Furthermore, due to the imbalance of jobs in comparison to the population who live in South Dade, the majority of residents within South Dade travel into downtown Miami for work, while passing through the Village to reach their final destination.

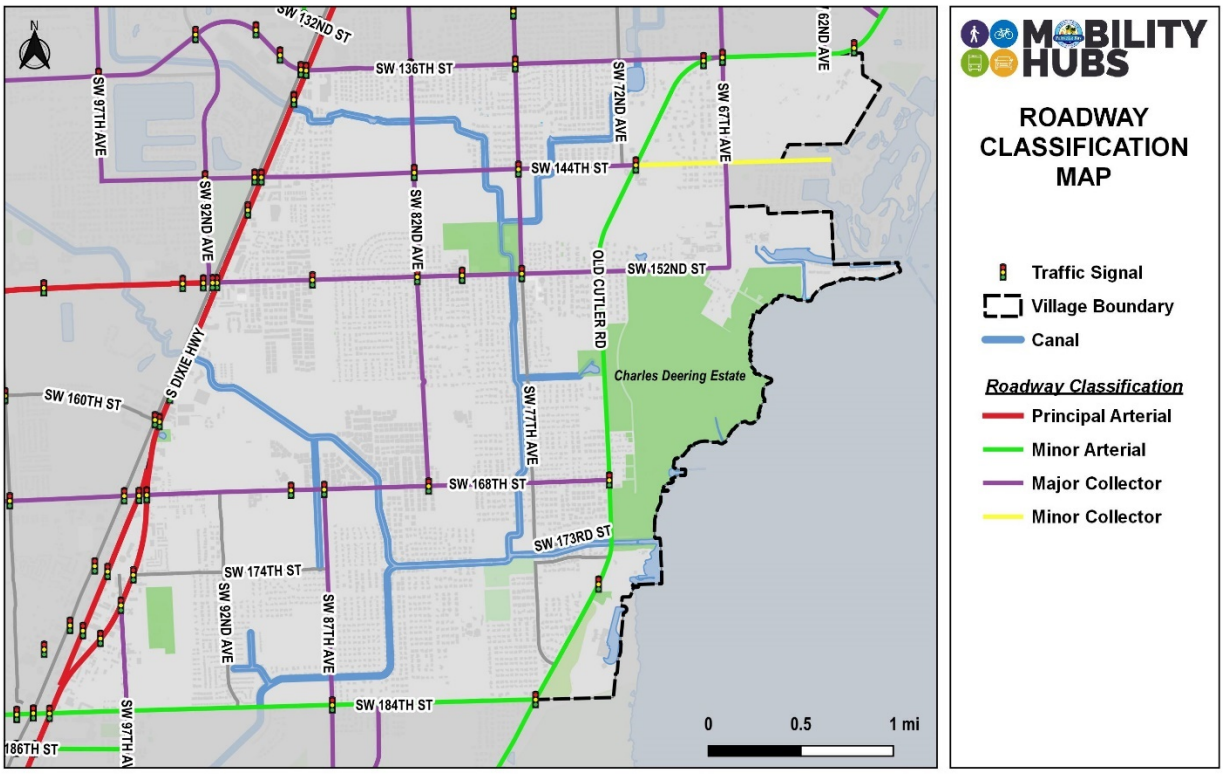


Figure 21: Functional Classification Map

Table 2 provides information related to all main roads within the Village. The table illustrates that many of the roadways within Palmetto Bay meet the minimum level-of-service (LOS), with only U.S. 1 / South Dixie Highway exceeding capacity with a LOS F. Old Cutler Road operates at a LOS D, with the exception of a LOS F during peak hour. All other roadways identified in Table 2 operate at LOS C or D, meeting the minimum LOS.

Table 2: Palmetto Bay Roadway Data

ROADWAY SEGMENT	FUNCTIONAL CLASS	# OF LANES	SPEED LIMIT	CAPACITY @ LOS D		FDOT TRAFFIC DATA			
				AADT	PEAK HOUR	AADT	LOS	PEAK HOUR	LOS
U.S. 1 between 136 St & 184 St*	Principal Arterial	6	45	59900	5390	65459	F	4387	C
136 St between U.S. 1 & Old Cutler Rd	Major Collector	2	30	13320	1197	6000	C	-	-
144 St between U.S. 1 & Old Cutler Rd	Major Collector	2	30	13320	1197	6400	C	-	-
152 St between U.S. 1 & Old Cutler Rd	Major Collector	2	30	13320	1197	10000	D	-	-
168 St between U.S. 1 & Old Cutler Rd	Major Collector	2	30	13320	1197	6200	C	-	-
184 St between U.S 1. & Old Cutler Rd	Minor Arterial	2	30	13320	1197	5300	C	-	-
87 Ave between 184 St & 168 St*	Major Collector	2	35	13320	1197	10386	D	1136	D
82 Ave between 144 St & 168 St	Major Collector	2	35	13320	1197	10200	D	-	-
77 Ave between 152 St & 136 St	Major Collector	2	35	13320	1197	8500	D	-	-
Old Cutler Rd between 136 St & 184 St*	Minor Arterial	2	30	13320	1197	25154	D	2242	F

**Indicates data was available for 2018 Peak Hours, FDOT*

U.S. 1 / South Dixie Highway, is owned and operated by the Florida Department of Transportation (FDOT), all other roadways listed above are under the jurisdiction of Miami-Dade Department of Transportation and Public Works (DTPW). **Coordination with the FDOT and the County on all proposed and future improvements is imperative**.

Palmetto Bay is also home to 11 top rated schools K through 12, both public and private. Figure 22, on the next page, is a map of all schools within and surrounding the Village, the map also includes the location of preschools. Many parents who reside outside of the Village enroll their children into one of these institutions, and with no option for school transportation, parents are forced to drive their children to school. As a result, there is additional congestion onto an already congested roadway network. **The Village should coordinate with the schools to encourage transit use, coordination with neighboring communities can assist in alleviating traffic from schools. Bicycle and pedestrian infrastructure improvements, combined with traffic calming measures can encourage students to walk to school.**

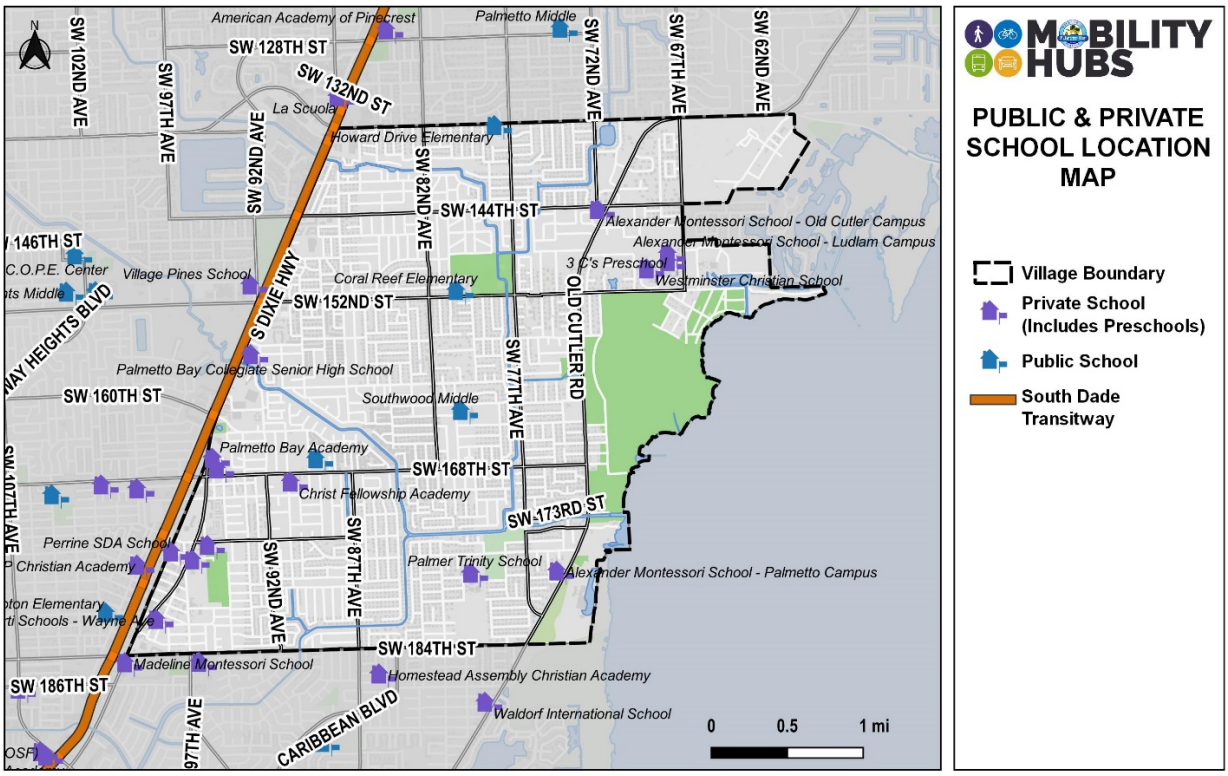


Figure 22: Map of Schools

2.2.2 Non-Motorized Facilities

The Village is mostly characterized with disconnected facilities for non-motorized traffic, with two shared-use pathways that connect into a larger trail network. Additionally, the Village of Palmetto Bay has few bicycle lanes and a disconnected sidewalk network, with some sidewalks along the primary road network and many local roads missing them all together.

There are two multi-use pathways accessible to Village residents, the Old Cutler Trail and the South Dade Trail.

The Old Cutler Trail (11-miles) located parallel to Old Cutler Road, begins in Coral Gables and ends in the Town of Cutler Bay, the Old Cutler Trail connects into the Biscayne Trail (2.7 miles), Commodore Trail (5 miles) and the Black Creek Trail (8.7 miles).

The South Dade Trail (20.9 miles), located parallel to the South-Dade Transitway, stretches from Florida City to Kendall Drive/ SW 88th Street, connecting into the M-Path (9.4 miles), Black Creek Trail (8.7 miles), Commodore Trail (5 miles), Rickenbacker Trail (8.5 miles), and Southern Glades Trail (13 miles).

Figure 23, on the next page, is a map of the Regional Bicycle Network in Miami-Dade County. This network of trails connects the residents of Palmetto Bay to Metro Zoo, Parks and Recreational areas, Historic Places, Commercial areas, Downtown Miami, South Miami and the Biscayne Bay.

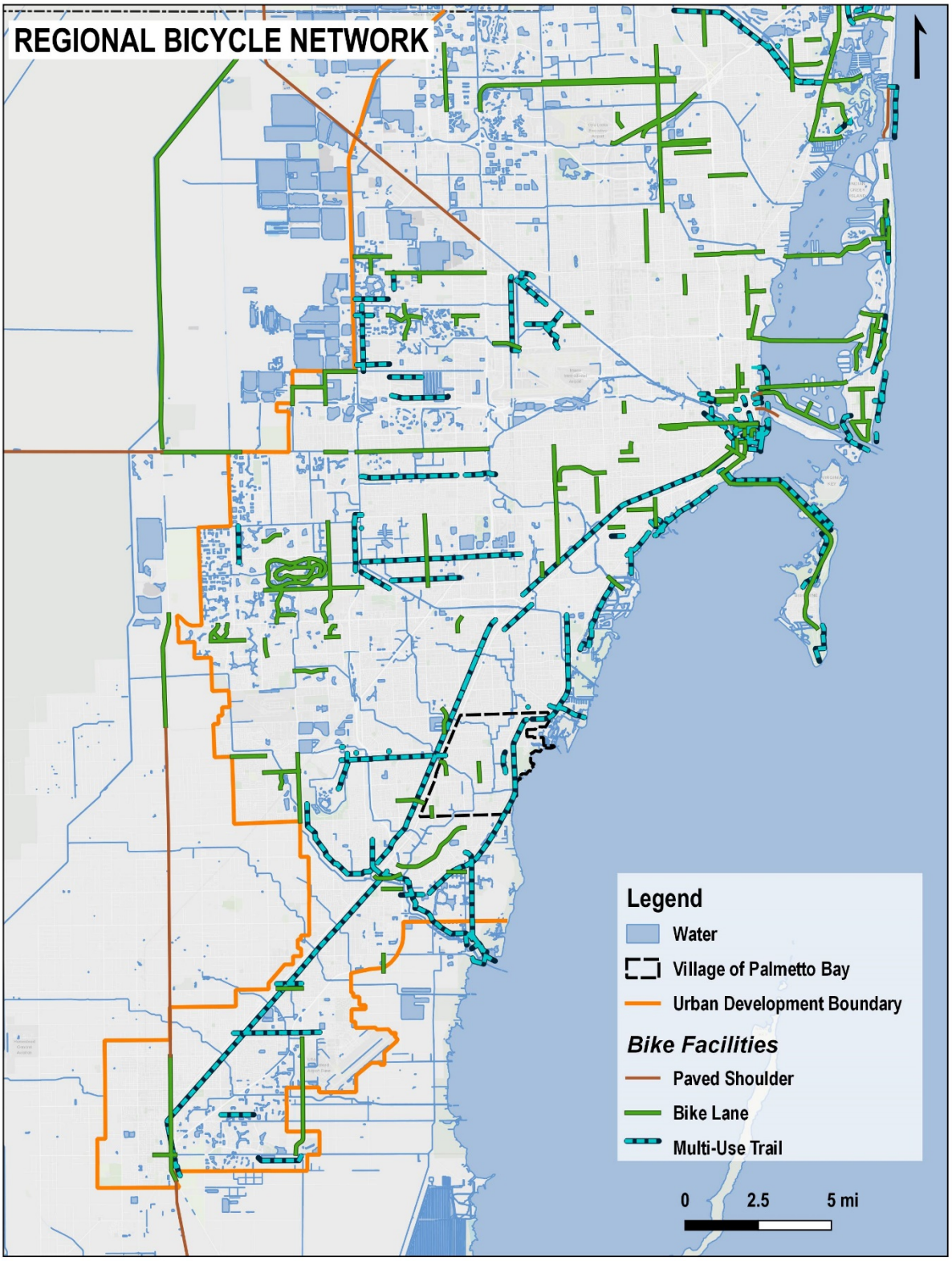


Figure 23: Miami-Dade Bicycle Network Map

To-date, Palmetto Bay's bicycle facilities are limited. Bicycle lanes can be found along a portion of SW 82nd Avenue from SW 168th Street to SW 160th Street, a portion of 92nd Avenue from SW 164th Street, and just before U.S. 1 / South Dixie Highway. Additionally, Franjo Road/ SW 97th Avenue is currently under construction and includes 5' bicycle lanes from SW 184 Street to U.S. 1 / South Dixie Highway. The Village is also in the process of working with a consultant on designing a multi-use pathway along SW 136 Street between U.S. 1 / South Dixie Highway and Old Cutler Road. The Village's *Bicycle & Pedestrian Master Plan*, *Traffic Calming Master Plan* and *Transportation Master Plan* have identified pedestrian and bicycle improvements. Moving forward with proposed recommendations from previous studies is an important component to facilitate mode shift. Figure 24 illustrates existing bicycle facilities within and around the Village of Palmetto Bay. Completing these networks is encouraged.

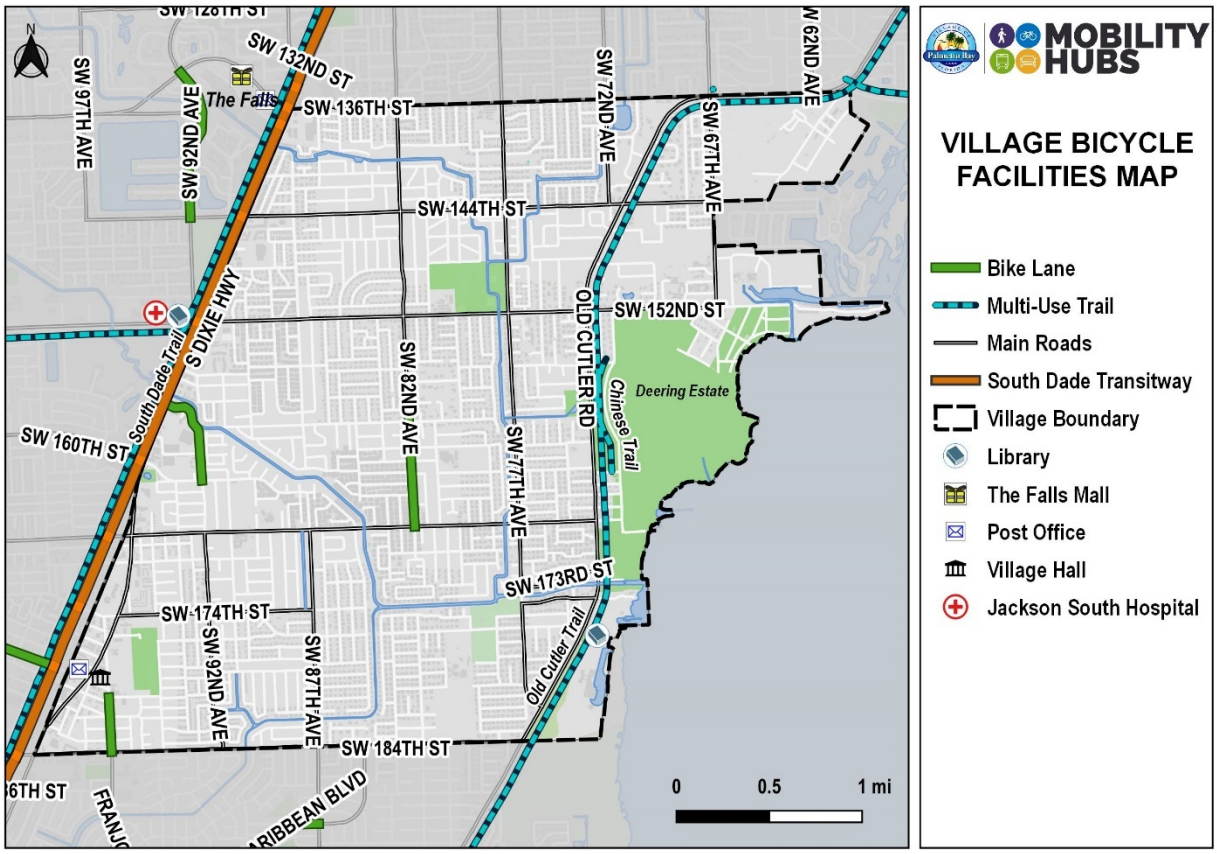


Figure 24: Existing Bicycle Facilities, Village of Palmetto Bay

As the Village plans for additional facilities, it is necessary to note that the majority of riders feel safer when using a separated facility. Therefore, it is important that the Village consider multi-use or shared-use pathways and/or separated facilities when planning and designing for non-motorized users to ensure maximum use of these facilities. The Federal Highway Administration (FHWA), *Bicycle Selection Guide (2019),* states "To maximize potential for bicycling as a viable transportation option, it is important to design bicycle facilities to meet the needs of the Interested but Concerned Bicyclist category." This statement highlights over 50% of potential users. The graphic illustrated in Figure 25 depicts the different users and their comfort with the different facilities that can be used and designed for bicyclists.

Figure 25: FHWA Facility Use Profile

As mentioned previously, the community is missing sidewalks in many areas. While several of the main roads in Palmetto Bay have sidewalks, there are a number of gaps along these corridors. Most neighborhood streets also lack sidewalks; pedestrians oftentimes can be seen walking along the roadway, presenting a safety concern for the community.

The Village's *Transportation Master Plan (2004*) and *Bicycle and Pedestrian Master Plan (2009)* noted that several residents were hesitant about sidewalks being placed throughout the community, indicating a perception that sidewalks could disrupt the character of the neighborhood and decrease property values. Both master plans highlight recommendations that include pedestrian and bicycle improvements throughout the community. The FHWA has noted the many benefits of sidewalks through research and case studies. These benefits include safety, mobility, and healthier communities. The FHWA has also highlighted the fact that 88% of pedestrian deaths could be prevented by providing walkways separated

from vehicular traffic.[12] Furthermore, AARP has also noted the following benefits to neighborhood sidewalks:

- People who live in neighborhoods with sidewalks are **47% more likely** to be active at least 39 minutes a day.[13]
- A well-constructed walkway for a typical 50-foot wide residential property might cost a builder $2,000, but it **can return 15 times that investment in resale value**.[14]
- In a scenario where two houses are nearly identical, the one with a 5-foot sidewalk and two street trees not only sells for $4,000 to $34,000 more but it **also sells in less time**.
- Retail properties with a Walk Score ranking of 80 out of 100 were **valued 54% higher** than properties with a Walk Score[15] of 20 and had an **increase in net operating income of 42%** for more walkable properties.[16]
- Increased pedestrian activity puts more eyes on the street and creates safety in numbers, which **deters and reduces criminal activity**.[17]

The Village of Palmetto Bay and its residents would greatly benefit from an **awareness campaign on the benefits of sidewalks**. The increased support for such facilities would expediate the construction of these facilities and create added value to the community. Most importantly, the Village should engage its residents to ensure sidewalks match the design and feel of a community prior to construction and installation.

Between the years of 2016 and 2019, Signal Four Analytics provided the following data for pedestrian and bicycle crash information:

- 15 Bicycle Injuries
- 4 Bicycle Property Damage Only
- 15 Pedestrian Injuries
- 3 Pedestrian Property Damage Only
- No Bicycle or Pedestrian fatalities

Figure 26, on the next page, is a map of all pedestrian and bicycle related crashes within the Village of Palmetto Bay between 2016 and 2019. The map illustrates a number of crashes which have occurred along and/or near the SW 168th Street and U.S. 1 / South Dixie Highway corridors.

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[12] FHWA, *An Analysis of Factors Contributing to "Walking Along Roadway" Crashes: Research Study and Guidelines for Sidewalks and Walkways*. Report No. FHWA-RD-01-101, Washington D.C., 2001.

[13] Sallis J., et al. *Neighborhood Environments and Physical Activity among Adults in 11 countries*. American Journal of Preventive Medicine, Vol. 36, No. 2

[14] Cortright, J. Impresa, Inc., CEOs for Cities. (August 2009) *Walking the Walk: How Walkability Raises Home Value in U.S. Cities*. http://www.ceosforcities.org/pagefiles/WalkingTheWalk_CEOsforCities.pdf

[15] Walk Score is an online logarithmic ranking system that determines the basic walkability of a residential or commercial property. Walk Score uses a neighborhood factors such as distance to shops and schools to create a number between 0 and 100 that measures the walkability of any address http://www.walkscore.com

[16] Pivo, G. and Fisher, J.D. (2010) *The Walkability Premium in Commercial Real Estate Investments*. University of Arizona and Benecki Center for Real Estate Studies, Indiana University. http://u.arizona.edu/~gpivo/Walkability%20Paper%208_4%20draft.pdf

[17] Rail to Trails Conservancy, National Park Service. (January 1998) *Rail-Trails and Safe Communities: The Experience on 372 Trails*. http: www.railstotrails.org/resources/documents/resource_docs/Safe%20Communities_F_Ir.pdf

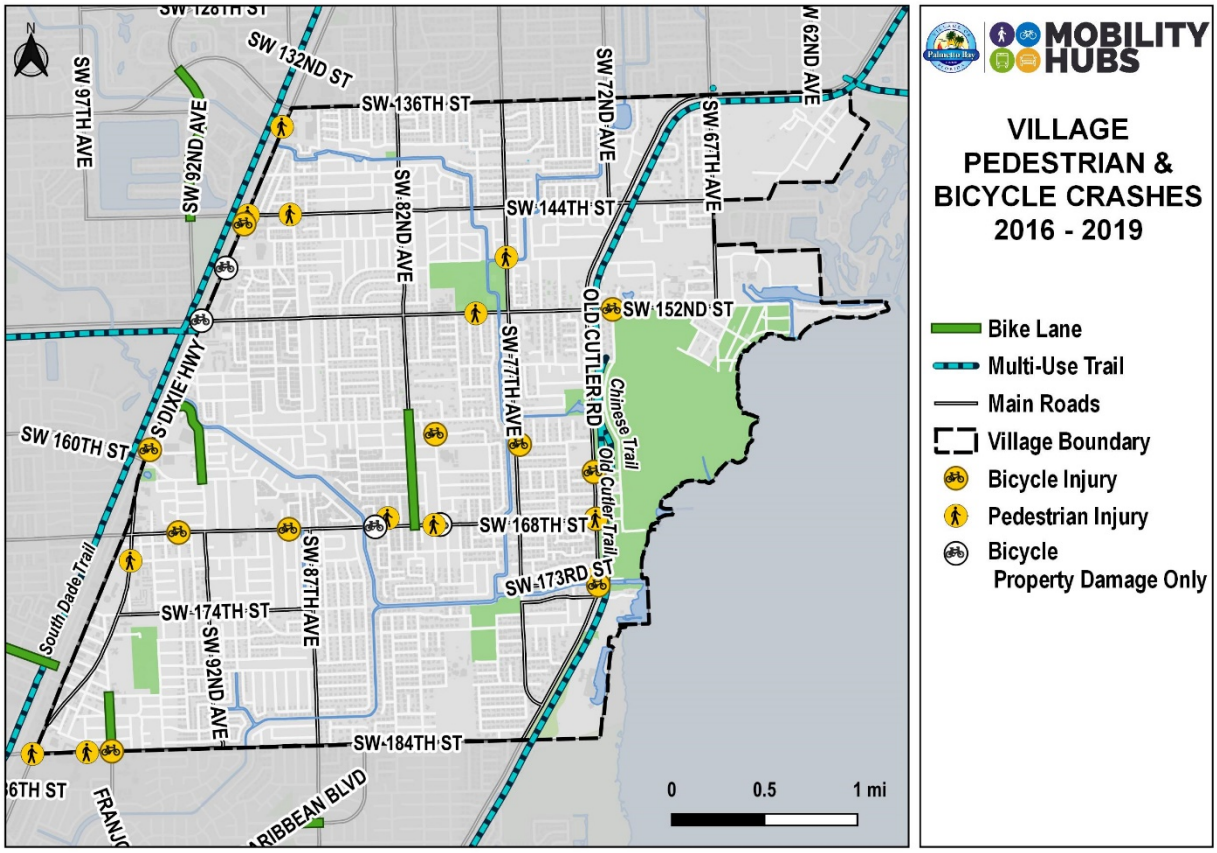


Figure 26: Pedestrian & Bicycle Crash Map, 2016 – 2019

Since adoption of the *Village Traffic Calming Master Plan* in 2018, the Village has completed a number of traffic studies throughout the community, and is moving forward with proposed recommendations to implementation. Completed improvements include traffic calming and safety improvements that throughout the community, Complete Streets construction along Franjo Road, and improvements for Old Cutler Road are pending, awaiting County approval. Old Cutler Road pending improvements include two-lane roundabouts on Old Cutler Road at the intersections of SW 67th Avenue, SW 136th Street, SW 152nd Street, and SW 184th Street. While roundabouts may increase traffic flow while decreasing speed, it is important that the Village continues coordination with the County and professionals to ensure designing the proposed traffic circles in a way that enhances safety for all roadway and other multimodal users utilizing these intersections.

2.2.3 Transit

Miami-Dade DTPW operates the Metrobus, Metrorail, and Metromover, providing transit options throughout Miami-Dade County. Metrobus service is available within and surrounding the Village of Palmetto Bay, with access to the Metrorail and Metromover with required transfers from Metrobus. The nearest Metrorail Station is Dadeland South, at approximately 3.5 miles from Palmetto Bay's northern border, SW 136th Street. The Metromover is available only within Miami's Downtown.

The Village of Palmetto Bay owns and operates the Palmetto Bay iBus and has recently contracted the services of Freebee for on-demand service throughout the Village.

2.2.3.1 Palmetto Bay iBus

The Palmetto Bay iBus operates Monday through Friday - during peak periods only. The Village currently offers two routes, the iBus Regular Route which operates only on weekdays from 7 to 9 a.m., beginning and ending at the SW 168th Street Transitway Station. This route caters to workers coming into the Village, transporting commuters from the South-Dade Transitway into the Village of Palmetto Bay with a large passenger SUV.

The iBus Express is a direct express route operating during morning and evening peak periods. The morning service begins at the St. Richard's Church Park & Ride Lot to the Dadeland South Metrorail Station while evening service begins at the Dadeland South Metrorail Station to the St. Richard's Church Park & Ride Lot. Passengers are transported with one of two Heavy Duty Large Buses which seat approximately 40 passengers. Each bus is equipped with wheelchair lifts and bicycle racks, and is operated by two Village part-time bus operators.

Vehicles are regularly maintained by the Village of Palmetto Bay.

The Village of Palmetto Bay initiated the iBus service in 2006, offering two separate routes that were made possible by the half-penny transportation surtax approved by voters in 2002. This funded the *People's Transportation Plan* and is overseen by the Citizens' Independent Transportation Trust (CITT). The ordinance creating the half-penny transportation surtax calls for 20% of surtax proceeds to be distributed directly to municipalities on a pro rata basis and for use on local transportation and transit projects. Municipalities must apply at least 20% of their share of surtax proceeds toward transit uses.

In 2015, the Village conducted the *iBus Comprehensive Operational Analysis*, which included various recommendations related to the iBus service. At the time of the study, ridership for the iBus had decreased from approximately 12,000 annual riders in 2008 to 5,376 annual riders in 2013. The study concluded that both routes overlapped many of the existing Metrobus routes, ultimately competing rather than complementing one another. Another finding included the lack of basic transit infrastructure and amenities, such as signage, shelters, benches, and trash receptacles. Bus stops for the iBus were unmarked, information regarding the service was limited, and knowledge of the shuttle's existence was sparse due to lack of visibility and information. This resulted in confusion among residents and visitors as to where the service stopped for pickup. Recommendations from the study included reconfiguration of existing service, new buses, real-time service information via smartphone application, and marketing.

In June of 2018, the Village of Palmetto Bay revamped the iBus service through the creation of the iBus Express Route. This iBus Express Route was created through discontinuing service of one of their regular routes. The Village also implemented some of the recommendations from the study. The Village purchased new buses, implemented the Palmetto Bay iBus smartphone application, and is in the process of designing Village bus shelters. Understanding the need for commuter service from the South-Dade Transitway, the Village maintained one of the two original routes with modifications, service ended for the other route, and operation of the iBus Express was implemented. The iBus Express provides convenient express service for Village residents to/from the Dadeland South Metrorail Station. Figure 27, on the next page, displays the ridership for both the Regular Route and Express Routes for the Palmetto Bay iBus.

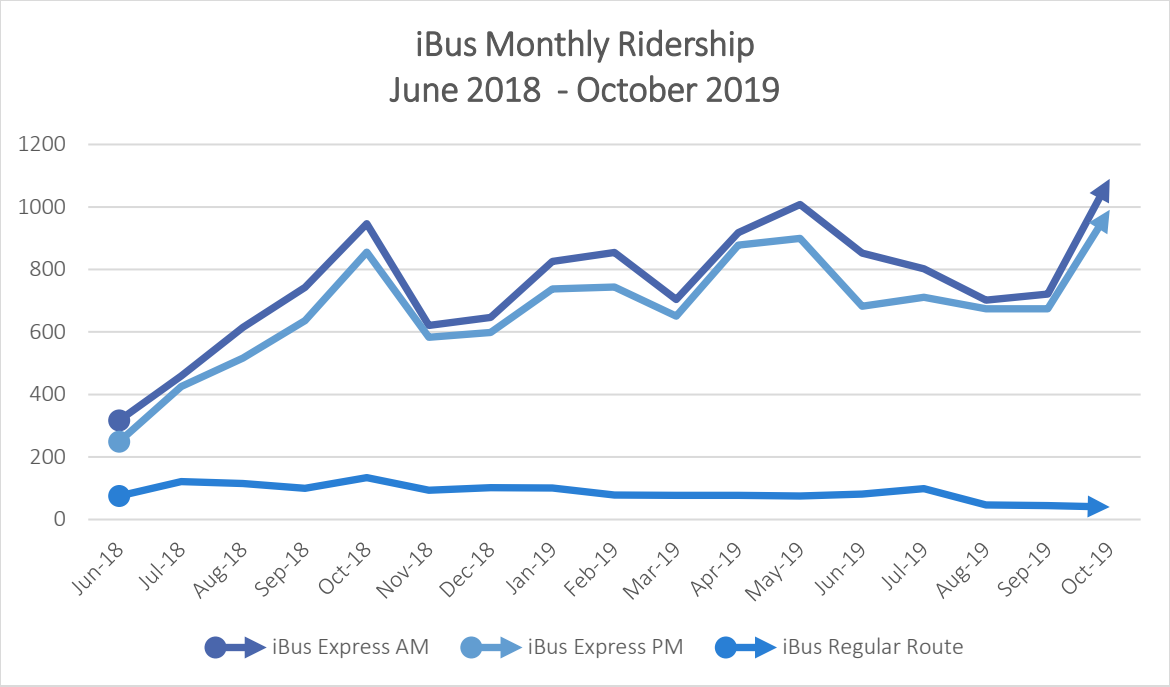


Figure 27: iBus Monthly Ridership

(Source: Village of Palmetto Bay)

The graph above illustrates the success of the iBus Express service, maintaining an average of approximately 700 AM and PM passengers monthly. Evening ridership is slightly lower than morning ridership, and this may be due to the hours of operation. Ridership for the iBus Regular Route averages to approximately 85 passengers monthly, ridership for this route has steadily decreased. This decrease may be due to lack of knowledge, visibility, and unmarked stops. Both routes have averaged approximately 1,575 riders monthly, which equates to approximately 18,900 riders annually. This number represents the success of the iBus, particularly the iBus Express service. **Through increased marketing efforts and surveying of residents, the Village of Palmetto Bay could continue to increase ridership for both the regular and express bus service. The Village should also consider extending the hours of operation for the iBus.** Increased ridership and demand for the iBus could assist in alleviating traffic along the Village's roadway network, while also encouraging additional funding for transit within the Village of Palmetto Bay. Additional information on the Palmetto Bay iBus ridership can be found in Appendix I.

2.2.3.2 Metrobus

The South-Dade Busway, recently renamed the South-Dade Transitway, is a 20.1-mile exclusive busway linking Pinecrest, Palmetto Bay, Cutler Bay, Gould, Naranja, Homestead, and Florida City neighborhoods with both local and express bus service to the Metrorail. There are 29 stations along the Transitway, and 8 stations along the Village's boundary. The South-Dade Transitway and its Stations are owned, operated and maintained by DTPW.

The Village has access to a total of 11 Metrobus routes that operate along the boundary or within the Village of Palmetto Bay, in addition to the Village iBus Routes previously discussed. Figure 28, on the next page, is a map of transit options within the Village, and to the Dadeland South Metrorail Station.

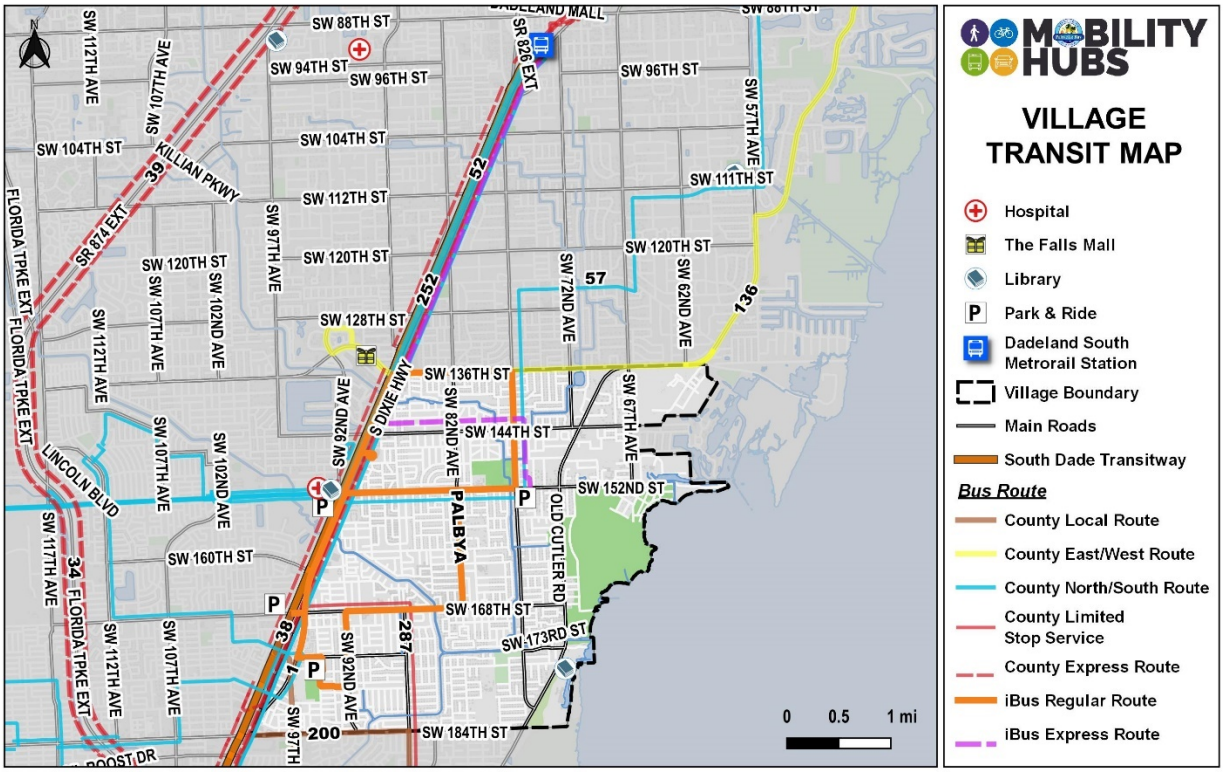


Figure 28: Village Transit Routes Map

ROUTE 1 operated by DTPW, travels north-south along Franjo Road / SW 97 Avenue and Caribbean Boulevard from Perrine to South Miami Heights, stopping at the Transitway station at 173rd Street, Perrine Shopping Center, Southland Mall, and Quail Roost Drive / SW 117th Avenue.

ROUTE 31 operated by DTPW, also known as the Busway Local, travels north-south along the Transitway from the Dadeland South Metrorail Station to the South Dade Government Center, stopping at all Transitway stations along the route.

ROUTE 34 operated by DTPW, is a weekday peak hour only express bus service, providing limited stop service along the Transitway between SW 344th Street Park & Ride Lot and SW 112 Avenue (Target) Park & Ride Lot, then non-stop service to and from the Dadeland South Metrorail Station.

ROUTE 38 operated by DTPW, also known as the Busway Max, travels north-south for the entire length of the Transitway from the Dadeland South Metrorail Station to the SW 344th Street terminal in Florida City, stopping at all Transitway Stations.

ROUTE 39 operated by DTPW, is a weekday peak hour only express bus service, providing limited stop service along the Transitway between the Dadeland South Metrorail Station and the Southland Mall / South Dade Government Center, stopping at all Park & Ride Lots including the SW 168th Street and SW 152nd Street Park & Ride Lots near Palmetto Bay.

ROUTE 52 operated by DTPW, travels north-south from the Dadeland North Metrorail Station to the Community Health Center near Cutler Bay, with stops along the Transitway, Dadeland Mall, Dadeland South Metrorail Station, Richmond Heights, Perrine Shopping Center, Robert Morgan Education Center,

Department of Children & Families (weekdays only), Southland Mall, South Dade Government Center & Library, and Old Cutler Road.

ROUTE 57 operated by DTPW, travels north-south weekdays only from the Tri-Rail Airport Station to Jackson South Hospital, with stops at the Miami International Airport (MIA) Metrorail Station, South Miami Metrorail Station, Red Road (NW/SW 57th Avenue), and SW 152 Street Park & Ride Lot.

ROUTE 136 operated by DTPW, travels east-west during weekday peak hours only from the Douglas Road Metrorail Station to the Falls Shopping Center at U.S. 1 and SW 136th Street, with stops at Coconut Grove, Dadeland South Metrorail Station, Cocoplum Plaza and the Village of Pinecrest.

ROUTE 200 operated by DTPW, also known as the Cutler Bay Local, travels clockwise throughout the Town of Cutler Bay beginning at the Publix on Old Cutler Road and traveling to the Southland Mall, SW 112th Avenue Transitway Station, U.S. 1 / South Dixie Highway, SW 184th Street and SW 87th Avenue. The Cutler Bay Local is operated and maintained by DTPW through an interlocal agreement with the Town of Cutler Bay, through funds provided by the Town from the half-penny transportation surtax, passed in 2001.

ROUTE 252 operated by DTPW, also known as the Coral Reef Max, traveling between the Dadeland South Metrorail Station to Country Walk with limited stop service between Dadeland South and 107th Avenue. Additional stops include Zoo Miami, SW 117th Avenue Park & Ride Lot, and SW 152nd Street Park & Ride Lot.

ROUTE 287 operated by DTPW, also known as the Saga Bay Max, is a limited stop service bus operated during weekday peak periods only traveling north-south from the Dadeland South Metrorail Station to the Community Health Center near Cutler Bay, with stops at the SW 152nd Street and SW 168th Street Park & Ride Lots, the Falls, SW 168th Street and SW 87th Avenue.

IBUS REGULAR ROUTE operated by the Village of Palmetto Bay, provides weekday morning service only beginning and ending at the SW 168th Street Park & Ride Lot and Transitway Station traveling throughout the Village of Palmetto Bay along U.S. 1 / South Dixie Highway, SW 77th Avenue, SW 82nd Avenue, SW 152nd Street, and SW 168th Street.

IBUS EXPRESS ROUTE operated by the Village of Palmetto Bay, provides free weekday peak hour service only, between St. Richard's Church in Palmetto Bay to the Dadeland South Metrorail Station.

FREEBEE EXPRESS ROUTE operated by Freebee, provides free weekday peak hour service only, from the Palmetto Bay Park, Park & Ride Lot to the Dadeland South Metrorail Station. This route began September 2019 as a result of transit demand in the southern portion of the Village of Palmetto Bay (not shown on the map).

Table 3: Summary of Village Transit

Route	Headway (min.)	Weekend Service	Hours of Operation*		Average Weekday Ridership**
			Begin	End	
1	40	Yes	6:35 a.m.	7:15 p.m.	290
31	30	Yes	5:00 a.m.	8:24 p.m.	1,044
38	20 (10 peak)	Yes	24/7		6,462
39	15	No	5:59 – 7:44 a.m. (SB)	4:30 – 6:15 p.m. (NB)	937
52	45 (30 peak)	Yes	4:28 a.m.	10:13 p.m.	1,266
57	60	No	6:28 a.m.	5:36 p.m.	407
136	40	No	7:00 – 8:20 a.m.	3:00 – 4:20 p.m. (NB)	142
200	50	Yes	8:40 a.m.	5:40 p.m.	160
252	60 (25 peak)	Yes	5:35 a.m.	9:06 p.m.	858
287	35	No	5:46 – 9:18 a.m.	4:35 – 6:15 p.m.	332
iBus Regular	N/A	No	7:00 a.m.	9:00 a.m.	17
iBus Express	25	No	6:00 – 9:05 a.m.	4:00 – 7:00 p.m.	61
Freebee Express+	25	No	6:30 – 9:50 a.m.	3:20 – 7:10 p.m.	34

**Hours of Operation are shown for Northbound/Eastbound weekdays, except when indicated otherwise. Southbound and weekend hours of operation vary (see DTPW website for exact times).*

***Miami-Dade County Transportation & Public Works Ridership Technical Report, September 2019, iBus and Freebee ridership provided by the Village of Palmetto Bay.*

+Freebee Express began September 2019, average weekday ridership based off the month of October 2019

Approximately 2.6% of the Village's population travel to work via transit, with just under half of transit users between the age of 25 and 44.[18] Currently, transit service is concentrated along U.S. 1 / South Dixie Highway. Village residents have limited transit options within the Village of Palmetto Bay, while residents who live in the eastern portions of the Village have no access to transit service. Figure 29, on the next page, illustrates ¼-mile and ½-mile buffers of existing transit stops within the Village of Palmetto Bay. This map also depicts transit gaps within the Village of Palmetto Bay. These gaps of service provide opportunities for the Village of Palmetto Bay to explore transit service within these areas.

[18] American Community Survey, 2013 - 2017

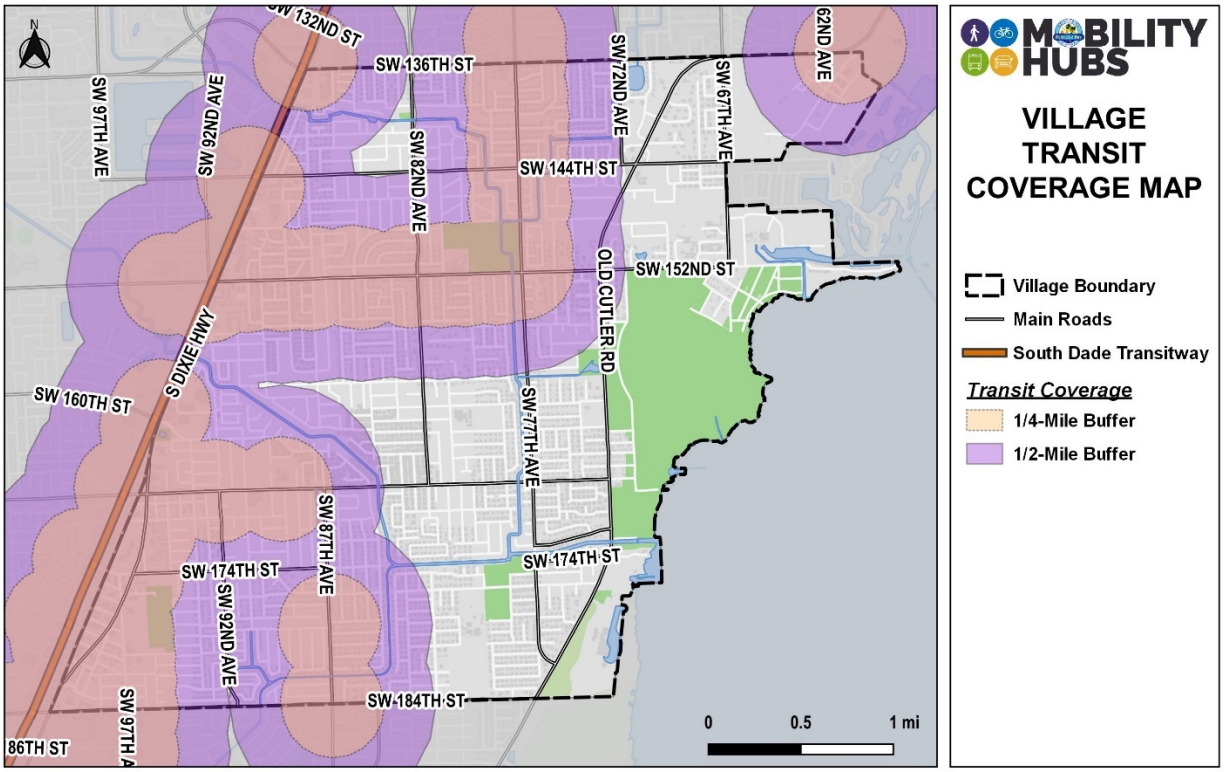


Figure 29: Village Transit Coverage Map

The Village of Palmetto Bay has four (4) Park & Ride Lots located within or near the Village. Two Park & Ride Lots are owned and operated by DTPW, located along the Transitway at SW 152nd Street and SW 168th Street. DTPW's *Ridership Technical Report* (September 2019) indicates that both of these facilities are at capacity. The Village operates two (2) other Park & Ride Lots within the Village, the iBus Express Park & Ride Lot is located at St. Richard's Church, at the southeast corner of SW 152nd Street and SW 77th Avenue. The Freebee Express Park & Ride Lot is located at Palmetto Bay Park, near SW 175th Terrance and SW 94th Avenue, within the Village's Downtown.

DTPW has designated expansion of the Park & Ride Lot located at SW 152nd Street and potentially two (2) new Park & Ride Lots at SW 136th Street and SW 184th Street near the Transitway. Funding for these facilities is yet to be determined. Figure 30, on the next page, provides a map of existing and planned Park & Ride facilities around Palmetto Bay.

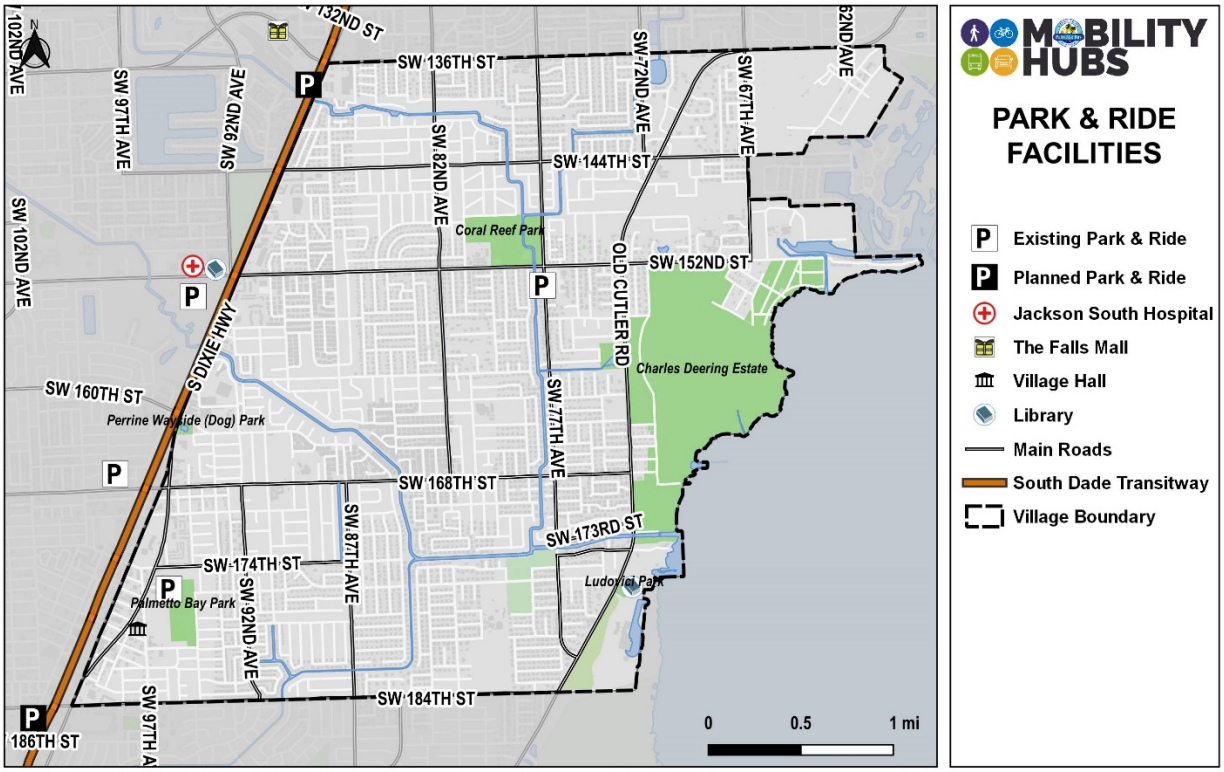


Figure 30: Map of Existing & Planned Park & Ride Facilities

2.2.3.3 On Demand Service

On May 6, 2019 the Village Council passed a resolution approving the selection of Freebee to provide ride share services for the Village of Palmetto Bay. The Resolution approved a 3-year agreement with Freebee in the amount of $225,000, the amount of a TPO awarded grant to the Village.

On July 22, 2019, the Village introduced the Freebee service to the community. Freebee is a free on-demand, Village-wide electric ride system operated and maintained by the Freebee company. Funds are provided through the grant the Village received in 2018. Freebee operates two vehicles within the Village, six days a week, Monday through Saturday. Service hours are Monday through Friday beginning at 6:30 to 10:00 a.m. and 3:00 to 7:00 p.m. Saturday hours begin at 1:00 p.m. and end at 10:00 p.m. Passengers who wish to utilize the Freebee service can download the "Ride Freebee" application from the app store or call (305) 397-5002.

Ridership information was provided by the Village, between July 22, 2019 and October 13, 2019. Freebee on-demand completed 2,190 rides to 33,156 passengers. Ridership is almost double during the afternoon hours compared to the morning hours, while completed rides are almost half of requests received. The Village may want to consider adding additional vehicles to meet the demand of ride requests to ensure success of this pilot program.

Ride requests varies throughout the Village, with hotspots near the Downtown, the Falls Shopping Center, Old Cutler Road Commercial, Southwood Middle School, and SW 144th Street / U.S. 1.

Dropoff requests are more spread-out around the Village with hotspots near SW 152nd Street / U.S. 1, Palmetto Bay Library, Coral Reef Park, Downtown, SW 144th Street / U.S. 1, Old Cutler Commercial and the Falls Shopping Center.

On September 19, 2019, the Village introduced the second phase of the Freebee agreement. Freebee Express, serviced by two electric vans owned and operated by Freebee. Freebee Express service similar to the iBus Express. Operating from the Palmetto Bay Park, Park & Ride Lot to the Dadeland South Metrorail Station, Monday through Friday between 6:30 to 9:50 a.m. and 3:20 to 7:10 p.m. The Village has designated a Park & Ride Lot in the rear parking area of Palmetto Bay Park.

Ridership information for the Freebee Express was provided by the Village for the month of October 2019. 431 rides were completed, transporting a total of 862 passengers for the month of October. Approximately, 57% of riders fall between the age of 21 to 34 and 43% of riders are 51 years and older. No riders were between the age of 35 to 50 or under 20. **The Village should consider adopting a Communication Plan for the Village of Palmetto Bay which outlines strategic goals and initiatives to disperse information, especially in relation to transit and transportation services.**

A detail report of ridership for both the Freebee on-demand and express services can be found in Appendix I.

To-date, Pinecrest, Coral Gables, and Miami have also launched an on-demand Freebee service throughout their respective cities. Additionally, the Town of Cutler Bay and Dadeland are also looking at an on-demand transit service provider in partnership with DTPW. Residents can take advantage of this service and travel from Palmetto Bay, Pinecrest, Downtown Coral Gables, and Miami using the Freebee services provided throughout these communities. Additionally, once DTPW has selected a provider, residents from Cutler Bay, Palmetto Bay, Pinecrest, Coral Gables and Downtown Miami will have these on-demand services online, allowing residents and visitors to travel between the different municipalities on-demand.

The Village of Palmetto Bay should begin coordination with neighboring communities for these on-demand services and to continue coordinated efforts with DTPW to ensure the on-demand services complement the overall transit system to ensure efficiency and reliability for all transit users.

2.2.4 Sea Level Rise

A sea level rise analysis was conducted to ensure future transportation investments for the Village are not at risk to future sea level rise impacts. The *Southeast Florida Regional Climate Change Compact* was created in 2010, with elected officials from Broward, Miami-Dade, Monroe and Palm Beach Counties coming together to coordinate mitigation and adaptation strategies for responding to the impacts of climate change.

In 2015, the *Southeast Florida Regional Climate Change Compact* adopted the following Sea Level Rise (SLR) projects for short-term and long-term planning purposes:

- 6-inches to 10-inches by 2030
- 14-inches to 26-inches by 2060
- 31-inches to 61-inches by 2100

The adopted projections will most likely be updated early 2020, incorporating the latest data and information related to SLR. The adopted projections utilize data provided by the National Ocean and

Atmospheric Administration (NOAA), the U.S. Army Corps of Engineers (USACE) and the Intergovernmental Panel on Climate Change (IPCC). The intent of the adopted projections allows the region to plan for short, medium and long-term infrastructure investments.

Figure 30 utilizes data provided by NOAA, future SLR projections for 2060 are at approximately 2-feet. Areas of inundation (in purple) include portions of the Deering Estate along the Biscayne Bay, low lying areas within the southern portions of the Palmetto Bay Village Center near SW 184th Street and areas surrounding the Royal Harbor Yacht Club community peninsula.

The Village of Palmetto Bay has taken recent measures related to resiliency, including participation in *Resilient 305*, a living document created to address the regional challenges identified and prioritized through intergovernmental and community collaboration.

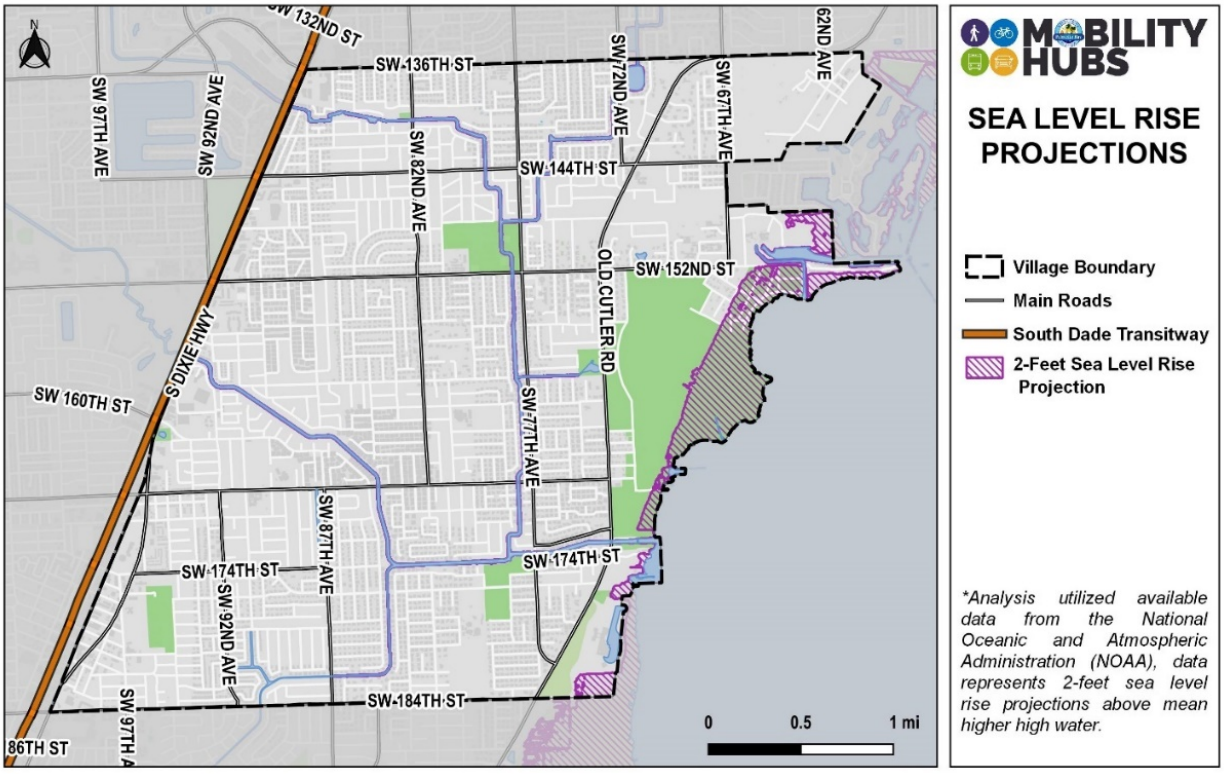


Figure 31: Village Future Sea Level Rise Projections at 2-Feet, NOAA

3 PUBLIC INVOLVEMENT

Public involvement is vital to any project or task to be performed by public organizations. Our process began with a kick-off meeting on April 9, 2019 with the Village of Palmetto Bay, Miami-Dade TPO and MARLIN with the purpose of gathering information and, reviewing the scope of services and the schedule of tasks for this study.

A *Public Information Plan (PIP)* was drafted with the goal of ensuring the study reflected the values and needs of the community. Once approved by Village staff, the PIP outlined specific activities to provide timely and accurate information to stakeholders and the public throughout the process. A copy of the PIP can be found in Appendix II.

As part of the public involvement process, a Stakeholder Advisory Committee (SAC) was formed for the purpose of reviewing information and providing technical assistance for the study. A total of three SAC meetings were held throughout the planning process with various stakeholders including Village staff, Miami-Dade TPO, Florida Department of Transportation, Miami-Dade Bicycle and Pedestrian Advisory Committee, and the Village's Education Advisory Board. Meetings were held on May 15, August 22 and November 15, 2019.

The project included three public workshops held on July 24, November 6, and December 11, 2019 from 7:00 to 9:00 p.m. at the Village Hall. The first two public meetings included 20-minute presentations, in addition to maps illustrating existing transit service and coverage. The final public workshop was an open house of proposed conceptual designs for the selected mobility hub locations, and included a slideshow. Presentations, attendance and notes from each public workshop can be found in Appendix V. The goal of each public workshop was to gain feedback and educate the public on the goals and objectives of the study. The study is anticipated to go before the Village Council in early 2020 for adoption.

Figure 32: Pictures from Public Workshop

4 DATA COLLECTION

Data collection for this study began by gathering existing transit data, reviewing adopted Village Plans and studies. Additionally, a survey was conducted to gather public opinion on existing transit, amenities, and shared mobility options.

4.1 Survey

In coordination with the Village, an online survey was prepared in English and Spanish for the purpose of gaining feedback in regards to transit use, amenities and shared mobility perceptions. A copy of the survey and responses can be found in Appendix III.

On-site visit was conducted Thursday, August 8, 2019 beginning at 6:00 a.m. to solicit residents and transit users to take the survey. Staff solicited passenger surveys at the SW 152nd Street Transitway Station, SW 168th Street Transitway Station, and iBus Express. Passengers who utilized the iBus expressed their gratitude and appreciation for the Village iBus service and provided feedback which could assist the Village in improving the iBus service.

MARLIN also worked with Village staff to ensure outreach was conducted via social media, email alerts, and the Village website to garner as many residents as possible to complete the survey. The survey was also distributed at the first two public workshops and closed Friday, November 8, 2019. The survey gathered 121 responses and, of those respondents 51% utilize transit and 25% utilize the Village iBus.

4.1.1 Highlights

Figures 33 through 39 represents the survey respondents (51%) who utilize transit.

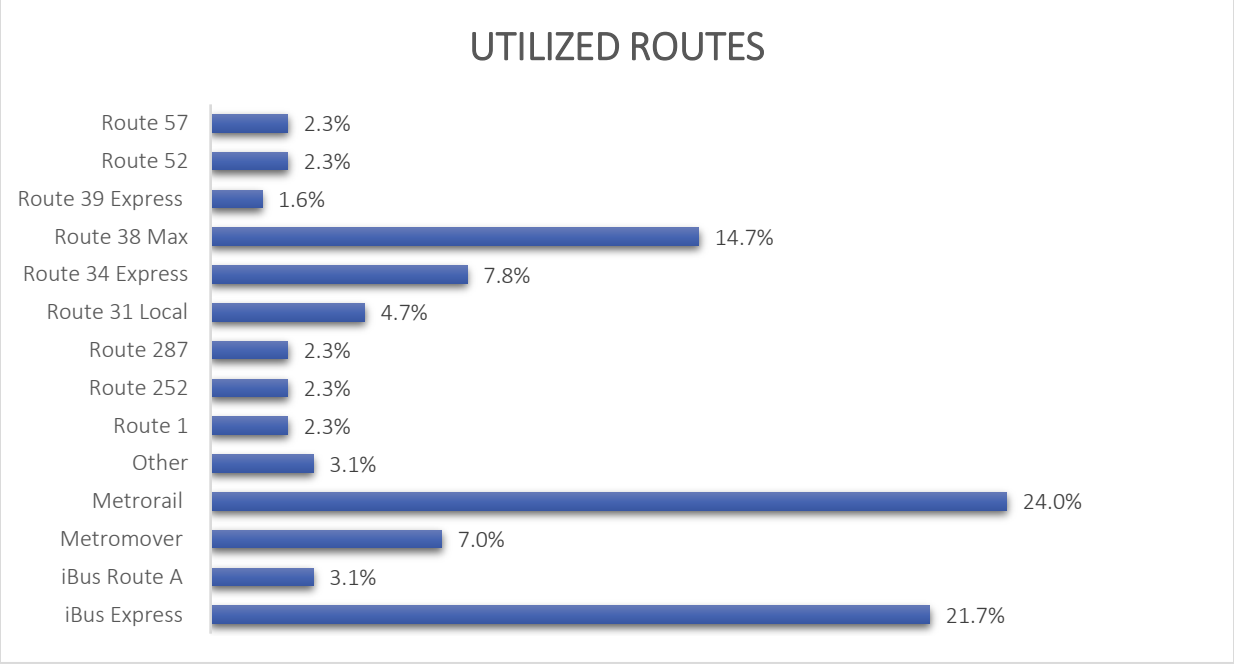


Figure 33: Routes Utilized by Transit Riders

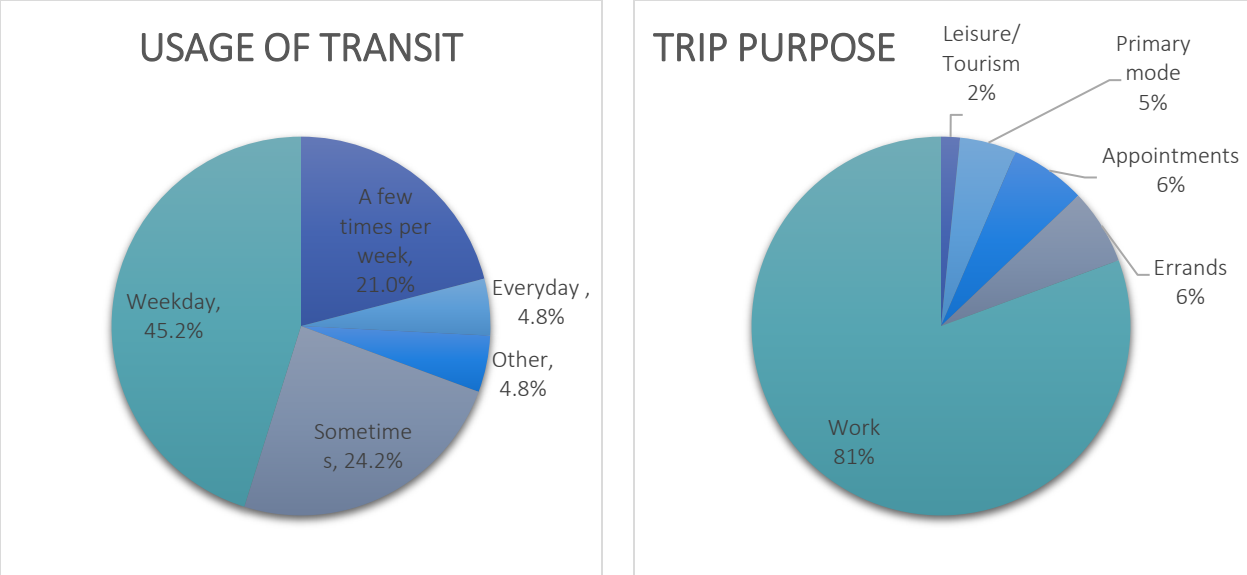


Figure 34: Usage of Transit & Trip Purpose, Transit User Responses

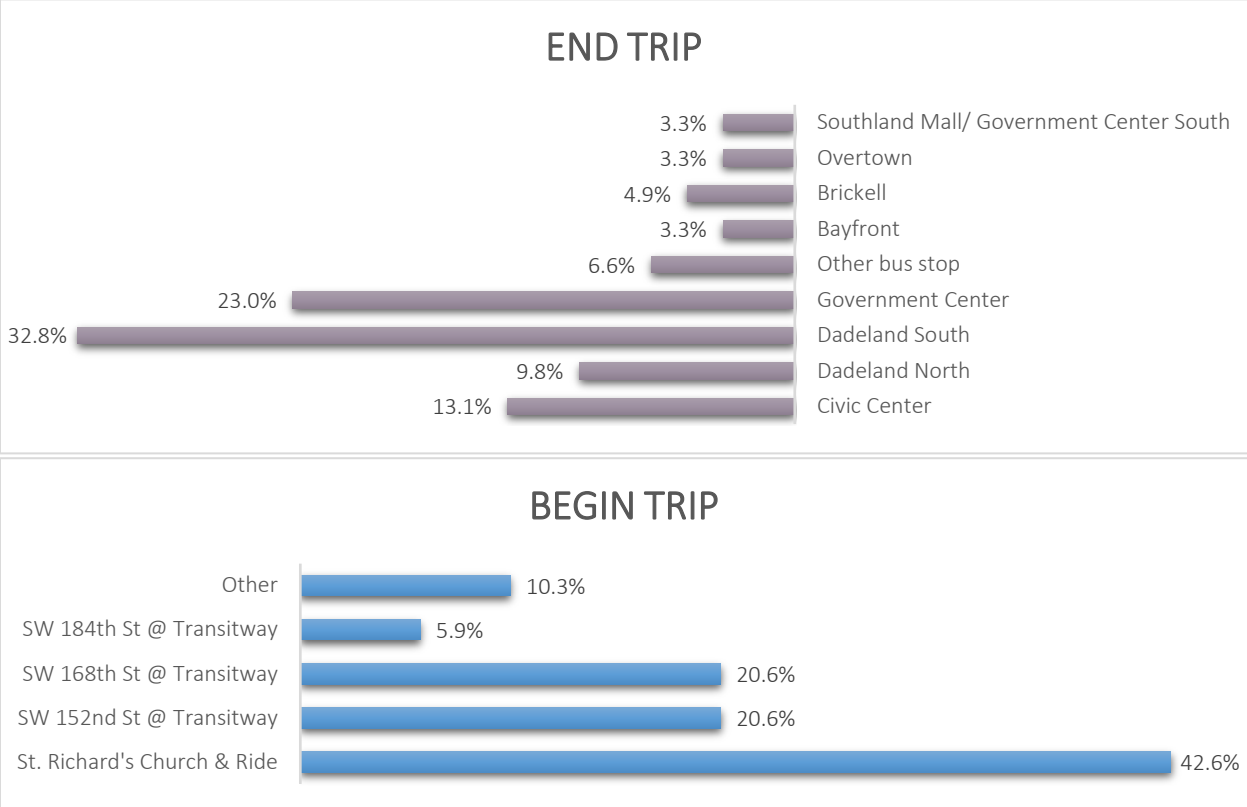


Figure 35: Begin & End Trip Stations/Stops

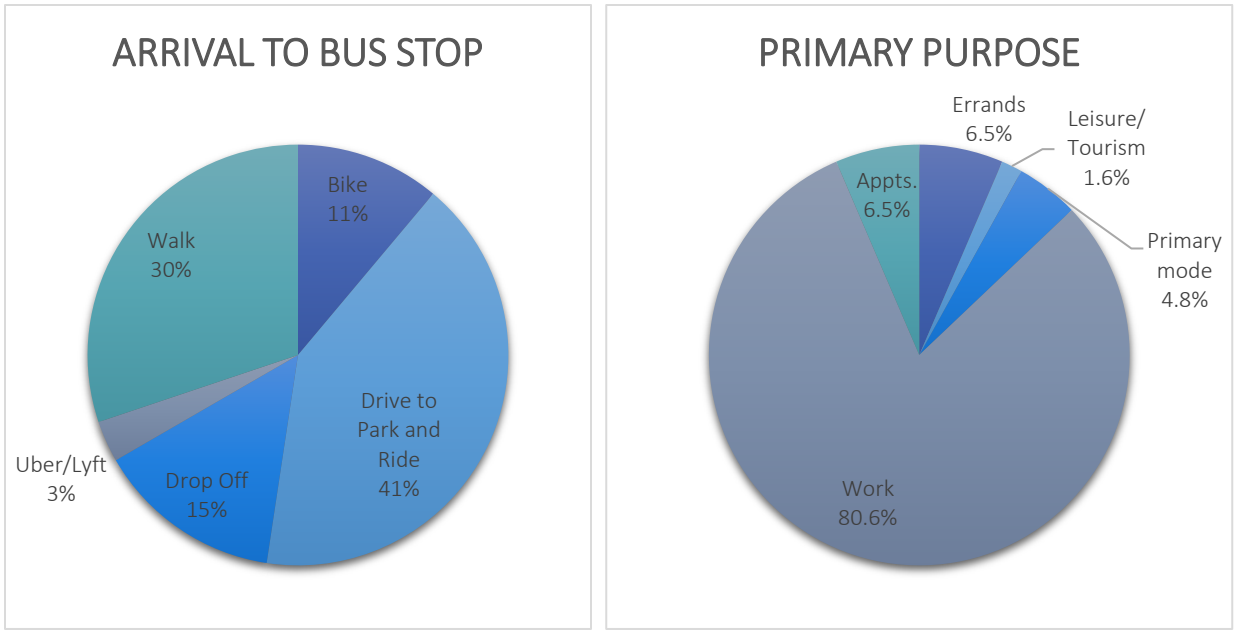


Figure 36:, Arrival Mode & Primary Purpose of Transit Users

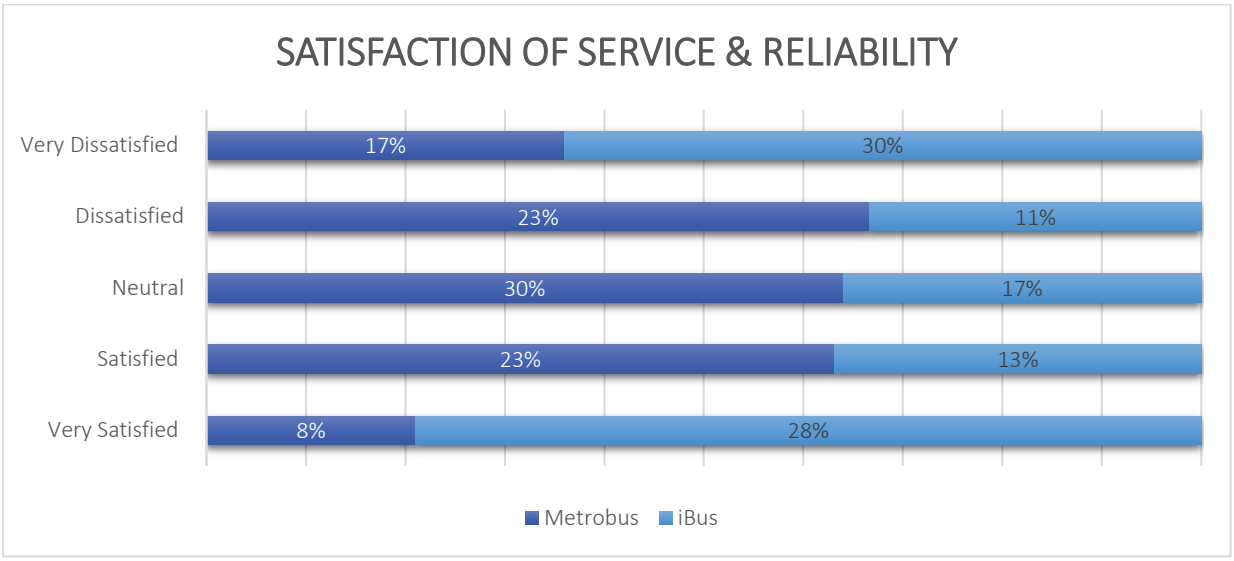
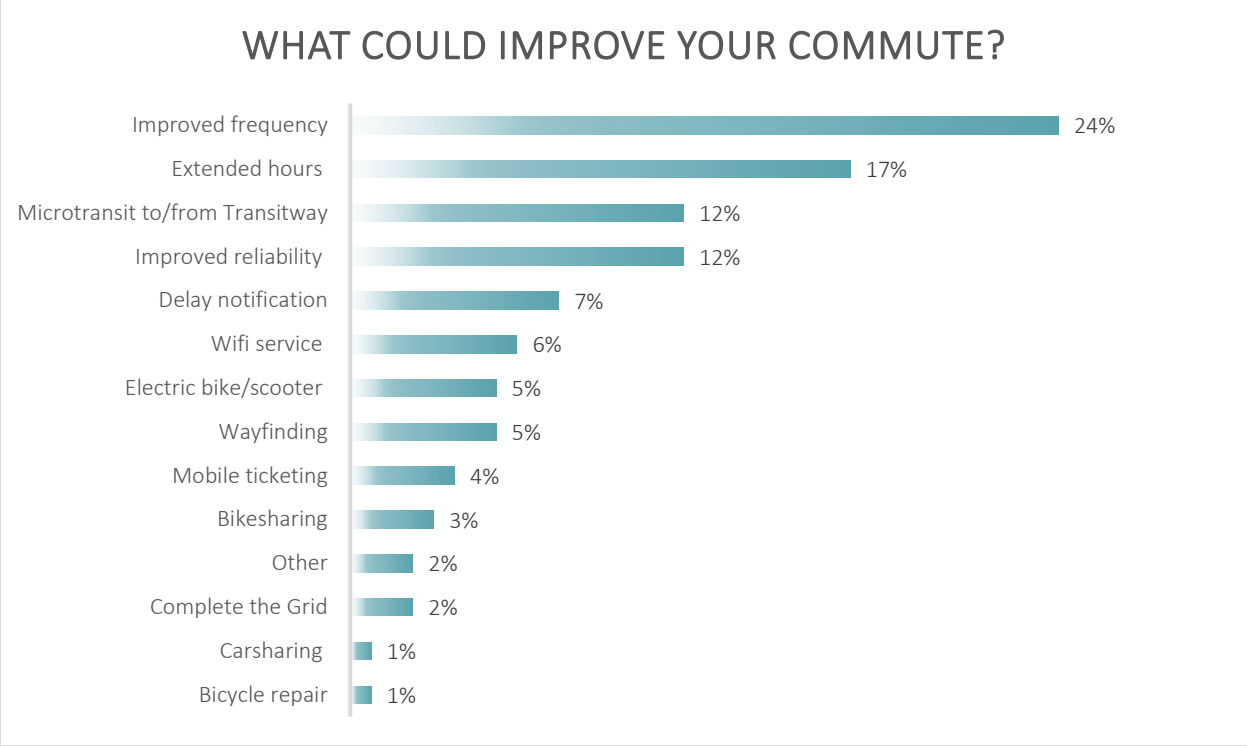


Figure 37: Satisfaction of Metrobus & iBus



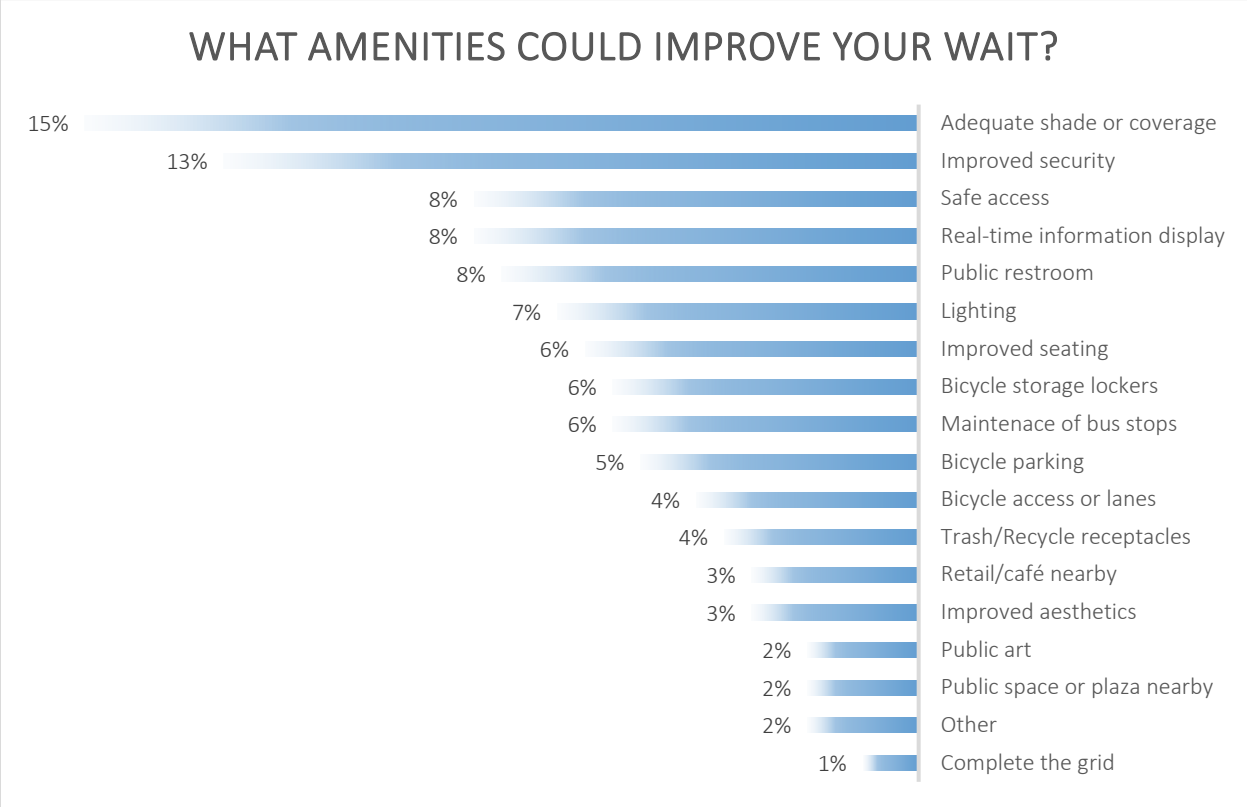


Figure 38: Preferred Transit Improvements & Amenities

Table 4, on the next page, illustrates how users of the iBus survey respondents voted in relation to the questions about improvements to commute and amenities at the bus stop. The items below are some

recommended items the Village could begin to implement to improve customer satisfaction and potentially increase ridership. It is important to highlight that 38% of iBus surveyors favored bicycle improvements such as improved bicycle access, bicycle parking and bicycle storage lockers.

Additionally, improvements to the existing iBus smartphone application, such as notifications in delay and next bus; partnered with a marketing or public education campaign are relatively inexpensive items that could be completed right away. The Village of Palmetto Bay should continue coordination with DTPW to integrate the iBus application with the existing Miami-Dade Transit Tracker application to provide users with a seamless platform where one could locate all data relating to nearby transit.

Table 4: iBus Survey Responses to Improvements & Amenities

IMPROVEMENT	%	PREFERRED AMENITIES	%
Extended hours of operation	53%	Adequate Shade	41%
Improved frequency of service	47%	Improved Security	22%
Microtransit to/from Transitway	22%	Improved/Addition of Seating	19%
Delay notifications	16%	Bicycle Storage Lockers	16%
Wi-Fi service	16%	Real – Time Information Display	16%
Electric bike or Scooter share	16%	Bicycle Parking	13%

Figure 39 illustrates a word cloud of the feedback and comments received from the survey. Feedback provided in the survey can be found in Appendix III.

Figure 39: Survey Word cloud

4.2 Transit Data

Data was gathered from DTPW for County operated bus routes. The Village of Palmetto Bay provided data related to the Village iBus and Freebee services. Utilizing geographic information systems (GIS), an analysis of existing transit coverage for the Village of Palmetto Bay was performed, as discussed previously (see Figure 29, on page 36).

4.2.1 Boarding & Alighting

Boarding and alighting data provided by Miami-Dade County DTPW for Routes 31, 34, 38, 39, 52, 57, 136, and 287 were reviewed and analyzed. Figure 40 below illustrates boarding data by stop. Transitway Stations with Park & Ride facilities along the Transitway experience, over 400 daily boarding's. Figure 41, on the next page, illustrates alighting data by stop, with the, southbound alighting's more dispersed along the Transitway while northbound alighting's are concentrated at SW 152nd Street and SW 136th Street.

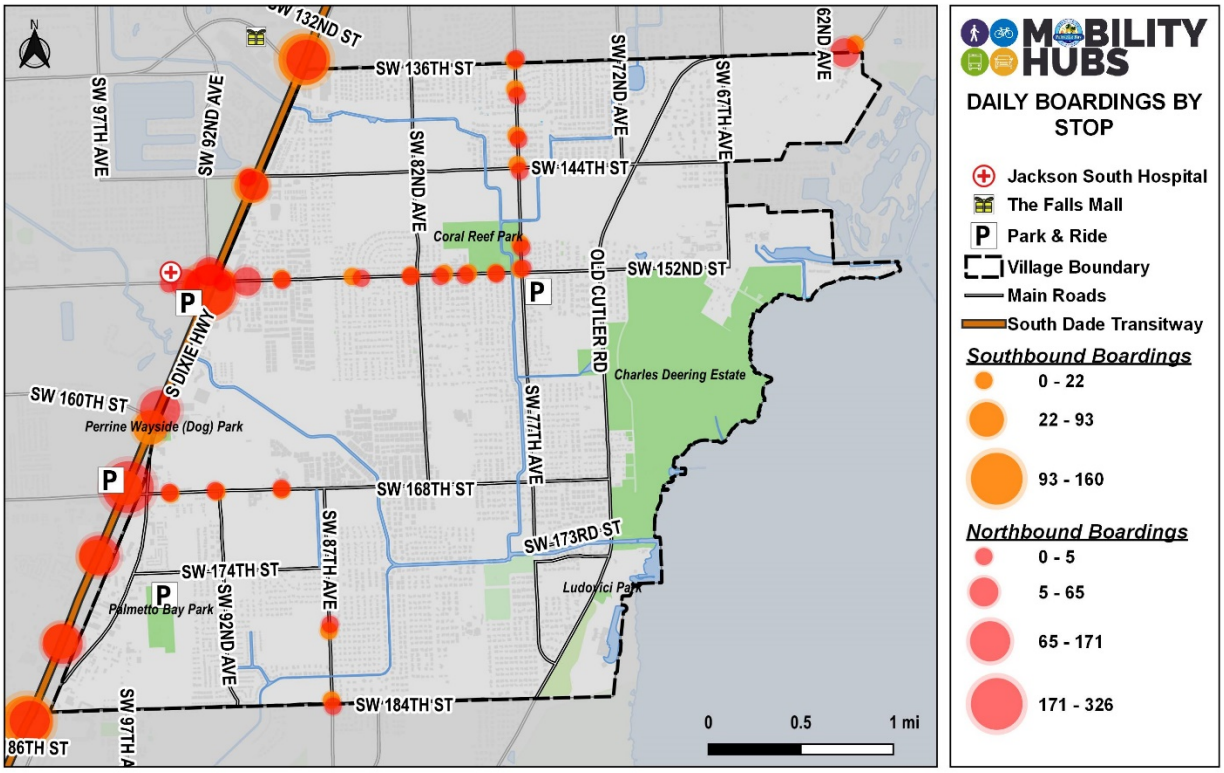


Figure 40: Map of Daily Boarding's by Stop

(Source: DTPW, 2019)

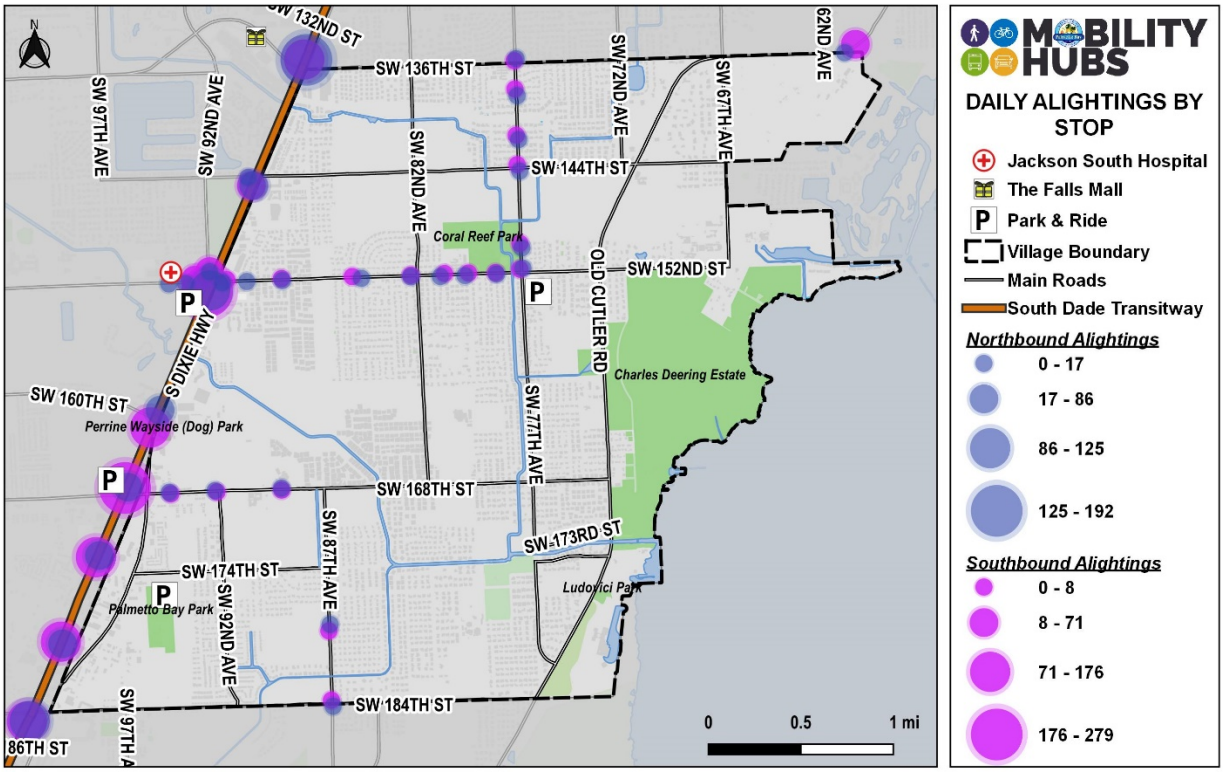


Figure 41: Map of Daily Alighting's by Stop

(Source: DTPW, 2019)

4.2.2 Bicycle & Pedestrian

The Village has been subject to a number of traffic studies that have been performed throughout the community. Figure 42, on the next page, includes a map of collected vehicle Turning Movement Counts (TMC's) utilizing MIOVision cameras. Data which include pedestrian and bicycle information was collected between 2014 and 2018. Table 5 includes the details of each location with its corresponding number. It is important to note that the map does not represent all traffic count locations within the Village of Palmetto Bay, only the locations which included bicycle and pedestrian counts. The data tells us that some of the highest bicycle counts occurred along Old Cutler Road, with some of the higher pedestrian activity occurring along U.S. 1 / South Dixie Highway. Continued coordination with FDOT and the County is important to ensure these corridors are safe for both pedestrians and bicyclists.

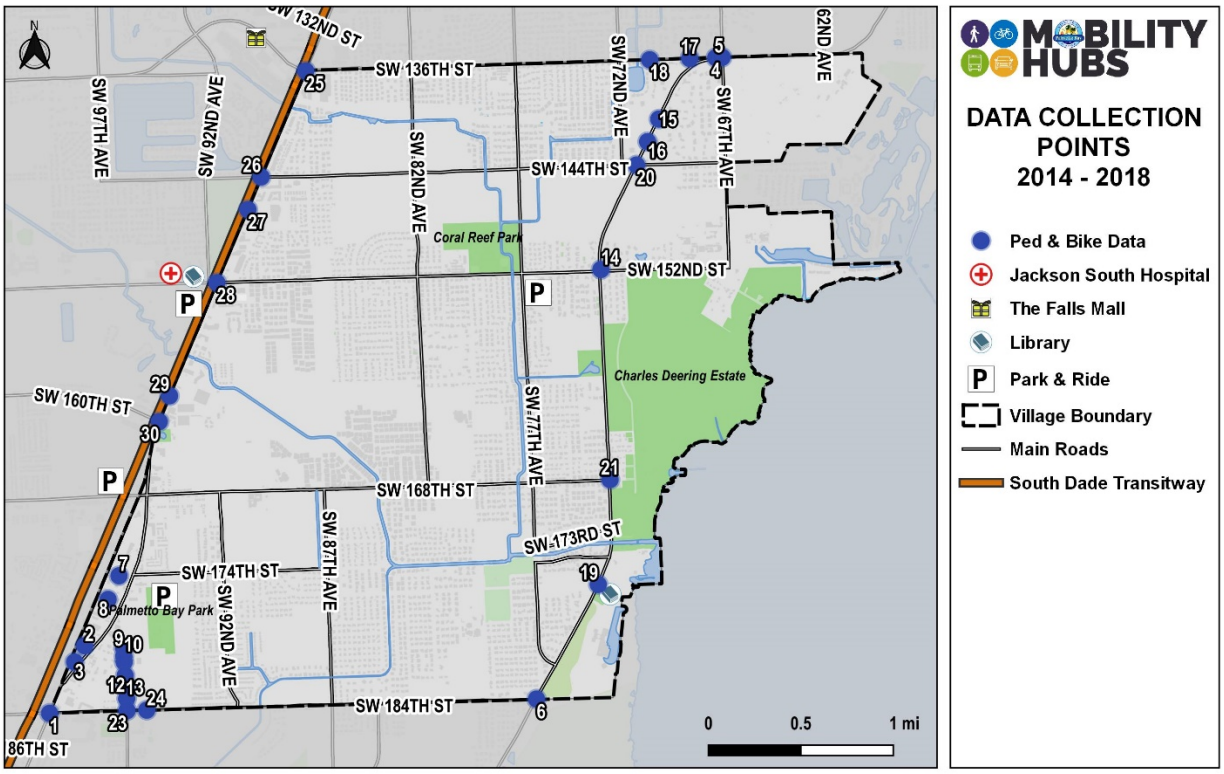


Figure 42: Map of Collected Bicycle & Pedestrian Counts Performed between 2014 -2018

Table 5: Table of Collected Bicycle & Pedestrian Data

ID	Location	Bike	Ped	Traffic	Buses	Year	Time Frame (hours)
1	184 St & US 1		8	27455		2014	6
2	US 1 & Indigo St		1	12159		2014	6
3	US 1 & Wayne Ave		34	12116		2014	6
4	136 St & Old Cutler Rd	5	15	12330	58	2018	8
5	SW 136 St & Ludlam Rd	36	**65**	15451	76	2018	8
6	Old Cutler Rd & 184 Ave	**119**	28	11320	55	2018	8
7	97 Ave & 174 St		30	2456		2014	6
8	US 1 & Evergreen (97)		5	15466		2014	6
9	97 Ave & Hibiscus St		11	2993		2014	6
10	97 Ave & 180 St		13	3308		2014	6
11	97 Ave & Indigo St		1	3293		2014	6

ID	Location	Bike	Ped	Traffic	Buses	Year	Time Frame (hours)
12	97 Ave & 181 Ter		19	3822		2014	6
13	97 Ave & 182 St		17	3707		2014	6
14	Old Cutler Rd & 152 St	**80**	**52**	14796	54	2018	8
15	S Cartee Rd & Old Cutler	33	14	10042	33	2018	8
16	SW 70 Ave & Old Cutler Rd	1	0	10705	38	2018	8
17	136 St & 68 Ct	5	12	2588	21	2018	8
18	136 St & 70 Ave	1	5	4119	24	2018	8
19	Old Cutler Rd & 176 St	13	4	11037	35	2018	8
20	Old Cutler Rd & 144 St	40	29	12581	40	2018	8
21	Old Cutler Rd & 168 St	**72**	**45**	13358	45	2018	8
22	97 Ave & 183 St		3	3921		2014	6
23	184 St & 97 Ave		8	9008		2014	6
24	184 St & 95 Ct		17	6462		2014	6
25	US 1 & SW 136 St		**50**	21029	55	2017	4
26	US 1 & SW 144 St		**46**	19861	49	2017	4
27	US 1 & 146 Block		12	19029	43	2017	4
28	US 1 & 152 St		**76**	22767	65	2017	4
29	US 1 & 159 Block		15	16429	28	2017	4
30	US 1 & 160 St		**62**	17371	35	2017	4

5 BEST PRACTICES

A review of five studies was conducted for the Village of Palmetto Bay. Best Practices included pedestrian and bicycle accessibility, transit stop design and accessibility, and Mobility Hub planning. The following studies are recommendations for the Village of Palmetto Bay to refer to when implementing plans and improvements related to bicycle, pedestrian and transit mobility.

5.1 Toolkit for Assessment of Bicycle and Pedestrian Access to Transit Stations

The Los Angeles County Metropolitan Transportation Authority (Metro) began a community-based planning project with Odyssey, a nonprofit organization for transportation issues, in order to increase walking and bicycling to four selected Metro Green Line stations. The project assessed and recommended physical infrastructure located in low-income neighborhoods in the South Bay. Their focus was to make transit a safe and attractive option. The geographic focus was the major bus transit hubs of Hawthorne, Crenshaw, Vermont, and Avalon. Tools such as GIS software, demographic analysis, Internet, interviews, topographic maps, and site visits were used. First, four stations were identified as potential candidates. Within a half-mile of the station, GIS mapping was used to better understand the boundary, in terms of school attendance, local government jurisdictions, and demographics. Significant station maps were created, such as base maps, study areas, demographics (income, language, means of transportation, race, and gender), land use, school boundaries, and population density. Then, frequency was counted during peak morning and afternoon hours to better understand riders' commute. After collecting 175 interviews (based off sidewalk and street issues, intersections, pedestrian signals, park-and-ride lots, traffic, safety, etc.) Metro used demographic analysis to create a brief plan. Key issues regarding the bike and pedestrian access were highlighted, see Figure 43 and 44, and recommendations for improved walking and biking conditions were given to improve bike and pedestrian access around transit hubs. Our study included bicycle and pedestrian access analysis of the proposed Mobility Hubs. The Village of Palmetto Bay can utilize this study to assess bicycle and pedestrian access for other transit stops within or near the Village of Palmetto Bay to improve transit accessibility.

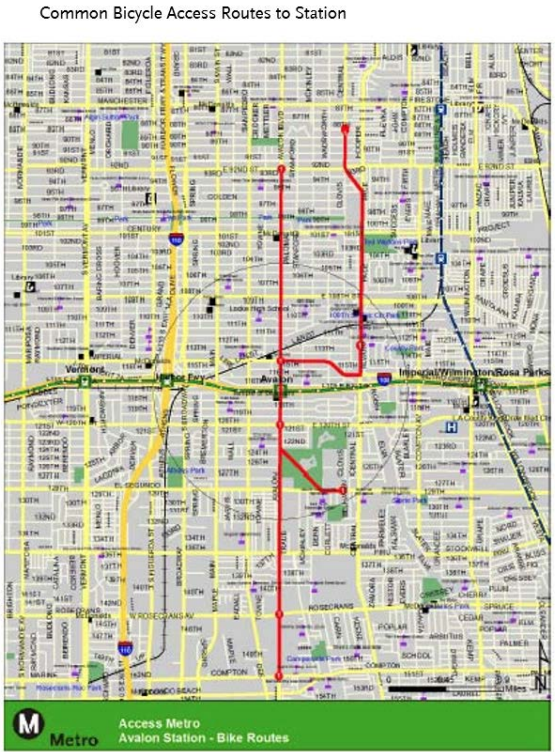


Figure 44: Metro Bicycle Access Analysis

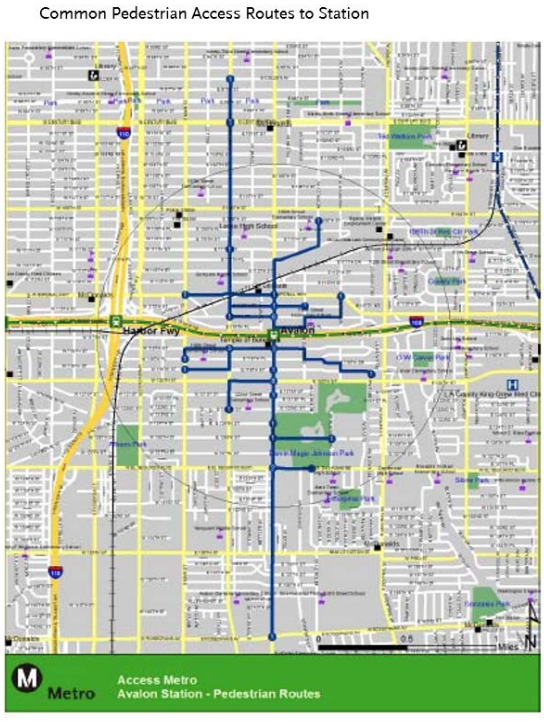


Figure 43: Metro Analysis of Pedestrian Access

5.2 Transit Design Guide: Standards and Best Practices

The *Transit Design Guide: Standards & Best Practices* by the Capital Metropolitan Transportation Authority (Metro) of Austin, Texas was created for the design and operation of transit supportive roadways and facilities. By addressing different transit criteria, like stop spacing, placement, and configuration, Metro could create better pedestrian environments.

This review only focuses on bus design points in Austin, Texas and several suburbs in Travis and Williamson counties. There are seven main goals to design a bus stop: safety, thermal comfort, acoustic comfort, wind protection, visual comfort, accessibility, and integration (Zhang, 2012). The bus stop design involves techniques such as lighting, seating, cover, amenities, information, vegetation, traffic management, pedestrian infrastructure, and bicycle infrastructure, were considered (Zhang, 2012).

Modern tools such as digital information technology allow for up-to-date information tools like flags, system maps, and placards require enormous time and financial resources for a transit agency while digital information technology allows to present information to transit users in a quick, up-to-date, and easy to understand format that is also a cost-effective investment for the agency (Zhang, 2012).

There are several bus stop design considerations which are very important in attracting people to use bus including: spacing, stop placement and configuration, sidewalk stop, curb extension, in-street boarding island, side boarding island, amenities, public art, signage, lighting, street furniture, transit shelters, seating, wayfinding, information technology, advertising, fares, and boarding and passenger queue management (NACTO, 2016). The Village of Palmetto Bay could refer to the Transit Design Guide for improvements to the iBus, additionally, the Village should take the seven main goals identified when designing a bus stop for transit within the Village. Figure 45 includes common bus stop configurations.

Near-side stops occur when the bus stops before the intersection. Advantage are that passengers can board and alight closer to intersection crosswalks, which may facilitate better transfers. Near-side stops also eliminate the potential of alighting passengers waiting through a red light.

Far-side stop occur when the bus stops after proceeding through the intersection. These stops are preferred at intersections in which buses make left turns and intersections with a high volume of right turning vehicles. Far-side stops are also preferred on corridors with Transit Signal Priority (TSP) and encourage pedestrians to cross behind the bus.

Mid-block stops occur when the bus stops in between intersections, usually in a well-defined area. They should be considered when pedestrian crosswalks are present. If pedestrian crossings are not present, Capital Metro will work with appropriate entities to address the potential of installing treatments like flashing pedestrian beacons to accommodate this issue. Mid-block stops may be the only option at major intersections with dedicated turn lanes.

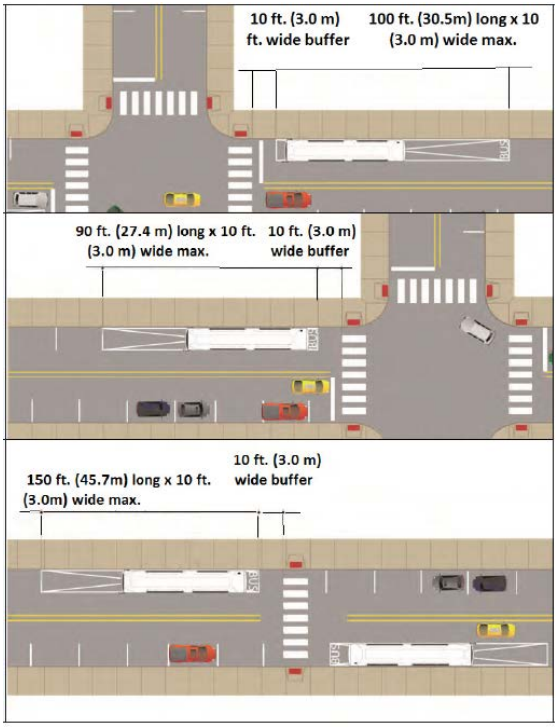


Figure 45: Common Bus Stop Configurations (Source: SEPTA, 2012)

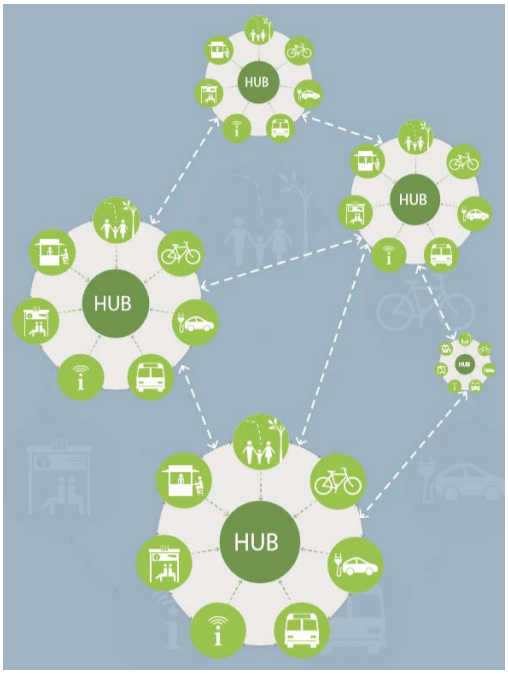


Figure 46: Mobility Hubs: A Reader's Guide

5.3 Mobility Hubs: A Reader's Guide

The *Mobility Hubs: A Reader's Guide* in Los Angeles, California by Los Angeles County Metropolitan Transportation Authority (Metro) and Southern California Association of Governments (SCAG), created in 2015 (Figure 46), intends to improve the transit user experience to and from the station. The main goal of this study was to maximize connectivity and access for transit riders by providing multimodal transportation services and activities around transit stations. This guide is focused on Los Angeles neighborhoods.

The Plan used different strategies like enhancing the public realm around the stations to encourage walking (sidewalks, street trees, street lights, wayfinding) and providing racks for bicycles on buses and trains to support bicycle share programs, ride share and car share, as well as local shuttle services. Hubs have three categories including: neighborhood mobility hub, central mobility hub, and regional mobility hub.

In this study, authors considered seven different ways of connecting to transit, such as bicycle and vehicle connections, bus infrastructure, information/ signage, support services, active uses, and pedestrian connections. Bicycle connections focus on facilitating and encouraging bike ability such as: bicycle share, bicycle parking and bicycle supportive facilities. Vehicle connections focus on encouraging and developing ride share, car share, and adoption of alternative fuel sources and green technology such as electric vehicles. Bus infrastructure concentrates on bus ridership and bus layover zones in particular. Another important component is information/ signage which focuses on improving wayfinding, real-time information, and enabling Wi-Fi connectivity. Support services focuses on ensuring safe and comfortable environments for users such as ambassadors, waiting areas, and improved safety and security. Active uses concentrate on supporting a vibrant and mixed-use environment such as retail uses and quality public spaces. Finally, pedestrian connections focus on walkability and pedestrian connections supporting easy access to and at the Mobility Hub. The Village of Palmetto Bay can refer to this guide to plan for the different types of users for Mobility Hubs and transit.

5.4 Mobility Hubs Guidelines: for the Greater Toronto and Hamilton Area

Set in Toronto, Canada, the *Mobility Hub Guidelines for the Greater Toronto and Hamilton Area* by Metrolinx (2011) communicates the mobility hub concept through three objectives; seamless mobility, placemaking, and successful implementation. By dividing the area into four zones, mobility hubs can be better designed according to each zone's opportunities. The guidelines focused on growth and development around major transit stations, allowing for more people to live near transit services and making more destinations accessible by transit.

Their strategies include: 1. Phased plans that outline density and transportation target-based phasing. 2. Developed phased and interim zoning bylaws and designations for mobility hub areas, timed with implementation of rapid transit infrastructure and achievement of density targets to provide guidance and certainty to developers. 3. Included Interim use provisions in zoning bylaws to support phasing strategies in development. 4. Developed and implemented interim transit service plans that would support and ultimately be replaced by the regional rapid transit network. 5. Transit station designs provided flexibility for change as rapid transit network is implemented. 6. Required the development of phasing strategies in development plans that include density and mobility targets connected to implementation of transit and mobility infrastructure for all large-scale and long-term developments. (*Layout of The Mobility Hub Guidelines*, 2011).

When planning in a mobility hub, it is often valuable to divide the area into zones to scope the planning exercise and understand the needs and opportunities in each area. Four zones are identified, as characterized in Figure 47. They include the primary zone, secondary zone, tertiary zone, and catchment area.

Each zone has two considerations: transportation and land use. Local physical features, policy and planning framework should also be considered. Physical features include: practical walking routes, existing environmental features, infrastructure barriers.

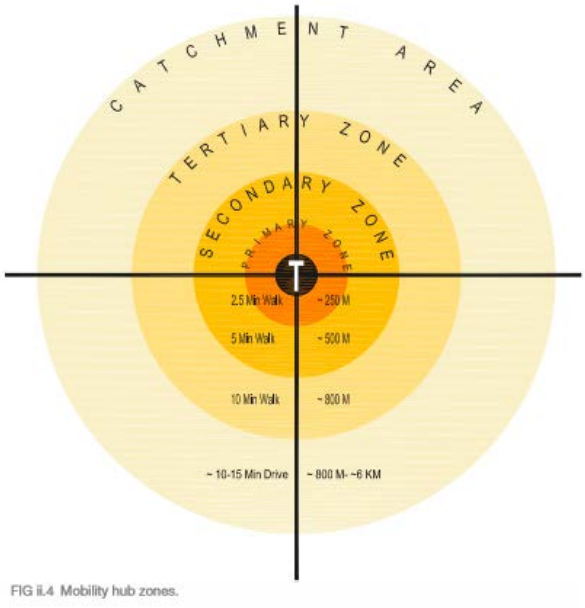


Figure 47: Metrolinx Mobility Hub Zones

5.5 Reimagining the Urban Form: Austin's Community Mobility Hub

"REIMAGINING THE URBAN FORM" by Rocky Mountain Institute (RMI) in Austin, Texas (2018), addresses advancing a paradigm of "new mobility"—mobility as a service that is electric and ultimately autonomous. RMI recognizes the shift required to how cities are designed – with a focus on reversing the current trend of auto-centric design, and reimagining our cities as places for people. Located in Austin, Texas, the study includes two goals: enhancing walkable access to amenities and mobility services. RMI's hypothesis included that changes to one of the identified goals would impact the other, and through doing so contribute to reduced emissions, improve physical health, improve mental health and well-being, and improve equity and access.

To do so, collaboration was done with five mobility service companies, a public engagement team, and a number of community organizations to design and implement a neighborhood-based access point for mobility, where transit and mobility services would be readily available to use. The team introduced placemaking and urban space improvement with the intention of enhancing the experience of accessing services and utilizing the surrounding space. Tactics included: addition of shade, trees, landscaping, and food trucks to spaces largely dedicated to the automobile (see Figure 48, on the next page, for an example).

The Community Mobility Hub came together in three phases including:

1. Baseline insights, included surveys and interviews.

2. Post-mobility, included mobility service deployment, followed by a survey to measure perception, and

3. Post-placemaking, included a final survey and monitoring of behavior after placemaking improvements.

Key findings included:

- Reported positive experience with available mobility services.
- Fewer challenges associated with transportation.
- Placemaking improvements increased walk trips by 25%, dwell times increased by 144%, and a 39% decrease in automobility use.
- Dockless services likely replacing vehicle trips.
- Reductions in greenhouse gas emissions (Carbon, particulate matter, and NOx).
- Reductions in obesity, improved respiratory health, and healthy birth weight.
- Enhanced mental health and well-being.

The study provides an easy to replicate methodology in creating a Community Mobility Hub, highlighting the need and opportunity to activate surrounding areas with additional services and space improvements. Especially in areas outside of the downtown core and employment centers. Designing spaces which are context-sensitive and community driven, have an opportunity to transform neighborhoods.

Figure 48: Placemaking Techniques

Implemented near Transit at East 12 St & Chicon St

6 TRANSIT INFRASTRUCTURE

Most transit stops within the Village include only signage, while a few stops have benches (see Figure 49, pictures of existing bus stops). Pictures also demonstrate the that some bus stops within the Village are not accessible to individuals with disabilities. The Village currently lacks bus shelters, but is in the process of adopting a design for a bus shelter.

Figure 49: Typical Village Bus Stop

(Right - Bus Stop with Signage, Left – Bus Stop with Bench)

All stations along the South-Dade Transitway include shelter, seating, trash receptacles and signage. Currently, many of the stations along the Transitway are in poor condition. As improvements for Bus Rapid Transit are made, existing stations will be rehabilitated.

Capital Metropolitan Transportation Authority's *Transit Design Guidelines: Standards & Best Practices* believe **basic transit amenities, such as signage, lighting, shelter, seating and bicycle racks, paired with pedestrian and bicycle access, are key components for improving transit access and usability**. These basic transit amenities can provide locals with an enhanced experience while attracting people and, creating a sense of place. Incorporating amenities into a well-designed transit stop "can expand pedestrian capacity and promote transit streets as a desirable place in the urban environment. Creating a simple, comfortable, and pleasant experience at the transit stop grows the capacity of the whole system, and can help transform transit from a basic network to a sought-after mobility option."[19]

Providing basic transit amenities, as outlined above increases use and ridership. As residents in Palmetto Bay age, they will require the need for transit. Without access and shelter, ageing residents of Palmetto Bay will be less likely to utilize existing transit options. Figure 50, on the next page, is a map of existing transit stops within the Village.

[19] National Association of City Transportation Officials (NACTO), 2016

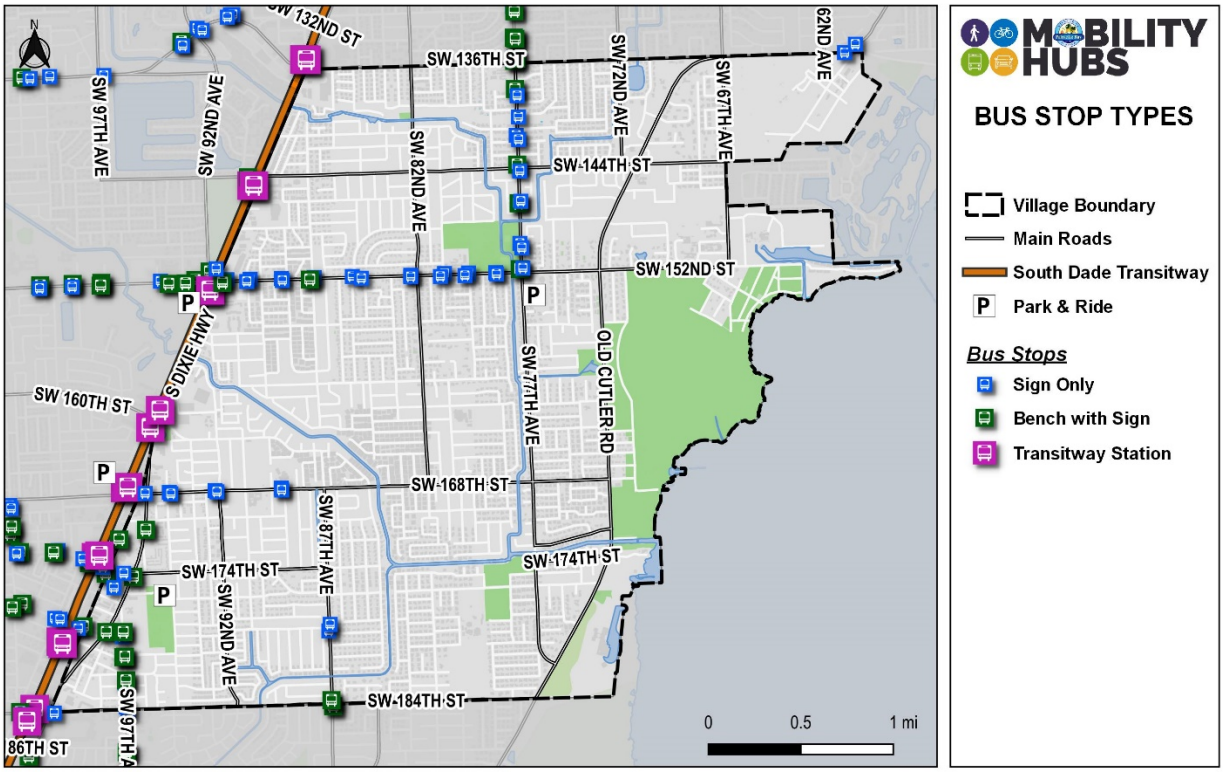


Figure 50: Existing Village Bus Stop Types

(Source: DTPW)

Our study included identifying locations for transit infrastructure improvements within the Village for enhanced connectivity and accessibility. The locations identified also enhance connectivity to the South-Dade Transitway and proposed Mobility Hubs, discussed in the next section. A total of seven (7) locations have been identified for transit infrastructure improvements. Of the seven (7) locations, five (5) are upgrades to existing transit stops and two (2) are new locations for transit. Transit infrastructure improvements include basic transit amenities - as was discussed on the previous page – as well as improvements for people with disabilities (ADA Improvements), enhanced bicycle and pedestrian access. Locations were selected based on public feedback, connectivity, accessibility and proximity to schools.

Recommended improvements include:

- Shelter
- Seating
- Signage with Bus Schedule
- Bicycle Rack
- Trash & Recycle Receptacle
- Fill Sidewalk Gaps within ¼ Mile
- Enhanced Crosswalks
- Pedestrian Crossing Signs
- ADA Improvements[20]
- Shared Mobility (i.e. Bikeshare, Scooter Share, Rideshare)
- Flashing Beacons at Midblock Locations
- Dark Sky[21] Friendly Lighting

[20] Americans with Disabilities Act (ADA) of 1990 requires standards for Accessible Design to sites, facilities, buildings and elements for individuals with disabilities.

[21] Dark Sky Principles are defined by the International Dark-Sky Association that minimize the harmful effects of light pollution.

Figure 51 is a map of the identified locations for transit improvements. The pictures illustrated in Figure 52, on the following page, include examples of temporary bus shelters that could be utilized to gauge how new transit stops perform. **Temporary or pop-up bus stop such as those illustrated in Figure 52 could be used for the placement of future transit stops in the Village of Palmetto Bay.**

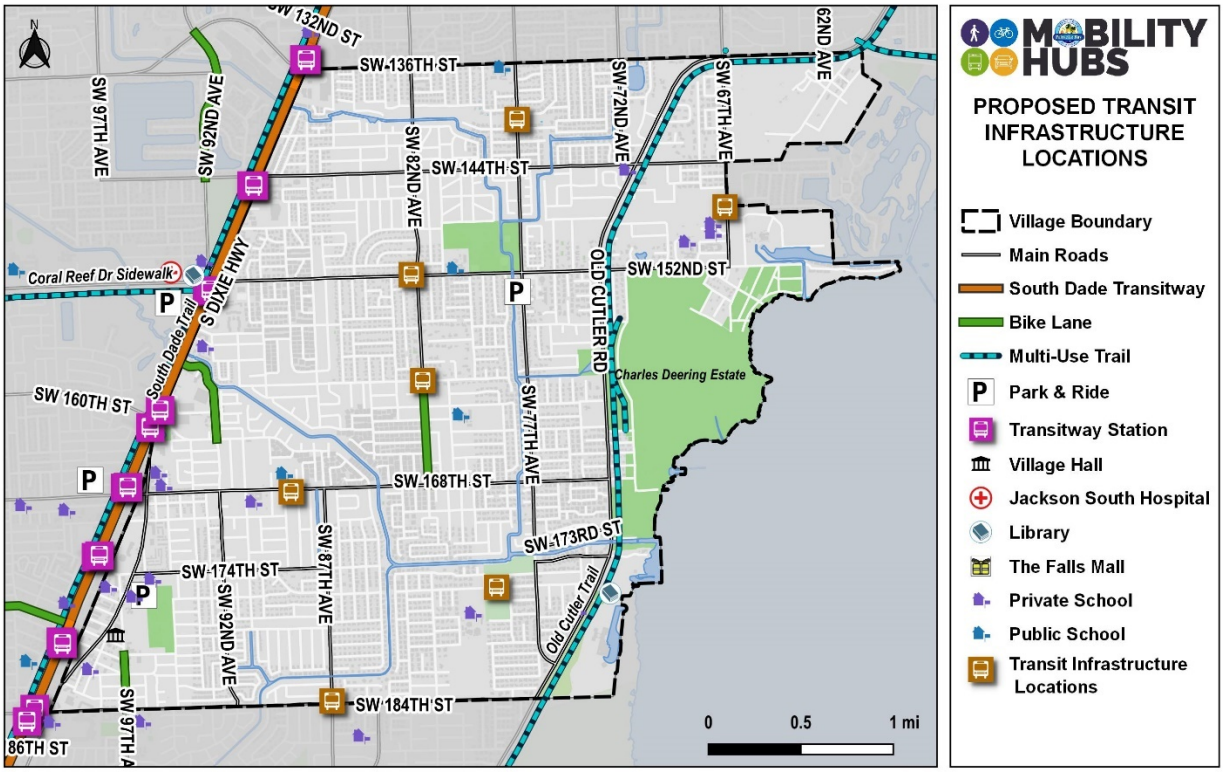


Figure 51: Proposed Transit Infrastructure Locations

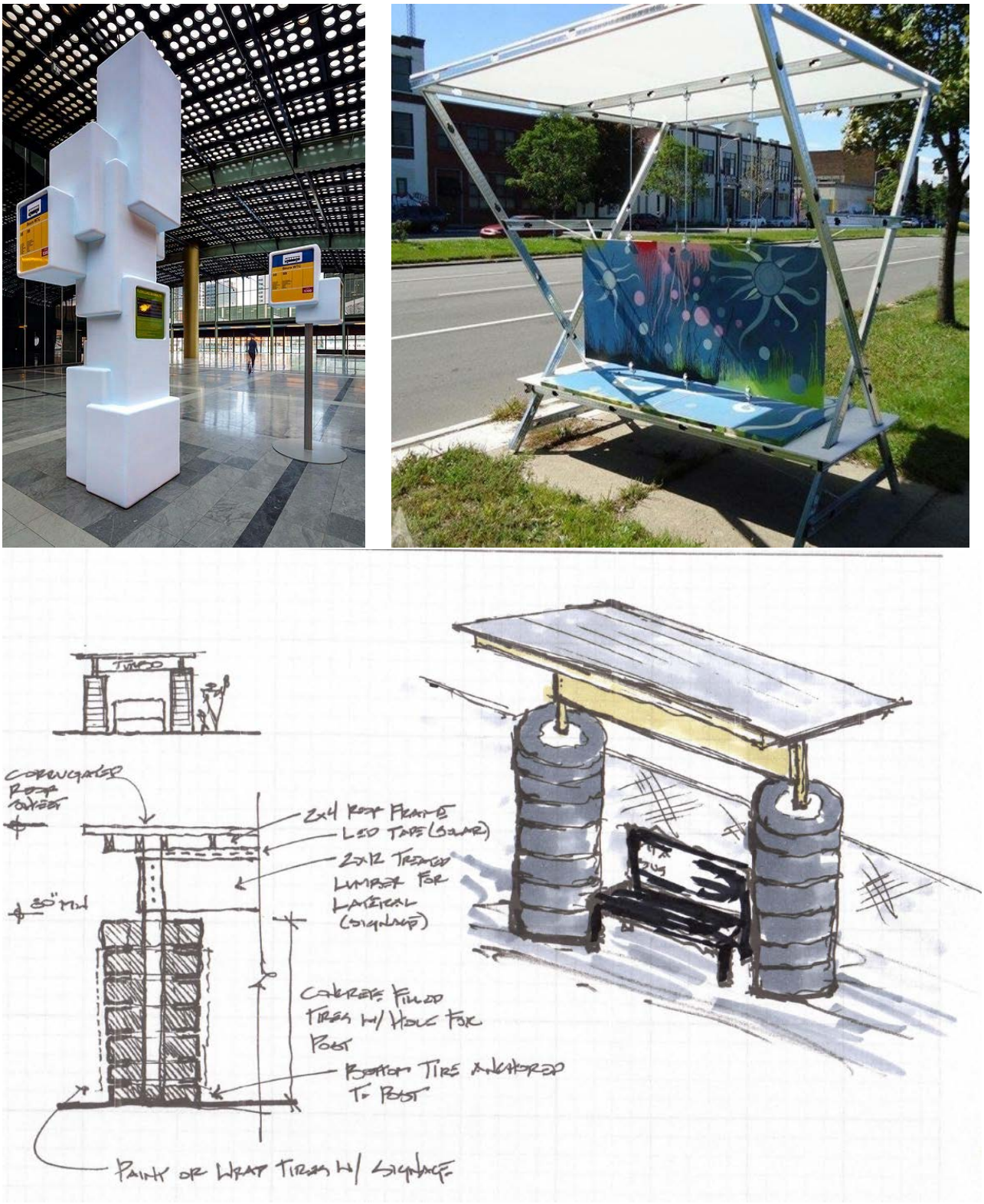


Figure 52: Examples of Temporary Bus Shelters

(Top Left: Rotterdam Pop Up Stop; Top Right: Detroit Temporary Bus Stop Shelter made of demolished homes; Bottom: Modular Bus Stop Design by Turbo Nashville)

Alternative transit routes were explored with the purpose of the Village increasing transit accessibility, the proposed routes could operate during peak traffic times, with the goal of enhancing connectivity and accessibility to the South-Dade Transitway and Village schools. The proposed routes could stop at proposed Transit Infrastructure locations, proposed Mobility Hubs, and existing Transitway Stations and/or Future BRT Stations.

Proposal A is a single route option, ideally with two buses operating in clockwise and counter-clockwise movement. The route begins at Old Cutler Road and SW 168th Street. *Bus A1* would operate as such: head south along Old Cutler Road, turn west onto SW 176th Street, then turn south onto SW 83rd Avenue, turning west onto SW 184th Street onto U.S. 1 / South Dixie Highway south, before turning west onto SW 186th Avenue, turning north onto the Transitway to the SW 184th Street Transitway Station. Bus A1 would continue north along the Transitway stopping at all Transitway Stations before heading east onto SW 136th Street, where it will turn south onto SW 77th Avenue, then east at SW 144th Street, turning south onto SW 67th Avenue / Ludlam Road, head west along SW 152nd Street, before turning south onto SW 82nd Avenue, turning east onto SW 168th Street and Old Cutler Road. *Bus A2* would operate in the opposite direction, heading west along SW 168th Street turning north onto SW 82nd Avenue, then east on SW 152nd Street to SW 67th Avenue / Ludlam Road north, west onto SW 144th Street, then north on SW 77th Avenue to SW 136th Street west toward the Transitway, then south towards SW 186th Street, onto U.S. 1 / South Dixie Highway to head east on SW 184th Street before turning north onto SW 97th Avenue / Franjo Road, east on SW 174th Street north on SW 92nd Avenue, east on SW 168th Street, south on SW 87th Avenue and east on SW 184th Street to SW 83rd Avenue north to SW 174th Street east to Old Cutler Road north, ending at SW 168th Street and Old Cutler Road. See Figure 53 for a proposed map of the route.

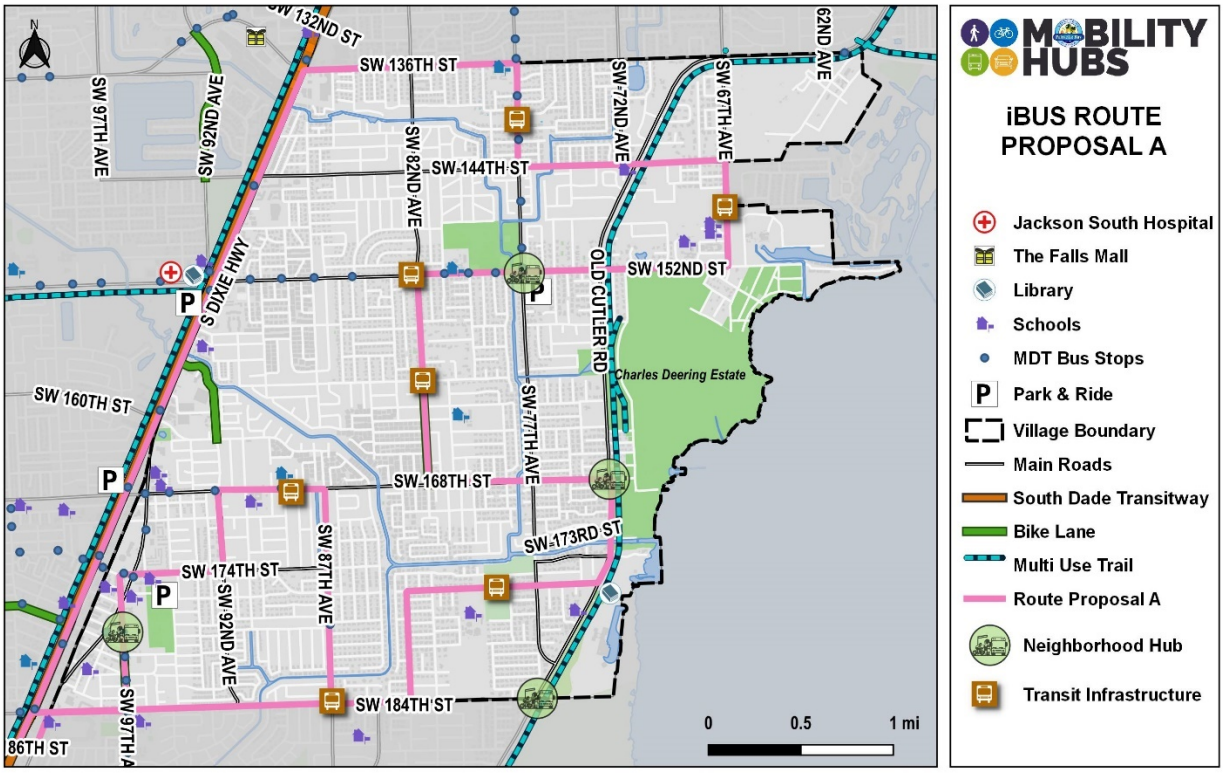


Figure 53: iBus Single Route Proposal A

Proposal B is a multi-route option, similar to Proposal A, but separating the routes into smaller sections for better efficiency. All three routes would begin at SW 168th Street and Old Cutler Road. South Palmetto *Route B1* would operate as such: head south along Old Cutler Road, turn west onto SW 174th Street to SW 83rd Avenue south, to SW 184th Street west to U.S. 1/ Dixie Highway south, turning west onto SW 186th Avenue to turn north onto the Transitway before stopping at the SW 184th Street Transitway Station, head north along the Transitway to SW 174th Street east, to SW 92nd Avenue north, turning east onto SW 168th Street to SW 87th Avenue south, before heading west on SW 184th Street to Old Cutler Road north, ending at SW 168th Street and Old Cutler Road. East Palmetto *Route B2* would operate as such: head north along Old Cutler Road, turn east onto SW 152nd Street to SW 67th Avenue / Ludlam Road north, turning west to SW 144th Street where it will head south along the Transitway to SW 168th Street, turning east and end at Old Cutler Road. Palmetto North *Route B3* would operate as such: head west onto SW 168th Street to SW 82nd Avenue north, turning east on SW 152nd Street, stopping at the iBus Express Park & Ride Lot, head north along SW 77th Avenue to SW 136th Street west to the Transitway heading south to SW 152nd Street, turning east towards SW 82nd Avenue south to SW 168th Street, turning east and ending at Old Cutler Road. See Figure 54 for a proposed map of these routes.

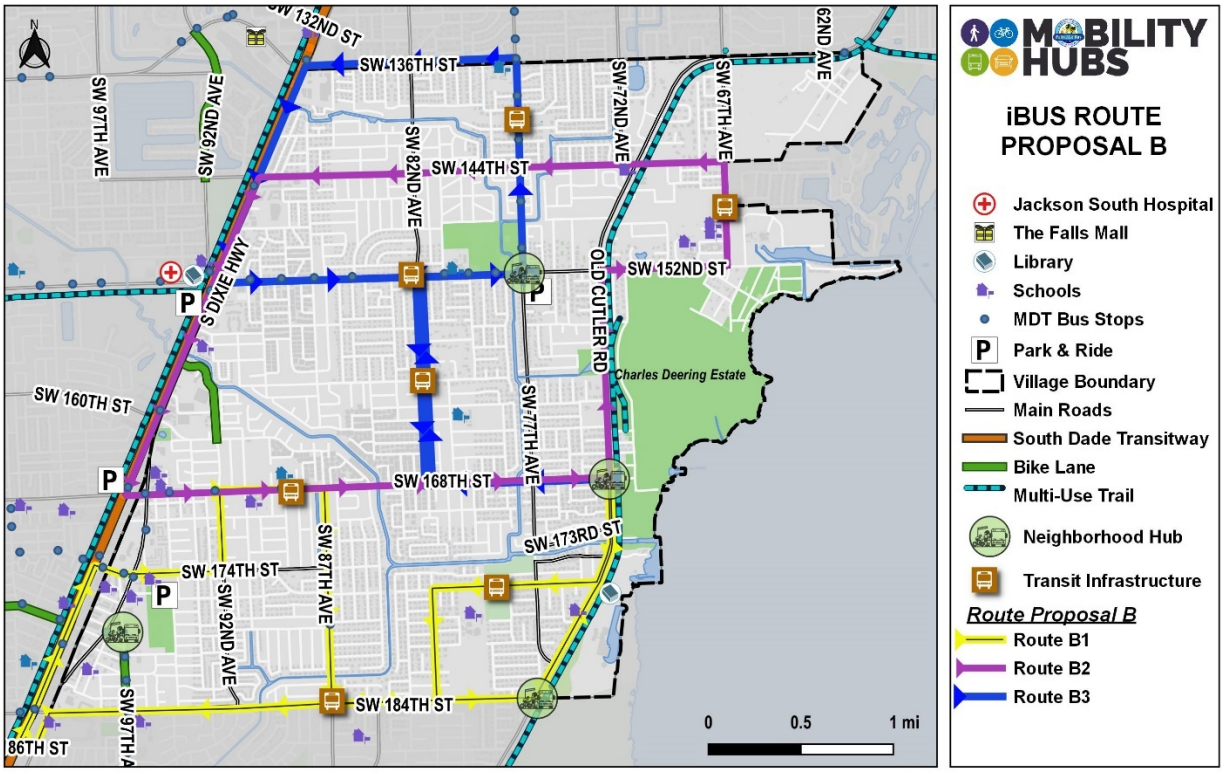


Figure 54: iBus Multi-Route Proposal B

The routes include areas that are not currently covered by transit but are, near schools, recreational areas, and neighborhoods. The goal of the proposed routes is to encourage visitors and residents to utilize transit to/from the South-Dade Transitway, specifically residents who work in Downtown and school traffic. This could minimize additional traffic impacts to the community. The Village could begin utilizing existing bus stops for the proposed routes. For stops that currently do not exist or are not to be shared with Metrobus, the Village could install a temporary bus stop with shade, seating, and signage amenities, prior to a permanent investment to gauge use and success. Transit recommendations for the Village include:

- Marketing New Route(s) via Social Media, Print Media, Village Website, Village Newsletter and E-mail blasts.
- Market to all local schools within and surrounding the Village of Palmetto Bay.
- Brand all Village transit including the iBus and Freebee services.
- Ensure consistency in branding, marketing and communication.
- Operate new routes during peak travel times, include school arrival and dismissal times.
- Consider a 'pop-up' bus stop as a testing sites for 12 months prior to relocating or installing a permanent bus stop.
- Minimize overlap with Metrobus routes, routes should complement and feed one another.
- Work with local schools to promote transit and work with volunteers to chaperone students to and from the Transitway.
- Coordinate with the Town of Cutler Bay and Village of Pinecrest to create a transit route between the three (3) cities to address school traffic.

7 PALMETTO BAY MOBILITY HUBS

Mobility Hubs are places for people where transportation options are accessible and available. Placemaking is an important component of Mobility Hubs, as mentioned in *Reimagining the Urban Form*, placemaking strategies increased pedestrian activity and socialization. Placemaking is a crucial component to the success of future Mobility Hubs for any community. This will, facilitate in creating a sense of place within the neighborhoods where the Hubs will be placed. Furthermore, placemaking allows the *community* to envision the place and what it *could* become, providing a unique and creative destination for the people. With the assistance of the Village of Palmetto Bay, the community can instill pride and allow connection to these places**.** Figures 55 and 56 are examples of vibrant public places. There are eleven (11) key principles to placemaking. Figure 57 on the next page is the 'Place Diagram,' a tool that can be used for placemaking[22]:

Figure 55: Market Square, Pittsburgh

Figure 56: Riverwalk, San Antonio, TX

1. The community is the expert.
2. You are creating a place, not a design.
3. You can't do it alone.
4. They'll always say, "It can't be done."
5. You can see a lot just by observing.
6. Develop a vision.
7. Form support functions.
8. Triangulate.
9. Start with the petunias.
10. Money is not the issue.

[22] Project for Public Places (PPS)

11. You are never finished.

Additionally, UrbanScale, a blog committed to helping communities become more vibrant, stressed these five (5) attributes in creating successful places:

1. Small
2. Surrounded by diversity
3. Mix public & private together
4. Occupy important locations
5. Designed to draw people in

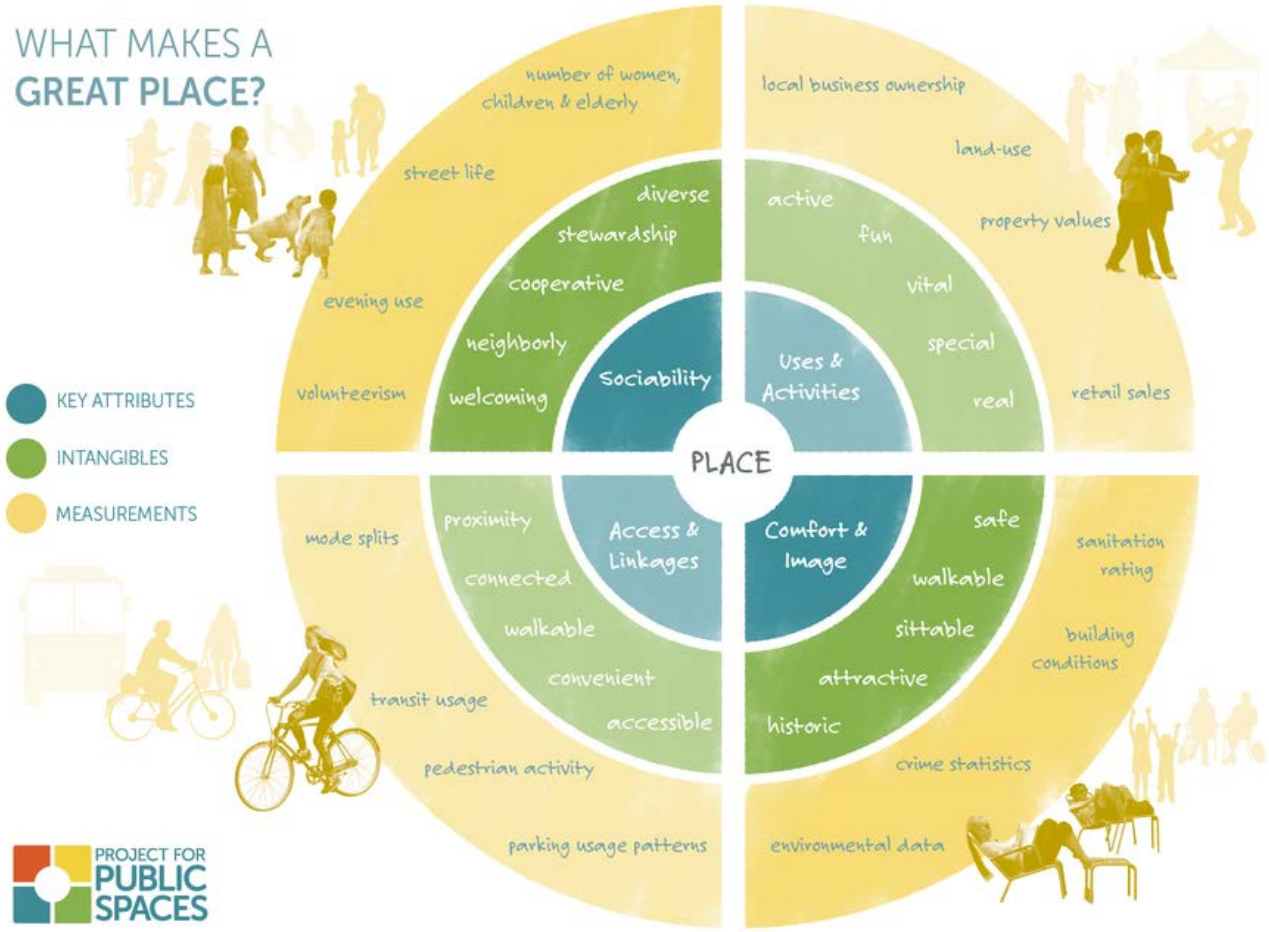


Figure 57: The Place Diagram

(Source: pps.org)

(A tool developed by PPS to help communities evaluate places. The inner ring represents a places key attributes, the middle ring its intangible qualities, and the outer ring is measurable data)

7.1 Hub Site Selection

Utilizing existing data, community input and assistance from Village staff and the Stakeholder Advisory Committee, four (4) locations were identified for the creation of Neighborhood Mobility Hubs.

Neighborhood Mobility Hubs are small-scaled Hubs, serviced by at least one (1) transit route, adjacent to residential uses.

Table 6 is a list of the Neighborhood Mobility Hubs identified for the Village of Palmetto Bay. Figure 58 is a map of the locations of the proposed Neighborhood Mobility Hubs.

Table 6: Proposed Neighborhood Mobility Hubs

Name	Location	Routes	Existing Stop
Coral Reef	SW 77 Ave. & SW 152 Ave.	57 & iBus Express	Yes
Old Cutler Commercial	Old Cutler Rd. & SW 168 Ave.	None	No
Downtown	Franjo Rd. & Hibiscus St.	1 & Freebee Express	Yes
Village Center	Old Cutler Rd. & SW 184 St.	None	No

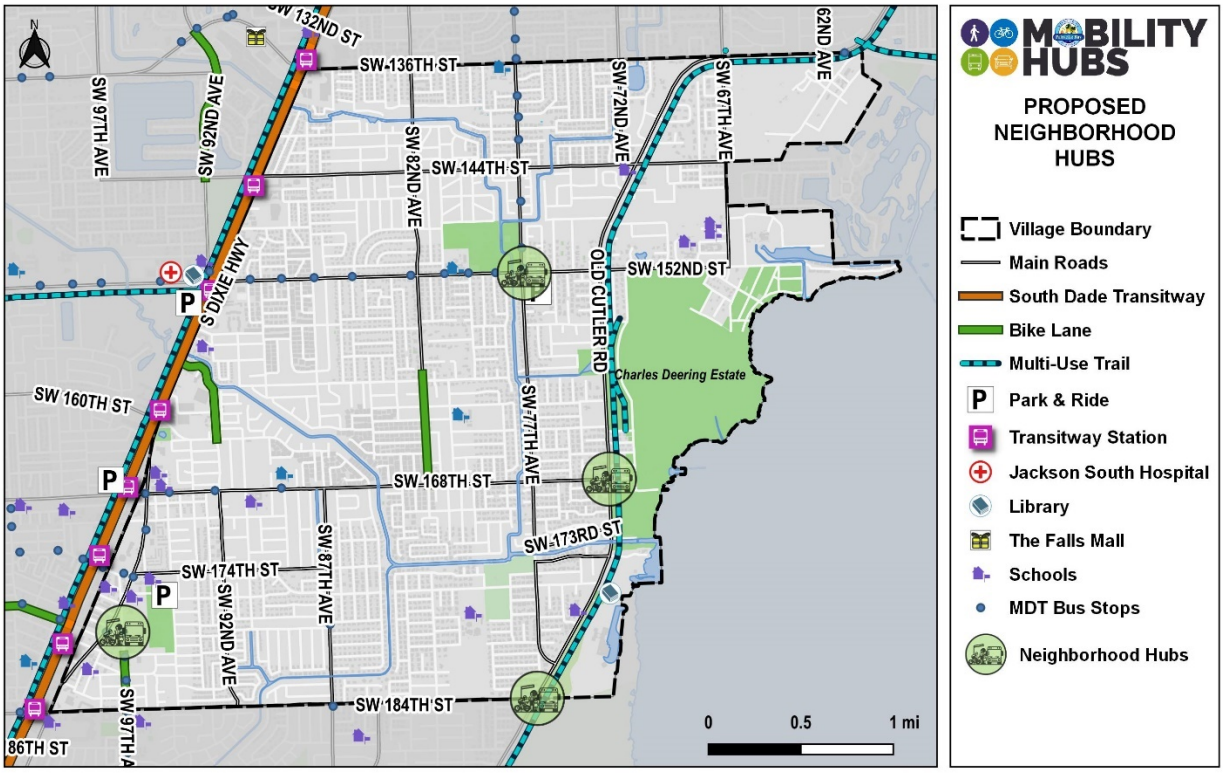


Figure 58: Location of Proposed Neighborhood Hubs

Each of the selected sites were analyzed further, the following characteristics were documented within a ¼-mile and ½-mile radius of each site, see Figure 59, on the next page:

- Barriers
- Accessibility
- Existing Ridership Data
- Proximity to Trails
- Existing Bicycle & Pedestrian Facilities
- Population
- Employment
- Community Facilities
- Bicycle & Pedestrian Crash Data
- Existing Infrastructure
- Zoning & Land Use
- Existing Roadway Conditions & Traffic
- Right-of-Way
- Annual Average Daily Traffic (AADT)

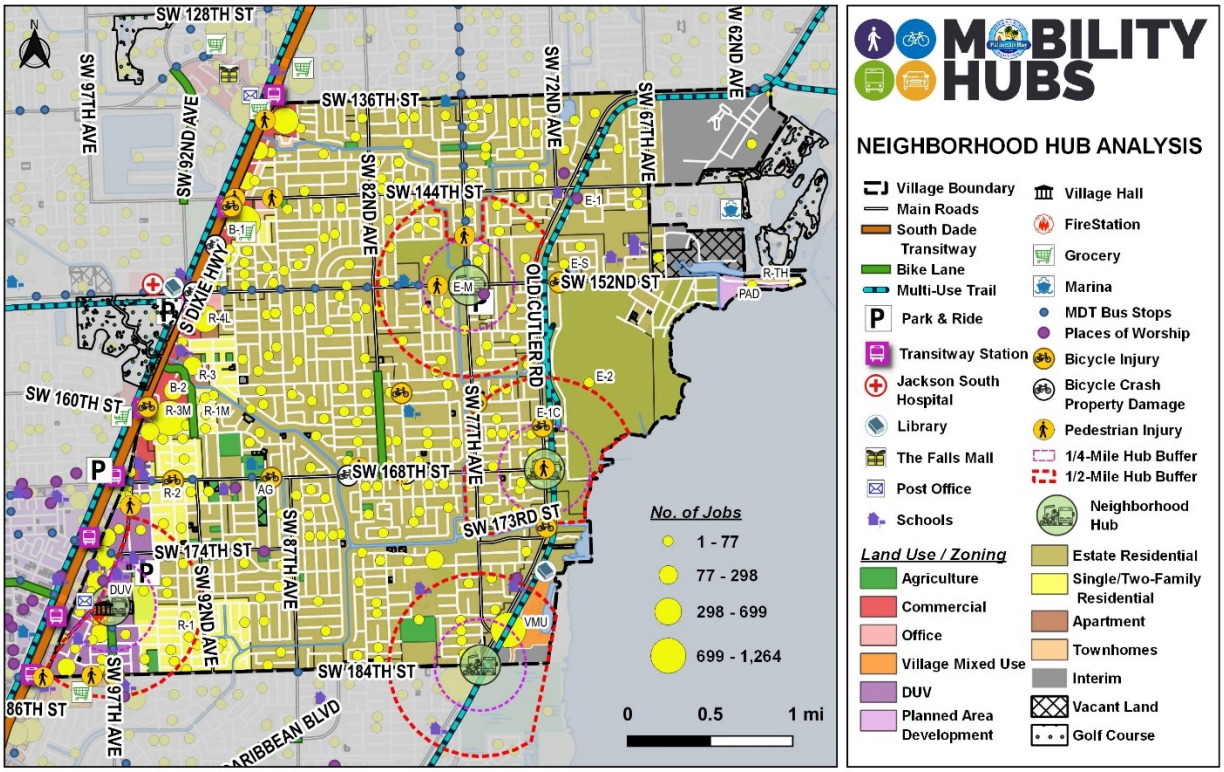


Figure 59: Neighborhood Hub GIS Analysis

7.1.1 Coral Reef Neighborhood Hub Analysis

The proposed Neighborhood Mobility Hub is surrounded by residential uses, Coral Reef Park, St. Richard's Catholic Church, and Coral Reef Elementary School. It is also the location of the Village operated iBus Express Park & Ride Lot, offering free non-stop service to the Dadeland South Metrorail Station. Coral Reef Park is a 50-acre park with sports fields, courts, playground, café, trail, open space, and pinelands preserve. The park has two (2) pedestrian bridges crossing over the canal and is a popular destination for pedestrian and bicycle activity. Figure 60 includes pictures of existing conditions for the area. Table 7 provides additional data within a ½-mile radius for the area.

Figure 60: Pictures of Existing Conditions

(Left to Right) Park & Ride Lot Signage, Utilities placed on sidewalk, Intersection

Table 7: Coral Reef Hub Characteristics

Hub Data		Route	Average Monthly Ridership (DTPW, Oct. 2019)	Bus Type
Name	Coral Reef	57	8,131	Regular
Type	Neighborhood	iBus Regular*	85	Local
Location	152 St / 77 Ave	iBus Express*	1,513	Express
Road Class	3 & 5	**Bike/Ped Facilities**		**Distance (Miles)**
Lanes	2	Old Cutler Trail		0.4
Speed Limit	35	South Dade Trail		1.7
Median	No	Coral Reef Sidewalk		1.7
ROW	100 / 95 FT	**NOTES:** Local streets missing sidewalks, SW 77 Avenue does not connect south. Pedestrian bridges located within Coral Reef Park.		
Roadway Width	45 / 25+ FT			
Bus Stop ID	C77V1523 (W)			
Bus Stop ID	C77V1522 (E)			

**Ridership data for the iBus provided by the Village of Palmetto Bay*

Figure 61 and Table 8 is the hub analysis for the Coral Reef Neighborhood Hub.

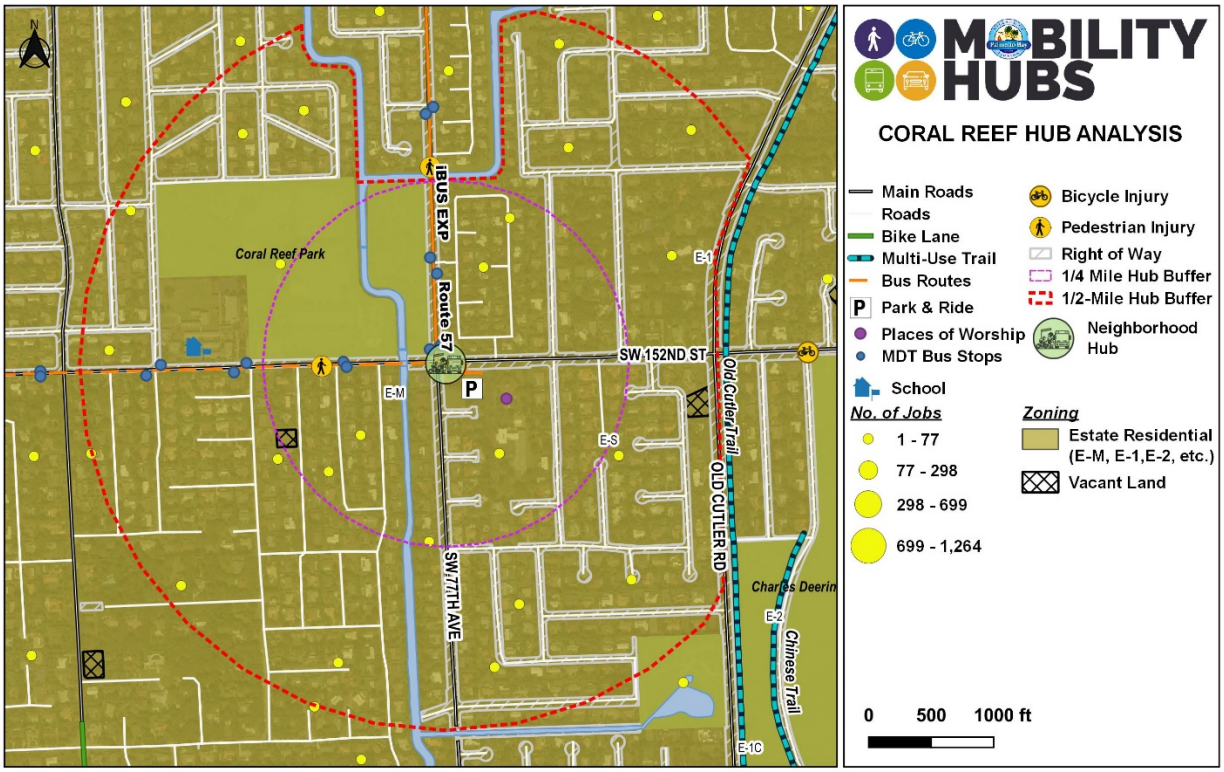


Figure 61: Map of Coral Reef Neighborhood Hub Analysis

Table 8: Coral Reef Hub Analysis

Criteria	1/4 Mile	1/2 Mile
Population	5,042	7,100
Bicycle Facilities	None	Trail
Pedestrian Facilities	Missing Sidewalks on Local Streets	Missing Sidewalks on Local Streets
Employment	28	989
Park	Coral Reef Park	Charles Deering Estate
School	Private K-8th	Coral Reef Elementary
Community Facility	Canals	Deering Glade Preserve
Pedestrian Crashes	1	1
Bicycle Crashes	0	1
No. of Bus Stops	7	11
Redevelopment Potential	Low	Low
Village Zoning	Estate Residential	Estate Residential

7.1.2 Old Cutler Neighborhood Hub Analysis

The proposed Neighborhood Mobility Hub is located near the commercial center on Old Cutler Road and SW 168th Street, adjacent to surrounding residential uses and the Deering Estate. This area is a popular place for bicyclists and pedestrians alike. Some of the highest pedestrian and bicycle counts were taken at this location. On weekends, bicyclists stop at the nearby Starbucks to socialize, relax, and enjoy a snack or coffee before riding off. The over 400-acre Deering Estate built in the 1920s, is a registered Historical destination, and popular place for locals and tourists alike.

The commercial area has primarily drive-thru uses: two gas stations, a bank, a convenient store, and small strip commercial centers with retail and office uses. When the area becomes available for redevelopment, the Village is recommended to work with the developer to ensure these parcels are redeveloped with bicycle and pedestrian access. Examples include, curb radii reductions, installation of sidewalks, and clearly delineated bicycle and pedestrian facilities, with the objective of enhancing safety and non-motorized accessibility. Figure 62 are pictures of the existing conditions for the area. Table 9 includes additional data with a ½-mile buffer for the Old Cutler Neighborhood Hub.

Figure 62: Pictures of Existing Conditions

(Left to Right) Old Cutler Trail Driveway Crossing, Utilities blocking Sidewalk, Missing Sidewalk on Old Cutler Road

Table 9: Old Cutler Neighborhood Hub Characteristics

Hub Data		Route	Average Monthly Ridership (DTPW, Oct. 2019)	Bus Type
Name	Old Cutler	None Existing: iBus Route Proposed		
Type	Neighborhood	**Bike/Ped Facilities**		**Distance (Miles)**
Location	Old Cutler Rd / SW 168 St.	Old Cutler Trail		0
Road Class	5-Mar	Chinese Trail		0.4
Lanes	2	82 Ave Bike Lane		1
Speed Limit	30	*South Dade Trail*		2.6
Median	No	**NOTES:** Old Cutler Road westside sidewalks gaps, SW 168 Street sidewalk gaps on north south side, Starbucks Plaza lacks pedestrian access.		
ROW	90 / 65 - 90+ FT			
Roadway Width	30-40 FT			
Bus Stop ID	None			

Figure 63 and Table 10 illustrates the hub analysis within a ¼-mile and ½-mile radius.

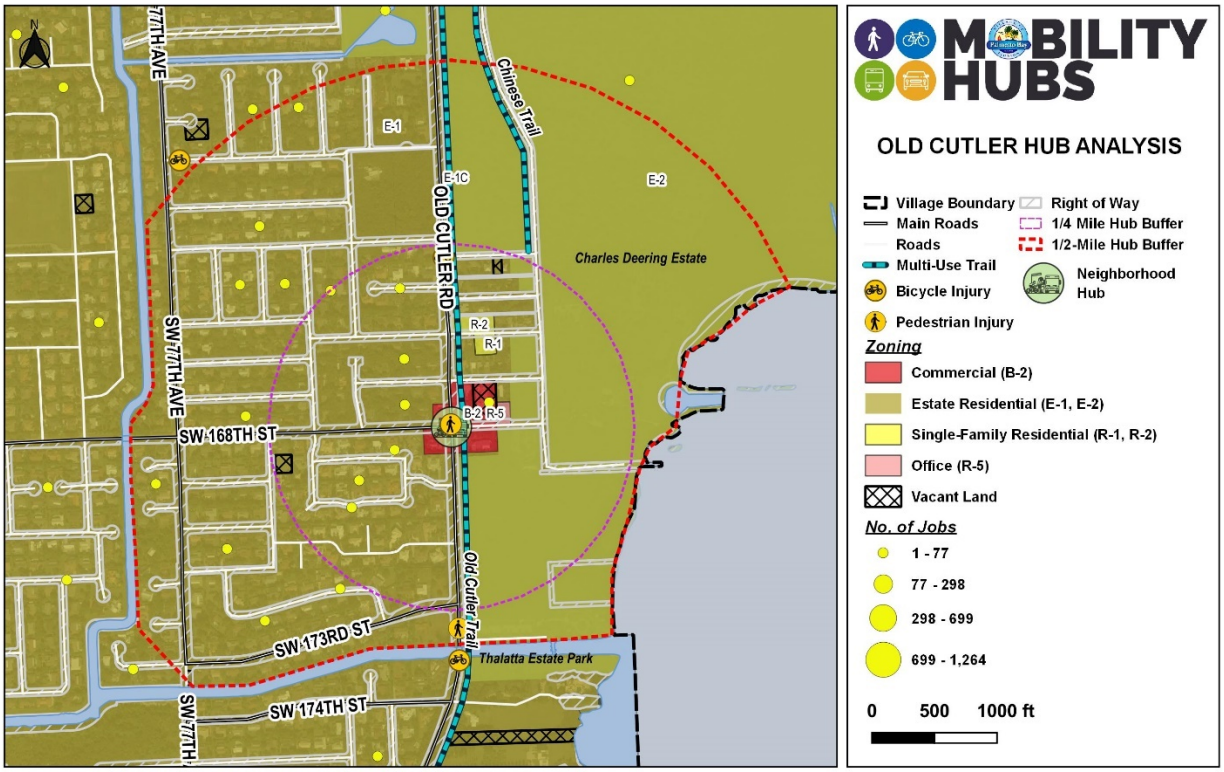


Figure 63: Map of Old Cutler Neighborhood Hub Analysis

Table 10: Old Cutler Hub Analysis

Criteria	1/4 Mile	1/2 Mile
Population (2010 Census)	2,260	2,260
Bicycle Facilities	Old Cutler Trail	Chinese Trail
Pedestrian Facilities	Missing Sidewalks on Local Streets & Primary Roads	Missing Sidewalks on Local Streets & Primary Roads
Employment (2017 Census)	95	188
Park	Deering Estate	Deering Estate
School	None	None
Community Facility	Bank / Restaurant / Offices	Biscayne Bay
Pedestrian Crashes	1	2
Bicycle Crashes	1	2
No. of Bus Stops	0	0
Redevelopment Potential	Medium	Low
Village Zoning	Commercial / Office / Estate & Single or Two-Family Residential	Estate Residential

7.1.3 Downtown Neighborhood Hub Analysis

The proposed Neighborhood Mobility Hub is located adjacent to the Village Hall at Franjo Road / SW 97th Avenue and Hibiscus Street, surrounded by mixed-use commercial, residential, office, and recreational uses. Franjo Road / SW 97th Avenue features existing bus stops for Route 1, the Princeton Circulator. Franjo Road / SW 97th Avenue - as of this writing - is currently under construction undergoing a complete streets treatment with sidewalks, bicycle lanes, medians, bus bays, parallel parking, and traffic calming treatments.

The area is the heart of the Village Downtown where there are a number of mid-rise, mixed-use buildings being constructed. When fully redeveloped, the area located near the South-Dade Transitway, will be a vibrant place to eat, live, and play. The Neighborhood Mobility Hub proposed is between two future Bus Rapid Transit Stations along the South-Dade Transitway at SW 184th Street and SW 168th Street. The Village Council recently amended the Village's Downtown Urban Village (DUV) zoning district and will be approving a number of development applications which have been on hold until the amendments were completed. Figure 64 are pictures of existing conditions.

Figure 64: Pictures of Existing Conditions

(Left to Right) Sidewalk gaps along Hibiscus Street, Complete Streets Construction at Franjo Road)

Nearby is Palmetto Bay Park, a 25-acre park with sports fields, playground, and tree-line path. This is also a popular destination for pedestrian and bicycle traffic. Palmetto Bay Park has a Park & Ride Lot for the recently implemented Freebee Express Route offering non-stop service from Palmetto Bay Park to the Dadeland South Metrorail Station via the Transitway. See Table 11 for additional data within a ½-mile radius at the proposed Hub.

Table 11: Downtown Hub Characteristics

Hub Data		Route	Average Monthly Ridership (DTPW, Oct. 2019)	Bus Type
Name	Downtown	1	8,077	Local
Type	Neighborhood	31	27,875	Regular
Location	Franjo Rd. / Hibiscus St.	34	38,008	Express
Road Class	5	38	171,304	Regular
Lanes	2	39	18,723	Express
Speed Limit	30 mph	52	30,684	Regular
Median	Yes / No	200	3,992	Local
ROW	75 / 44 FT	Freebee	862*	Express
Roadway Width	25 / 35 FT	**Bike/Ped Facilities**		**Distance (Miles)**
Bus Stop ID	C97CGUA4 (W)	Franjo Rd. Bike Lanes		0
Bus Stop ID	C97VGUA1 (E)	Hibiscus Bike Lanes		0.3
		South Dade Trail		2.6
Notes: **Hibiscus Street has sidewalk gaps, missing sidewalks on local streets**				

**Ridership reflects the month of October 2019*

It is important to note that as the Village redevelops the downtown, the population and jobs available will increase, creating an opportunity for local and adjacent transit. As approvals for mixed-use development increases, this will reduce the number of vehicle trips. U.S. 1 / South Dixie Highway is considered an "edge" or boundary, as the principal arterial is not pedestrian friendly, providing limited access points for pedestrians and bicyclists. Coordination with the county and the Florida Department of Transportation will be vital components to enhancing access from the Village to the Transitway. Table 11 above includes data from existing transit outside of ½-mile boundary due to the proximity and potential of the synergy the downtown can create with existing and future transit. Figure 65, on the next page, and Table 12 provides the analysis within a ¼-mile and ½-mile radius.

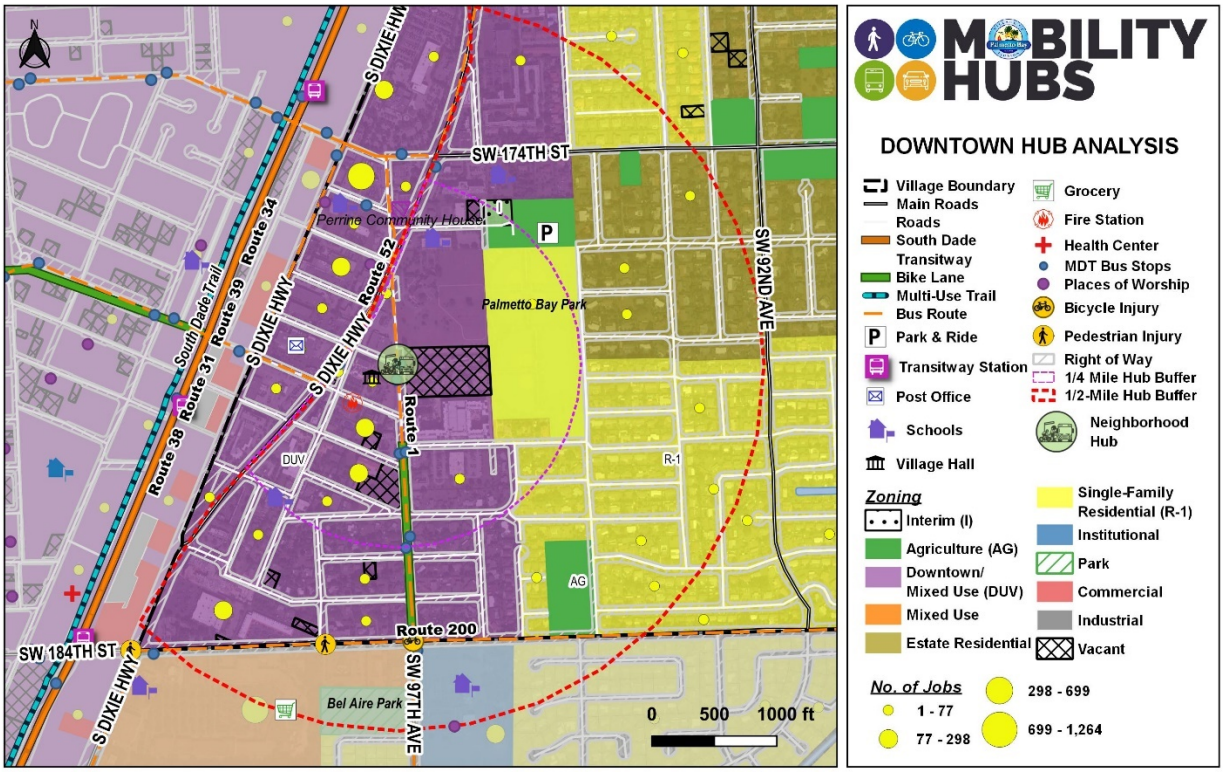


Figure 65: Map of Downtown Neighborhood Hub Analysis

Table 12: Downtown Hub Analysis

Criteria	1/4 Mile	1/2 Mile
Population (2010 Census)	1098	5421
Bicycle Facilities	Franjo Rd Bike Lanes	Franjo Rd Bike Lanes
Pedestrian Facilities	Missing Sidewalks on Local Streets	Missing Sidewalks on Local Streets
Employment (2017 Census)	420	1491
Park	Palmetto Bay Park	Palmetto Bay Park / Bel Aire Park
School	Preschools	Preschools
Community Facility	Village Hall / Police / Fire / Office / Retail / Restaurants	South Dade Rehabilitation Center / Bank / Restaurants / Retail / Offices / Grocery / Palmetto Bay Medical Center / Church / Rental Car
Pedestrian Crashes	0	1
Bicycle Crashes	0	1
No. of Bus Stops	5	9
Redevelopment Potential	High	High
Village Zoning	DUV / Single-Family Residential / Agriculture	DUV / Single-Family & Estate Residential / Agriculture
Cutler Bay Zoning	None	Transit Corridor / Park / Institutional

7.1.4 Village Center / Eureka Drive East Neighborhood Hub Analysis

The proposed Neighborhood Hub is located in proximity to Old Cutler Road and SW 184th Street, adjacent to residential uses and the Palmetto Bay Village Center. The Village Center is an 80-acre mixed-use property featuring a 300,000-square foot office complex and 40-acres of wetland and foliage. The Village Center is also slated for approximately 485 multi-family homes, which have been on hold due to traffic concerns expressed by residents.

Just north of the intersection is the Alexander Montessori School and Palmetto Bay Library. To the west of the site is the Palmer Trinity School and south of SW 184th Street is the Town of Cutler Bay, who recently adopted the *Cutler Bay Mobility Hubs Plan* which includes this site as a recommended Neighborhood Hub for the Town. The Village of Palmetto Bay and Town of Cutler Bay are recommended to coordinate on the recommended improvements to the proposed Hub. Figure 66 include pictures of existing conditions. Table 13 includes additional data for the proposed Hub.

Figure 66: Pictures of Existing Conditions

(Left to Right) Missing Sidewalks along Old Cutler Road and SW 184 Street, Intersection of Old Cutler Road and SW 184 Street)

Table 13: Village Center Neighborhood Hub Characteristics

HUB Data		Route	Average Daily Ridership (DTPW, Oct. 2019)	Bus Type
Name	Village Center / Eureka Drive East	None Existing: iBus Route Proposed		
Type	Neighborhood	**Ped/Bike Facilities**	**Distance (Mi)**	
Location	Old Cutler Rd / SW 184 St	Old Cutler Trail	0	
Road Class	3	Biscayne Trail	1.9	
Lanes	2	South Dade Trail	2.7	
Speed Limit	40	South Dade Trail	2.7	
Median	None	**Notes:** Missing sidewalks on SW 184 St and west side of Old Cutler Road. No sidewalks lead into the Palmetto Bay Village Center.		
ROW	100+ / 95 FT			
Roadway Width	32			
Bus Stop ID	None			

Figure 67 and Table 14 provide an analysis of the Hub for ¼-mile and ½-mile radius.

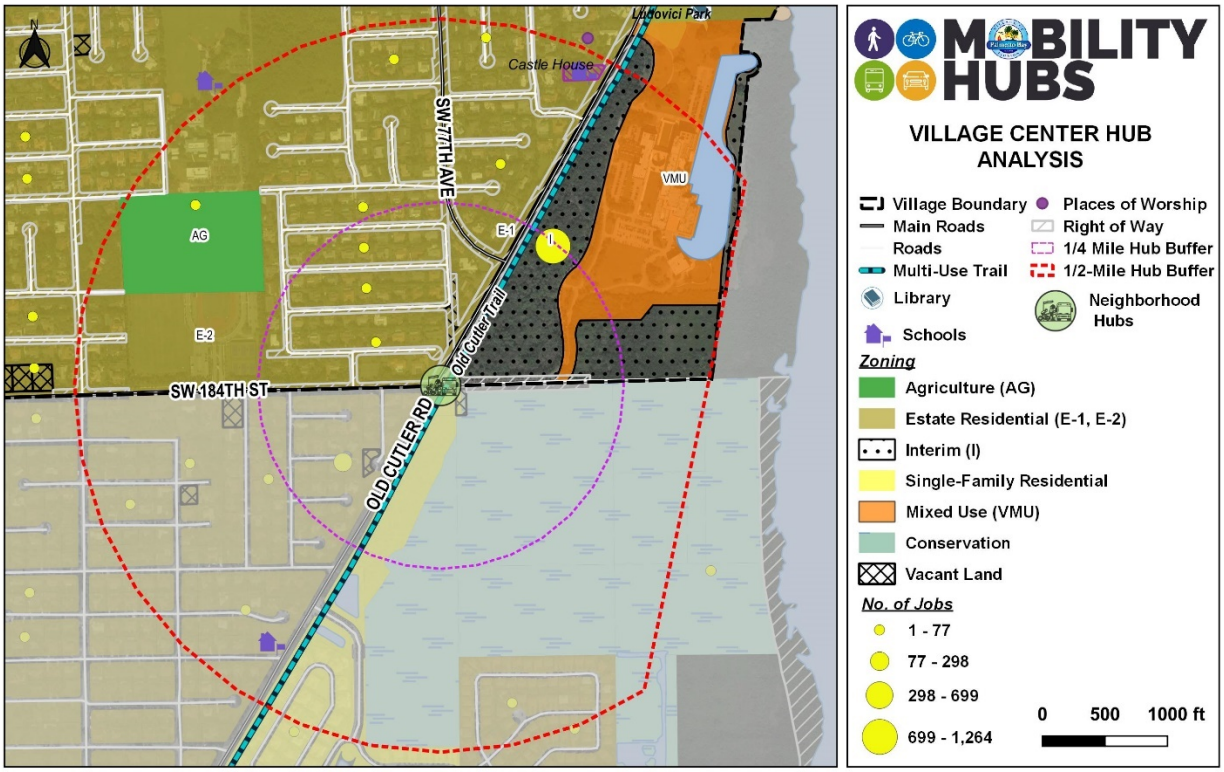


Figure 67: Map of Village Center Neighborhood Hub Analysis

Table 14: Village Center Hub Analysis

Criteria	1/4 Mile	1/2 Mile
Population (2010 Census)	3,936	3,936
Bicycle Facilities	Old Cutler Trail	Old Cutler Trail
Pedestrian Facilities	Missing Sidewalks on Local Streets & SW 184 St	Missing Sidewalks on Local Streets & SW 184 St
Employment (2017 Census)	1,139	1,248
Parks	Conservation	Bill Sadowski Park / Castle House Historic
School	None	Private Schools
Community Facilities	None	Palmetto Bay Village Center
Pedestrian Crashes	0	0
Bicycle Crashes	0	0
No. of Bus Stops	0	0
Redevelopment Potential	Low	Medium
Village Zoning	Village Mix-Use / Estate Residential / Interim	Agriculture / Estate Residential / Village Mixed-Use / Interim
Town of Cutler Bay Zoning	Single-Family Residential / Estate Residential / Conservation	Conservation / Single-Family Residential / Estate Residential

7.2 Mobility Hub Prioritization

Based on the Hub analysis performed for the proposed Mobility Hub locations, a prioritization list was created utilizing the following criteria (see Table 15 for scoring):

- Existing number of transit routes
- Future transit potential, planned or recommended
- Existing daily ridership by stop, includes only existing available data
- Accessibility by pedestrian and bicycle, a rating of how complete these facilities are within a ½-mile radius
- Existing population within a ½-mile radius, utilizing 2010 Census block group data
- Existing jobs within a ½-mile radius, utilizing 2017 Census American Community Survey data
- Redevelopment potential within a ½-mile radius, available vacant land
- Transit-Oriented Development (TOD) potential, review of existing land use and zoning

Table 15: Scoring of Mobility Hubs

Criteria	Measure	Coral Reef Hub	Old Cutler Hub	Downtown Hub	Village Center Hub
Number of Transit Routes	Number of Existing Routes	3	0	8	0
Future Transit Potential	Low (1), Medium (2), High (3)	2	2	3	2
Existing Ridership	Average Daily Ridership	1521	0	405	0
Accessibility by Walk	Sidewalk Network Completeness (1-3)	2	1	2	1
Accessibility by Bicycle	Bicycle Facility Completeness (1-3)	0	2	1	2
Population	Existing 1/2 Mile	7100	2260	5421	3936
Employment	Existing 1/2 Mile	989	188	1491	1248
Redevelopment Potential	1/2-mile - Low (1), Medium (2), High (3)	1	2	3	1
TOD Potential	Low (1), Medium (2), High (3)	1	1	3	1
TOTAL		**9619**	**2456**	**7337**	**5191**

Based on the above criteria, Mobility Hub improvements could be implemented in the following order:

1. Coral Reef Neighborhood Hub
2. Downtown Neighborhood Hub
3. Village Center Neighborhood Hub
4. Old Cutler Neighborhood Hub

7.3 Design

The design of stations and bus stops are key components to the overall transit system. A well-designed stop or station can attract new riders, provide safety, amenities, attractive environments, create a sense of place, and ensure connectivity. Designing walkable spaces encourages mode choice, health, and community pride. Improvements to sidewalks, bus shelters, pedestrian and bicycle networks, lighting, and amenities create better environments for walking, bicycling, and waiting, which lead to higher active transportation and transit mode share.[23] **There are seven (7) main goals that should guide decisions when**

[23] NRG Research Group, 2010

designing bus stops: *safety, thermal comfort, acoustic comfort, wind protection, visual comfort, accessibility, and integration*.[24] Furthermore, cleanliness, shelter, seating, and mixed land-uses are secondary goals or components to any bus stop or station. The Village should consider these primary and secondary goals when designing future bus stops.

Paving, lighting, and vegetation are thought to have the most perceived pedestrian benefit, hence why are one of the key recommendations to improving transit stops, incorporating canopy trees, Florida-Friendly shrubs, facilities for multiple modes and lighting can improve transit use, walkability and a sense of place. There are nine (9) key bus stop design techniques that help achieve the above-mentioned goals2424 above[24]:

- Lighting
- Seating
- Cover
- Amenities
- Information
- Vegetation
- Traffic Management
- Pedestrian Infrastructure
- Bicycle Infrastructure

Utilization of these techniques can assist the Village in achieving the primary and secondary goals to bus stop design. Roadways that are transit-supportive are designed for multiple modes of transportation. Well-integrated streets are active streets, providing safe, low-stress, bicycle and pedestrian facilities, including comfortable sidewalks and bikeways. Well-designed streets can create nodes of activity around stations and along routes, support transit, future growth, reliability, ridership, economic, and sustainable development.

Disconnected street networks, highway barriers, high-crash or uncomfortable intersections, and difficult midblock crossings must all be addressed to allow pedestrian and bicycle access to transit stops and stations. Mixed-use developments, commercial districts, residential areas, employment centers, and other destinations in proximity to transit make short trips more likely. To reduce conflicts, pedestrian and bicycle network facilities should be safe, accommodating, comfortable, coherent, predictable, context sensitive, and allow for invocation. Non-motorized facilities should be appropriate to the surrounding area, predictable, defined, delineated and continuous. Innovative solutions to connect networks should be encouraged, especially at locations where conflicts are more likely and along higher-speed roadways. The success of the proposed Mobility Hubs will be determined by their design and coordination with government agencies to allow innovative techniques and approaches to enhancing the multimodal environment.

7.4 Conceptual Design & Cost Estimates

Conceptual designs are based upon review of existing plans, recommendations and documents, feedback from Village staff and residents who attended the public workshops, including the Stakeholder Advisory Committee. Draft designs were presented at the final Stakeholder Advisory Committee Meeting and Public Workshop, edits were made to include feedback from both meetings.

A conceptual design was developed illustrating how a bus stop could be designed for a local transit stop or Neighborhood Mobility Hub within the Village of Palmetto Bay (see Figure 68, on the next page).

[24] Zhang, 2012

Figure 68: Proposed Transit Stop at Mobility Hub

The conceptual bus stop design includes shelter, seating, real-time information, branded identification signage, bus stop signage with routes served, trash/recycle receptacle, landscaping, pedestrian and bicycle accessibility, book lending library, bicycle share station, and bicycle parking.

Conceptual plan view design sheets and cost estimates were developed to enhance pedestrian and bicycle accessibility for each of the proposed Mobility Hubs. Detailed cost estimates can be found in Appendix IV.

7.4.1 Coral Reef Neighborhood Hub

Planned future improvements include Safe Routes to School (SRTS) improvements to the intersection and existing sidewalks, upgrading push-button and pedestrian countdown signals. Just east of our location is a proposed roundabout at SW 152nd Street and Old Cutler Road, this proposal is currently under review by the county.

Coral Reef Mobility Hub recommendations include the construction of a multi-use pathway along the northside of SW 152nd Street, from Old Cutler Road to U.S 1. A multi-use pathway is also proposed on the eastside of SW 77th Avenue, from SW 152nd Street to SW 136th Street. The proposed multi-use pathways would connect to the Old Cutler Trail, South Dade Trail, Coral Reef Drive Trail/Sidewalk, and planned SW 136th Street Trail. A raised intersection is proposed to encourage traffic calming, along with signage, ADA improvements and curb extension on the northeast corner. Enhancements, such as shelter, seating, bicycle parking and improved signage are proposed to the existing bus stops on SW 77th Avenue, serviced by Route 57. Furthermore, the existing bridge on SW 152nd Street provides minimal sidewalk space for pedestrian and bicycle crossings. Recommendations include the addition of a pedestrian bridge on the southside of SW 152nd Street. Figure 69, on the next page, is the conceptual plan sheet for the Coral Reef Neighborhood Hub. A detailed cost estimate of roadway improvements can be found in Appendix IV.

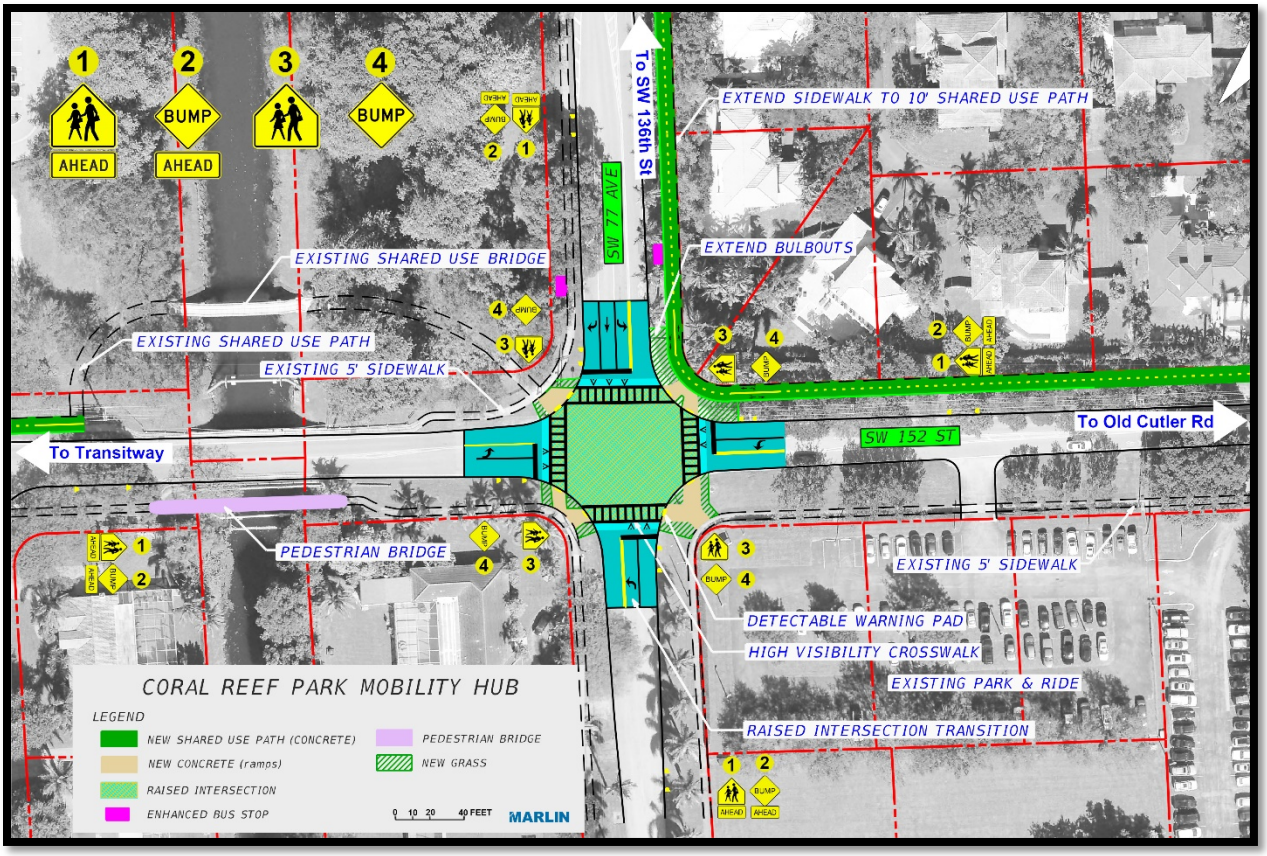


Figure 69: Coral Reef Mobility Hub Conceptual Design

Infrastructure Improvements Cost Estimate: $1,533,829.10

7.4.2 Old Cutler Neighborhood Hub

Planned future improvements include enhancements to the existing intersection for traffic signal timing.

Old Cutler Hub recommendations build upon the recommendations from the *Village Traffic Calming Master Plan* in proposing: a complete streets treatment along SW 168th Street from U.S. 1 / South Dixie Highway to Old Cutler Road with 5' separated bicycle lanes, filled in sidewalk gaps along SW 168th Street, improvements to crosswalks at the Old Cutler Road and SW 168th Street intersection, and clear delineated pedestrian facilities across driveways.

Old Cutler Road has been designated as a Historic Site and cannot be widened for vehicular traffic. The proposal includes a porous 6' sidewalk along the westside of Old Cutler Road, from SW 136th Street to SW 176th Street. SW 168th Street east of Old Cutler Road is recommended as a bicycle boulevard, slowing speeds to 25 mph and connects into the Deering Estate and Chinese Trail at SW 72nd Avenue. Additionally, parallel parking is proposed along SW 168th Street for potential Park & Ride option that would complement either iBus Transit Route Proposal A or B in the *Transit Infrastructure* section of this report. Proposed improvements also include signage, ADA improvements, and the addition of a landscape island for the driveway on the northwest corner. See Figure 70, on the next page, for the conceptual plan sheet. A detailed cost estimate of roadway improvements can be found in Appendix IV.

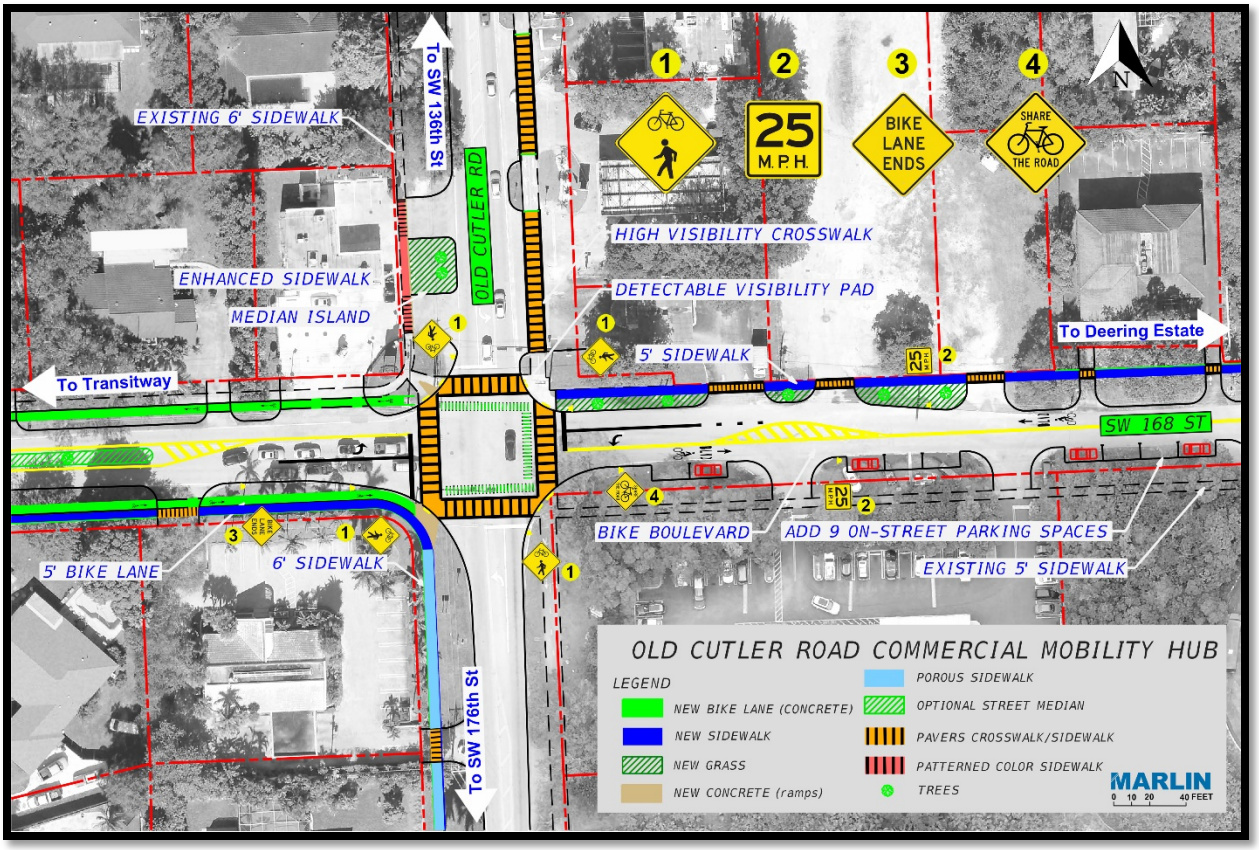


Figure 70: Old Cutler Mobility Hub Conceptual Design

Infrastructure Improvements Cost Estimate: $1,816,030.36

7.4.3 Downtown Neighborhood Hub

Planned improvements include mixed-use development on vacant parcels east of Franjo Road, redevelopment is underway within the area. Franjo Road is currently under construction for a complete streets treatment which include: bicycle lanes, sidewalks, bus bays, parallel parking, landscape medians, and closure of Guava Street.

The proposed recommendations include a complete streets treatment of Hibiscus Street, extending the existing bicycle lanes at U.S. 1 / South Dixie Highway (outside Village boundaries) and connecting into the Franjo Road / SW 97th Avenue bicycle lanes under construction. Improvements to pedestrian and bicycle crossings at U.S. 1 / South Dixie Highway and Hibiscus Street to include: signage, pavers or stamped asphalt crossings, ADA improvements, and fill in of sidewalk gaps along Hibiscus Street. Addition of sidewalks to SW 98th Avenue, enhancements to existing bus stops are also proposed. See Figure 71, on the next page, for the conceptual plan sheet for the Downtown Mobility Hub. A detailed cost estimate of roadway improvements can be found in Appendix IV.

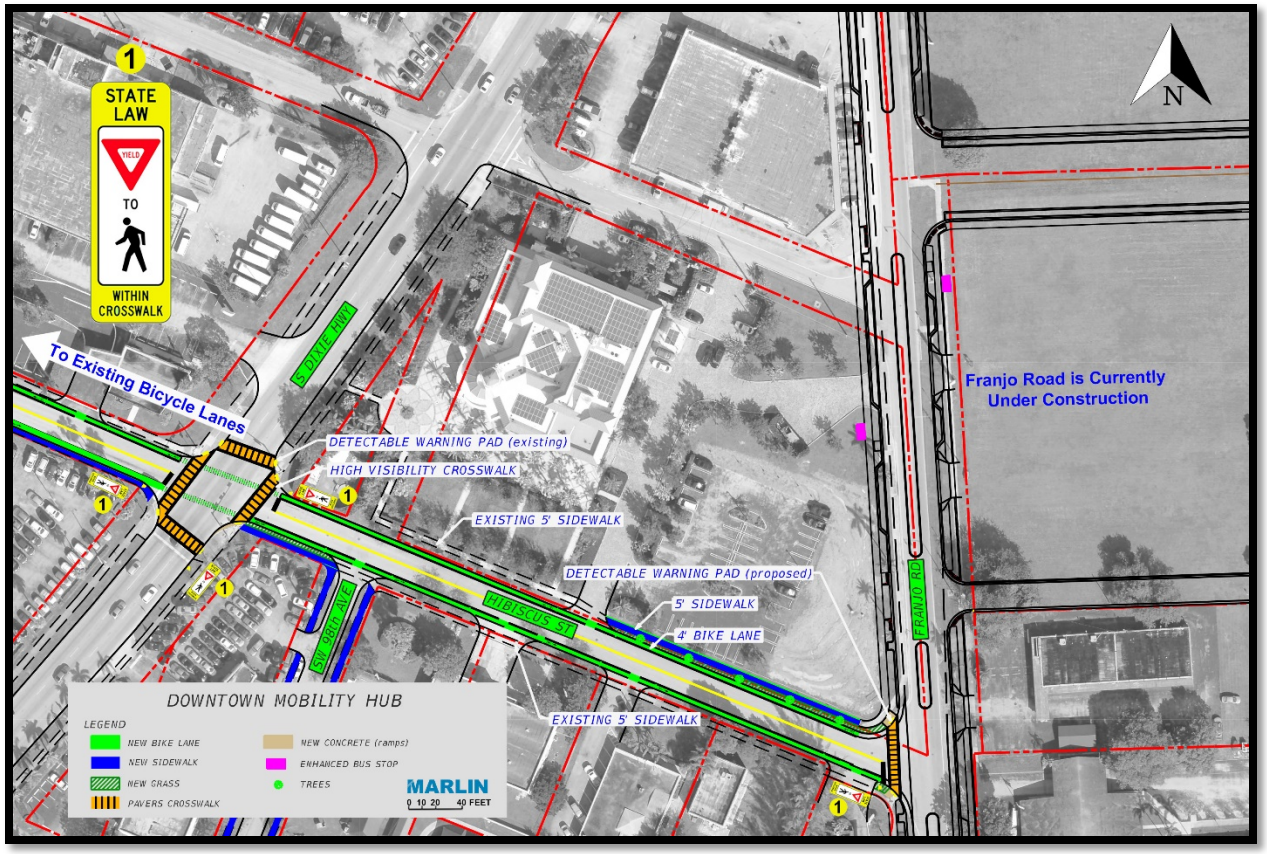


Figure 71: Downtown Mobility Hub Conceptual Plan

Infrastructure Improvements Cost Estimate: $503,217.29

7.4.4 Village Center / Eureka Drive East Neighborhood Hub

Planned improvements for SW 184th Street include filled in sidewalk gaps along the southside, planned for by the Town of Cutler Bay. A traffic circle is also proposed at the intersection of SW 184th Street and Old Cutler Road, which is currently under review by the County.

Utilizing a proposed traffic circle design pending County approval, the proposal for this Hub includes enhancements to crosswalks and, construction of an 8-10' multi-use trail on the northside of SW 184th Street, from U.S. 1 / South Dixie Highway into the Palmetto Bay Village Center. The proposed trail would include: a connection from Old Cutler Trail to South Dade Trail, construction of sidewalks to the Palmetto Bay Village Center, pedestrian signage, ADA improvements, and construction of a porous 6' sidewalk along the westside of Old Cutler Road, from SW 184th Street to SW 136th Street. See Figure 72, on the next page, for the conceptual plan. A detailed cost estimate of roadway improvements can be found in Appendix IV.

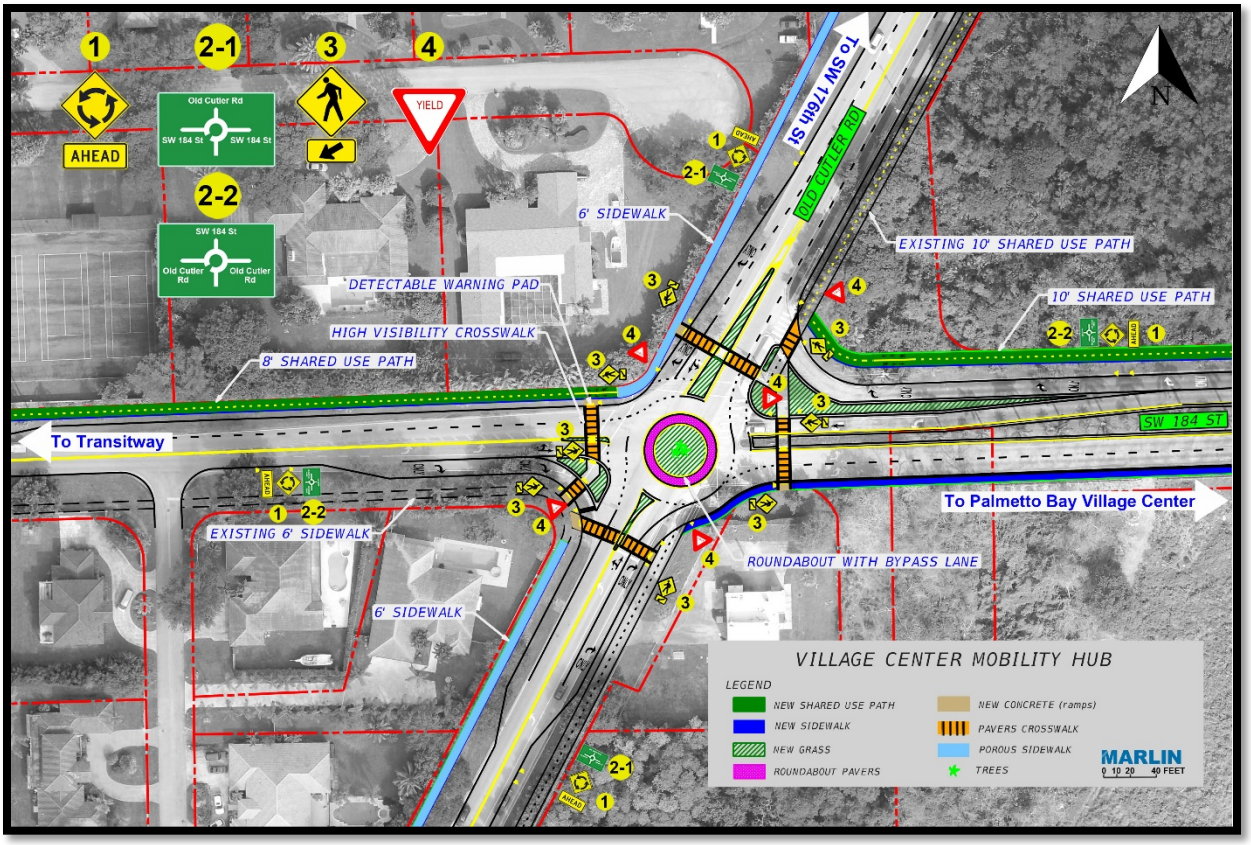


Figure 72: Village Center / Eureka Drive Mobility Hub Conceptual Design

Infrastructure Improvements Cost Estimate: $1,325,404.73

Currently, the area does not include Transit service, however, in the *Transit Infrastructure* section, the recommended routes would include this area for transit in Proposal A or B (see pages 59 and 60). Additionally, the Town of Cutler Bay recently adopted the *Cutler Bay Mobility Hubs Plan*, and includes modifications to Route 200, the Cutler Bay Circulator. Recommendations to the Town of Cutler Bay include this area for transit service.

7.5 Pedestrian & Bicycle Facility Examples

Enhanced pedestrian and bicycle access are key components to transit. For example, the Village of Palmetto Bay is already making improvements along Franjo Road / SW 97th Avenue. As the Village continues such improvements along roadways, coordination with Miami-Dade County and FDOT for facility improvements is crucial. **Collaborating with these two agencies to develop better roadways for pedestrian and bicycle access are core components to ensuring the success of future Mobility Hubs and Bus Rapid Transit (BRT) Stations along the South Dade Transitway**. Examples of enhanced pedestrian and bicycle facilities, in addition to treatments that could be used at identified Transit Infrastructure improvement sites, proposed Neighborhood Mobility Hubs and future BRT Stations are in the following pages.

NON-STANDARD CROSSWALK EXAMPLES

Figure 73: Examples of Pedestrian Crossing

(Top Left - Baltimore, MD; Top Right - Lampos, CA; Bottom - Montreal, Canada)

BICYCLE FACILITY EXAMPLES

Figure 74: Examples of Bicycle Facilities

(From top left to right: Queens Plaza, NY; NACTO Bikeway Design; Protected Bike Lane, Marachal Floriano, Brazil; Sevilla, Spain)

GREEN INFRASTRUCTURE

Figure 75: Florida Friendly Design - Starkey Ranch, FL

Green Infrastructure refers to an approach to water management which protects, restores, or mimics the natural water cycle. It is an effective, economical, and community enhancing alternative to traditional storm water management and treatment methods.

Figure 76: Green Infrastructure Examples in Florida: Low Impact Design, Bioswales & Raingardens

PREVIOUS HARDSCAPE EXAMPLES

Figure 77: Pervious Hardscape Examples

8 AMENITIES

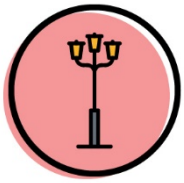
8.1 Basic Transit Amenities

As previously discussed in the *Transit Infrastructure* section, page 55, amenities are one of the core components of a successful transit stop or station. Amenities provide residents and users an enhanced experience, attracts people and creates a sense of place. Incorporating amenities into well designed transit stops "can expand pedestrian capacity and promote transit streets as a desirable *place* in the urban environment. Creating a simple, legible, and pleasant experience at the transit stop grows the capacity of the whole system and can help transform transit from a basic coverage network to a sought-after mobility option."[25]

Capital Metropolitan Transportation Authority's *Transit Design Guidelines: Standards & Best Practices*, identified basic transit amenities that are believed to be key components for improving transit access and usability. Therefore, the following amenities are recommended for all transit infrastructure improvement locations and Mobility Hubs, as appropriate. As transit improves throughout the County, these basic amenities are encouraged for installation at all existing bus stops throughout the Village of Palmetto Bay.

Signage

Bus stop signage should include route name, number, direction and destination. Metrobus/Village customer service contact, system logo, and website address. Detailed schedules and route information at major boarding locations and transfer points. Signage should also include the unique bus stop identification number and instructions for the transit agency's application or website.



Lighting

Lighting should enhance safety by improving visibility, providing security and defining the waiting area. Areas around stops should be adequately lit at night, installing motion detection lighting can reduce energy usage and costs. Pedestrian scale lighting typically includes lamps less than 25-feet high, and are important for creating safe and comfortable environments, taking Dark Sky Principles[26] into account.

Street Furniture

Street furniture enhances the experience of waiting through convenience and comfort, while also providing passerby's an opportunity to stop and rest. Examples of street furniture include shelters, seating, and bicycle racks. Opportunities to sit while waiting for a bus significantly reduces commuter stress.

Transit Shelters

Shelters protect passengers from weather conditions while waiting and should be oriented to protect against exposure to the elements. Shelters should be designed in an open and inviting way with open design or glass panels. Metrobus and/or Village branding should be a component of the shelter, when feasible, while also adhering to branding standards.

[25] National Association of City Transportation Officials (NACTO), 2016

[26] Dark Sky Principles are principles defined by the International Dark-Sky Association that minimize the harmful effects of light pollution.

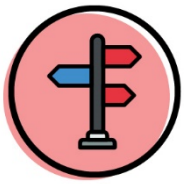
Seating

Bus stops should have a variety of seating options, which include benches, leaning rails, and low masonry walls. The amount of seating should match the average number of commuters occupying the stop. Seating should be integrated into the landscape, serve non-commuters and be shielded from vehicle traffic.

Bicycle Racks & Parking Shelters

Providing bicycle racks and parking is important in meeting the needs of commuters who utilize bicycles to access transit. Bicycle parking should be placed in well-lit and highly visible areas to deter theft. Due to the local South Florida environment, bicycle racks and parking should be covered to protect from the elements. When feasible, they should be secured with limited access, such as a bicycle storage locker.

Wayfinding



Wayfinding provides assistance with navigating public spaces. Transit stops serve as gateways into neighborhoods and communities, and should be recognizable landmarks that enhance rider experience. Easy-to-follow wayfinding signage makes it easier to locate bus stops, stations, connecting routes, trails, community facilities, destinations, etc. Maps, schedule, route details, real time information, directional signage to key destinations, and relevant station names are all components to enhanced station facilities and increase ridership. Consistent brand, logos, colors, and fonts reinforce visibility and provide direction to all users. Wayfinding should provide the user with the minimum amount of information needed to find the right place and to avoid an overload of information.

Information Technology

Information plays an important role in the performance of bus stops. Schedule information will ideally be presented in real time and static form. Arrival information is best for digital display, transit maps are best presented in printed form. Updating static information such as system maps, placards and flags takes time and financial resources, digital information technology allows for wayfinding information to be presented to users in a quick, convenient, cost-effective, up-to-date manner.

Enhanced Pedestrian & Bicycle Access

Enhanced pedestrian and bicycle access include connected sidewalks, bicycle lanes, shared use pathways, high-emphasis crosswalks, pedestrian and bicycle signage, midblock crossings and walking environments that are safe, comfortable and convenient for non-motorized transportation.

Landscape Enhancements

Landscape enhancements include canopy trees, green infrastructure, native Florida-Friendly landscaping. Enhancements to the landscape provide aesthetics, community pride, a comfortable walking environment, traffic calming, and assist with reducing the heat island effect. This will provide patrons a refuge from the natural elements.

8.2 Mobility Hub Amenities

As mentioned in the beginning of this report a Mobility Hub encompasses an entire intersection or area and, includes the walkshed or ½-mile distance of any transit stop or station. Mobility Hub amenities not only include transit stop amenities, but additional amenities that would improve mobility, accessibility, and the user experience of transportation through mode choice.

Mobility Hub amenities include micromobility[27] and shared mobility[28] options, which can be utilized to activate spaces, streets, and neighborhoods and encourage socialization, community pride, and non-motorized transportation. There amenities also assist in fulfilling the issue of the first and last mile of transit accessibility.

Red icons below represent recommended amenities to be placed at all Transit Infrastructure and Mobility Hub locations throughout the Village of Palmetto Bay. Blue icons represent optional amenities that can be placed at any transit stop or Mobility Hub where feasible. Incorporating proposed amenities throughout the Village of Palmetto Bay can foster transit use, enhance and encourage multimodal transportation use, and instill community pride.

Lending Library[29]

A book lending library where one takes a book and returns a book. This free book exchange which comes in many shapes and sizes, with the most common version being a small wooden box of books. Each has their own unique, personal touch and anyone may take or bring a book to share.

USB Charge Station

A device where one can charge or recharge their mobile device via a USB cord (may or may not utilize solar for charging).

Emergency Callbox

Provide public safety and instant communication with one button calling of 911, Police, Fire, Security or help.

Bicycle Share

Provides users with on-demand access to bicycles at a variety of pick-up and drop-off locations for one-way (point-to-point) or roundtrip travel. Bikesharing fleets are commonly deployed in a network within an urban area, city, neighborhood, employment center, and/or university campus[30].

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[27] Micromobility refers to a mode of transport that is flexible, accessible and purchased via a smartphone or other connected device, serving an individual user and includes shared mobility options. Examples include bikeshare systems, electric bikes and electric scooters.

[28] Shared Mobility is the shared use of a vehicle, motorcycle, scooter, bicycle, or other travel mode. Shared mobility provides users with short-term access to one of these modes of travel as they are needed (SAE.org)

[29] www.littlefreelibrary.org

[30] www.SAE.org/shared-mobility

Bicycle Storage Locker

Lockers are fully enclosed storage devices used to secure a bicycle, ideal for long-term parking, areas with high local theft rates, isolated areas, and/or in proximity to transit stations.

Bicycle Repair Station

A fixed station with tools necessary to perform basic bicycle repairs and maintenance.

Car Share[31]

Offers members access to vehicles by joining an organization that provides and maintains a fleet of cars and/or light trucks. These vehicles may be located within neighborhoods, public transit stations, employment centers, universities, etc. The carsharing organization typically provides insurance, gasoline, parking, and maintenance. Members who join a carsharing organization typically pay a fee each time they use a vehicle.

Electric Vehicle (EV) Charging Station

A location providing electric energy for recharging electrically-powered vehicles, including hybrid electric vehicle, plug-in hybrid electric vehicle, extended-range electric vehicle, and battery electric vehicle.

Park & Ride [with Smart Parking Info]

Parking areas conveniently located for individuals to ride public transit to reach their destination. These facilities are typically free and located adjacent to a major transit station or hub and can be enabled with sensors for real-time information on parking availability.

Microtransit[31]

Are privately or publicly operated, technology-enabled transit service that typically uses multi-passenger/pooled shuttles or vans to provide on-demand or fixed-schedule services with either dynamic or fixed routing. Vehicles can be electric and utilize phone applications for service and real-time information. Examples include Freebee and the Downtowner.

Kiss & Ride

An area, typically adjacent to a transit station, airport or seaport, where individuals can be quickly dropped-off or picked-up for convenience. These designated areas typically have limited time frames for vehicles to wait or idle.

Package Pickup Kiosk

An electronically secured storage locker, conveniently located, and typically equipped with a kiosk computer to access packages purchased through an on-line retailer, such as Amazon or Walmart. Can be installed indoors or outdoors. The outdoor lockers are 100% weather-proof and can withstand the elements. Recipients are notified upon

[31] www.SAE.org/shared-mobility

delivery and access their package through an access code or barcode provided upon delivery notification.

Retail

A place or kiosk where the sale of goods to the public occurs, can be permanent, temporary or mobile.

Public Space

Shared spaces which include streets, parks, plazas, waterways, public transportation, public markets, open areas, etc.

Public Art

Art for everyone, a form of collective community expression. Comes in many different forms, textures, and expressions.

WI-FI[32]

A facility allowing computers, smartphones, or other devices to connect to the Internet or communication with one another wirelessly within a particular area.

Information Kiosk

A place, device, or person providing individuals with information or map of the area, transit system, and at times amenities including phone charging area, bathrooms, Wi-Fi, vending machines, etc.

Air Misting System

A system which uses pressurized water to create fine water droplets which evaporate, thus producing a cooling effect in the surrounding area.

Security

The use of security features, such as video cameras, closed circuit television, or police and/or security officer presence, in order to enhance security, deter theft, and provide the public with a sense of safety and security. Security also refers to community policing and ensuring security companies are upholding the rules at transit facilities to establish the safety and security of the public.

Motion Sensing Technology

The use of technology to detect movement in an area. This can be used to reduce and/or conserve energy, turn on lights, cameras, or other technologies.

[32] www.dictionary.com

Shared mobility options, public spaces and plazas, public art, Wi-Fi, book lending library and USB charging stations are all optional recommendations at all selected sites, and should be included where feasible. Table 16 is a list of the transit stop types with recommended and optional amenities.

Table 16: Transit Amenity Table

TYPE	Bicycle Share	Bicycle Storage Locker	Bicycle Repair Station	Car Share	EV Charging Station	Park & Ride	Microtransit	Kiss & Ride	Air Misting System	Package Pickup Kiosk	Retail	Public Space	Public Art	Wi-Fi	Info Kiosk	Lending Library	Enhanced Security	USB Charging Port	Real-Time Signage
BS	X	O	O	/	/	/	O	/	O	O	O	O	X	O	O	O	O	X	O
N	X	X	X	O	O	O	O	O	O	X	X	X	X	O	O	X	X	X	X
BRT	X	X	X	X	X	X	O	X	O	X	X	X	X	X	X	X	X	X	X
X – RECOMMENDED O – OPTIONAL / - NOT APPLICABLE (BS – Bus Stop; N – Neighborhood Hub; BRT – Bus Rapid Transit Station)																			

8.3 Bus Stop Amenities

As previously mentioned, most bus stops within the Village include only signage, while few include seating. There are a number of bus stops within the Village that lack accessibility, due to lack of ADA access or sidewalks. **We recommend the Village to improve access to all bus stops within the Village of Palmetto Bay through the construction of sidewalks and ADA improvements. Other recommendations include:**

- Shade (via Shelter or Canopy Trees)
- Seating
- Visible Route Signage
- Bus Schedule
- Lighting
- Bicycle Rack
- Trash / Recycle Receptacle
- Landscape Enhancements

The above-mentioned standard transit amenities with concrete, and without landscape enhancements have been found to cost approximately $45,000.[33]

Additional items to consider are real-time information signage, public art, lending library and USB charging for technology. Providing these basic transit amenities would enhance the waiting experience, while also encouraging transit use. Figure 78, on the next page, are additional examples of bus stops with basic amenities.

The survey discussed previously in the *Data Collection* section of this plan found: 46% of all respondents would consider using shared mobility services, **36% would like to see shared mobility options in the community**, 17% said maybe to shared mobility options in the community, and 27% said they needed additional information on shared mobility options in the community. Only 20% said they would not like to

[33] Town of Cutler Bay

see shared mobility options in their community. This provides the Village with an opportunity to explore the use of shared mobility options within the community.

Bus Passenger Shelter, Midtown, Charlotte, NC (source: Landscape Forms)

Figure 78: Bus Stop Examples

(Top - Utrecht, Netherlands 'Green' Bus Stop; Bottom Left - Charlotte, NC; Bottom Right - College Park, MD)

8.4 Neighborhood Hub Amenities

Neighborhood Hubs are small scaled transit hubs, typically found within residential areas served by at least one (1) transit route. **Neighborhood Mobility Hubs should be equipped with, at minimum, the follow amenities:**

- Shelter
- Seating
- Trash/Recycle Receptacle
- Bike Rack
- Emergency Callbox
- Wayfinding / Signage
- Real-time Information
- Lighting
- Pedestrian & Bicycle Access
- Bicycle Share

Additional amenities to consider are: shared mobility options for the first/last mile connection, public art to enhance community identity, public space/plaza or pocket park, cameras, motion-sensing technology, USB charging station, and a book lending library.

Marc Aurel in Paris, France designed a modular 'Bus Stop of the Future' concept for the local agency in Paris to test (see Figure 79). Here is a good example of what a Neighborhood Mobility Hub could be. At less than 900 square feet, this bus stop is located adjacent to residential and commercial uses, including rail, and is serviced by three (3) transit lines during the daytime and five (5) in the evening. Amenities include seating, shelter, signage, leaning bars, bar style tables, tree canopy, book lending library, electric-bike rental station, phone charging outlets, free Wi-Fi, real-time information, interactive screen with neighborhood information, and a snack and coffee kiosk. There are wide pedestrian sidewalks present, a bus/bicycle lane, enhanced crosswalks, and other community resources nearby. As the bus approaches the stop, passengers are notified via a soft musical tune.

Figure 79: Station Diderot, Paris, France

8.5 Community Hub Amenities

With the passage of the *SMART Plan* in 2016, the South Dade Transitway is the first of six (6) corridors for implementation. In the Fall of 2019, the Federal Transit Administration (FTA) approved federal funding and the County is in the process of selecting a consultant for design-build of the 15 approved stations along the Transitway for Bus Rapid Transit (BRT). The Village of Palmetto Bay will border four (4) of the 15 stations: SW 185th Street, SW 168th Street, SW 152nd Street and SW 136th Street. Construction is expected to begin mid-to-late 2020, while BRT is expected to begin by 2022. The Village of Palmetto Bay has an opportunity to create Transit-Oriented Development (TOD) around these stations, enhancing livability, access and jobs around future stations. The South Dade Transitway runs parallel to U.S. 1 / South Dixie Highway, a 6-lane principal arterial, with an annual average daily traffic (AADT) count of over 60,000 vehicles, naturally creating a barrier between the South Dade Transitway and the Village of Palmetto Bay. Enhancing pedestrian and bicycle connectivity will be a vital component to future ridership and connectivity between the Village and the Transitway. **We recommend the Village of Palmetto Bay, Miami-Dade County and FDOT work in coordination to improve non-motorized accessibility to the Transitway to ensure future success, especially along the roadways where future stations are anticipated.**

Future BRT Stations are considered Community or Medium Level Mobility Hubs as typically found within areas which have a mixture of uses, density and/or employment hubs. Community Hubs are typically served by more than one (1) transit line and average over 100 daily riders. **The Village of Palmetto Bay and the County are recommended to work in coordination for the following improvements:**

- Enhanced Pedestrian & Bicycle Connections
- Pedestrian & Bicycle Signage
- ADA Improvements
- TOD Development
- Protected or Buffered Bicycle Lanes
- Enhanced Landscaping along the South Dade Trail & Sidewalks
- Fill Sidewalk Gaps within ¼-mile of Proposed Stations
- Install Pedestrian Lighting
- Smart Parking Technology for Real-Time Parking Data at Park & Ride Lots
- Combine Smart Parking with the Miami-Dade Transit Tracker
- Curbside Management with Designated Kiss & Ride areas

Future BRT Stations are expected to be equipped with real-time information, shelter, seating, level boarding, bicycle racks, ticket vending machines, overhead cooling fans, air-conditioned vestibules, closed-circuit television, Wi-Fi and signage. **The following amenities are recommended to be located nearby future BRT Stations:**

- Mobility Share (Bikeshare, E-Bike Share, Scooter Share, etc.)
- Bicycle Storage Lockers
- Public Spaces
- Public Art
- Information Kiosks
- USB Charging Station
- Carshare
- Electric Vehicle Charging Stations
- Package Pickup Kiosks
- Water Fountain
- Public Restroom
- Bicycle Repair Stations
- Popup Retail / Food Trucks

The Village and County have an opportunity to work with one another and potential developers to place these amenities within a one block radius of future BRT Stations. This synergy can create a momentum that will attract and retain ridership. Future BRT along the Transitway is an opportunity to provide many nearby residents with the relief from traffic that can make transit comfortable, convenient, and attractive.

8.6 Cost Estimates

Table 17 includes approximate cost estimates for signals, landscaping and amenities.

Table 17: Amenities Cost Estimate

SIGNAL & LIGHTING	UNIT	COST	REFERENCE
PEDESTRIAN LIGHTING - METAL	EA	$1,332.14	FDOT
PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	EA	$1,333.14	FDOT
PEDESTRIAN SIGNAL, F&I LED COUNT, ONE WAYS	EA	$775.68	FDOT
STREETLIGHT	EA	$3,600.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
IN-PAVEMENT LIGHTING	AVG TOTAL	$18,250.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
BUS STOP SHELTER	UNIT	COST	REFERENCE
BENCH, F&I, ALUMINUM	EA	$730.70	FDOT
BUS SHELTER, F&I, UPTO 50 SF	EA	$29,894.23	FDOT
BUS SHELTER: CONCRETE, SHELTER, LIGHTING, WASTE, SEATING, BIKE RACK	EA	$43,330.00	Town of Cutler Bay
BICYCLE RACK, FURNISH & INSTALL, 2-6 BI	EA	$660.89	FDOT
TRASH/RECYCLE RECEPTACLE	EA	$1,533.71	FDOT
LANDSCAPING	UNIT	COST	REFERENCE
NATIVE PLANTS	SF	$0.10	https://greenvalues.cnt.org/national/cost_detail.php
LANDSCAPE COMPLETE- 10 TREES (12' to 15')	EA	$2,000.00	FDOT
LANDSCAPE COMPLETE- PALM TREES	EA	$15,000.00	FDOT
RAINGARDEN	SF	$7.00	https://greenvalues.cnt.org/national/cost_detail.php
BIOSWALES	SF	$15.00	https://greenvalues.cnt.org/national/cost_detail.php
PLANTER BOXES	SF	$8.00	https://greenvalues.cnt.org/national/cost_detail.php
AMENITY	UNIT	COST	REFERENCE
BIKESHARE STATION (10 BIKES)	STATION	$54,000.00	*Bike Share Business & Implementation Plan (2016)*
DOCKLESS BICYCLES	EA	$1,000.00	https://www.alibaba.com

AMENITY	UNIT	COST	REFERENCE
ELECTRIC BIKE SHARE (10 BIKES)	STATION	$65,000.00	*Bike Share Business & Implementation Plan (2016)*
BICYCLE REPAIR STATION	EA	$1,500.00	https://www.dero.com
BICYCLE STORAGE LOCKER	EA	$2,140.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
BICYCLE TRAFFIC LIGHT	EA	$1,000.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
SCOOTER SHARE	EA	$0.00	*Micromobility in Cities A History & Policy Overview (2018)*
CAR SHARE STATION	EA	$0.00	*City of Miami Car Sharing Feasibility Study (2011)*
EV CHARGING STATION (LEVEL II)	EA	$8,000.00	*Costs Associated with Non-Residential Electric Vehicle Supply Equipment, 2015*
Wi-Fi	EA	$400.00	*Planning & Implementing a Wi-Fi Zone in Your Town (2014)*
PARKING GARAGE: PARK & RIDE	SPACE	$19,700.00	*Parking Structure Cost Outlook (2017)*
SHELTER WITH METAL CANOPY	EA	$9,500.00	Alan's Factory Outlet
INFORMATION KIOSK (75" DISPLAY)	EA	$6,000.00	https://www.alibaba.com
DIGITAL DISPLAY SIGN: REAL-TIME INFORMATION (9.26" X 70.71" X 1.65")	EA	$400.00	https://www.alibaba.com
PACKAGE PICKUP KIOSK	EA	$0.00	*Guta, Michael (29, Dec. 2017). "What is Amazon Locker and How Can It Benefit Your Business." Small Business Trends*
PUBLIC ART - VARIES	EA	Varies	
PUBLIC ART - BOX WRAP	EA	$1,000.00	The Southeast Como Improvement Association
AIR MISTING SYSTEM	EA	$5,000.00	https://www.costowl.com
SECURITY CAMERA	EA	$600.00	https://www.homeadvisor.com
EMERGENCY CALLBOX	EA	$5,500.00	US DOT
LIBRARY SHARE	SF	$200.00	https://littlefreelibrary.org
USB CHARGING STATION (10 PHONES)	EA	$1,500.00	https://kwikboost.com/
WAYFINDING	PLAN	$40,000.00	https://guidestudio.com
CONTINGENCY		**20%**	
DESIGN		**20%**	
SURVEY		**5%**	
CEI		**5%**	

Notes:
MARLIN has no control over competitive bidding or market conditions or the cost of labor, materials, equipment, or over the contractor's methods of determining prices. The quantities and pricing used in the Opinion of Probable Cost were composed based on FDOT historical cost and our engineering opinion and judgement. Opinions of Probable Cost represent only the Engineers judgement as a design professional familiar with the construction industry. MARLIN cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from the values stated in this document.

9 IMPLEMENTATION

There are a number of strategies the Village of Palmetto Bay could explore to implement the recommendations and improvements identified in this plan. There are some near-term strategies that require little planning and investments, while others require more in-depth planning, design and funding. Additionally, the Village can partner and leverage future private public partnerships to include some of the identified recommendations and improvements, requiring the developer to fund, build or maintain facilities, amenities and/or investments.

Additionally, as new technology becomes available, understanding the technology and how to incorporate it within Mobility Hubs will be an ongoing process.

Furthermore, the Federal Highway Administration provides a guide for bicycle and pedestrian policies the Village of Palmetto Bay can adopt. These policies are guides to further action. Adoption of some of the policies listed in the *Public Policies for Pedestrian and Bicyclist Safety and Mobility: An Implementation Project of the Pedestrian and Bicyclists Safety and Mobility International Scan*, September 2010, is a good overview of policies cities can adopt to improve bicycle and pedestrian safety throughout their communities. Other policies the Village can explore include:

- Complete Streets
- Mobility Share
- Electric Vehicle Charging
- Curbside Management
- Transportation Demand Management (TDM)
- Carshare
- Green Infrastructure
- Sustainable Development

Moreover, *SANDAG Regional Mobility Hubs Implementation Strategy* provides a comprehensive list which can apply to the Village of Palmetto Bay and partnering agencies to facilitate the implementation of Mobility Hubs and transit improvements:

- Collaborate with DTPW to amend transit station design guidelines to support Mobility Hub implementation and provide flexibility for change as technology, travel behavior and patterns evolve over time.
- Allocate space for shared services such as on-demand shuttles and rideshare companies, and consider the flexible use of that space where necessary.
- Incorporate Mobility Hub elements in future joint development projects.
- Partner with shared mobility service providers to integrate shared mobility services into a platform for trip planning and payment.
- Amend the development review process to encourage developers to incorporate Mobility Hub features into their projects.
- Adopt off-street parking requirements to better align with Mobility Hub investments.
- Implement flexible curb space to meet the needs of shared mobility services and the changing demands of users.

- Educate developers, employers, and other transportation stakeholders on the Mobility Hub concept and garner support.
- Account for a connected and autonomous future in local planning documents and policies.
- Communicate the value of prioritizing drop-off space over parking to private property owners and developers.
- Seek pilot projects that enhance transit and bring mobility options to commuters.
- Encourage businesses and/or developers to partner with government to test technologies and service concepts in real-world environments.

Finally, the Village of Palmetto Bay has an opportunity to explore the use of a Mobility Fee, an impact fee imposed on new development or redevelopment that generates personal travel demand above the current use of land to fund. Therefore, the Mobility Fee would fund improvements related to all types of mobility, such as bicycle, pedestrian, and transit. In August 2019, the City of Palm Beach Gardens was the first in the State of Florida to adopt such a policy. A Mobility Fee would allow the Village to collect money from new development and/or redevelopment to fund multimodal transportation improvements identified through a Master Plan, such as this one. The Mobility Fee would need to be adopted via Village Council action through an amendment of the Village's Comprehensive Plan.

9.1 Review of Recommendations

Table 18: Short Term Recommendations

NO.	SHORT TERM RECOMMENDATION	STRATEGY
1	Clearly Define Transit Stops Throughout Community and Downtown.	Accessibility
2	Create Inclusive Communication Plan. Identify Goals, Objectives, Branding, Marketing, Social Media, And Strategies.	Communication
3	Coordinate with Local and State Agencies on Roadway Improvements.	Coordination
4	Coordinate with Schools and Neighboring Communities on Transit Use, Bicycle, and Pedestrian Improvements to Reduce School Traffic.	Coordination
5	Create an Awareness Campaign on the Benefits of Transit and Sidewalks.	Communication
6	Coordinate with Local Agencies and Professionals on Roadway Design to Enhance Safety for Multimodal Users.	Coordination
7	Minimize Overlap with Metrobus Routes.	Coordination
8	Survey Residents Annually for Improvements to Transit.	Policy
9	Extend Hours of Operation for iBus.	Connectivity
10	Add Additional Vehicles to Freebee to Meet the Demand of Ride Requests.	Connectivity

NO.	SHORT TERM RECOMMENDATION	STRATEGY
11	Coordinate with Local Municipalities on Freebee/On-Demand Service to Ensure they Complement Transit Services.	Coordination
12	Continue Coordination with DTPW to Include iBus on Existing Transit Tracker Application.	Coordination
13	Coordinate with DTPW on Phone Application Improvements Such as Notification Delay and Next Bus.	Coordination
14	Improve iBus and Freebee Frequency of Service.	Policy / Coordination
15	Market Freebee Service to Transport Residents To/From South-Dade Transitway and/or iBus and Freebee Express Services.	Communication
16	Explore Shared Mobility Services: Bikesharing, Electric Bike, and/or Electric Scooter at Key Locations.	Policy / Accessibility / Connectivity
17	Adopt Best Practices for Bicycle, Pedestrian, Transit and Mobility Hub Planning.	Policy
18	Consider Temporary or Pop-Up Bus Stops to Test New Transit Stops in The Village.	Accessibility
19	New and/or Temporary Stops Should Be Partnered with Marketing Effort.	Communication
20	Incorporate Placemaking Principles at All Proposed Neighborhood Mobility Hubs and Bus Rapid Transit Stations.	Policy
21	Coordinate with DTPW and FDOT on Improving Access to the South-Dade Transitway.	Coordination
22	Coordinate with the Town of Cutler Bay on Implementation of the Neighborhood Mobility Hub and Proposed Improvements at Old Cutler Road and SW 184 Street.	Coordination
23	Incorporate 7 Main Goals When Designing Transit Stops: Safety, Thermal Comfort, Acoustic Comfort, Wind Protection, Visual Comfort, Accessibility, and Integration.	Policy
24	Incorporate Secondary Goals of Transit Stop Design: Cleanliness, Shelter, Seating, and Mixed Land Uses at Transit Stops.	Policy
25	Incorporate Amenities for All Types of Users at Mobility Hubs and Bus Rapid Transit Stations.	Policy
26	Coordinate with DTPW to Enhance Non-Motorized Connectivity and Accessibility the South-Dade Transitway and Bus Rapid Transit Stations. Including ADA Improvements, TOD Development, Landscaping, Pedestrian Lighting, Smart Technology, Curbside Management, Buffered or Protected Bicycle Lanes, Green Infrastructure, and Fill-in Sidewalk Gaps.	Coordination

NO.	SHORT TERM RECOMMENDATION	STRATEGY
27	Leverage Public Private Partnerships to Include Mobility Hubs, Transit, and Non-Motorized Improvements.	Policy
28	Adopt Policies Related to Complete Streets, Micromobility, Electric Vehicle Charging, Curbside Management, Green Infrastructure, and Transportation Demand Management (TDM).	Policy
29	Incorporate Sustainable Development and Multimodal Transportation into the Village's Zoning Code.	Policy
30	Collaborate with DTPW to Amend Transit Station Design and Support Mobility Hub Implementation and Flexibility for Technological Changes.	Coordination
31	Incorporate Mobility Hub Elements into Future Joint Development Projects and the Development Review Process.	Policy
32	Partner with Mobility Share Providers.	Coordination
33	Amend Off-Street Parking Requirements to Align with Mobility Hub Investments.	Policy
34	Educate Developers, Employers, and Other Stakeholders on the Mobility Hub Concept to Gather Support.	Communication
35	Communicate the Value of Prioritizing Drop-Off Space over Parking to Private Property Owners and Developers.	Policy / Communication / Coordination
35	Account for Connected and Autonomous Vehicles in Future Planning Documents and Policies	Policy
36	Seek Pilot Projects That Enhance Transit and Provide Mobility Options to Commuters.	Coordination
37	Encourage Businesses and/or Developers to Partner with Local Agencies to Test Technologies and Service Concepts in the Real-World.	Policy
38	Adopt a Mobility Fee to Allow the Village to Collect Impact Fees to Fund Multimodal Transportation Improvements.	Policy

Table 19: Long Term Recommendations

NO.	LONT TERM RECOMMENDATION	STRATEGY
1	Implement Recommendations from Previous Studies Which Would Enhance Bicycle and Pedestrian Accessibility.	Safety / Accessibility / Connectivity
2	Complete Bicycle Lanes Along Hibiscus Street, SW 92nd Avenue, and SW 82nd Avenue.	Accessibility / Connectivity
3	Consider Constructing Multi-Use Pathways and/or Separated Facilities for Non-Motorized Users on all Main Roads.	Safety / Accessibility / Connectivity

NO.	LONT TERM RECOMMENDATION	STRATEGY
4	Improve Bicycle Access to Transit Stops and the South-Dade Transitway. Enhance Bicycle Amenities at the South Dade Transitway.	Safety / Accessibility / Connectivity
5	Improve Bus Stops Within Palmetto Bay to Include Basic Transit Amenities: Shade, Seating, Access, Signage, Lighting, and Bicycle Racks.	Accessibility
6	Coordinate Pedestrian and Bicycle Improvements Along U.S. 1 and Old Cutler Road.	Safety / Accessibility / Connectivity
7	Construct ADA Improvements to Transit Stops Within the Village.	Accessibility
8	Fill Sidewalk Gaps Within 1/4-Mile of Transit Stops Within the Village.	Safety / Accessibility / Connectivity
9	Implement Identified Transit Improvements Throughout the Village.	Safety / Accessibility / Connectivity
10	Expand iBus Service to Include Old Cutler Road and Village Schools.	Accessibility
11	Pilot New Routes During Peak Traffic Times, include School times.	Coordination
12	Coordinate with Town of Cutler Bay and the Village of Pinecrest to Establish Transit for Students between the three cities.	Coordination / Policy / Accessibility
13	Implement Mobility Hub Locations and Recommendations.	Connectivity
14	Incorporate Shared Mobility Options, Public Spaces, Public Art, Wi-Fi, Booking Lending Library, and USB Charging at Mobility Hub Locations, Include Areas Near South-Dade Transitway.	Policy
15	Install Electric Vehicle Charging Throughout the Village.	Accessibility
16	Install Florida-Friendly Landscaping and/or Green Infrastructure Techniques Along Multi-Use Trails, Bus Stops, Public Spaces, and Sidewalks.	Policy / Coordination

9.2 Funding

Table 20: Table of Available Funding

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
FEDERAL CAPITAL FUNDING SOURCES				
USDOT	BUILD	Capital/ Operations & Maintenance	Competitive	Better Utilizing Investments to Leverage Development (BUILD) Transportation Discretionary Grants. BUILD Transportation grants (previously known as Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program), can support roads, bridges, transit, rail, ports or intermodal transportation. BUILD Transportation grants are for investments in surface transportation infrastructure and will be awarded on a competitive basis to projects that will have a significant local or regional impact that address public health and safety, promote regional connectivity, facilitate economic growth or competitiveness, deploy broadband as part of an eligible transportation project, or promote energy independence. Additional information can be found at: https://www.transportation.gov/BUILDgrants/outreach
USDOT	National Highway System FAST Act (NHS)	Capital/ Operations & Maintenance / Planning & Research	Flexible	The FAST Act continues the National Highway Performance Program, which was established under MAP-21. The NHPP provides support for the condition and performance of the National Highway System (NHS), for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS. The FAST Act continues all prior NHPP eligibilities, and adds four new eligible categories: Installation of vehicle-to-infrastructure communication equipment; Reconstruction, resurfacing, restoration, rehabilitation, or preservation of a bridge on a non-NHS Federal-aid highway (if Interstate System and NHS Bridge Condition provision requirements are satisfied); A project to reduce the risk of failure of critical NHS infrastructure (defined to mean a facility, the incapacity or failure of which would have a debilitating impact in certain specified areas); and, at a State's request, the U.S. DOT may use the State's Surface Transportation Block Grant (STBG) funding to pay the subsidy and administrative costs for Transportation Infrastructure Finance and Innovation Act (TIFIA) credit assistance for an eligible NHPP project or group of projects. Additional information can be found at: https://www.fhwa.dot.gov/fastact/factsheets/nhppfs.cfm
FHWA	Surface Transportation Block Grant Program (STBG)	Capital / Operations & Maintenance / Planning & Research	Flexible	The Surface Transportation Program (STBG) provides flexible funding that may be used by States and localities for projects to preserve and improve the conditions and performance on any Federal-aid highway, bridge and tunnel projects on any public road, pedestrian and bicycle infrastructure, and transit capital projects, including intercity bus terminals. Fundable components include construction, reconstruction, rehabilitation, resurfacing, restoration, and operational improvements for highways and bridges including construction or reconstruction necessary to accommodate other transportation modes. As funding for planning, these funds can be used for surface transportation planning

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
				activities, wetland mitigation, transit research and development, and environmental analysis. Other eligible projects under STBG include transit safety improvements and most transportation control measures. Additional information can be found at: https://www.fhwa.dot.gov/fastact/factsheets/stbgfs.cfm
FHWA	Recreational Trails Program (23 USC 206)	Capital / Operations & Maintenance / Programming	Trail projects or access to Trails	Develop and maintain recreational trails and trail-related facilities for both nonmotorized and motorized recreational trail uses. States are encouraged to enter into contracts and cooperative agreements with qualified youth conservation or service corps. Eligible projects include: Maintenance and restoration of existing trails; Development and rehabilitation of trailside and trailhead facilities and trail linkages; Purchase and lease of trail construction and maintenance equipment; Construction of new trails (with restrictions for new trails on Federal lands); Acquisition of easements or property for trails; Assessment of trail conditions for accessibility and maintenance; Development and dissemination of publications and operation of educational programs to promote safety and environmental protection related to trails (including supporting non-law enforcement trail safety and trail use monitoring patrol programs, and providing trail-related training) (limited to 5 percent of a State's funds); State administrative costs related to this program (limited to 7 percent of a State's funds). Additional information can be found at: http://www.fhwa.dot.gov/environment/rectrails/
FHWA	National Scenic Byways Program	Capital / Programming	Public Roads	Grants and technical assistance are provided to states and Indian tribes to implement projects on highways designated as National Scenic Byways, All-American Roads, America's Byways, and state scenic or Indian tribe scenic byways and to plan, design, and develop a state or Indian tribe scenic byway program. Additional information can be found at: https://www.fhwa.dot.gov/hep/scenic_byways/index.cfm
FHWA	Safe Routes to School (SRTS)	Capital / Planning & Research / Programming	Projects within a half mile radius of public school	The purpose of SRTS is to enable and encourage children, including those with disabilities, to walk and bicycle to school; To make bicycling and walking to school a safer and more appealing transportation alternative, thereby encouraging a healthy and active lifestyle from an early age; and to facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Additional information can be found at: http://www.srtsfl.org
FHWA	Highway Bridge Replacement and Rehabilitation (HBRRP)	Capital	Projects including bridges	Replace and rehabilitate deficient highway bridges and to seismically retrofit bridges located on any public road. Additional information can be found at: http://www.fhwa.dot.gov/bridge/hbrrp.htm
FHWA	Highway Safety Improve-mint Program (HSIP)	Capital	Public Roads	The overall purpose of this program is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads through the implementation of infrastructure-related highway safety improvements. Additional information can be found at: http://safety.fhwa.dot.gov/hsip/

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
FTA	Transportation Alternatives	Capital	Flexible	Eligible activities include construction, planning and design of on-road and off-road trail facilities for pedestrians, bicyclists and other non-motorized forms of transportation. For example, new sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety related infrastructure, ADA compliance projects. Additional information can be found at: https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm
FTA	Paul S. Sarbanes Transit in the Parks Discretionary Grant Program	Capital / Planning & Research	Access to Everglades trails	The purpose of the program is to enhance the protection of national parks and public lands and increase the enjoyment of those visiting the parks and public lands. Eligible project areas include any federally owned or managed park, refuge or recreational area open to the general public, including: National Parks, National Wildlife Refuges; Bureau of Land Management recreational areas; Bureau of Reclamation recreational areas; and National Forests. Eligible projects may also include the communities and land surrounding these federal lands. Additional information can be found at: https://www.transit.dot.gov/funding/grants/grant-programs/paul-s-sarbanes-transit-parks-program-5320
FTA	Major Capital Investments (New Starts & Small Starts)	Capital	Long Range Transport at-ion Plan	The transit capital investment program provides capital assistance for three primary activities: New fixed guideway systems (New Starts program and Small Starts) New and replacement buses and facilities (Bus and Bus Related Facilities program), and Modernization of existing rail systems (Fixed Guideway Modernization program). The New Starts program provides funds for construction of new fixed guideway systems or extensions to existing fixed guideway systems. The Small Starts program provides funds to capital projects that either (a) meet the definition of a fixed guideway for at least 50 percent of the project length in the peak period or (b) are corridor-based bus projects with 10-minute peak/15-minute off-peak headways or better while operating at least 14 hours per weekday. The Federal assistance provided or to be provided under Section 5309(e) must be less than $75 million and the project must have a total capital cost of less than $250 million, both in year of expenditure dollars. Additional information can be found at: https://www.transit.dot.gov/funding/grant-programs/capital-investments/capital-investment-grants-program
FTA	Bus and Bus Facilities Infrastructure Investment Program	Capital	BCT Priority Areas	The transit infrastructure investment program provides capital assistance for three primary activities: New and replacement buses and facilities (Bus and Bus Related Equipment and Facilities program). Modernization of existing rail systems (Fixed Guideway Modernization program). New fixed guideway systems (New Starts program and Small Starts). Additional information can be found at: https://www.transit.dot.gov/funding/grants/bus-bus-facilities-infrastructure-investment-program
FTA	New Freedom Program	Capital / Disability Programming	ADA Facilities	The New Freedom formula grant program aims to provide additional tools to overcome existing barriers facing Americans with disabilities seeking integration into the work force and full participation in society. Lack of adequate transportation is a primary barrier to work for individuals with

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
				disabilities. The 2000 Census showed that only 60 percent of people between the ages of 16 and 64 with disabilities are employed. The New Freedom formula grant program seeks to reduce barriers to transportation services and expand the transportation mobility options available to people with disabilities beyond the requirements of the Americans with Disabilities Act (ADA) of 1990. Additional information can be found at: https://www.transit.dot.gov/regulations-and-guidance/fta-circulars/new-freedom-program-guidance-and-application-instructions
FTA	Integrated Mobility Innovation (IMI) Program	Capital	Public Transportation	FTA's Integrated Mobility Innovation (IMI) Program funds projects that demonstrate innovative and effective practices, partnerships and technologies to enhance public transportation effectiveness, increase efficiency, expand quality, promote safety and improve the traveler experience. Additional information can be found at: https://www.transit.dot.gov/IMI
FTA	Mobility on Demand (MOD) Sandbox Program	Technology / Partnerships	Public Transportation	Improve transportation efficiency by promoting agile, responsive, accessible and seamless multimodal service inclusive of transit through enabling technologies and innovative partnerships. Utilizing technological advances such as smart phones, information processing, and widespread data connectivity. New mobility concepts and solutions, from bike- and car-sharing systems to demand-responsive bus services. Additional information can be found at: https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program
	SMART Moves Projects		Demonstration Projects	The Miami-Dade TPO has indicated that a new funding cycle will open for mobility demonstration projects during the 2019-2020 fiscal year. Stay tuned! Additional information can be found at: http://www.miamidadetpo.org/
HUD CAPITAL FUNDING SOURCES				
HUD	CBDG Section 108	Capital / Programming	Project Bundles	Section 108 is the loan guarantee provision of the Community Development Block Grant (CDBG) program. Section 108 provides communities with a source of financing for economic development, housing rehabilitation, public facilities, and large-scale physical development projects. This makes it one of the most potent and important public investment tools that HUD offers to local governments. It allows them to transform a small portion of their CDBG funds into federally guaranteed loans large enough to pursue physical and economic revitalization projects that can renew entire neighborhoods. Additional information can be found at: https://www.hudexchange.info/programs/section-108/
HUD NON-CAPITAL FUNDING SOURCES				

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
HUD /EPA	Sustain-able Communit ies Regional Planning Grant	Planning & Research / Programming	Projects touching Palm Beach or Miami-Dade County	This year's Regional Planning Grant program encourages grantees to support regional planning efforts that integrate housing, land-use, economic and workforce development, transportation, and Capital developments in a manner that empowers regions to consider how all of these factors work together to bring economic competitiveness and revitalization to a community. The program places a priority on partnerships, including the collaboration of arts and culture, philanthropy, and innovative ideas to the regional planning process. Additional information can be found at: https://www.hud.gov/program_offices/economic_development/sustainable_communities_regional_planning_grants
HUD /EPA	Communit y Challenge Planning Grants	Planning & Research / Programming	Flexible	The program provides grants to enable communities in fostering reform and reducing barriers to achieving affordable, economically vital, and sustainable communities. Such efforts may include amending or replacing local master plans, zoning codes, and building codes, either on a jurisdiction-wide basis or in a specific neighborhood, district, corridor, or sector to promote mixed-use development, affordable housing, the reuse of older buildings and structures for new purposes, and similar activities with the goal of promoting sustainability at the local or neighborhood level. This Program also supports the development of affordable housing through the development and adoption of inclusionary zoning ordinances and other activities such as acquisition of land for affordable housing projects. Additional information can be found at: https://www.hud.gov/program_offices/economic_development/HUD-DOT_Community_Challenge_Grants
HUD	Communit y Developm ent Block Grant (CDBG) – Entitleme nt Communit ies Grant & State Administe red	Programming	Flexible	The program provides annual grants on a formula basis to entitled cities and counties to develop viable urban communities by providing decent housing and a suitable living environment, and by expanding economic opportunities, principally for low- and moderate-income persons. Additional information can be found at: https://www.hud.gov/program_offices/comm_planning/communitydevelopment/programs
HUD	Brown-fields Economic Developm ent Initiative (BEDI)	Planning & Research / Programming	Projects within or adjacent to Brownfield sites	The Brownfields Economic Development Initiative (BEDI) is a key competitive grant program that HUD administers to stimulate and promote economic and community development. BEDI is designed to assist cities with the redevelopment of abandoned, idled and underused industrial and commercial facilities where expansion and redevelopment is burdened by real or potential environmental contamination. BEDI grant funds are primarily targeted for use with a particular emphasis upon the redevelopment of brownfields sites in economic development projects and the increase of economic opportunities for low-and moderate-income persons as part of the creation or retention of businesses, jobs and increases in the local tax base. Additional

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
				information can be found at: https://www.hudexchange.info/programs/bedi/
EPA NON-CAPITAL FUNDING SOURCES				
USEPA	Brown-fields Assess-mint Grant	Planning & Research / Operations & Maintenance	Projects within or adjacent to Brownfield sites	Assessment grants provide funding for a grant recipient to inventory, characterize, assess, and conduct planning and community involvement related to brownfields sites. An eligible entity may apply for up to $200,000 to assess a site contaminated by hazardous substances, pollutants, or contaminants (including hazardous substances co-mingled with petroleum) and up to $200,000 to address a site contaminated by petroleum. Additional information can be found at: https://www.epa.gov/brownfields/types-brownfields-grant-funding
USEPA	Brown-fields Cleanup Grant	Operations & Maintenance/ Programming	Projects within or adjacent to Brownfield sites	Cleanup grants provide funding for a grant recipient to carry out cleanup activities at brownfield sites. An eligible entity may apply for up to $200,000 per site. Additional information can be found at: https://www.epa.gov/cleanups/cleanup-grants-and-funding
USEPA	Brown-fields Revolving Loan Fund Grants	Operations & Maintenance / Programming	Projects within or adjacent to Brownfield sites	Revolving Loan Fund (RLF) grants provide funding for a grant recipient to capitalize a revolving loan fund and to provide sub grants to carry out cleanup activities at brownfield sites. Additional information can be found at: https://www.epa.gov/sites/production/files/2015-09/documents/rlf_factsheet.pdf
USEPA	Brown-fields Area-Wide Planning Pilot Program	Planning & Research	Projects within or adjacent to Brownfield sites	EPA is piloting this area-wide planning approach to community brownfield challenges, which recognizes that revitalization of the area surrounding the brownfield site(s) is critical to the successful reuse of the property as assessment, cleanup, and redevelopment of an individual site. The area-wide planning approach will enhance EPA's core brownfields assistance programs by encouraging continued meaningful involvement in a locally-driven planning process that will result in a strategy for making brownfields site assessment, cleanup and/or redevelopment decisions for the future. Additional information can be found at: https://www.epa.gov/sites/production/files/2015-09/documents/awp_sanford_me.pdf
OTHER FED GOVERNMENT INSTITUTIONAL CAPITAL FUNDING SOURCES				
Dept of the Interior / National Park Service (DOI/NPS)	Land and Water Conservati on Fund	Capital	Projects bordering Everglades	The State Side of the LWCF provides matching grants to States and local governments for the acquisition and development of public outdoor recreation areas and facilities. Grant funds can be dedicated toward planning, acquisition and development of facilities that provide recreational opportunities. Additional information can be found at: http://www.nps.gov/lwcf/
OTHER FED GOVERNMENT INSTITUTIONIONAL NON-CAPITAL FUNDING SOURCES				
National Endowme nt for the Arts (NEA)	Access to Artistic Excellence , "Our	Programming	Encourage-mint / Education Programmin g	Based on the availability of funding, the National Endowment for the Arts will provide a limited number of grants, ranging from $25,000 to $250,000, for creative placemaking projects that contribute toward the livability of communities and help transform them into lively, beautiful, and sustainable places

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
	Town" Program			with the arts at their core. Creative placemaking is when artists, arts organizations, and community development practitioners deliberately integrate arts and culture into community revitalization work - placing arts at the table with land-use, transportation, economic development, education, housing, infrastructure, and public safety strategies. The Arts Endowment plans to support a variety of diverse projects, across the country in urban and rural communities of all sizes. Projects may include planning, design, and arts engagement activities. Additional information can be found at: https://www.arts.gov/grants-organizations/our-town/introduction
National Endowment for the Humanities (NEFH)	America's Historic Places Grants	Programming	Encouragement / Education Programming in close proximity to Historic sites	As part of the We the People initiative, NEFH seeks proposals for public programs that use one or more historic sites to address themes and issues central to American history. Projects may interpret a single historic site, a series of sites, whole neighborhoods, communities or towns, or larger geographical regions. The place taken as a whole must be significant to American history and the project must convey its importance to visitors. Additional information can be found at: http://www.neh.gov/grants/guidelines/historicplaces.html
STATE / FLORIDA CAPITAL FUNDING SOURCES				
FDOT	Resurfacing Program (3R)	Capital	Programmed District resurfacing project	The resurfacing program deals with improvements to the structural condition of existing pavements on the State Highway System (SHS), including the interstate and turnpike enterprise. This program provides for pavement resurfacing, rehabilitation, minor reconstruction, and pavement milling and recycling. Such projects are intended to preserve the structural integrity of highway pavements. Opportunities may exist for early project identification and coordination to leverage other funds for Complete Streets improvements. Additional information can be found at: http://www.fdot.gov/roadway/ppmmanual/2012/volume1/chap25.pdf
FDOT	Public Transit Service Development program	Capital / Programming	Transit / Municipal priority projects	This grant program is designed to provide start-up funding for new public transit projects that provide new or innovative techniques to improve system efficiencies, ridership or revenues. Additional information can be found at: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/transit/documents/transitresourceguide.pdf?sfvrsn=a4a21cda_0
FDOT	Inter-modal Development program	Capital	Mobility Hub projects	This program provides funding for projects that promote the intermodal or multimodal movement of people and goods. These projects may include major capital investments in fixed guideway transportation systems; access to seaports or airports; and construction of intermodal, multimodal or other transportation terminals. Additional information can be found at: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/transit/documents/transitresourceguide.pdf?sfvrsn=a4a21cda_0

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
FDOT	Park & Ride Lot Program	Capital	Existing and Planned Park & Ride projects	This program supports the purchase or lease of land for the construction of park and ride facilities or the promotion of these facilities to increase their use for transit, carpools, and vanpools. Additional information can be found at: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/transit/documents/transitresourceguide.pdf?sfvrsn=a4a21cda_0
FDOT	Transit Corridor Program	Capital	Transit / Municipal priority projects	This program is designed to support projects that relieve congestion and improve capacity in identified transportation corridors by improving the people-carrying capacity of the system through the use of high-occupancy conveyances. Additional information can be found at: https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/content/transit/documents/transitresourceguide.pdf?sfvrsn=a4a21cda_0
STATE / FLORIDA NON-CAPITAL FUNDING SOURCES				
FDOT	High Visibility Enforcement Grant	Programming	Enforcement Programming	High visibility enforcement funds are intended as a crash mitigation tool. These enforcement activities are designed to target unsafe behaviors of all road users, including motorists, pedestrians, and bicyclists. The funds may only be used for officer overtime hours spent conducting on-street enforcement operations. Additional information can be found at: http://www.alerttodayflorida.com/hve.html
PRIVATE FOUNDATION/ORGANIZATION CAPITAL FUNDING SOURCES				
Rails to Trails	Doppelt Family Trail Development Fund	Capital / Programming	Trail projects or access to Trails	The Doppelt Family Trail Development Fund supports organizations and local governments that are implementing projects to build and improve multi-use trails. Under the Doppelt Family Trail Development Fund, RTC will award approximately $85,000 per year, distributed among several qualifying projects, through a competitive process. Additional information can be found at: https://www.railstotrails.org/our-work/doppelt-family-trail-development-fund/
Bike Florida	Share the Road Challenge Grant	Capital / Programming	Encouragement / Education programing	Applicants must match at least 75 percent of the grant in cash. Up to 25 percent of the match may be in the form of in-kind services and supplies. The purpose of the Share the Road Challenge Grant is to fund a local level demonstration projects designed to facilitate cycling as a safe and convenient form of transportation that will produce measurable impacts and that can be duplicated in other communities. Projects may encompass education, infrastructure, public awareness, design or other innovative approaches. Additional information can be found at: https://sharetheroad.org/challenge-grant/
Transit Center	Major Grants	Capital / Programming	Mobility Hubs	Transit Center awards grants to qualified organizations engaged in transit advocacy and applied research. Those awards are made through periodic competition among entities which Transit Center invites to submit applications. Additional information can be found at: http://transitcenter.org/grants/

Sponsor	Program Name	Funding Type	Potential Funding Strategy	Description of Funding Program
PRIVATE FOUNDATION/ORGANIZATION NON-CAPITAL FUNDING SOURCES				
Conservation Fund	Kodak American Green-ways Program	Programming	Encouragement / Education programing	The organization is interested in funding activities such as mapping, eco-logical assessments, surveying, conferences and design activities; developing brochures, interpretative displays, audio-visual productions or public opinion surveys; hiring consultants; incorporating land trusts; and/or building footbridges, planning bike paths or other creative projects. Additional information can be found at: http://www.rlch.org/funding/kodak-american-greenways-grants
League of American Bicyclists	Woman Bike Grants	Programming	Women Encouragement / Education programing	One of the goals of the Women Bike program is to seed, support and spread the best campaigns and ideas that are getting more women on bikes. Additional information can be found at: http://www.bikeleague.org/content/women-bike-funding

APPENDIX I: RIDERSHIP

MetroBus

Table 21: Route 31 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	31	0	2	1	SW 211 ST & SOUTHLAND MA	153	0
1	31	0	3671	2	SW 211 ST & OP # 10890	3	5
1	31	0	3672	3	SW 211 ST & SW 112 AV	34	6
1	31	0	3813	4	BUSWAY & SW 112 AV	74	2
1	31	0	227	5	BUSWAY & SW 200 ST	119	8
1	31	0	3814	6	BUSWAY & MARLIN DR	46	16
1	31	0	228	7	BUSWAY & SW 184 ST	55	14
1	31	0	3815	8	BUSWAY & W INDIGO ST	32	15
1	31	0	3816	9	BUSWAY & SW 173 ST	39	14
1	31	0	3817	10	BUSWAY & SW 168 ST	63	6
1	31	0	3818	11	BUSWAY & SW 160 ST	31	20
1	31	0	4	12	BUSWAY & SW 152 ST	68	18
1	31	0	3819	13	BUSWAY & SW 144 ST	14	11
1	31	0	5	14	BUSWAY & SW 136 ST	26	31
1	31	0	3820	15	BUSWAY & SW 128 ST	9	6
1	31	0	3821	16	BUSWAY & SW 124 ST	5	3
1	31	0	3822	17	BUSWAY & SW 120 ST	6	6
1	31	0	3823	18	BUSWAY & SW 112 ST	8	7
1	31	0	3824	19	BUSWAY & SW 104 ST	11	7
1	31	0	6	20	DADELAND SOUTH METRORAIL	0	962
1	31	1	6	1	DADELAND SOUTH METRORAIL	611	0
1	31	1	3801	2	BUSWAY & SW 104 ST	10	10
1	31	1	3802	3	BUSWAY & SW 112 ST	3	8
1	31	1	3803	4	BUSWAY & SW 120 ST	7	7
1	31	1	3804	5	BUSWAY & SW 124 ST	4	8
1	31	1	3805	6	BUSWAY & SW 128 ST	7	8
1	31	1	10	7	BUSWAY & SW 136 ST	25	25
1	31	1	3806	8	BUSWAY & SW 144 ST	13	16
1	31	1	11	9	BUSWAY & SW 152 ST	23	37
1	31	1	3807	10	BUSWAY & SW 160 ST	24	29
1	31	1	3808	11	BUSWAY & SW 168 ST	11	33
1	31	1	3809	12	BUSWAY & SW 173 ST	15	35
1	31	1	3810	13	BUSWAY & W INDIGO ST	17	24
1	31	1	229	14	BUSWAY & SW 184 ST	19	46
1	31	1	3811	15	BUSWAY & MARLIN DR	20	38
1	31	1	230	16	BUSWAY & SW 200 ST	12	71
1	31	1	3812	17	BUSWAY & SW 112 AV	3	31

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	31	1	3164	18	SW 112 AV & # 20760	8	89
1	31	1	3674	19	SW 211 ST & SW 112 AV	4	14
1	31	1	2	21	SW 211 ST & SOUTHLAND MA	0	116

Table 22: Route 34 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	34	0	10511	1	SW 344 ST PARK & RIDE	163	2
1	34	0	10346	2	BUSWAY & NE 2 DR	94	2
1	34	0	10344	3	BUSWAY & SW 312 ST	108	2
1	34	0	10321	4	BUSWAY & SW 296 ST	108	2
1	34	0	10340	5	BUSWAY & SW 280 ST	43	2
1	34	0	9919	6	BUSWAY & SW 264 ST	72	5
1	34	0	9831	7	BUSWAY & SW 244 ST	157	4
1	34	0	9543	8	BUSWAY & SW 216 ST	42	6
1	34	0	3813	9	BUSWAY & SW 112 AV	221	16
1	34	0	6	10	DADELAND SOUTH METRORAIL	0	1803
1	34	1	6	1	DADELAND SOUTH METRORAIL	1285	7
1	34	1	3812	2	BUSWAY & SW 112 AV	18	300
1	34	1	9547	3	BUSWAY & SW 216 ST	6	32
1	34	1	9832	4	BUSWAY & SW 244 ST	8	136
1	34	1	9918	5	BUSWAY & SW 264 ST	6	59
1	34	1	10341	6	BUSWAY & SW 280 ST	4	44
1	34	1	10320	7	BUSWAY & SW 296 ST	4	101
1	34	1	10345	8	BUSWAY & SW 312 ST	7	135
1	34	1	10347	9	BUSWAY & NE 2 DR	4	105
1	34	1	10511	10	SW 344 ST PARK & RIDE	0	124

Table 23: Route 38 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	38	0	10511	1	SW 344 ST PARK & RIDE	146	1
1	38	0	10350	2	BUSWAY & SW 328 ST	106	21
1	38	0	10348	3	BUSWAY & SW 324 ST	152	21
1	38	0	10321	6	BUSWAY & SW 296 ST	119	39
1	38	0	10340	7	BUSWAY & SW 280 ST	127	48
1	38	0	10338	8	BUSWAY & SW 272 ST	70	39
1	38	0	9919	9	BUSWAY & SW 264 ST	190	97
1	38	0	9831	10	BUSWAY & SW 244 ST	127	48
1	38	0	9920	11	BUSWAY & SW 232 ST	23	13
1	38	0	3689	14	SW 216 ST & US 1	173	95

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	38	0	3690	15	SW 216 ST & SW 114 AV	31	15
1	38	0	3691	16	SW 216 ST & SW 113 AV	17	10
1	38	0	321	17	SW 112 AV & 216 ST	119	44
1	38	0	3181	18	SW 112 AV & 211 ST	210	168
1	38	0	227	19	BUSWAY & SW 200 ST	217	110
1	38	0	3814	20	BUSWAY & MARLIN DR	99	140
1	38	0	228	21	BUSWAY & SW 184 ST	116	110
1	38	0	3815	22	BUSWAY & W INDIGO ST	67	71
1	38	0	3816	23	BUSWAY & SW 173 ST	72	49
1	38	0	3817	24	BUSWAY & SW 168 ST	104	38
1	38	0	3818	25	BUSWAY & SW 160 ST	68	55
1	38	0	4	26	BUSWAY & SW 152 ST	136	98
1	38	0	3819	27	BUSWAY & SW 144 ST	37	34
1	38	0	5	28	BUSWAY & SW 136 ST	59	142
1	38	0	3820	29	BUSWAY & SW 128 ST	19	22
1	38	0	3821	30	BUSWAY & SW 124 ST	14	12
1	38	0	3822	31	BUSWAY & SW 120 ST	15	23
1	38	0	3823	32	BUSWAY & SW 112 ST	15	14
1	38	0	3824	33	BUSWAY & SW 104 ST	22	27
1	38	0	6	34	DADELAND SOUTH METRORAIL	15	3375
1	38	1	6	1	DADELAND SOUTH METRORAIL	3397	1
1	38	1	3801	2	BUSWAY & SW 104 ST	47	38
1	38	1	3802	3	BUSWAY & SW 112 ST	18	20
1	38	1	3803	4	BUSWAY & SW 120 ST	31	16
1	38	1	3804	5	BUSWAY & SW 124 ST	18	19
1	38	1	3805	6	BUSWAY & SW 128 ST	23	26
1	38	1	10	7	BUSWAY & SW 136 ST	118	70
1	38	1	3806	8	BUSWAY & SW 144 ST	43	38
1	38	1	11	9	BUSWAY & SW 152 ST	104	120
1	38	1	3807	10	BUSWAY & SW 160 ST	65	87
1	38	1	3808	11	BUSWAY & SW 168 ST	52	99
1	38	1	3809	12	BUSWAY & SW 173 ST	54	84
1	38	1	3810	13	BUSWAY & W INDIGO ST	76	71
1	38	1	229	14	BUSWAY & SW 184 ST	107	131
1	38	1	3811	15	BUSWAY & MARLIN DR	121	107
1	38	1	230	16	BUSWAY & SW 200 ST	117	210
1	38	1	3812	17	BUSWAY & SW 112 AV	29	119
1	38	1	3164	18	SW 112 AV & # 20760	147	191
1	38	1	3165	19	SW 112 AV & SW 211 ST	50	34
1	38	1	322	20	SW 216 ST & 112 AV	60	104

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	38	1	3682	21	SW 216 ST & SW 113 AV	9	23
1	38	1	3683	22	SW 216 ST & SW 114 AV	9	29
1	38	1	3684	23	SW 216 ST & US 1	28	49
1	38	1	9547	24	BUSWAY & SW 216 ST	44	72
1	38	1	9916	25	BUSWAY & SW 220 ST	38	42
1	38	1	9917	26	BUSWAY & SW 232 ST	17	22
1	38	1	9832	27	BUSWAY & SW 244 ST	50	118
1	38	1	9918	28	BUSWAY & SW 264 ST	104	199
1	38	1	10339	29	BUSWAY & SW 272 ST	48	72
1	38	1	10341	30	BUSWAY & SW 280 ST	56	119
1	38	1	10320	31	BUSWAY & SW 296 ST	44	103
1	38	1	10345	32	BUSWAY & SW 312 ST	90	398
1	38	1	10347	33	BUSWAY & NE 2 DR	41	200
1	38	1	10349	34	BUSWAY & SW 324 ST	25	124
1	38	1	10351	35	BUSWAY & SW 328 ST	30	209
1	38	1	10323	36	BUSWAY & W PALM DR	3	1
1	38	1	1916	38	US.1 & SW 336 ST	0	0
1	38	1	11208	39	US 1 AT 33000 BLK	0	0
1	38	1	2586	40	LUCY ST & KROME AV	2	6
1	38	1	11207	41	S KROME AV AT #1450	1	11
1	38	1	11210	42	S KROME AV AT #826	0	1
1	38	1	1896	43	W PALM DR & NW 1 AV	21	219
1	38	1	10511	45	SW 344 ST PARK & RIDE	1	234

Table 24: Route 39 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	39	0	2	1	SW 211 ST & SOUTHLAND MA	69	1
1	39	0	3813	2	BUSWAY & SW 112 AV	159	2
1	39	0	227	3	BUSWAY & SW 200 ST	70	2
1	39	0	3817	4	BUSWAY & SW 168 ST	118	3
1	39	0	4	5	BUSWAY & SW 152 ST	97	5
1	39	0	6	6	DADELAND SOUTH METRORAIL	0	844
1	39	1	6	1	DADELAND SOUTH METRORAIL	405	0
1	39	1	11	2	BUSWAY & SW 152 ST	6	106
1	39	1	3808	3	BUSWAY & SW 168 ST	2	123
1	39	1	230	4	BUSWAY & SW 200 ST	2	53
1	39	1	3812	5	BUSWAY & SW 112 AV	2	72
1	39	1	13	6	SW 211 ST & 107 AV	0	39

Table 25: Route 52 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	52	0	367	1	COMMUNITY HEALTH OF SOUT	110	1
1	52	0	3700	2	OLD CUTLER RD & SW 222 S	25	1
1	52	0	3701	3	OLD CUTLER RD & # 22245	11	0
1	52	0	3702	4	OLD CUTLER RD & SW 108 A	6	0
1	52	0	3703	5	OLD CUTLER RD & SW 109 A	6	1
1	52	0	3704	6	OLD CUTLER RD & SW 112 A	14	4
1	52	0	3179	7	SW 112 AV & SW 220 ST	2	0
1	52	0	321	8	SW 112 AV & 216 ST	12	12
1	52	0	3674	9	SW 211 ST & SW 112 AV	3	9
1	52	0	2	10	SW 211 ST & SOUTHLAND MA	31	26
1	52	0	3671	11	SW 211 ST & OP # 10890	0	0
1	52	0	3181	12	SW 112 AV & 211 ST	52	18
1	52	0	3655	13	SW 200 ST & BUSWAY	40	12
1	52	0	3656	14	SW 200 ST & SW 110 CT	9	7
1	52	0	3657	15	SW 200 ST & SW 112 CT	2	3
1	52	0	3658	16	SW 200 ST & SW 114 AV	6	8
1	52	0	3659	17	SW 200 ST & SW 117 AV	4	4
1	52	0	3222	18	SW 117 AV & SW 196 ST	2	2
1	52	0	3223	19	SW 117 AV & SW 192 ST	0	1
1	52	0	3224	20	SW 117 AV & SW 191 TE	5	23
1	52	0	3615	21	QUAIL ROOST DR & SW 117	3	12
1	52	0	3616	22	QUAIL ROOST DR & # 11855	1	6
1	52	0	3617	23	QUAIL ROOST DR & SW 193	0	2
1	52	0	3256	24	SW 122 AV & QUAIL ROOST	2	3
1	52	0	3257	25	SW 122 AV & SW 200 ST	9	6
1	52	0	3618	26	QUAIL ROOST DR & SW 123	41	40
1	52	0	3619	27	QUAIL ROOST DR & SW 193	1	0
1	52	0	3620	28	QUAIL ROOST DR & OP#1185	2	2
1	52	0	3225	29	SW 117 AV & SW 188 TE	16	8
1	52	0	3226	30	SW 117 AV & SW 187 TE	1	1
1	52	0	3227	31	SW 117 AV & SW 186 ST	2	1
1	52	0	10570	32	SW 117 AV & SW 184 ST	5	3
1	52	0	10573	33	SW 176 ST & SW 117 AV	3	4
1	52	0	10571	34	SW 176 ST & SW 122 AV	5	4
1	52	0	378	39	SW 122 AV & 181 TERR	15	16
1	52	0	3604	40	SW 184 ST & SW 122 AV	12	4
1	52	0	3606	41	SW 184 ST & SW 117 AV	4	1
1	52	0	3607	42	SW 184 ST & SW 115 AV	7	2
1	52	0	3608	43	SW 184 ST & SW 112 AV	11	7
1	52	0	3609	44	SW 184 ST & SW 109 AV	4	2

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	52	0	3610	45	SW 184 ST & # 10790	0	2
1	52	0	3125	46	SW 107 AV & SW 183 ST	2	3
1	52	0	3127	47	SW 107 AV & SW 179 ST	0	0
1	52	0	3128	48	SW 107 AV & SW 178 ST	7	4
1	52	0	3129	49	SW 107 AV & SW 176 ST	9	3
1	52	0	3573	50	SW 176 ST & SW 104 AV	9	8
1	52	0	3574	51	SW 176 ST & SW 103 AV	0	1
1	52	0	3575	52	HIBISCUS ST & SW 102 AV	3	2
1	52	0	3576	53	HIBISCUS ST & HOMESTEAD	19	46
1	52	0	3577	54	HIBISCUS ST & CLEVELAND	0	4
1	52	0	9082	55	US 1 & HIBISCUS ST	1	5
1	52	0	9111	56	SW 174 ST & 97 AV	2	6
1	52	0	3566	57	BANYAN ST & US 1	1	2
1	52	0	3567	58	BANYAN ST & HOMESTEAD AV	5	4
1	52	0	3559	59	SW 172 ST & DUVAL ST	2	2
1	52	0	3560	60	SW 172 ST & SW 102 AV	7	5
1	52	0	3082	61	SW 102 AV & SW 170 TE	4	3
1	52	0	3083	62	SW 102 AV & SW 169 ST	11	6
1	52	0	3539	63	SW 168 ST & SW 102 AV	1	1
1	52	0	3540	64	SW 168 ST & SW 104 AV	5	3
1	52	0	3541	65	SW 168 ST & SW 105 AV	5	1
1	52	0	3542	66	SW 168 ST & SW 107 AV	3	3
1	52	0	3543	67	SW 168 ST & SW 108 AV	2	2
1	52	0	3544	68	SW 168 ST & SW 109 AV	2	2
1	52	0	3545	69	SW 168 ST & SW 110 AV	3	1
1	52	0	3546	70	SW 168 ST & SW 112 AV	0	1
1	52	0	3182	71	SW 112 AV & SW 167 ST	7	2
1	52	0	3183	72	SW 112 AV & SW 165 TE	2	1
1	52	0	3184	73	SW 112 AV & SW 163 ST	0	0
1	52	0	3185	74	SW 112 AV & SW 161 ST	8	6
1	52	0	3186	75	SW 112 AV & SW 159 ST	3	3
1	52	0	3187	76	SW 112 AV & SW 156 ST	3	1
1	52	0	3188	77	SW 112 AV & SW 153 ST	4	1
1	52	0	371	78	SW 112 AV & 152 ST	19	23
1	52	0	3150	79	LINCOLN BD & DUNBAR DR	17	5
1	52	0	3146	80	CARVER DR & HARRISON ST	14	3
1	52	0	10568	81	BOGGS DR & SW 142 LN	0	0
1	52	0	10566	82	SW 142 LN & SW 110 ST	22	7
1	52	0	9794	83	SW 146 ST & SW 104 CT	32	9
1	52	0	9802	84	SW 103 AV & SW 146 TE	3	3
1	52	0	9801	85	SW 103 AV & SW 149 ST	8	2
1	52	0	9793	86	SW 151 TE & SW 102 AV	13	2

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	52	0	3529	87	SW 152 ST & SW 99 CT	14	1
1	52	0	3530	88	SW 152 ST & OP # 9869	1	2
1	52	0	3531	89	SW 152 ST & SW 97 AV	2	0
1	52	0	3532	90	SW 152 ST & SW 93 AV	0	1
1	52	0	3533	91	SW 152 ST & SW 93 AV	12	17
1	52	0	3819	92	BUSWAY & SW 144 ST	14	12
1	52	0	5	93	BUSWAY & SW 136 ST	20	19
1	52	0	3820	94	BUSWAY & SW 128 ST	8	3
1	52	0	3821	95	BUSWAY & SW 124 ST	6	2
1	52	0	3822	96	BUSWAY & SW 120 ST	4	6
1	52	0	3823	97	BUSWAY & SW 112 ST	6	2
1	52	0	3824	98	BUSWAY & SW 104 ST	10	6
1	52	0	6	99	DADELAND SOUTH METRORAIL	2	478
1	52	1	6	1	DADELAND SOUTH METRORAIL	498	2
1	52	1	3801	2	BUSWAY & SW 104 ST	9	8
1	52	1	3802	3	BUSWAY & SW 112 ST	6	6
1	52	1	3803	4	BUSWAY & SW 120 ST	6	6
1	52	1	3804	5	BUSWAY & SW 124 ST	3	6
1	52	1	3805	6	BUSWAY & SW 128 ST	3	7
1	52	1	10	7	BUSWAY & SW 136 ST	17	24
1	52	1	3806	8	BUSWAY & SW 144 ST	15	17
1	52	1	3501	9	SW 152 ST & SW 92 AV	22	29
1	52	1	3502	10	SW 152 ST & SW 94 AV	0	0
1	52	1	3503	11	SW 152 ST & SW 97 AV	1	3
1	52	1	3504	12	SW 152 ST & # 9869	2	4
1	52	1	3505	13	SW 152 ST & SW 99 CT	1	5
1	52	1	3506	14	SW 152 ST & SW 102 AV	2	15
1	52	1	9800	15	SW 103 AV & SW 149 ST	2	8
1	52	1	9799	16	SW 103 AV & SW 146 ST	1	2
1	52	1	9796	17	SW 146 ST & SW 104 CT	3	10
1	52	1	9795	18	SW 146 ST & SW 107 AV	8	24
1	52	1	10565	19	SW 142 LN & SW 110 ST	10	18
1	52	1	10567	20	BOGGS DR & SW 142 LN	0	0
1	52	1	10569	21	HARRISON ST & BOGGS DR	4	16
1	52	1	3145	22	CARVER DR & LINCOLN BD	2	10
1	52	1	3149	23	LINCOLN BD & DUNBAR DR	3	3
1	52	1	265	24	LINCOLN BLVD & GRAHAM DR	2	2
1	52	1	376	25	SW 112 AV & 152 ST	25	26
1	52	1	3156	26	SW 112 AV & SW 152 ST	7	4
1	52	1	3157	27	SW 112 AV & SW 156 ST	4	7

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	52	1	3158	28	SW 112 AV & SW 159 ST	2	4
1	52	1	3159	29	SW 112 AV & SW 161 TE	1	4
1	52	1	3160	30	SW 112 AV & SW 163 ST	1	3
1	52	1	3161	31	SW 112 AV & SW 165 TE	2	2
1	52	1	3162	32	SW 112 AV & SW 167 ST	0	5
1	52	1	3551	33	SW 168 ST & SW 112 AV	3	6
1	52	1	3552	34	SW 168 ST & SW 110 CT	2	3
1	52	1	3553	35	SW 168 ST & SW 109 AV	0	1
1	52	1	3554	36	SW 168 ST & SW 108 AV	3	6
1	52	1	3555	37	SW 168 ST & SW 107 AV	2	3
1	52	1	3556	38	SW 168 ST & SW 105 AV	2	4
1	52	1	3557	39	SW 168 ST & SW 104 AV	3	7
1	52	1	3558	40	SW 168 ST & SW 103 AV	0	1
1	52	1	3080	41	SW 102 AV & SW 168 ST	6	8
1	52	1	3081	42	SW 102 AV & SW 170 TE	5	4
1	52	1	3561	43	SW 172 ST & SW 102 AV	2	5
1	52	1	3562	44	SW 172 ST & DUVAL AV	1	4
1	52	1	3565	45	BANYAN ST & WALKER AV	7	16
1	52	1	377	46	US 1 & BANYAN ST	4	6
1	52	1	2957	47	US 1 & HIBISCUS ST	0	1
1	52	1	3568	48	HIBISCUS ST & HOMESTEAD	26	17
1	52	1	3569	49	HIBISCUS ST & SW 102 AV	3	2
1	52	1	3570	50	SW 176 ST & SW 103 AV	0	1
1	52	1	3571	51	SW 176 ST & SW 104 CT	6	10
1	52	1	3572	52	SW 176 ST & SW 107 AV	0	5
1	52	1	3118	53	SW 107 AV & SW 178 ST	2	3
1	52	1	3119	54	SW 107 AV & SW 179 ST	3	5
1	52	1	3120	55	SW 107 AV & SW 181 ST	0	1
1	52	1	3121	56	SW 107 AV & SW 183 ST	2	2
1	52	1	3585	57	SW 184 ST & SW 107 AV	1	1
1	52	1	3586	58	SW 184 ST & SW 109 AV	2	5
1	52	1	3587	59	SW 184 ST & SW 112 AV	7	16
1	52	1	3588	60	SW 184 ST & SW 115 AV	3	13
1	52	1	10573	61	SW 176 ST & SW 117 AV	3	4
1	52	1	10571	62	SW 176 ST & SW 122 AV	3	5
1	52	1	378	67	SW 122 AV & 181 TERR	19	15
1	52	1	3604	68	SW 184 ST & SW 122 AV	5	7
1	52	1	3606	69	SW 184 ST & SW 117 AV	2	1
1	52	1	3210	70	SW 117 AV & SW 186 ST	2	1
1	52	1	3211	71	SW 117 AV & SW 187 TE	1	2
1	52	1	3212	72	SW 117 AV & SW 189 ST	5	15
1	52	1	3615	73	QUAIL ROOST DR & SW 117	3	2

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	52	1	3616	74	QUAIL ROOST DR & # 11855	2	2
1	52	1	3617	75	QUAIL ROOST DR & SW 193	0	1
1	52	1	3256	76	SW 122 AV & QUAIL ROOST	2	6
1	52	1	3257	77	SW 122 AV & SW 200 ST	9	11
1	52	1	369	78	SW 200 ST & QUAIL ROOST	2	5
1	52	1	3618	79	QUAIL ROOST DR & SW 123	41	31
1	52	1	3619	80	QUAIL ROOST DR & SW 193	1	0
1	52	1	3620	81	QUAIL ROOST DR & OP#1185	3	1
1	52	1	3213	82	SW 117 AV & QUAIL ROOST	19	8
1	52	1	3214	83	SW 117 AV & SW 192 ST	7	2
1	52	1	3215	84	SW 117 AV & OP # 19331	1	0
1	52	1	3216	85	SW 117 AV & SW 196 ST	2	3
1	52	1	3665	86	SW 200 ST & SW 117 AV	4	4
1	52	1	3666	87	SW 200 ST & SW 113 PL	5	7
1	52	1	3667	88	SW 200 ST & SW 112 AV	1	1
1	52	1	3668	89	SW 200 ST & SW 110 CT	5	8
1	52	1	3669	90	SW 200 ST & BUSWAY	1	10
1	52	1	230	91	BUSWAY & SW 200 ST	11	29
1	52	1	3812	92	BUSWAY & SW 112 AV	6	6
1	52	1	3164	93	SW 112 AV & # 20760	21	39
1	52	1	3674	94	SW 211 ST & SW 112 AV	3	6
1	52	1	2	95	SW 211 ST & SOUTHLAND MA	22	21
1	52	1	3671	96	SW 211 ST & OP # 10890	1	1
1	52	1	3165	97	SW 112 AV & SW 211 ST	12	2
1	52	1	322	98	SW 216 ST & 112 AV	11	12
1	52	1	3705	99	OLD CUTLER RD & SW 112 A	4	13
1	52	1	3706	100	OLD CUTLER RD & SW 109 C	1	5
1	52	1	3707	101	OLD CUTLER RD & SW 108 A	1	25
1	52	1	3708	102	OLD CUTLER RD & SW 224 S	0	1
1	52	1	3709	103	OLD CUTLER RD & OP # 222	3	25
1	52	1	3084	104	SW 102 AV & SW 220 ST	1	4
1	52	1	367	105	COMMUNITY HEALTH OF SOUT	1	131

Table 26: Route 57 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF	AALOAD
1	57	0	415	1	SW 92 AV & 152 ST	11	1	1
1	57	0	3490	2	SW 144 ST & SW 90 AV	2	1	1
1	57	0	9122	3	SW 152 ST & US 1	3	2	1
1	57	0	9123	4	SW 152 ST & SW 89 CT	16	0	3
1	57	0	9124	5	SW 152 ST & SW 88 AV	1	1	3

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF	AALOAD
1	57	0	9126	6	SW 152 ST & SW 84 AV	3	2	3
1	57	0	9127	7	SW 152 ST & SW 82 AV	2	2	3
1	57	0	9128	8	SW 152 ST & SW 80 AV	0	1	3
1	57	0	9129	9	SW 152 ST & SW 79 AV	1	1	3
1	57	0	9130	10	SW 152 ST & SW 78 CT	0	1	3
1	57	0	9090	11	SW 77 AV & SW 152 ST	3	1	3
1	57	0	9091	12	SW 77 AV & SW 150 ST	0	0	3
1	57	0	9093	13	SW 77 AV & SW 144 ST	3	0	3
1	57	0	9094	14	SW 77 AV & SW 142 ST	0	0	3
1	57	0	9096	15	SW 77 AV & SW 139 ST	1	0	3
1	57	0	9162	16	SW 77 AV & SW 136 ST	2	1	3
1	57	0	9164	17	SW 77 AV & SW 132 ST	1	0	3
1	57	0	9165	18	SW 77 AV & SW 130 ST	1	0	3
1	57	0	9166	19	SW 77 AV & SW 128 ST	1	0	3
1	57	0	416	20	SW 77 AV & 124 ST	0	4	3
1	57	0	9188	21	SW 124 ST & SW 74 AV	2	2	4
1	57	0	9189	22	SW 124 ST & SW 71 CT	4	2	4
1	57	0	9191	23	SW 124 ST & SW 68 CT	4	0	4
1	57	0	9150	24	SW 67 AV & SW 124 ST	7	2	4
1	57	0	9151	25	SW 67 AV & SW 120 ST	2	1	5
1	57	0	9153	26	SW 67 AV & SW 115 ST	1	0	5
1	57	0	9154	27	SW 67 AV & SW 112 ST	3	1	5
1	57	0	9177	28	SW 112 ST & SW 65 AV	0	0	5
1	57	0	9178	29	SW 112 ST & SW 64 AV	1	0	5
1	57	0	9179	30	SW 112 ST & SW 62 AV	3	0	5
1	57	0	9180	31	SW 112 ST & SW 60 CT	2	1	5
1	57	0	9181	32	SW 111 ST & SW 59 AV	5	0	6
1	57	0	417	33	SW 111 ST & 57 AV	4	0	6
1	57	0	9131	34	SW 57 AV & SW 104 ST	16	4	7
1	57	0	9132	35	SW 57 AV & SW 102 ST	0	0	7
1	57	0	9133	36	SW 57 AV & SW 100 ST	4	0	7
1	57	0	9134	37	SW 57 AV & SW 97 ST	2	0	8
1	57	0	9135	38	SW 57 AV & SW 94 ST	2	0	8
1	57	0	9136	39	SW 57 AV & SW 91 ST	1	0	8
1	57	0	4398	40	SW 57 AV & SW 88 ST	6	0	8
1	57	0	4399	41	SW 57 AV & SW 84 ST	10	0	9
1	57	0	4400	42	SW 57 AV & SW 82 ST	1	0	9
1	57	0	4401	43	SW 57 AV & SW 80 ST	1	0	9
1	57	0	4402	44	SW 57 AV & SW 78 ST	2	0	9
1	57	0	4403	45	SW 57 AV & SW 76 ST	0	0	9
1	57	0	4404	46	SW 57 AV & SW 74 ST	2	1	10

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF	AALOAD
1	57	0	9308	47	SW 72 ST & SW 58 AV	2	8	9
1	57	0	307	48	SOUTH MIAMI METRORAIL ST	55	127	6
1	57	0	1615	50	SW 57 AV & BRESCIA AV	1	0	6
1	57	0	1616	51	SW 57 AV & LIGURIA AV	0	0	6
1	57	0	1617	52	SW 57 AV & MATARO AV	0	0	6
1	57	0	1618	53	SW 57 AV & ZORETA AV	0	0	6
1	57	0	1619	54	SW 57 AV & MILLER RD	2	4	6
1	57	0	1620	55	SW 57 AV & BARACOA AV	2	3	6
1	57	0	1621	56	SW 57 AV & ROBBIA AV	0	0	6
1	57	0	1622	57	SW 57 AV & SIENA AV	3	5	6
1	57	0	1623	58	SW 57 AV & SW 48 ST	0	0	6
1	57	0	1624	59	SW 57 AV & MENDAVIA AV	0	0	6
1	57	0	1625	60	SW 57 AV & PALANCIA AV	2	3	6
1	57	0	1626	61	SW 57 AV & GARCIA AV	0	0	6
1	57	0	1627	62	SW 57 AV & ALGARDI AV	2	1	6
1	57	0	1628	63	SW 57 AV & SW 40 ST	4	3	6
1	57	0	1629	64	SW 57 AV & ALCALA AV	0	0	6
1	57	0	1630	65	SW 57 AV & MURCIA AV	0	0	6
1	57	0	1631	66	SW 57 AV & TREVINO AV	2	1	6
1	57	0	1632	67	SW 57 AV & SARAGOSSA AV	0	0	6
1	57	0	1633	68	SW 57 AV & CATALONIA AV	0	0	6
1	57	0	1634	69	SW 57 AV & SEVILLA AV	3	3	6
1	57	0	1635	70	SW 57 AV & 24 ST	4	4	6
1	57	0	1636	71	SW 57 AV & S GREENWAY DR	0	0	6
1	57	0	1637	72	SW 57 AV & OBISPO AV	3	4	6
1	57	0	7572	73	SW 57 AV & SW 8 ST	7	11	6
1	57	0	7573	74	SW 57 AV & SW 5 TR	0	0	6
1	57	0	7574	75	SW 57 AV & SW 2 ST	0	2	6
1	57	0	7575	76	SW 57 AV & W FLAGLER ST	6	23	4
1	57	0	7576	77	NW 57 AV & NW 2 ST	1	1	4
1	57	0	7577	78	NW 57 AV & NW 5 ST	2	12	4
1	57	0	7578	79	NW 57 AV & # 815	1	4	3
1	57	0	4968	80	NW 57 AV & NW 11 ST	1	4	3
1	57	0	10493	81	AIRPORT STATION	0	14	2
1	57	1	10493	1	AIRPORT STATION	26	1	2
1	57	1	4967	2	NW 57 AV & NW 11 ST	4	4	2
1	57	1	7566	3	NW 57 AV & OP # 815	5	2	3

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF	AALOAD
1	57	1	10286	4	NW 57 AV & NW 7 ST	14	2	4
1	57	1	7567	5	NW 57 AV & NW 5 ST	2	0	4
1	57	1	7568	6	NW 57 AV & NW 2 ST	0	0	4
1	57	1	7569	7	NW 57 AV & W FLAGLER ST	40	7	6
1	57	1	7570	8	SW 57 AV & SW 2 TR	3	1	7
1	57	1	7571	9	SW 57 AV & SW 5 TR	14	8	7
1	57	1	4564	10	SW 16 ST & SW 57 AV	2	3	7
1	57	1	4378	11	SW 57 AV & SW 17 ST	1	1	7
1	57	1	4379	12	SW 57 AV & SW 22 ST	4	2	7
1	57	1	10033	13	SW 57 AV & SW 24 ST	3	4	7
1	57	1	4380	14	SW 57 AV & DEVONSHIRE BD	0	1	7
1	57	1	4381	15	SW 57 AV & SW 31 ST	1	2	7
1	57	1	4382	16	SW 57 AV & SW 34 ST	2	2	7
1	57	1	4383	17	SW 57 AV & SW 35 ST	1	1	7
1	57	1	4384	18	SW 57 AV & SW 39 ST	2	4	7
1	57	1	4385	19	SW 57 AV & SW 42 ST	3	1	7
1	57	1	4386	20	SW 57 AV & SW 45 ST	0	0	7
1	57	1	4387	21	SW 57 AV & SW 46 TE	3	2	7
1	57	1	4388	22	SW 57 AV & SW 48 ST	0	0	7
1	57	1	9232	23	SW 57 AV & SW 50 ST	3	3	7
1	57	1	4389	24	SW 57 AV & SW 51 ST	0	0	7
1	57	1	4390	25	SW 57 AV & SW 52 TE	3	4	7
1	57	1	4391	26	SW 57 AV & SW 54 TE	1	0	7
1	57	1	4392	27	SW 57 AV & SW 56 ST	2	1	7
1	57	1	4393	28	SW 57 AV & SW 58 TE	2	1	7
1	57	1	4394	29	SW 57 AV & SW 60 ST	0	0	7
1	57	1	4395	30	SW 57 AV & SW 62 ST	0	0	7
1	57	1	4396	31	SW 57 AV & SW 64 ST	0	0	7
1	57	1	9233	32	SW 57 AV & SW 66 ST	0	1	7
1	57	1	9234	33	SW 57 AV & SW 68 ST	3	3	7
1	57	1	307	34	SOUTH MIAMI METRORAIL ST	215	58	12
1	57	1	10290	35	SW 57 AV & SW 72 ST	2	3	12
1	57	1	9235	36	SW 57 AV & SW 74 TE	5	1	12
1	57	1	9236	37	SW 57 AV & SW 77 TE	1	3	12
1	57	1	9237	38	SW 57 AV & SW 80 ST	1	3	12
1	57	1	9238	39	SW 57 AV & SW 83 ST	1	10	11
1	57	1	9239	40	SW 57 AV & SW 88 ST	1	9	10
1	57	1	9137	41	SW 57 AV & SW 91 ST	0	3	10
1	57	1	9138	42	SW 57 AV & SW 94 ST	0	2	10

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF	AALOAD
1	57	1	9139	43	SW 57 AV & SW 97 ST	0	4	10
1	57	1	9140	44	SW 57 AV & SW 100 ST	0	1	10
1	57	1	9141	45	SW 57 AV & SW 102 ST	2	6	9
1	57	1	9142	46	SW 57 AV & SW 104 ST	1	12	9
1	57	1	418	47	SW 57 AV & 111 ST	0	4	8
1	57	1	9172	48	SW 111 ST & SW 59 AV	0	4	8
1	57	1	9173	49	SW 112 ST & SW 60 CT	1	8	8
1	57	1	9174	50	SW 112 ST & SW 62 AV	1	7	7
1	57	1	9175	51	SW 112 ST & SW 64 AV	0	0	7
1	57	1	9176	52	SW 112 ST & SW 65 AV	1	3	7
1	57	1	9145	53	SW 67 AV & SW 112 ST	1	6	7
1	57	1	9146	54	SW 67 AV & SW 115 ST	0	2	7
1	57	1	9148	55	SW 67 AV & SW 120 ST	0	5	6
1	57	1	9149	56	SW 67 AV & SW 124 ST	1	13	5
1	57	1	9182	57	SW 124 ST & SW 68 AV	0	2	5
1	57	1	9183	58	SW 124 ST & SW 68 CT	0	4	5
1	57	1	9185	59	SW 124 ST & SW 71 CT	1	5	5
1	57	1	9186	60	SW 124 ST & SW 73 AV	1	2	5
1	57	1	9187	61	SW 124 ST & SW 74 CT	0	1	5
1	57	1	419	62	SW 124 ST & 77 AV	0	1	5
1	57	1	9156	63	SW 77 AV & SW 125 TE	0	2	4
1	57	1	9158	64	SW 77 AV & SW 130 ST	1	2	4
1	57	1	9159	65	SW 77 AV & SW 132 ST	0	3	4
1	57	1	9161	66	SW 77 AV & SW 136 ST	1	2	4
1	57	1	9084	67	SW 77 AV & SW 138 ST	0	2	4
1	57	1	9085	68	SW 77 AV & SW 142 ST	0	0	4
1	57	1	9086	69	SW 77 AV & SW 144 ST	1	6	4
1	57	1	9088	70	SW 77 AV & SW 150 ST	0	1	4
1	57	1	9089	71	SW 77 AV & SW 152 ST	1	7	3
1	57	1	9113	72	SW 152 ST & SW 78 CT	0	1	3
1	57	1	9114	73	SW 152 ST & SW 79 AV	0	2	3
1	57	1	9115	74	SW 152 ST & SW 80 AV	0	2	3
1	57	1	9116	75	SW 152 ST & SW 82 AV	0	1	3
1	57	1	9117	76	SW 152 ST & SW 84 CT	1	3	3
1	57	1	9119	77	SW 152 ST & SW 88 AV	0	1	3
1	57	1	9121	78	SW 152 ST & US 1	2	9	3
1	57	1	415	79	SW 92 AV & 152 ST	0	22	1

Table 27: Route 136 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	136	0	10155	1	SW 89 PL SW 136 ST	10	0
1	136	0	10165	2	SW 136 ST & SW 92 AV	0	0
1	136	0	436	3	SW 136 ST & US 1	0	0
1	136	0	4397	4	OLD CUTLER RD & DEERING	13	0
1	136	0	10271	5	OLD CUTLER RD & LUGO AV	12	0
1	136	0	437	6	OLD CUTLER RD & SW 57 AV	2	0
1	136	0	1338	7	COCOPLUM PLAZA CIRCLE	7	1
1	136	0	7551	8	SW 42 AV & KIAORA ST	3	0
1	136	0	7552	9	SW 42 AV & VENTURA AV	2	0
1	136	0	7553	10	SW 42 AV & POINCIANA AV	1	1
1	136	0	7555	11	SW 42 AV & LOQUAT AV	2	0
1	136	0	1706	12	GRAND AV & LINCOLN DR	0	0
1	136	0	8283	13	GRAND AV & JEFFERSON AV	0	0
1	136	0	8284	14	GRAND AV & BROOKER ST	0	0
1	136	0	305	15	SW 37 AV & GRAND AV	1	0
1	136	0	7515	16	SW 37 AV & US 1	0	0
1	136	0	166	17	DOUGLAS ROAD METRORAIL S	0	118
1	136	1	166	1	DOUGLAS ROAD METRORAIL S	183	0
1	136	1	7490	2	SW 37 AV & DAY AV	2	0
1	136	1	7492	3	SW 37 AV & FLORIDA AV	1	0
1	136	1	1187	4	GRAND AV & SW 37 AV	0	0
1	136	1	1703	5	GRAND AV & BROOKER ST	0	0
1	136	1	1704	6	GRAND AV & JEFFERSON DR	0	0
1	136	1	1705	7	GRAND AV & LINCOLN DR	0	0
1	136	1	1541	8	SW 42 AV & MENENDEZ AV	0	1
1	136	1	1542	9	SW 42 AV & AMALFI AV	0	2
1	136	1	1543	10	SW 42 AV & BIANCA AV	0	0
1	136	1	1544	11	SW 42 AV & MILLER RD	0	2
1	136	1	1545	12	SW 42 AV & BARGELLO AV	0	3
1	136	1	1546	13	SW 42 AV & MARMORE AV	0	2
1	136	1	1547	14	SW 42 AV & SAVONA AV	0	1
1	136	1	1548	15	SW 42 AV & HARDEE RD	0	5
1	136	1	1338	16	COCOPLUM PLAZA CIRCLE	0	8
1	136	1	438	17	OLD CUTLER RD & SW 57 AV	0	2
1	136	1	9143	18	OLD CUTLER RD & DEERING	0	38
1	136	1	439	19	SW 136 ST & US 1	0	1
1	136	1	10155	20	SW 89 PL SW 136 ST	0	3

Table 28: Route 287 Ridership Summary (Nov. 2018)

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	287	0	367	1	COMMUNITY HEALTH OF SOUT	47	0
1	287	0	10220	2	SW 216 ST & SW 98 CT	3	0
1	287	0	9740	3	SW 216 ST & SW 97 AV	3	0
1	287	0	9739	4	SW 216 ST & SW 92 AV	9	0
1	287	0	9738	5	SW 216 ST & SW 87 PL	18	0
1	287	0	1320	6	SW 212 ST & LE CLUB ENTR	20	2
1	287	0	449	7	SW 85 AV & 212 ST	8	0
1	287	0	3032	8	SW 85 AV & SW 210 ST	8	1
1	287	0	450	9	SW 207 ST & 85 AV	4	0
1	287	0	3670	10	SW 207 ST & SW 85 PASSAG	2	0
1	287	0	3039	11	SW 87 AV & OLD CUTLER RD	5	1
1	287	0	3040	12	SW 87 AV & SW 200 ST	1	0
1	287	0	3041	13	SW 87 AV & SW 198 ST	14	0
1	287	0	3042	14	SW 87 AV & SW 193 TE	3	2
1	287	0	3043	15	SW 87 AV & SW 190 ST	5	0
1	287	0	3044	16	SW 87 AV & CARIBBEAN BD	5	0
1	287	0	3045	17	SW 87 AV & SW 184 ST	3	0
1	287	0	9099	18	SW 87 AV & SW 178 ST	5	1
1	287	0	10017	19	SW 168 ST & SW 88 CT	4	0
1	287	0	9107	20	SW 168 ST & SW 92 AV	0	0
1	287	0	9108	21	SW 168 ST & SW 94 AV	3	1
1	287	0	3817	22	BUSWAY & SW 168 ST	22	7
1	287	0	3818	23	BUSWAY & SW 160 ST	15	2
1	287	0	4	24	BUSWAY & SW 152 ST	25	5
1	287	0	3819	25	BUSWAY & SW 144 ST	6	4
1	287	0	5	26	BUSWAY & SW 136 ST	7	6
1	287	0	3820	27	BUSWAY & SW 128 ST	4	1
1	287	0	3821	28	BUSWAY & SW 124 ST	3	1
1	287	0	3822	29	BUSWAY & SW 120 ST	2	1
1	287	0	3823	30	BUSWAY & SW 112 ST	2	1
1	287	0	3824	31	BUSWAY & SW 104 ST	4	3
1	287	0	6	32	DADELAND SOUTH METRORAIL	0	344
1	287	1	6	1	DADELAND SOUTH METRORAIL	309	0
1	287	1	3801	2	BUSWAY & SW 104 ST	3	3
1	287	1	3802	3	BUSWAY & SW 112 ST	1	3
1	287	1	3803	4	BUSWAY & SW 120 ST	2	2
1	287	1	3804	5	BUSWAY & SW 124 ST	1	3
1	287	1	3805	6	BUSWAY & SW 128 ST	1	3

AADAY	AAROUTE	AADIR	AAQSTOP	AASTOP	AANAMSTP	SON	SOFF
1	287	1	10	7	BUSWAY & SW 136 ST	4	10
1	287	1	3806	8	BUSWAY & SW 144 ST	3	5
1	287	1	11	9	BUSWAY & SW 152 ST	5	16
1	287	1	3807	10	BUSWAY & SW 160 ST	2	6
1	287	1	3808	11	BUSWAY & SW 168 ST	4	16
1	287	1	9109	12	SW 168 ST & SW 94 AV	1	5
1	287	1	9110	13	SW 168 ST & SW 92 AV	0	1
1	287	1	10018	14	SW 168 ST & SW 88 CT	1	6
1	287	1	9097	15	SW 87 AV & SW 178 ST	1	4
1	287	1	9098	16	SW 87 AV & SW 184 ST	0	3
1	287	1	3033	17	SW 87 AV & CARIBBEAN BD.	0	4
1	287	1	3034	18	SW 87 AV & SW 190 ST	1	4
1	287	1	3035	19	SW 87 AV & SW 193 TE	1	3
1	287	1	3036	20	SW 87 AV & SW 198 ST	0	6
1	287	1	3037	21	SW 87 AV & SW 200 TR	0	9
1	287	1	3038	22	SW 87 AV & OLD CUTLER RD	1	4
1	287	1	9737	23	SW 207 ST & SW 85 PASSAG	2	15
1	287	1	9766	24	SW 85 AV & SW 209 ST	0	6
1	287	1	9765	25	SW 85 AV & SW 212 ST	1	7
1	287	1	9767	26	SW 212 ST & SW 87 AV	1	9
1	287	1	9743	27	SW 216 ST & SW 87 PL	1	18
1	287	1	9742	28	SW 216 ST & SW 92 AV	0	11
1	287	1	9741	29	SW 216 ST & SW 97 AV	0	4
1	287	1	10245	30	SW 216 ST & SW 98 CT	0	5
1	287	1	367	31	COMMUNITY HEALTH OF SOUT	0	40

Palmetto Bay iBus

Table 29: iBus Weekly Ridership Totals

START	END	AM	PM	REGULAR ROUTE	TOTAL
6/11/2018	6/15/2018	141	97	14	252
6/18/2018	6/22/2018	76	79	29	184
6/25/2018	6/29/2018	100	73	32	205
7/2/2018	7/6/2018	66	44	21	131
7/9/2018	7/13/2018	95	86	22	203
7/16/2018	7/20/2018	109	106	24	239
7/23/2018	7/27/2018	82	84	27	193
7/30/2018	8/3/2018	107	105	27	239
8/6/2018	8/10/2018	114	103	28	245
8/13/2018	8/17/2018	113	94	26	234
8/20/2018	8/24/2018	199	168	34	401

START	END	AM	PM	REGULAR ROUTE	TOTAL
8/27/2018	8/31/2018	189	152	27	368
9/3/2018	9/7/2018	157	142	25	324
9/10/2018	9/14/2018	176	146	21	343
9/17/2018	9/21/2018	209	180	30	419
9/24/2018	9/28/2018	201	168	24	393
10/1/2018	10/5/2018	196	177	33	406
10/8/2018	10/12/2018	201	168	24	393
10/15/2018	10/19/2018	177	160	27	364
10/22/2018	10/26/2018	173	187	27	387
10/29/2018	11/2/2018	200	163	23	386
11/5/2018	11/9/2018	191	176	31	398
11/12/2018	11/16/2018	144	146	23	313
11/19/2018	11/23/2018	91	87	14	192
11/26/2018	11/30/2018	195	174	26	395
12/3/2018	12/7/2018	182	187	25	394
12/10/2018	12/14/2018	191	167	24	382
12/17/2018	12/21/2018	178	151	22	351
12/24/2018	12/28/2018	36	35	13	84
12/31/2018	1/4/2019	60	58	18	136
1/7/2019	1/11/2019	227	201	27	455
1/14/2019	1/18/2019	225	195	30	401
1/21/2019	1/25/2019	168	150	22	340
1/28/2019	2/1/2019	206	192	22	420
2/4/2019	2/8/2019	224	196	22	442
2/11/2019	2/15/2019	209	193	21	423
2/28/2019	2/22/2019	203	167	17	387
2/25/2019	3/1/2019	218	188	18	424
3/4/2019	3/8/2019	207	182	29	418
3/11/2019	3/15/2019	208	178	16	402
3/18/2019	3/22/2019	173	173	14	360
3/25/2019	3/29/2019	116	118	18	252
4/1/2019	4/5/2019	204	208	20	432
4/8/2019	4/12/2019	184	170	22	376
4/15/2019	4/19/2019	203	184	14	401
4/22/2019	4/26/2019	229	222	13	464
4/29/2019	5/3/2019	213	192	16	421
5/6/2019	5/10/2019	244	220	18	482
5/13/2019	5/17/2019	229	212	25	466
5/20/2019	5/24/2019	240	203	11	454
5/27/2019	5/31/2019	180	152	13	345
6/3/2019	6/7/2019	231	182	18	431

START	END	AM	PM	REGULAR ROUTE	TOTAL
6/10/2019	6/14/2019	199	127	18	344
6/17/2019	6/21/2019	210	184	21	415
6/24/2019	6/28/2019	212	189	24	425
7/1/2019	7/5/2019	112	88	22	222
7/8/2019	7/12/2019	214	163	23	400
7/15/2019	7/19/2019	192	182	23	397
7/22/2019	7/26/2019	168	175	21	364
7/29/2019	8/1/2019	179	160	17	356
8/5/2019	8/9/2019	181	174	19	374
8/12/2019	8/16/2019	198	187	11	396
8/19/2019	8/23/2019	260	256	10	526
9/2/2019	9/6/2019	144	151	18	313
9/9/2019	9/13/2019	265	247	21	533
9/16/2019	9/20/2019	274	237	6	517
9/30/2019	10/4/2019	251	231	9	491
10/7/2019	10/11/2019	245	220	10	475
10/14/2019	10/18/2019	180	162	10	352
10/21/2019	10/25/2019	239	207	7	453
10/28/2019	11/1/2019	262	247	6	515

Table 30: iBus Monthly Ridership Totals

Month	AM	PM	iBus Express	Regular Route	Total
Jun-18	317	249	566	75	641
Jul-18	459	425	884	121	1005
Aug-18	615	517	1132	115	1248
Sep-18	743	636	1379	100	1479
Oct-18	947	855	1802	134	1936
Nov-18	621	583	1204	94	1298
Dec-18	647	598	1245	102	1347
Jan-19	826	738	1564	101	1616
Feb-19	854	744	1598	78	1676
Mar-19	704	651	1355	77	1432
Apr-19	918	878	1796	77	1673
May-19	1008	899	1907	75	1923
Jun-19	852	682	1534	81	1615
Jul-19	802	711	1513	99	1612
Aug-19	702	674	1376	47	1423
Sep-19	721	674	1395	45	1440
Oct-19	1090	991	2081	40	2121

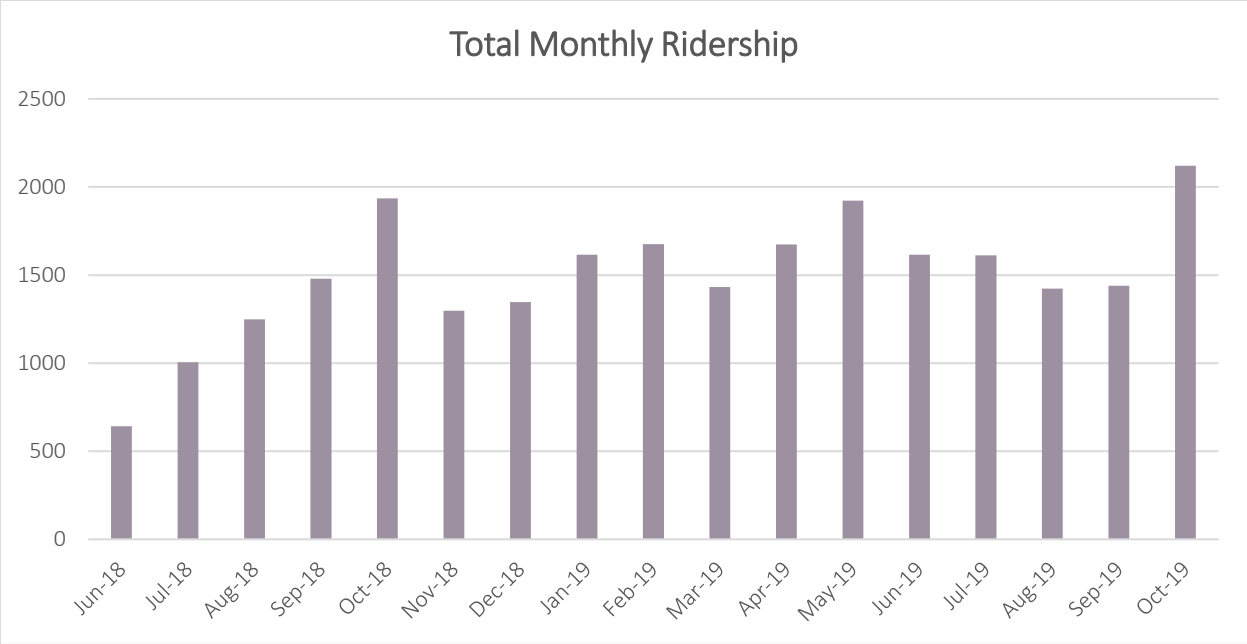


Figure 80: Bar Graph of iBus Monthly Ridership Totals (Regular Route & iBus Combined)

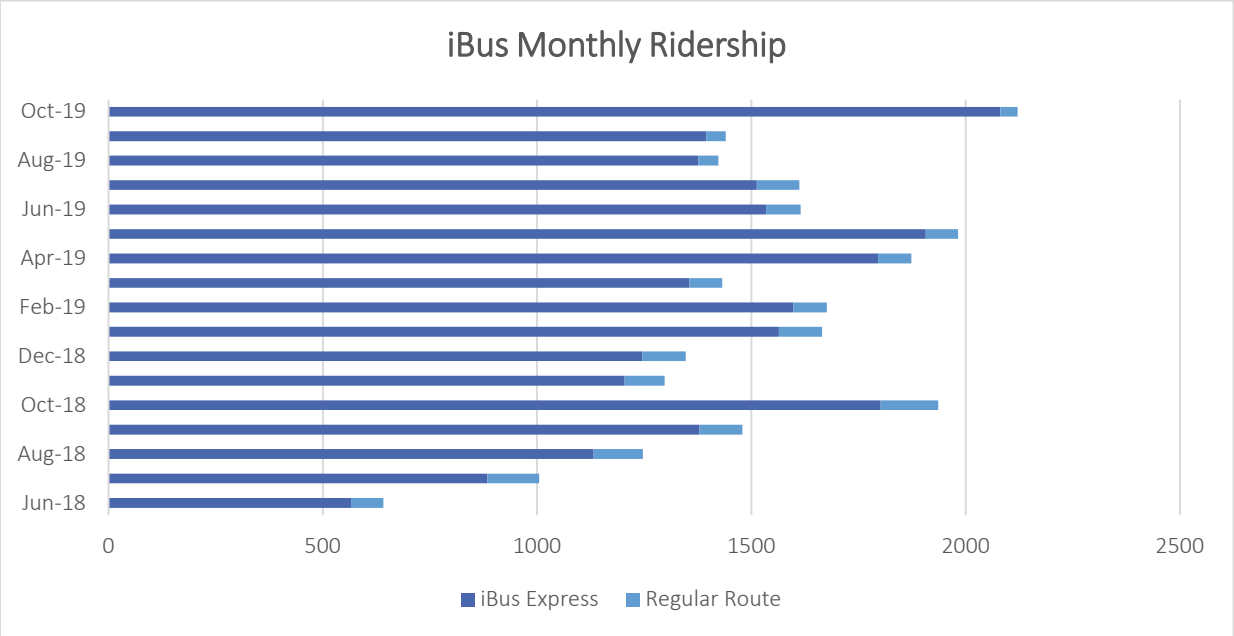


Figure 81: iBus Monthly Ridership Totals Separated by Route

Freebee on Demand

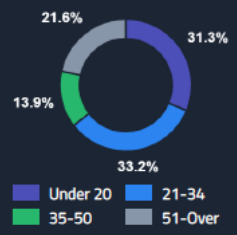
Palmetto Bay

07-22-2019 - 10-13-2019

Zone Summary

COMPLETED RIDES	TOTAL PASSENGERS	AVG DRIVER RATING	AVG AGE
2,190	3,292	4.92	

AVG PASSENGERS: 46



PASSENGERS	MORNING SHIFT	AFTERNOON SHIFT
33156	1120	2172

AVERAGE TIME	Ride request to selected	1.77m	Ride request to pickup	16.45m

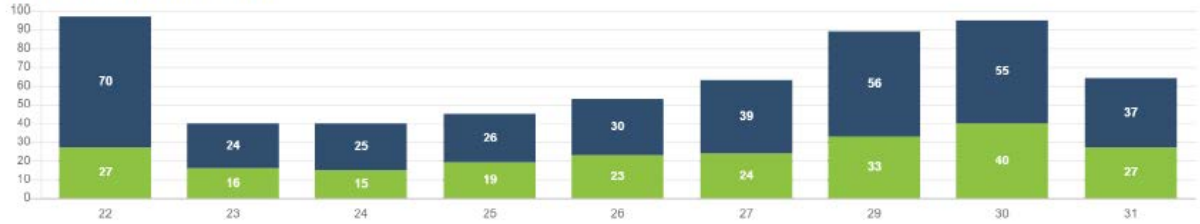
RIDES BY WAITING TIMES	0-10	10-15	15-20	20-30	30+
	Min 1053	Min 346	Min 269	Min 273	Min 249

APP REQUESTS	APP RIDES	FLAG DOWN RIDES	MEN DRIVEN	FEMALE DRIVEN
3,135	1,764	426	1,649	1,643

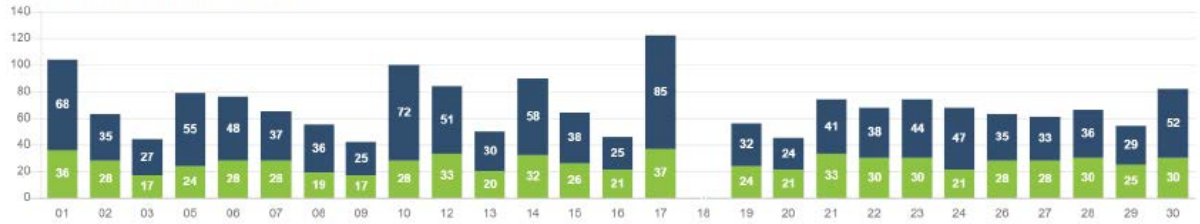
PASSENGERS AND RIDES BY MONTH (YTD)

PASSENGERS AND RIDES BY WEEK (YTD)

PASSENGERS AND RIDES - JULY



PASSENGERS AND RIDES - AUGUST



PASSENGERS AND RIDES - SEPTEMBER

PASSENGERS AND RIDES - OCTOBER

RIDE REQUEST MONDAY

RIDE REQUEST TUESDAY

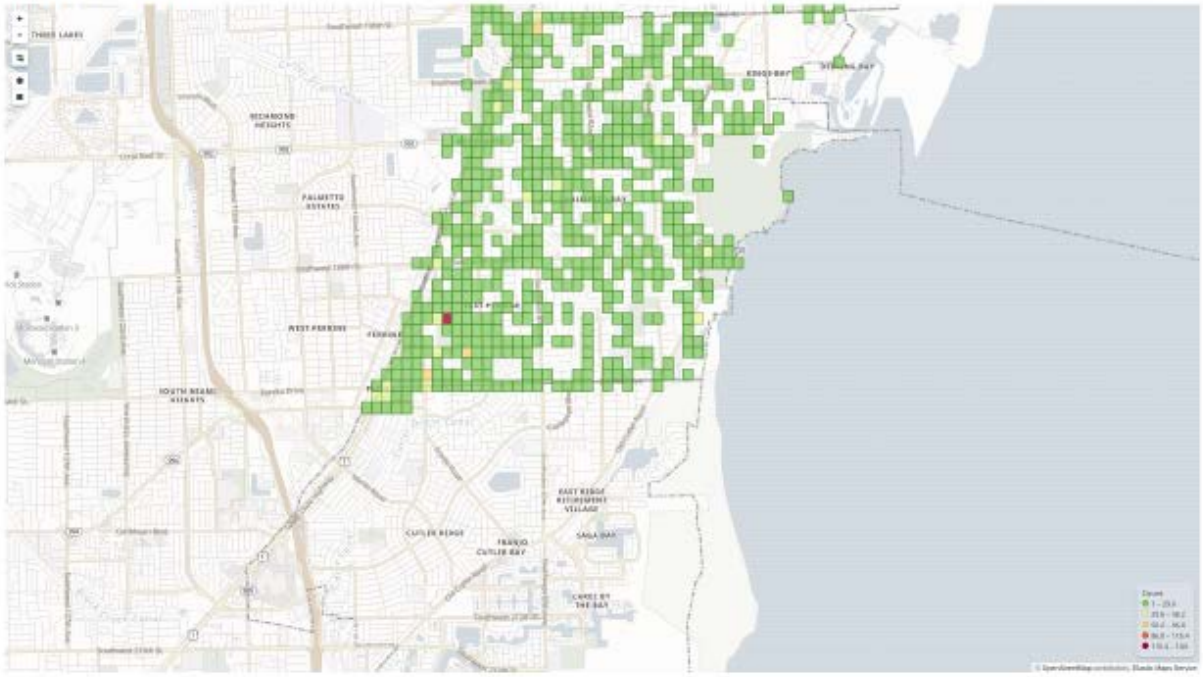
RIDE REQUEST WEDNESDAY

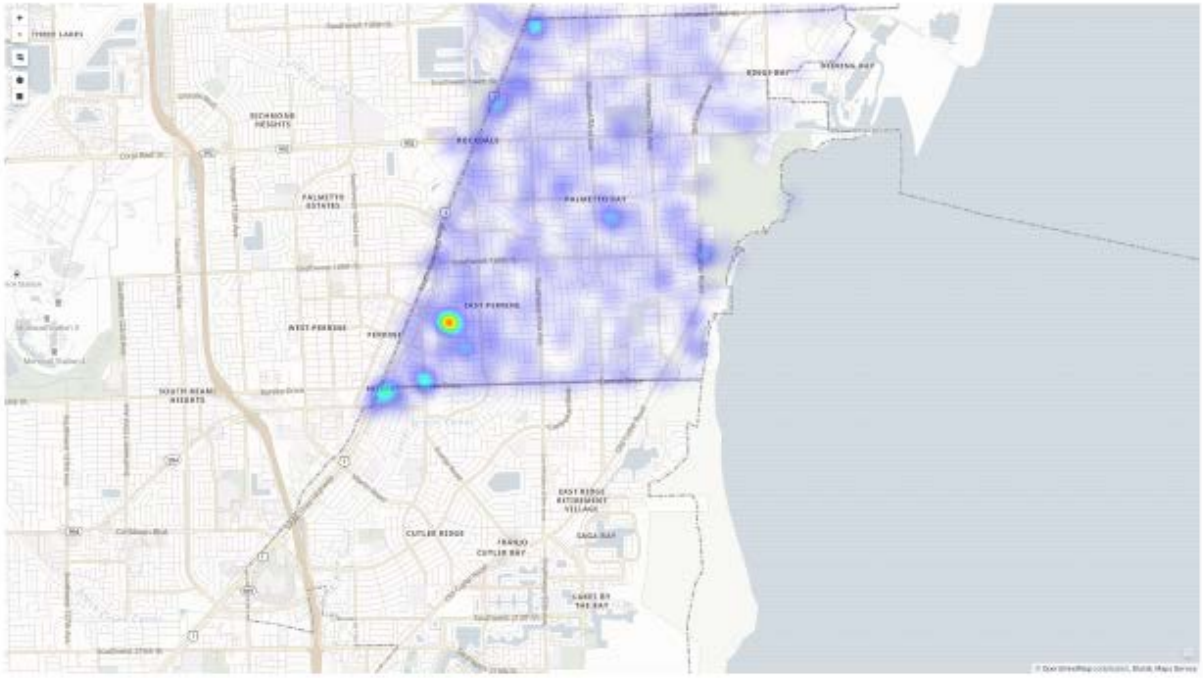
RIDE REQUEST THURSDAY

RIDE REQUEST FRIDAY

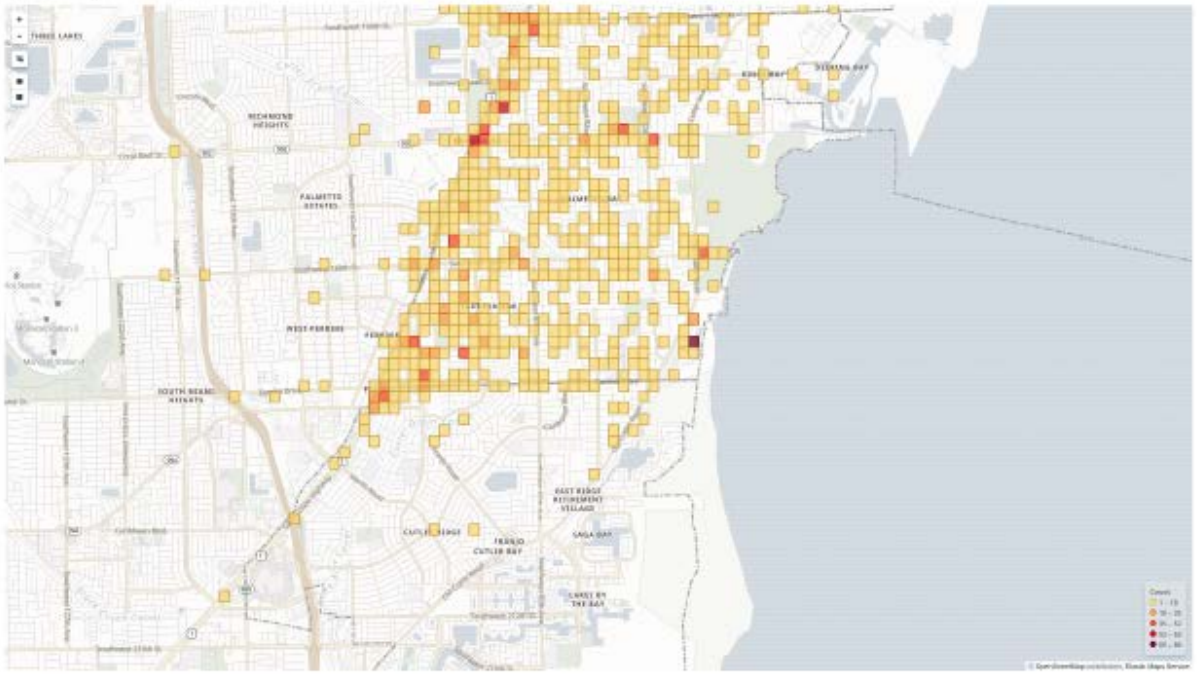
RIDE REQUEST SATURDAY

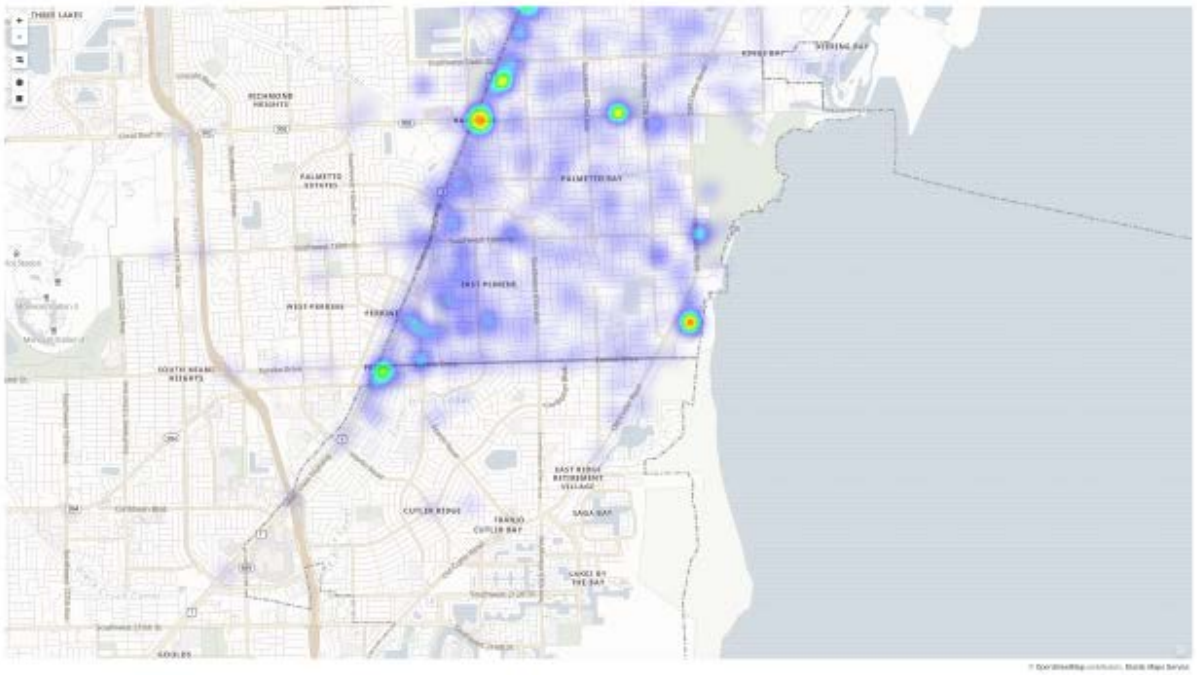
RIDES REQUEST PICKUP





RIDES REQUEST DROPOFF





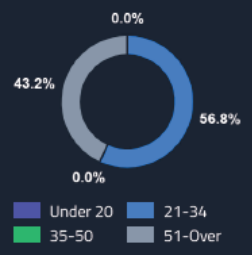
Freebee Express

Palmetto Bay Express

10-01-2019 - 10-31-2019

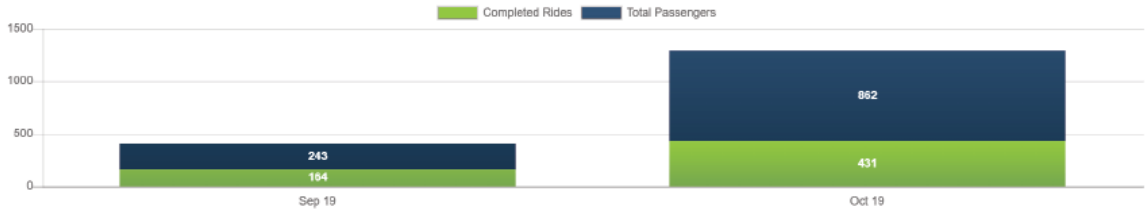
Zone Summary

COMPLETED RIDES	TOTAL PASSENGERS	AVG DRIVER RATING	AVG AGE
431	862	-	
	AVG PASSENGERS 36		



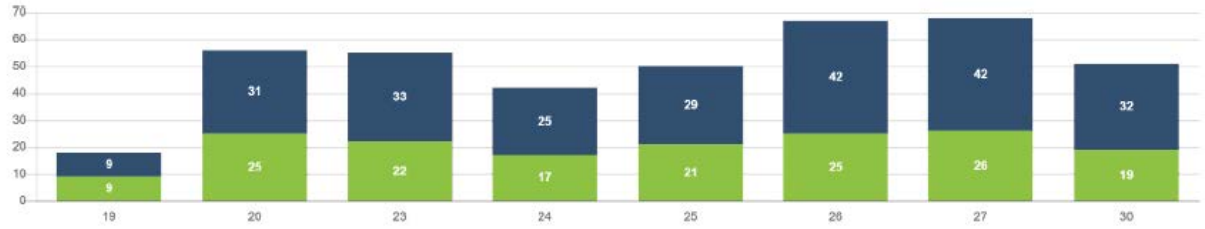
FLAG DOWN RIDES	MEN DRIVEN	FEMALE DRIVEN
431	414	448

PASSENGERS AND RIDES BY MONTH (YTD)

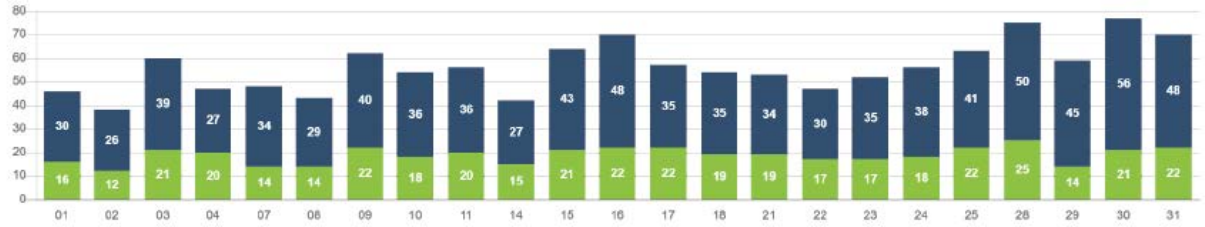


PASSENGERS AND RIDES BY WEEK (YTD)

PASSENGERS AND RIDES - SEPTEMBER



PASSENGERS AND RIDES - OCTOBER



RIDE REQUEST MONDAY

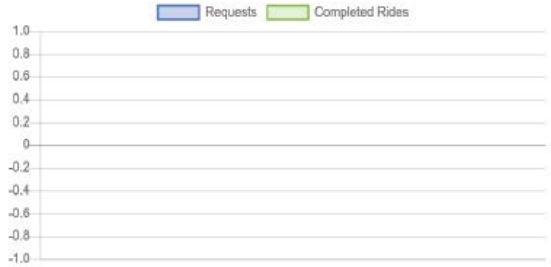
RIDE REQUEST TUESDAY

RIDE REQUEST WEDNESDAY

RIDE REQUEST THURSDAY

RIDE REQUEST FRIDAY

RIDE REQUEST SATURDAY



APPENDIX II: PUBLIC INVOLVEMENT PLAN

Public Information Plan

Palmetto Bay Mobility Hubs Plan

April 2019

Preface

Palmetto Bay Mobility Hubs Plan

The purpose of this Public Involvement Plan (PIP) is to assist in providing information to and obtaining input from concerned citizens, agencies, private groups (residential/business), and governmental entities.

The overall goal of this plan is to help ensure that the study reflects the values and needs of the communities it is designed to benefit.

A schedule of events and a list of documentation exhibiting compliance with these procedures are included.

The Palmetto Bay Mobility Hubs Public Information Plan outlines the specific activities that the Village of Palmetto Bay will undertake to provide timely and accurate information to stakeholders throughout the project.

Points of Contact

Palmetto Bay Mobility Hubs Plan

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Project Overview

Palmetto Bay Mobility Hubs Plan

The Village of Palmetto Bay was recently awarded a Miami-Dade Transportation Planning Organization (TPO) SMART Mobility grant. The Village's consultant, MARLIN Engineering, Inc. will provide the community with a comprehensive system of transit mobility hubs connecting to the South Dade Transitway and Village of Palmetto Bay.

The Plan will focus on populations and jobs within the entire Village with an overall goal of improving connectivity, mobility and safety for pedestrians, bicyclists, and transit users by identifying locations for neighborhood, community and commercial level mobility hubs along the Village's roadway network. Once locations have been identified, the appropriate scope of transportation infrastructure and amenities to facilitate usage of the hubs will be recommended through conceptual design and visualizations. The Plan will include an assessment of the Village's existing iBus, cost estimates and prioritized recommendations.

Additionally, the Plan will also identify a review of nationwide best practices and existing Transit-Oriented Development efforts by the Village of Palmetto Bay.

Public Information Principles

Palmetto Bay Mobility Hubs Plan

Statement and Core Values

Public Information plays a critical role in supporting the decision-making core values. Informing the public about upcoming decisions allows stakeholders to be involved in decision-making in a meaningful way. Additionally, effective public information initiatives are critical for informing impacted stakeholders in advance regarding construction and maintenance activities.

Integration in the 6-Step Process

The Palmetto Bay Mobility Hubs Plan will integrate a 6-Step Process, which includes the following steps:

- Define Desired Outcomes and Actions
- Endorse the Process
- Establish Criteria
- Develop Alternatives or Options
- Evaluate, Select, and Refine Alternatives or Options
- Finalize Documentation and Evaluation Process

This Public Information Plan supports the 6-Step Process by ensuring that project stakeholders and the public are adequately informed in advance to be engaged at each step in an open and meaningful way.

Implementation

Effective public information supports effective implementation of decisions based off integration of the 6-step process because it provides easy-to-understand information to stakeholders in advance so they can make informed decisions. The Village of Palmetto Bay firmly believes that it is imperative to understand what the community wants and what is needed.

Public Information Approach

Palmetto Bay Mobility Hubs Plan

The Village of Palmetto Bay with their consultant team MARLIN will work with the community to determine the vision, goals, objectives and needs for the Palmetto Bay Mobility Hubs Plan.

Clarifying Project Goals

The goal of this project is to improve connectivity, mobility and safety for pedestrians, bicyclists and transit users through the identification of mobility hubs along the Village's roadway network. The Study team will achieve this goal via 6 key tasks which include:

1. Background Information of Existing Conditions
2. Public Involvement Plan/Meetings
3. Data Collection
4. Conceptual Design
5. Recommendations
6. Documentation/Final Report

Key Milestones and Activities

A kickoff meeting which will include a general overview of the project, scope and tasks will take place on April 9, 2019.

Two (2) public involvement meetings will take place to include outreach and communication efforts to seek input from the community and elected officials.

Three (3) Study Advisory Committee (SAC) meetings will take place. The Village of Palmetto Bay shall identify stakeholders and participants which will include representatives from the Florida Department of Transportation (FDOT) District Six (6), the Miami Dade Department of Transportation Public Works (DTPW), and the Miami Dade Transportation Planning Organization (TPO) among other interested stakeholders.

Throughout the process the community, Village Departments and local public agencies will be notified and updated.

The SAC will provide valuable feedback through review of materials on all project deliverables and approval/endorsement of the final results and recommendations for this study.

The Palmetto Bay Mobility Hubs Plan is scheduled for completion by January 29, 2020.

Public Information Tools

Tools may include:

- News releases
- Calendar items
- Web site
- Newsletters
- Online media – Facebook, Twitter, Instagram, YouTube

Public Information Schedule

Palmetto Bay Mobility Hubs Plan

The schedule is as follows:

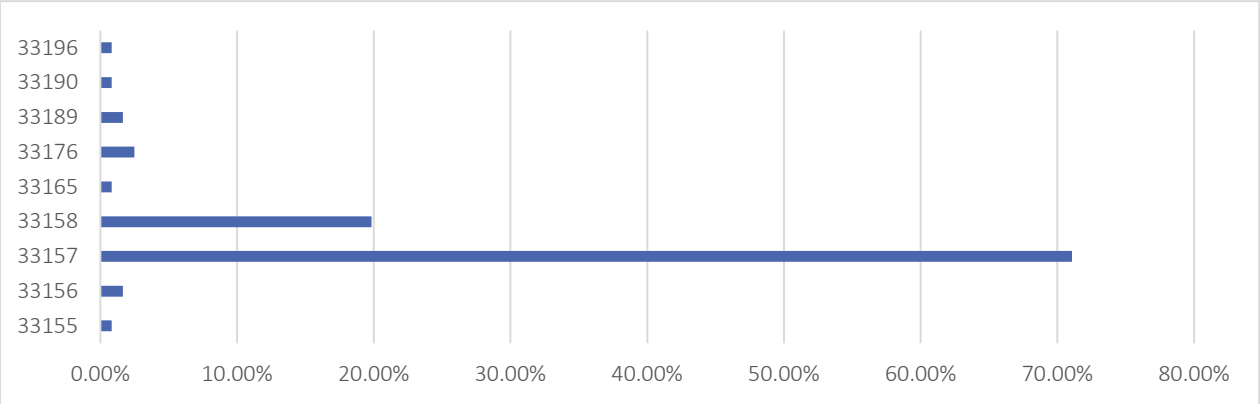
- Kickoff Meeting and Ongoing Coordination with the Miami-Dade TPO, DTPW and FDOT
  - Kickoff Meeting April 9, 2019
- Public Involvement Meetings
  - July 24, 2019
  - November 6, 2019
  - December 11, 2019
- Study Advisory Committee (SAC)
  - May 15, 2019
  - August 23, 2019
  - November 15, 2019

Public Information Schedule

TASKS AND SUBTASKS	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Task 1.0 Background Info/Existing Conditions										
a. Review existing plans										
b. Review Village's TOD										
c. Collect GIS data										
d. Identify 5 best practices										
e. Review TPO plans										
Task 2.0 Public Involvment Plan										
a. Outreach to public and elected officials										
b. Notify local agencies										
c. 3 SAC meetings										
Task 3.0 Data Collection										
a. Analysis of I-Bus										
b. Review I-Bus MDT connections										
c. Interview riders and drivers										
d. Collect traffic, bike and ped count data										
Task 4.0 Conceptual Design										
a. Identify mobility hub locations										
b. Develop conceptual designs (up to 4 designs)										
c. Develop quantities and costs										
Task 5.0 Recommendations										
a. Final Plan with recommendations										
b. Develop criteria for prioritization										
c. Review of available funding										
Task 6.0 Documentation										
a- j. Grant documentation										

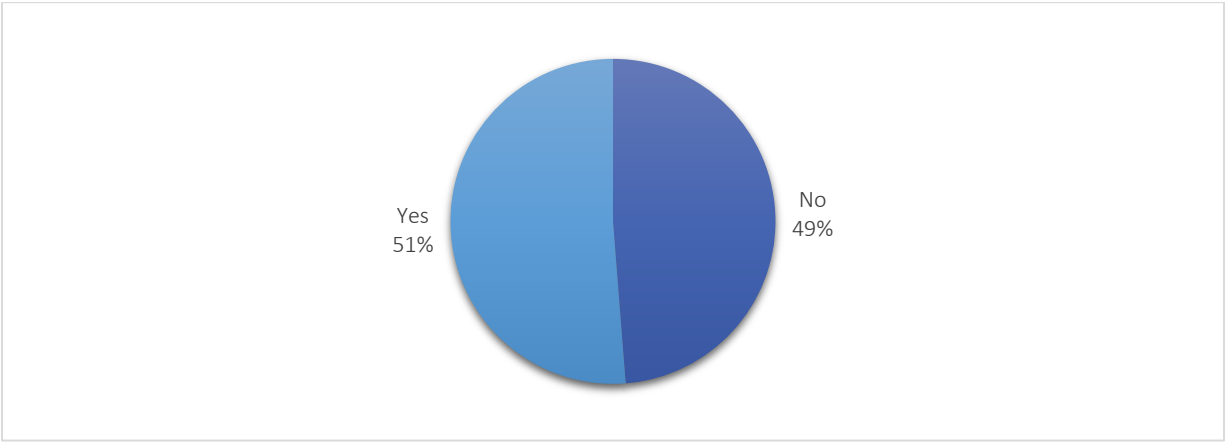
APPENDIX III: SURVEY RESPONSES

Q1. WHAT IS YOUR RESIDENCE ZIP CODE?



Zip Code	Passengers	%
33155	1	1%
33156	2	2%
33157	86	71%
33158	24	20%
33165	1	1%
33176	3	2%
33189	2	2%
33190	1	1%
33196	1	1%
	121	100%

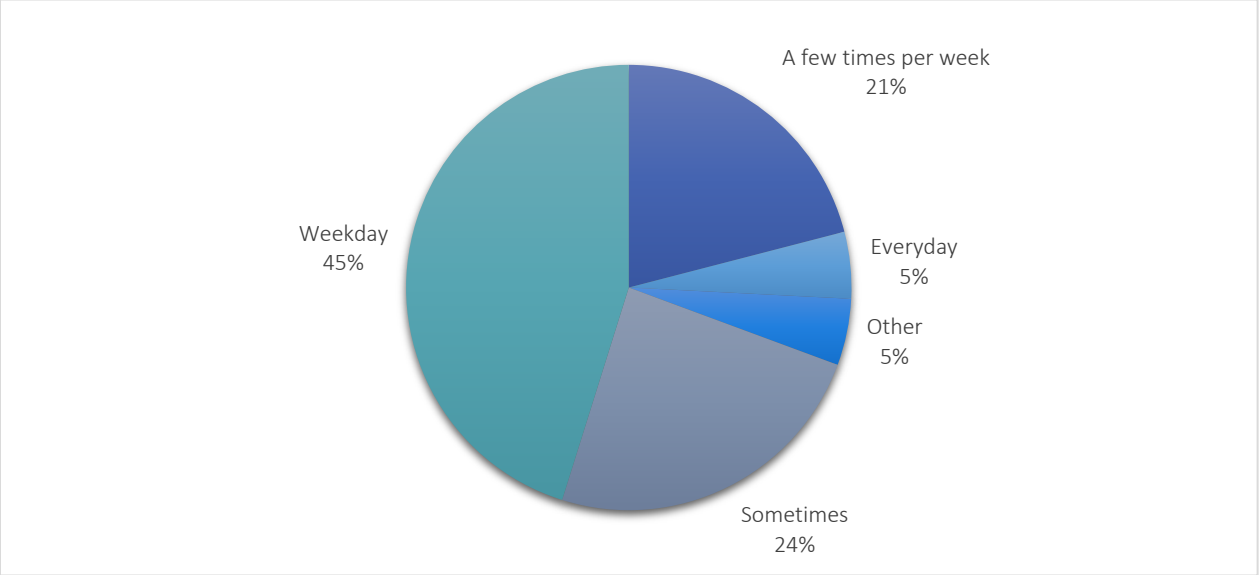
Q2. DO YOU USE TRANSIT?



Transit Usage	Passengers	%
Yes	62	51%
No	59	49%
	121	100%

Transit Users

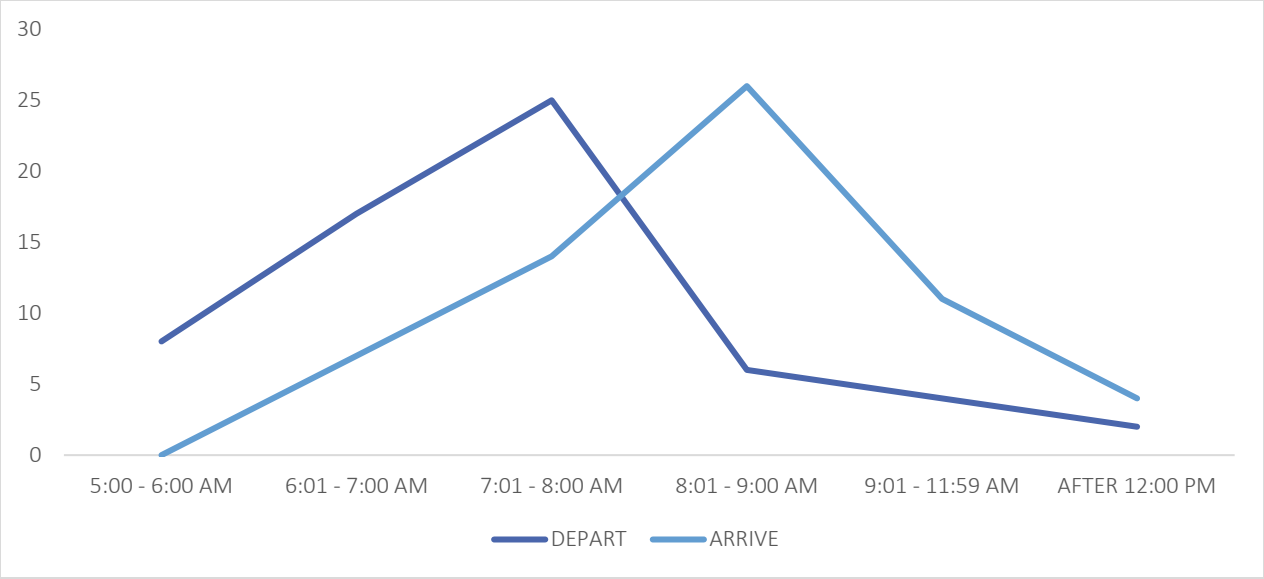
Q3. HOW MANY TIMES PER WEEK FO YOU TYPICALLY RIDE THE BUS?



Frequency	Passengers	%
Everyday	3	5%
Weekday	28	45%
A few times per week	13	21%
A few times per month	0	0%
Weekends only	0	0%
Sometimes	15	24%
Other	3	5%
	62	100%

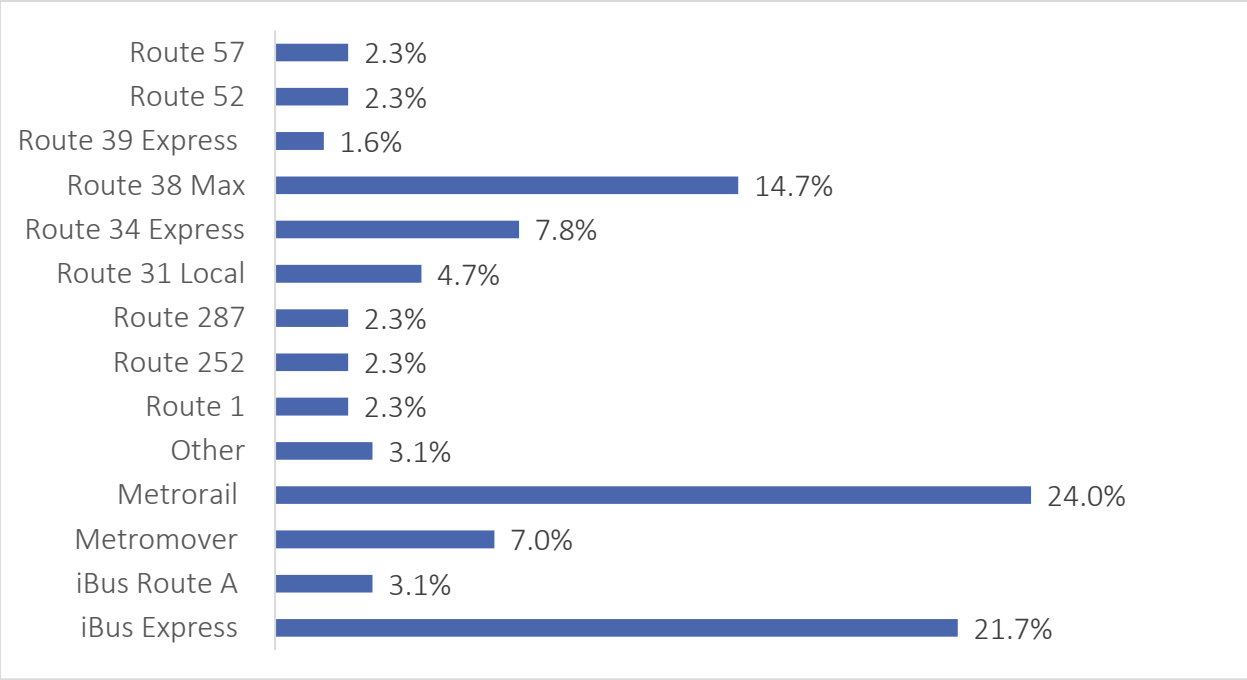
Q4. WHAT TIME DO YOU BEGIN YOUR TRIP? (LEAVE YOUR HOME)

Q5. WHAT TIME DO YOU ARRIVE TO YOUR DESTINATION?



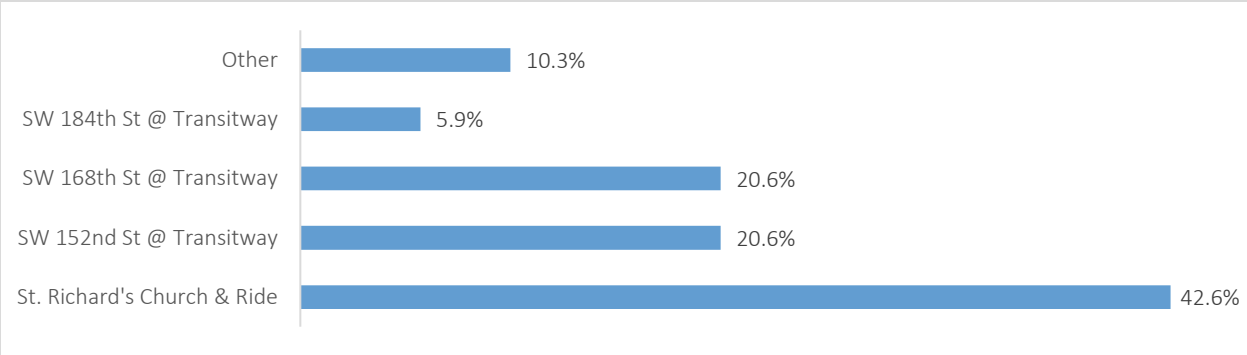
Time	Depart	Arrive
5:00 - 6:00 AM	8	0
6:01 - 7:00 AM	17	7
7:01 - 8:00 AM	25	14
8:01 - 9:00 AM	6	26
9:01 - 11:59 AM	4	11
AFTER 12:00 PM	2	4

Q6. WHAT ROUTE(S) DO YOU TYPICALLY RIDE?



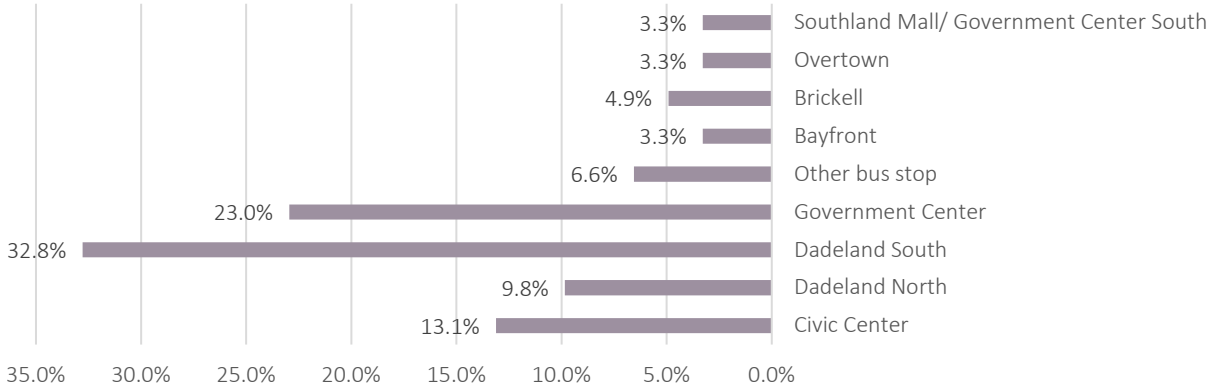
Routes	Responses	%
Route 1	3	2%
Route 31 Local	6	5%
Route 34 Express	10	8%
Route 38 Max	19	15%
Route 39 Express	2	2%
Route 52	3	2%
Route 57	3	2%
Route 136	0	0%
Route 200 Circulator	1	1%
Route 252	3	2%
Route 287	3	2%
iBus Express	28	22%
iBus Route A	4	3%
Metrorail	31	24%
Metromover	9	7%
Other	4	3%
	129	**100%**

Q7. WHICH BUS STOP DO YOU BEGIN YOUR TRIP?



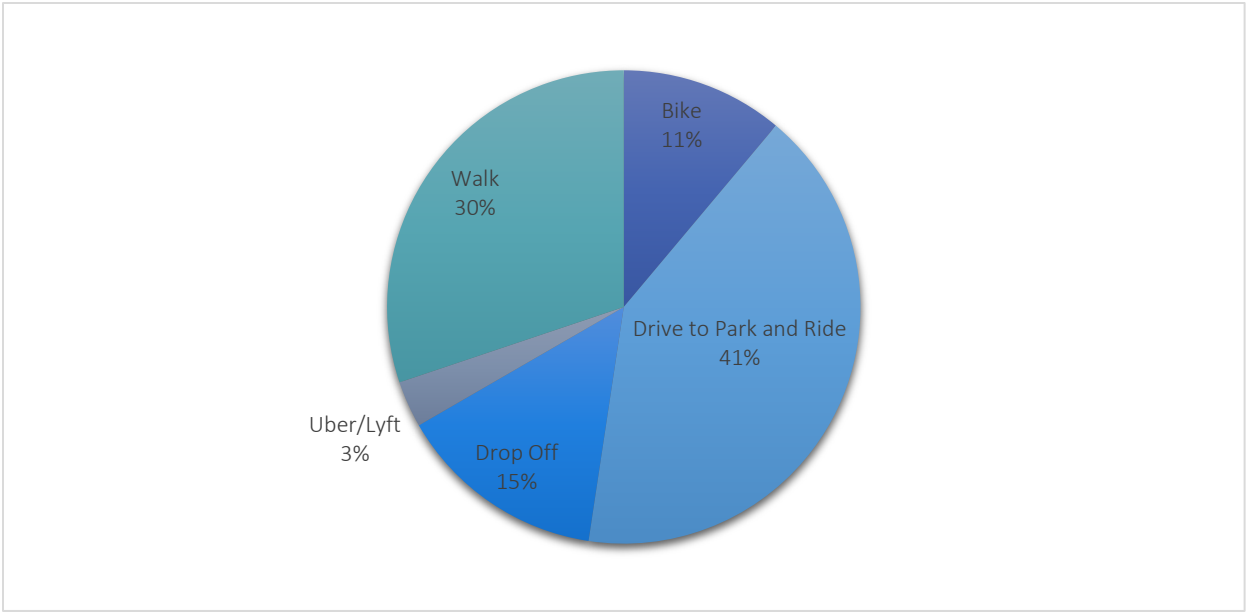
Starting Bus Stop	Passengers	%
SW 184th St @ Transitway	4	6%
SW 168th St @ Transitway	14	21%
SW 152nd St @ Transitway	14	21%
St. Richard's Church & Ride	29	43%
Other bus stop	7	10%
	68	100%

Q8. WHICH BUS STOP DO YOU TYPICALLY END YOUR TRIP?



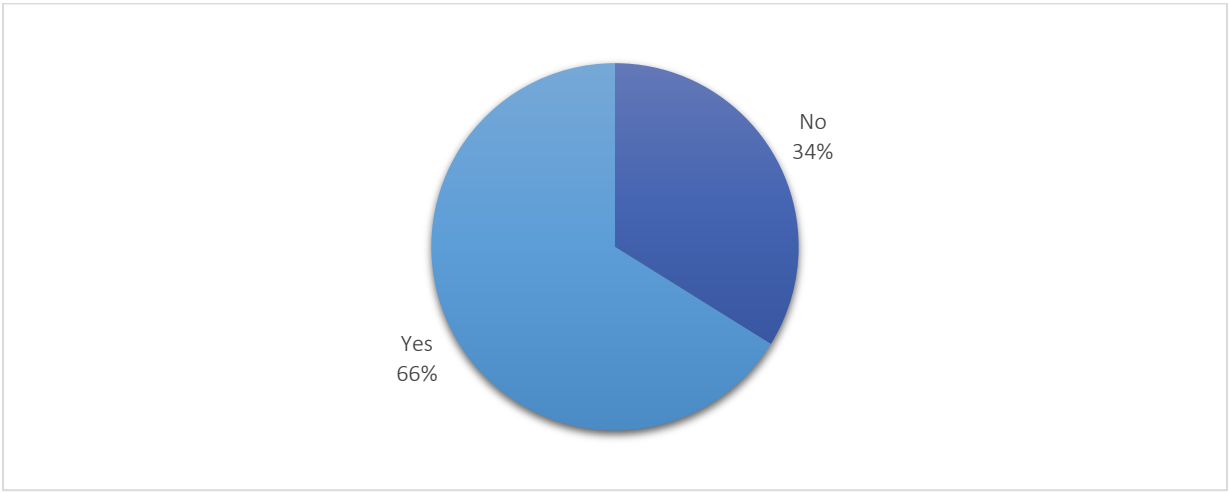
Ending Bus Stop	Passengers	%
Dadeland South	20	33%
Dadeland North	6	10%
Government Center	14	23%
Civic Center	8	13%
Southland Mall / Government Center South	2	3%
Other	4	7%
Bayfront	2	3%
Brickell	3	5%
Overtown	2	3%
	61	**100%**

Q9. HOW DO YOU TYPICALLY GET TO THE BUS STOP?



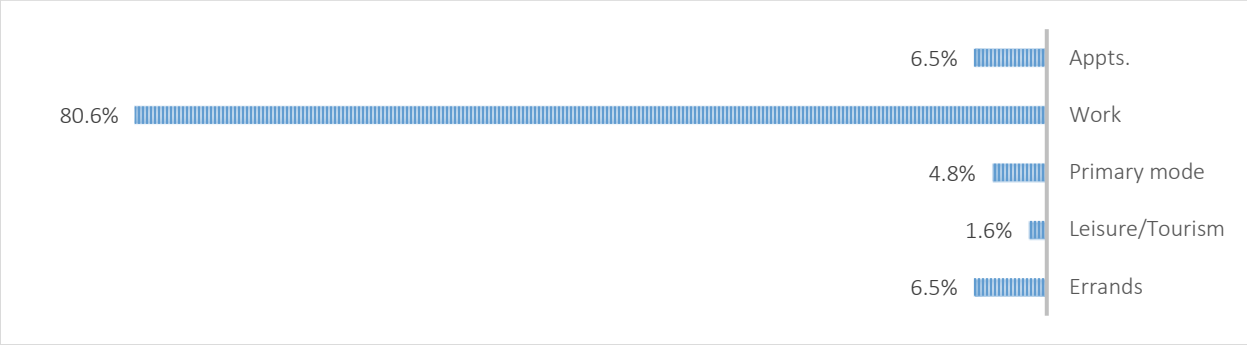
Arriving to Bus Stop	Passengers	%
Walk	19	30%
Bike	7	11%
Drive to Park and Ride	26	41%
Uber/Lyft	2	3%
Drop Off	9	14%
	63	**100%**

Q10. DO YOU TRANSFER?



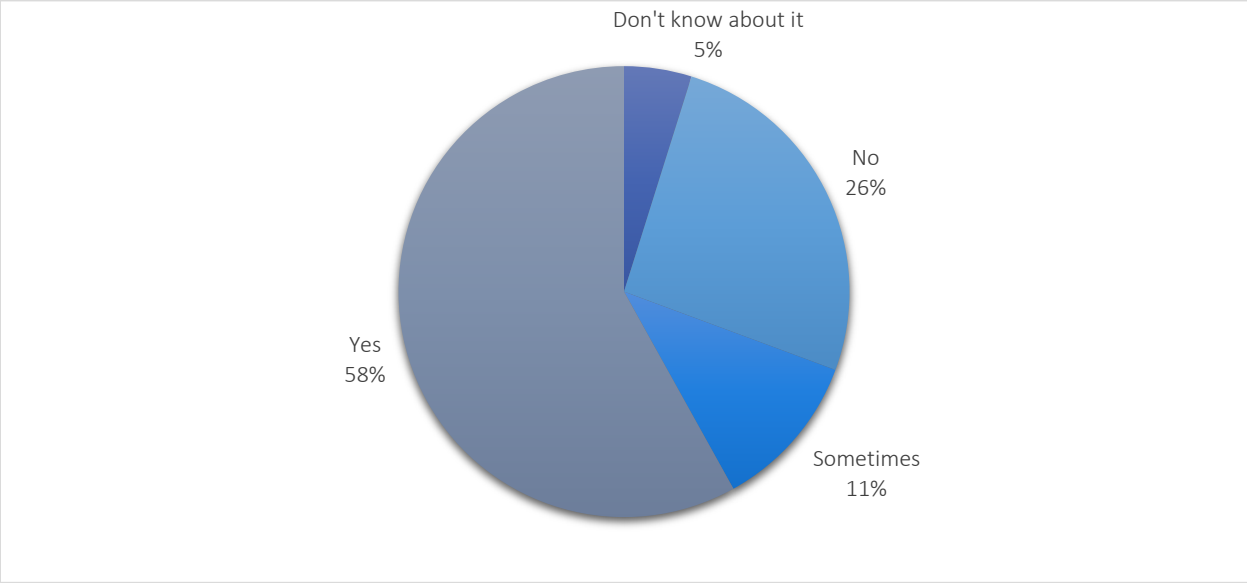
Transfer	Passengers	%
Yes	41	66%
No	21	34%
	62	100%

Q11. WHAT IS THE PRIMARY PURPOSE OF YOUR TRIP?



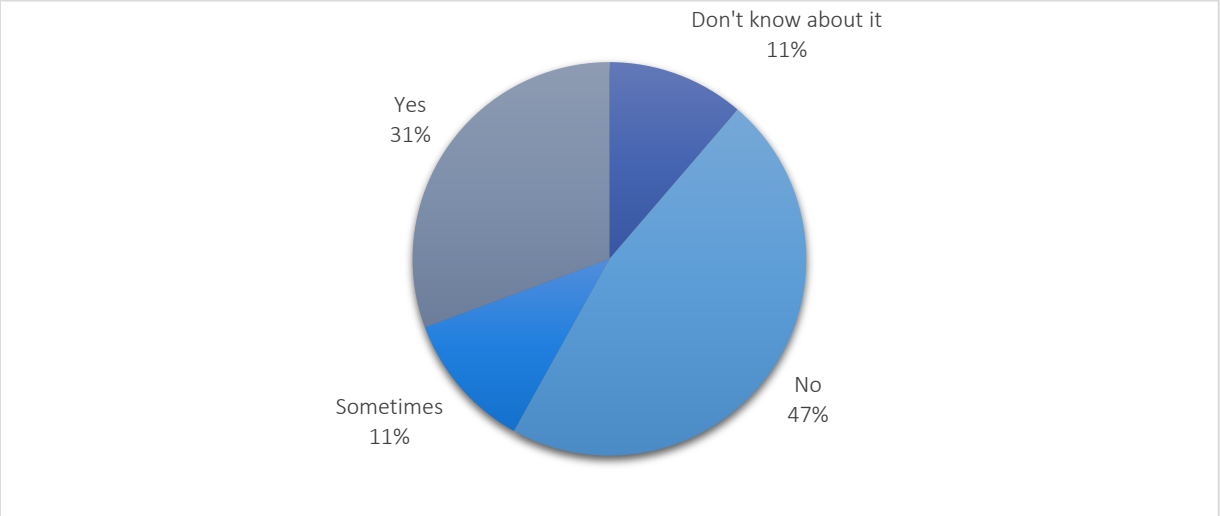
Purpose of Trip	Passengers	%
Primary mode	3	5%
Work	50	81%
School	0	0%
Appts.	4	6%
Errands	4	6%
Leisure/Tourism	1	2%
	62	100%

Q12. DO YOU USE THE MIAMI-DADE TRANSIT TRACKER APP?



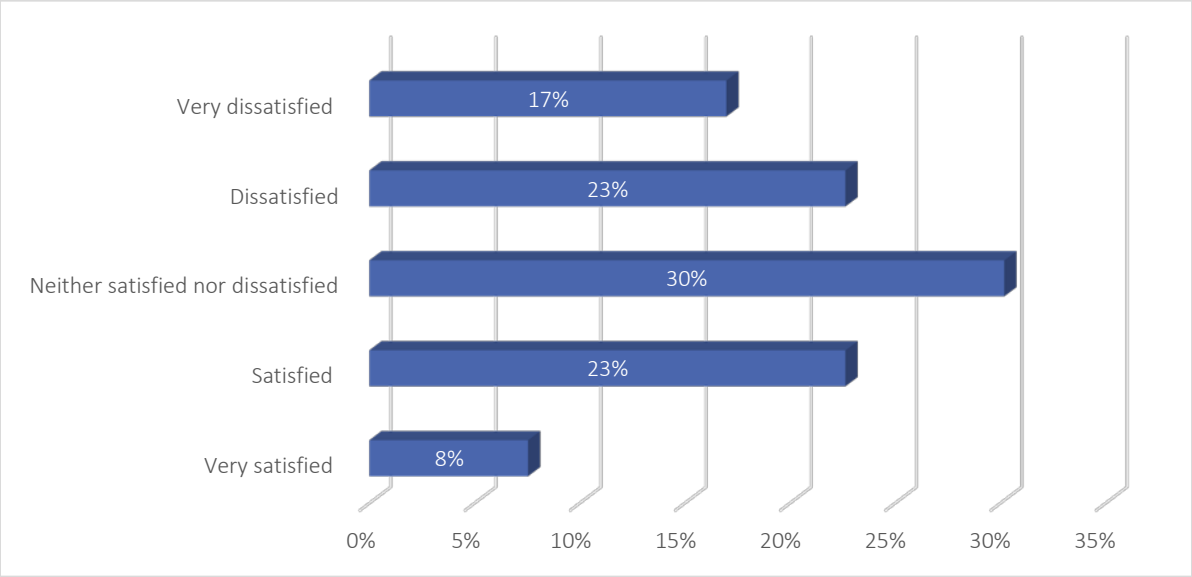
Miami-Dade App Usage	Passengers	%
Yes	36	58%
No	16	26%
Don't know about it	3	5%
Sometimes	7	11%
	62	**100%**

Q13. DO YOU USE THE IBUS APP?



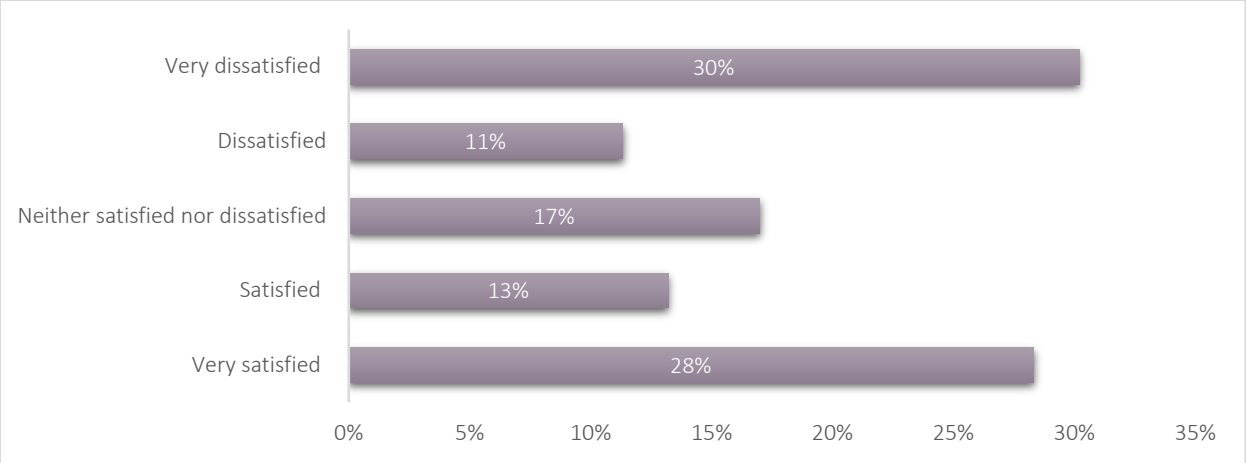
iBus App Usage	Passengers	%
Yes	19	31%
No	29	47%
Don't know about it	7	11%
Sometimes	7	11%
	62	100%

Q14. HOW SATISFIED ARE YOU WITH THE SERVICE AND RELIABILITY OF THE METROBUS?



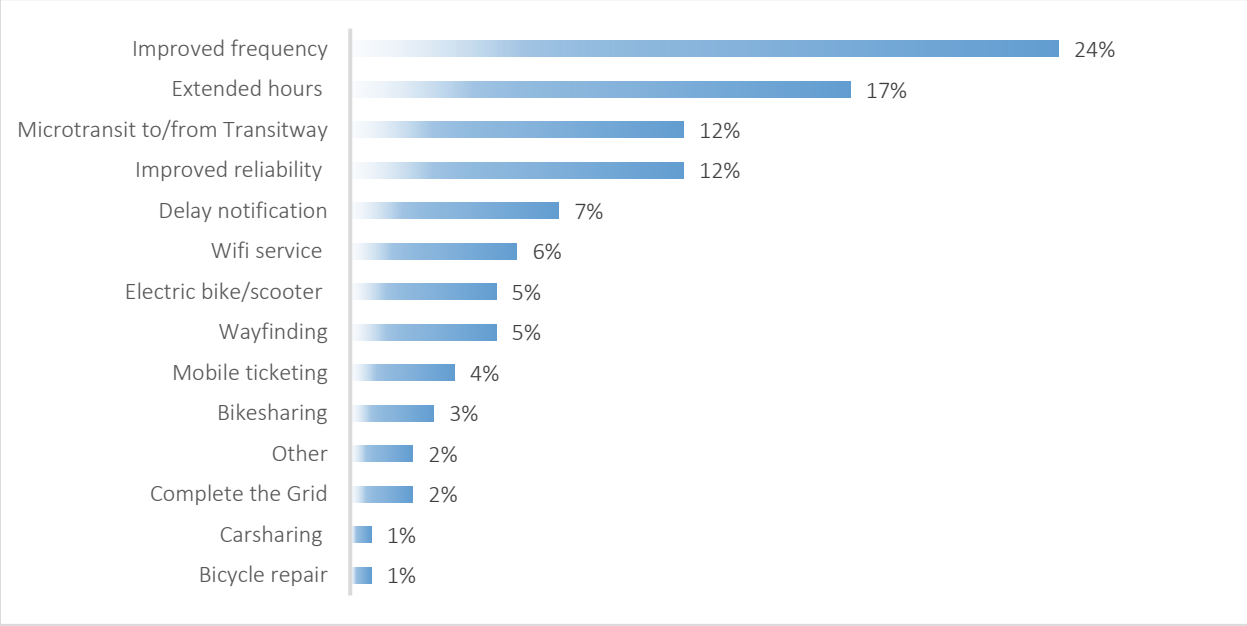
Metrobus satisfaction	Passengers	%
Very satisfied	4	8%
Satisfied	12	23%
Neither satisfied nor dissatisfied	16	30%
Dissatisfied	12	23%
Very dissatisfied	9	17%
	53	**100%**

Q15. HOW SATISFIED ARE YOU WITH THE SERVICE AND RELIABILITY OF THE IBUS?



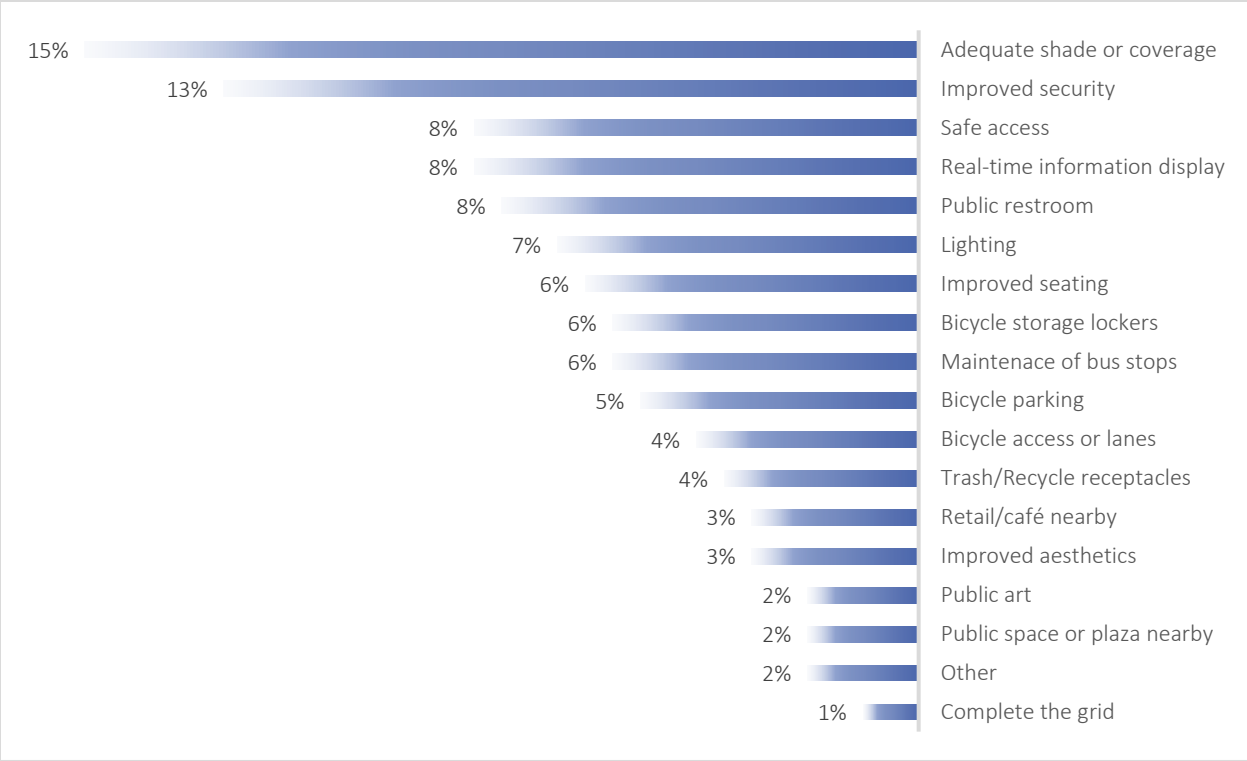
iBus satisfaction	Passengers	%
Very satisfied	15	28%
Satisfied	7	13%
Neither satisfied nor dissatisfied	9	17%
Dissatisfied	6	11%
Very dissatisfied	16	30%
	53	**100%**

Q16. WHAT COULD IMPROVE YOUR COMMUTE?



Improvement of commute	Passengers	%
Improved frequency	34	24%
Improved reliability	16	12%
Extended hours	24	17%
Delay notification	10	7%
Mobile ticketing	5	4%
Wi-Fi service	8	6%
Wayfinding	7	5%
Microtransit to/from Transitway	16	12%
EV charging	0	0%
Carsharing	1	1%
Electric bike/scooter	7	5%
Bikesharing	4	3%
Bicycle repair	1	1%
Complete the Grid	3	2%
Other	3	2%
	139	**100%**

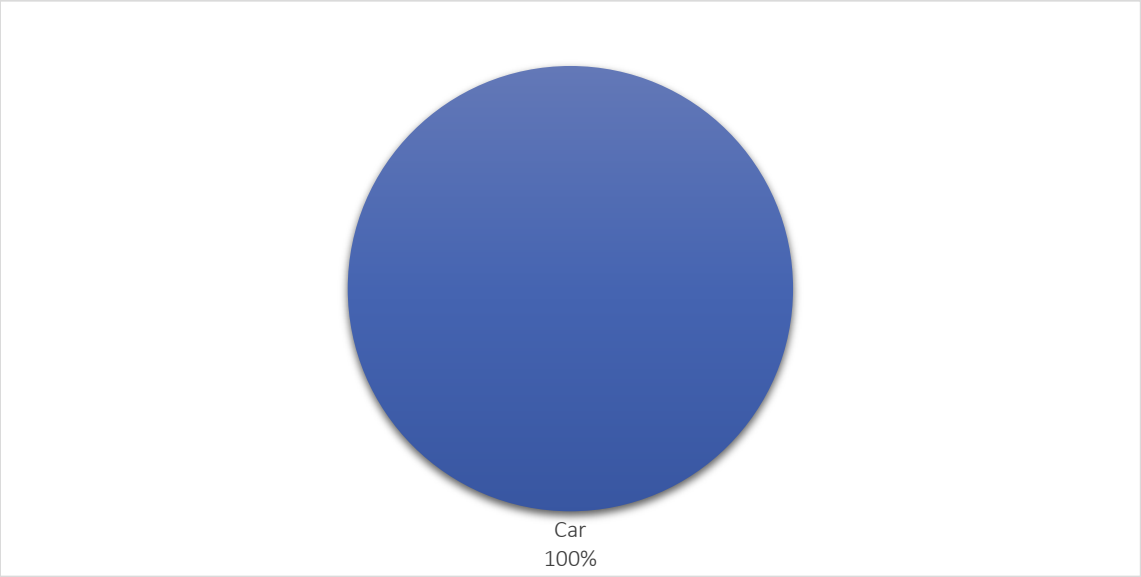
Q17. WHAT AMENITIES COULD IMPROVE YOUR BUS STOP EXPERIENCE?



Improvements in Bus Stops	Passengers	%
Lighting	13	7%
Safe access	16	8%
Improved security	25	13%
Adequate shade or coverage	30	15%
Bicycle access or lanes	8	4%
Improved aesthetics	6	3%
Improved seating	12	6%
Trash/Recycle receptacles	7	4%
Bicycle parking	10	5%
Bicycle storage lockers	11	6%
Maintenance of bus stops	11	6%
Real-time information display	16	8%
Public art	4	2%
Public space or plaza nearby	4	2%
Retail/café nearby	6	3%
Public restroom	15	8%
Other	4	2%
Complete the grid	2	1%
	200	100%

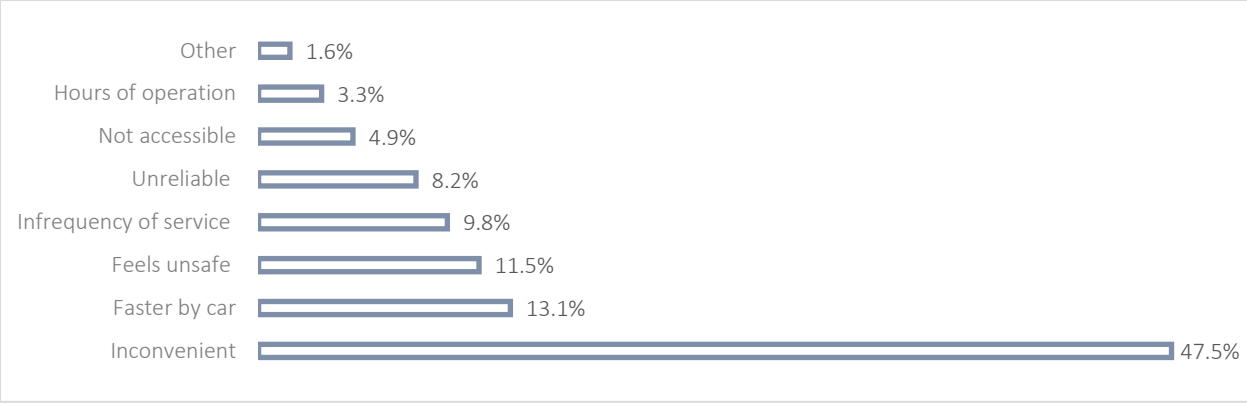
Non-Transit Users

Q3. WHAT IS YOUR PRIMARY MODE OF TRANSPORTATION?



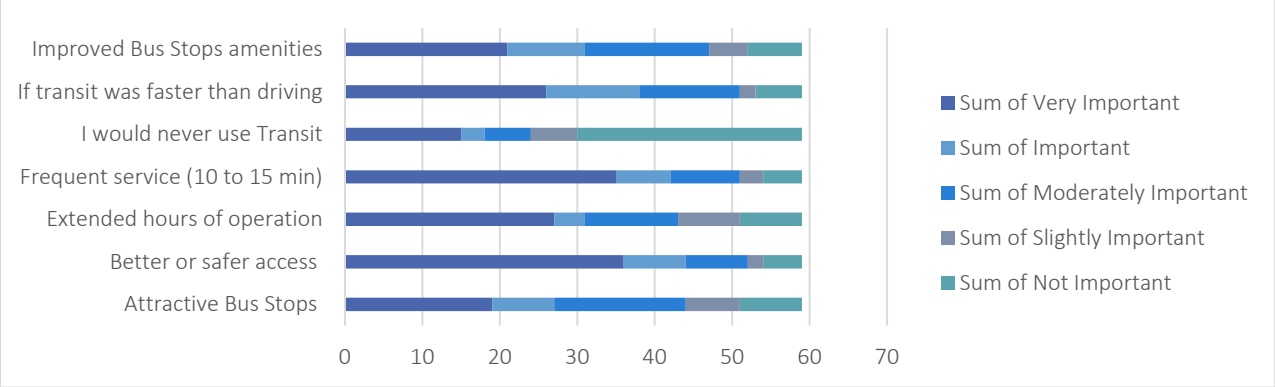
Primary mode of transportation	Passengers	%
Car	59	100%
Walk or bike	0	0%
Uber/Lyft/Taxi	0	0%
Carpool	0	0%
Other	0	0%
	59	**100%**

Q4. WHY DO YOU NOT USE TRANSIT?



Reasons not to ride Transit	Passengers	%
Inconvenient	29	48%
Faster by car	8	13%
Feels unsafe	7	11%
Unreliable	5	8%
Hours of operation	2	3%
Infrequency of service	6	10%
Not accessible	3	5%
Other	1	2%
	61	**100%**

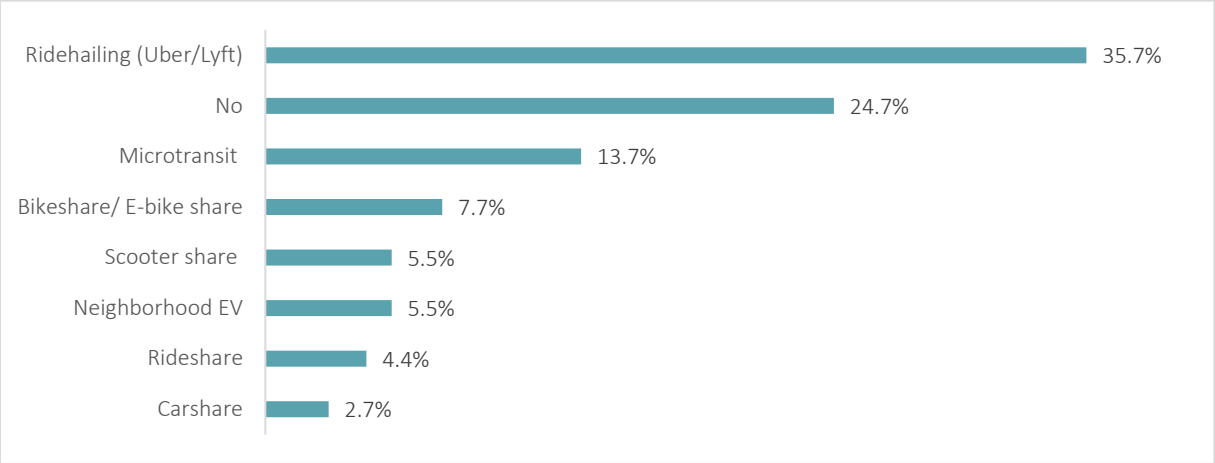
Q5. WHAT WOULD ENCOURAGE TO USE TRANSIT?



Encourage to ride Transit	Very Important	Important	Moderately Important	Slightly Important	Not Important
If transit was faster than driving	26	12	13	2	6
Attractive Bus Stops	19	8	17	7	8
Better or safer access	36	8	8	2	5
Frequent service (10 to 15 min)	35	7	9	3	5
Improved Bus Stops amenities	21	10	16	5	7
Extended hours of operation	27	4	12	8	8
I would never use Transit	15	3	6	6	29

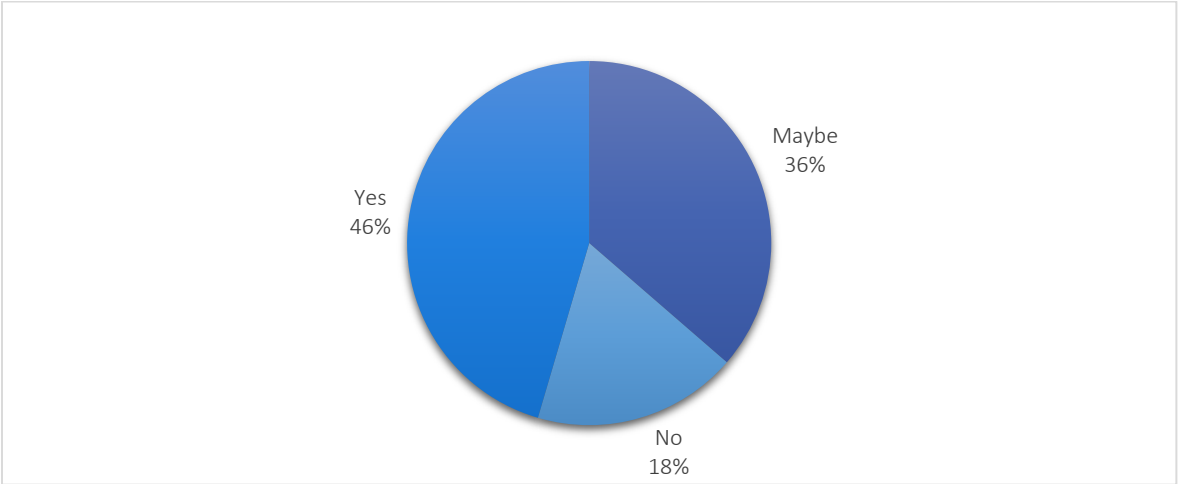
Shared Mobility: All Respondents

HAVE YOU EVER USE ANY OF THE FOLLOWING SHARED MOBILITY SERVICES?



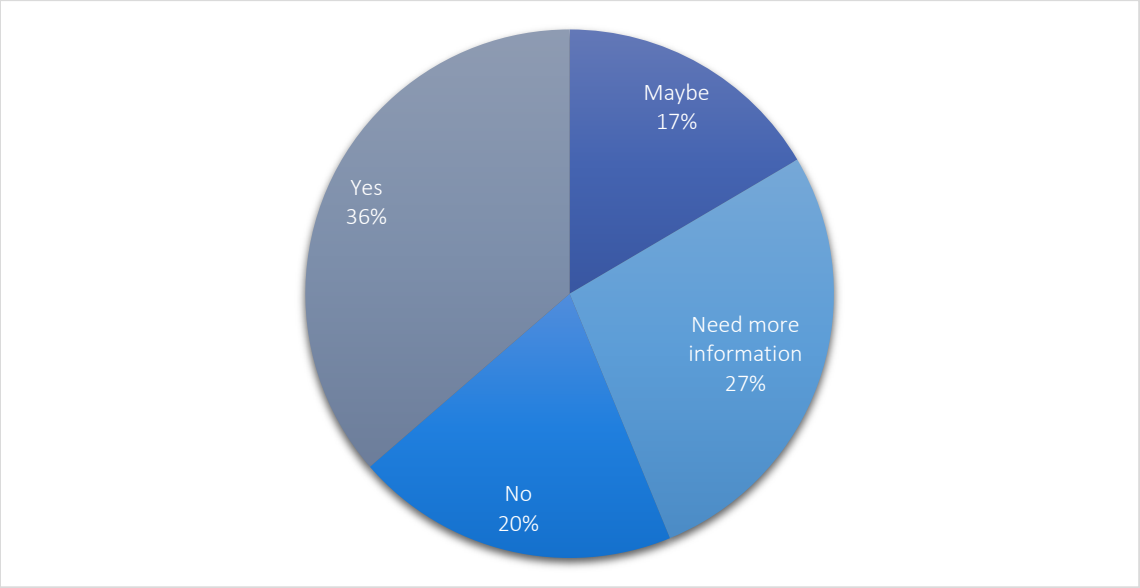
Shared mobility usage	Passengers	%
Bikeshare/ E-bike share	14	14
Scooter share	10	10
Microtransit	25	25
Carshare	5	5
Rideshare	8	8
Ride hailing (Uber/Lyft)	65	65
Neighborhood EV	10	10
No	45	45
	182	**100%**

WOULD YOU CONSIDER USING THE ABOVE SHARED MOBILITY SERVICES?



Consider using shared mobility	Passengers	%
Yes	55	45%
No	22	18%
Maybe	44	36%
Blank	0	0%
	121	**100%**

WOULD YOU LIKE TO SEE SHARED MOBILITY OPTIONS IN YOUR COMMUNITY?



Like to see shared mobility	Passengers	%
Yes	44	36%
No	24	20%
Maybe	20	17%
Need more information	33	27%
Blank	0	0%
	121	**100%**

Survey Feedback

ADDITIONAL FEEDBACK (OPTIONAL):
Transportation solutions focused on the additional traffic our Village schools provide would make sense in determining improvements to the overall issue.
First thing I would like to see is a completed Grid, the 87th ave bridge.
I-bus times are often 2 mins ahead of scheduled times, clocks need to be adjusted. Drivers should wait if a train is in station and passengers are coming down escalators. Overall the service is great
In reviewing the entire Marlin survey, it shows the absolute NECESSITY to bridge 77th & 87th Avenues in Palmetto Bay > absolutely MUST happen
Biggest help would be increased frequency and extend iBus service 30-60 minutes. Also, option to sit in air conditioned bus while waiting for departure from Dadeland South when areive early nad bus is parked
The IBus has been great for those of us working at the Civic Center. I would suggest additional Ibus service from metrorail between the hours of 5pm to 7pm. Maybe every 20 minutes instead of every 30 minutes. Sometimes the buses leave 2 or 3 minutes early according to my watch. Mario waits especially when a train pulls into the station. We appreciate this. I usually go upstairs and wait on the platform as waiting for the ibus outside of the station is not the safest option. I will wait upstairs until it is arrival time for the ibus and then go and wait outside.
Just concerned about people riding on the sidewalk whi can disrupt walkers ..., in brickell they are dangerous
Our residents in Palmetto Bay predominantly use private cars to get around. No changes are needed at this time. No bus stops, scooters, ride sharing or Freebee for our estate home community. Leave things the way they are.
We need the traffic grid (bridging of 77th & 87th Avenues) to be completed to make it easier to access transit.
extend the metrorail!
The root of the traffic problem in Palmetto Bay is the incomplete roadway grid due to missing bridges on 87th ave & 77th ave. Install these bridges and the majority of traffic Gridlock & Congestion will be significantly reduced, continue to ignore the professional recommendations and the traffic will worsen
The bridges have been planned for over 40 years. Stop being so damn obstinate and do the right thing. Your continued obstinance is ruining our way of life.
The bridges have been planned for over 40 years. Stop being so damn obstinate and do the right thing. Your continued obstinance is ruining our way of life.
freebie has limited weekend hours. expand them please
Every time we use orange line to airport, signage is worse. And your MDT tracker re metro rail is not accurate as to orange/greens lines. One train had a hand written card board sign saying Green TG. Next train didn't bother but the MDT tracker indicated orange line. It wasn't and delayed our trip to MIA. It's hard to keep encouraging elders like us to use metro rail anywhere when old trains are in such poor condition re signage & info conveyed to riders
Complete the grid that Miami Dade started over 50 years ago. We are BLOCKED in and it's stupid to think we can continue this way without bridging. EVERY WHERE. There are not enough north south thoroughfares. Just east and west and it is bottlenecking. Stop hiding your head in the sand and look and see before someone gets hurt or worse, dies!
I rather see less development in Palmetto Bay!!!!!
Mass Transit is not conducive for travel. It is slow, hard to get to and then costly for what you get. Look at the Metrorail, why does it not go all the way south? Check out how long it takes an individual from Homestead to get to downtown via mass transit. Other large cities depend on mass transit and individuals utilize it, look at DC. We have no long future idea of what we are doing and yet we keep blowing the tax dollar. Mass transit should have gone from Ft Lauderdale airport to Homestead, west bound down Kendall and SW 152, Bird Road, with connections to get over to the beach. Think about it. All the traffic going north in the morning and south in the evening is individuals who work downtown or north and until you fix the mass transit, this traffic will only increase.
you need to send more information about each of the options

Bicycle and scooter sharing is an unregulated and unmaintained nuisance in the communities with no drop off/pick up hubs; bicycles and scooters litter the sidewalks, private properties, landscaping, open spaces, and sometimes roads.
I live 3 mi. from the nearest bus stop.
I'm new to area and want to explore options to car transportation, but I don't know how it all hooks up together. Where is there comprehensive information as to what's available to me and how to access it? For example, if I want to leave my car at home and take public transport to Marlins Stadium, how much does it cost? How long does it take? How do I pay for it? Where is the closest access point?
Transit in Miami-Dade has never been anything but a boondoggle in my lifetime. The county commissioners do not have public interest in mind and the few who ever have lack the skills and the mechanism to make transit a viable option. The county should ween itself of the obligation of public transit and leave it private interests who have it in their interest to provide functional urban transit solutions.
Increasing access to mass transit is a great idea. but the mass transit has to be clean, safe, attractive and reliable. None of these appear to be high priorities at the moment in spite of the penny tax we voted for years ago. I love the idea of NEVs to get me to the Metro stations. When the Heat first came to town we often rode Metrorail to the sation adjacent to the first Heat Arena. At the new arena, the Metro Mover is not as convenient Good luck and let;s keep pushing to improve our transit issues.
The problem is the feeders from inside Palmetto Bay to the bus routes or to Dadeland, it is very difficult to leave the house on foot and gain access to a point where you can take public transportation. If there are constant buses with regular published schedules going from inside Palmetto Bay to US1 that could help. Also the bus stops needs to be improved for you to wait for the bus sheltered from the scorching Florida sun.
Finish the grid on 87th Avenue. Traffic is only getting worse. Use common sense & stop wasting our tax dollars!
There would need to be a huge restructuring of palmetto bay for this to work. Example; supermarkets within short distances of every street, public bathrooms at bus stops, bus stops close to homes since so many people are elderly and most can't walk long distances, more shade trees everywhere to make walking more pleasant in the heat of Miami, wider and cleaner sidewalks. Most sidewalks are full of debris that makes walking cumbersome, emergency phones and security vehicles to help in emergencies like if someone falls. Generally the streets are empty, no one around to help if someone has a crisis, like a fall. It does not feel like it would be a safe option for all the reasons above and I am sure others.
Scheduling of new freebie service REALLY needs to be reevaluated. Theyre extremely undependable. I might as well ride the regular bus if Im going frequently depart late. Not understanding how Its taking longer than the regular bus and they dont have any stops along the busway.
Miami Dade is not setup for mass transit, as it's not a vertical city, with a subway. I used to ride buses/ rail for 10 years, wait Gaines were terrible, missed busses were always a fear, and the rail was always breaking down. And that was before I had a child to take to school, and simply had to go to work. It was way too tough and I couldn't wait to drive. Miami and are never going to give up their cars. Mass transit is a non lethal, but flawed plan. Example, I live on an overly trafficked, standstill cut through street. I can't even get to a feeder station, much less to the rail or bus stop myself. Besides, with all of the internet entertainment options (Facebook, news, music, texts, phone calls) that I can make from my car comfortably, why would I ever consider mass transit? And that's on a sunny day? I will never ever wait for a bus or rail on a rainy day again, and neither will others. That's one of the two reasons New York mass transit works so well, you can get anywhere quickly, and without being concerned about weather. Build the bridges over the canals, complete the grid.
Reducing traffic can be accomplished by using shared service, people should be pushed to use it more

APPENDIX IV: DETAILED COST ESTIMATES

Table 31: General Cost Estimates

OPINION OF PROBABLE COST VILLAGE OF PALMETTO BAY MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN Miami-Dade County			
Description	Unit	Unit Cost	Reference
ROADWAY			
MOBILIZATION (10%)	LS	10%	FDOT
MOT (8%)	LS/DA	8%	FDOT
SEDIMENT BARRIER	LF	$1.92	FDOT
INLET PROTECTION SYSTEM	EA	$63.21	FDOT
LITTER REMOVAL	AC	$1.92	FDOT
MOWING	AC	$1.70	FDOT
CLEARING & GRUBBING	AC	$25,942.11	FDOT
REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	$18.17	FDOT
EMBANKMENT	CY	$8.51	FDOT
STABILIZATION TYPE B	SY	$0.23	FDOT
OPTIONAL BASE, BASE GROUP 10	SY	$13.03	FDOT
MILLING EXISTING ASPHALT PAVEMENT 1"	SY	$5.27	FDOT
SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	$114.40	FDOT
ASPH CONC FC, TRAFFIC C, FC-9.5, PG 76-22	TN	$130.36	FDOT
CONCRETE CURB & GUTTER, TYPE F	LF	$22.50	FDOT
CONCRETE, 4" THICK - SIDEWALK	SY	$37.64	FDOT
CONCRETE, 6" THICK - CURB RAMPS	SY	$47.03	FDOT
BUS SHELTER PAD - CONCRETE	SY	$205.40	FDOT
PATTERNED PAVEMENT, VEHICLE AREAS (Crosswalk)	SY	$90.17	FDOT
PATTERNED PAVEMENT, VEHIC AREAS (Bike Lane)	SY	$88.73	FDOT
PAVERS, ARCHITECTURAL, SIDEWALK	SY	$103.17	FDOT
PED DETECTABLE WARNINGS	SF	$25.12	FDOT
GUARDRAIL- ROADWAY, GEN TL-3	LF	$16.46	FDOT
PERFORMANCE TURF, SOD	SY	$2.60	FDOT
ALUMINUM SIGNALS POLE, PED DETECT POST	EA	$1,235.66	FDOT

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
Miami-Dade County

Description	Unit	Unit Cost	Reference
PEDESTRIAN DETECTOR, F&I, STANDARD	EA	$247.73	FDOT
POROUS PAVEMENT			
POROUS CONCRETE	SF	$6.00	https://greenvalues.cnt.org/national/cost_detail.php
POROUS ASPHALT	SF	$6.34	https://greenvalues.cnt.org/national/cost_detail.php
PERMEABLE PAVERS	SF	$7.10	https://greenvalues.cnt.org/national/cost_detail.php
FLEXI-PAVE INSTALLATION	SF	$2.75	K.B. Industries Inc.
FLEXI-PAVE MATERIAL	SF	$6.00	K.B. Industries Inc.
SIGNING & PAVEMENT MARKING			
THERMOPLASTIC, STD-OP, YELLOW, SOLID, 6"	GM	$3,655.54	FDOT
THERMOPLASTIC, STD-OT, YELLOW, SOLID, 8"	GM	$8,901.36	FDOT
THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	$3,659.78	FDOT
THERMOPLASTIC, STD-OP, WHITE, SOLID, 8"	GM	$4,185.06	FDOT
PAINTED PAVT MARK, STD, WHITE, SOLID, 12" (crosswalk)	LF	$1.66	FDOT
PAINTED PAVT MARK, STD, WHITE, SOLID,24" (stop bar)	LF	$3.11	FDOT
THERMOPLASTIC, STD, BLUE, SOLID,6"	LF	$7.50	FDOT
THERMOPLASTIC, PREFORMED, WHITE, MESSAGE (bike symbol)	EA	$273.87	FDOT
THERMOPLASTIC, PREFORMED, WHITE, ARROW (bike arrow)	EA	$91.45	FDOT
SIGNAL & LIGHTING			
PEDESTRIAN LIGHTING - METAL	EA	$1,332.14	FDOT
PEDESTRIAN SIGNAL, F&I LED COUNT, 2 WAYS	EA	$1,333.14	FDOT
PEDESTRIAN SIGNAL, F&I LED COUNT, ONE WAYS	EA	$775.68	FDOT
STREETLIGHT	EA	$3,600.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
IN-PAVEMENT LIGHTING	AVG TOTAL	$18,250.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
BUS STOP SHELTER			
BENCH, F&I, ALUMINUM	EA	$730.70	FDOT

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
Miami-Dade County

Description	Unit	Unit Cost	Reference
BUS SHELTER, F&I, UPTO 50 SF	EA	$29,894.23	FDOT
BUS SHELTER: CONCRETE, SHELTER, LIGHTING, WASTE, SEATING, BIKE RACK	EA	$43,330.00	Town of Cutler Bay
BICYCLE RACK, FURNISH & INSTALL, 2-6 BI	EA	$660.89	FDOT
TRASH/RECYCLE RECEPTACLE	EA	$1,533.71	FDOT
LANDSCAPING			
NATIVE PLANTS	SF	$0.10	https://greenvalues.cnt.org/national/cost_detail.php
LANDSCAPE COMPLETE- 10 TREES (12' to 15')	EA	$2,000.00	FDOT
LANDSCAPE COMPLETE- PALM TREES	EA	$15,000.00	FDOT
RAINGARDEN	SF	$7.00	https://greenvalues.cnt.org/national/cost_detail.php
BIOSWALES	SF	$15.00	https://greenvalues.cnt.org/national/cost_detail.php
PLANTER BOXES	SF	$8.00	https://greenvalues.cnt.org/national/cost_detail.php
AMENITY			
BIKESHARE STATION (10 BIKES)	STATION	$54,000.00	*Bike Share Business & Implementation Plan (2016)*
DOCKLESS BICYCLES	EA	$1,000.00	https://www.alibaba.com
ELECTRIC BIKE SHARE (10 BIKES)	STATION	$65,000.00	*Bike Share Business & Implementation Plan (2016)*
BICYCLE REPAIR STATION	EA	$1,500.00	https://www.dero.com
BICYCLE STORAGE LOCKER	EA	$2,140.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
BICYCLE TRAFFIC LIGHT	EA	$1,000.00	*Costs for Pedestrian & Bicyclists Infrastructure Improvements (2013)*
SCOOTER SHARE	EA	$0.00	*Micromobility in Cities A History & Policy Overview (2018)*
CAR SHARE STATION	EA	$0.00	*City of Miami Car Sharing Feasibility Study (2011)*
EV CHARGING STATION (LEVEL II)	EA	$8,000.00	*Costs Associated with Non-Residential Electric Vehicle Supply Equipment, 2015*
Wi-Fi	EA	$400.00	*Planning & Implementing a Wi-Fi Zone in Your Town (2014)*
PARKING GARAGE: PARK & RIDE	SPACE	$19,700.00	*Parking Structure Cost Outlook (2017)*
SHELTER WITH METAL CANOPY	EA	$9,500.00	Alan's Factory Outlet
INFORMATION KIOSK (75" DISPLAY)	EA	$6,000.00	https://www.alibaba.com

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
Miami-Dade County

Description	Unit	Unit Cost	Reference
DIGITAL DISPLAY SIGN: REAL-TIME INFORMATION (9.26" X 70.71" X 1.65")	EA	$400.00	https://www.alibaba.com
PACKAGE PICKUP KIOSK	EA	$0.00	*Guta, Michael (29, Dec. 2017). "What is Amazon Locker and How Can It Benefit Your Business." Small Business Trends*
PUBLIC ART - VARIES	EA	Varies	
PUBLIC ART - BOX WRAP	EA	$1,000.00	The Southeast Como Improvement Association
AIR MISTING SYSTEM	EA	$5,000.00	https://www.costowl.com
SECURITY CAMERA	EA	$600.00	https://www.homeadvisor.com
EMERGENCY CALLBOX	EA	$5,500.00	US DOT
LIBRARY SHARE	SF	$200.00	https://littlefreelibrary.org
USB CHARGING STATION (10 PHONES)	EA	$1,500.00	https://kwikboost.com/
WAYFINDING	PLAN	$40,000.00	https://guidestudio.com
CONTINGENCY	**10%**		
DESIGN	**20%**		
SURVEY	**5%**		
CEI	**5%**		

Notes:
MARLIN has no control over competitive bidding or market conditions or the cost of labor, materials, equipment, or over the contractor's methods of determining prices. The quantities and pricing used in the Opinion of Probable Cost were composed based on FDOT historical cost and our engineering opinion and judgement. Opinions of Probable Cost represent only the Engineers judgement as a design professional familiar with the construction industry. MARLIN cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from the values stated in this document.

Coral Reef Neighborhood Hub

Table 32: Detailed Cost Estimate for Coral Reef Mobility Hub

OPINION OF PROBABLE COST VILLAGE OF PALMETTO BAY MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN CORAL REEF NEIGHBORHOOD MOBILITY HUB Miami-Dade County					
Pay Item	Description	Unit	Qty	Unit Cost	Cost
ROADWAY INFRASTRUCTURE					
0101 1	MOBILIZATION (10%)	LS		10%	$85,198.31
0102 1	MOT (8%)	LS/DA		8%	$68,158.65
0104 10 3	SEDIMENT BARRIER	LF	13,740.00	$1.95	$26,793.00
0104 18	INLET PROTECTION SYSTEM	EA	8.00	$65.03	$520.24
0110 1 1	CLEARING & GRUBBING	AC	1.74	$26,990.98	$46,989.46
0120 1	REGULAR EXCAVATION	CY	1,404.35	$7.29	$10,237.73
120-6	EMBANKMENT	CY	1,404.35	$19.90	$27,946.60
0162 1 11	PREPARED SOIL LAYER, FINISH SOIL, 6"	SY	33.33	$0.40	$13.33
0327 70 1	MILLING EXISTING ASPHALT PAVEMENT 1"	SY	791.33	$5.37	$4,249.46
0337 7 80	ASPH CONC FC,TRAFFIC C,FC-9.5,PG 76-22	TN	6.36	$290.70	$1,847.56
0334 1 13	SUPERPAVE ASPHALTIC CONC, TRAFFIC C	TN	43.52	$118.64	$5,163.61
0425 1521	INLETS, DT BOT, TYPE C, <10'	EA	3.00	$2,927.08	$8,781.24
430173118	PIPE CULV OPT MATL, ROUND, 18", GD	LF	200.00	$60.00	$12,000.00
0522 1	CONCRETE, 4" THICK - SIDEWALK	SY	7,386.11	$38.73	$286,064.08
0522 2	CONCRETE, 6" THICK - CURB RAMPS	SY	165.56	$46.51	$7,699.99
0526 1 1	PAVERS, ARCHITECTURAL, ROADWAY	SY	783.33	$80.00	$62,666.67
0527 2	PED DETECTABLE WARNINGS	SF	20.00	$25.69	$513.80
0570 1 2	PERFORMANCE TURF, SOD	SY	189.44	$2.62	$496.34
	CONTINENTAL PEDESTRIAN BRIDGE (FOUNDATION & INSTALLATION COSTS INCLUDED)	EA	1.00	$350,000.00	$350,000.00
		TOTAL ROADWAY			$1,005,340.07
SIGNING & PAVEMENT MARKING					
0711 15201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	GM	0.20	$3,890.84	$777.43
0711 15231	THERMOPLASTIC, STD-OP, YELLOW, SKIP, 6"	GM	0.80	$6,500.00	$5,172.51

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
CORAL REEF NEIGHBORHOOD MOBILITY HUB
Miami-Dade County

Pay Item	Description	Unit	Qty	Unit Cost	Cost
0711 15101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	0.04	$3,876.30	$161.51
0710 11160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	EA	92.00	$35.48	$3,264.16
0710 11170	PAINTED PAVT MARK,STD,WHITE, ARROWS	EA	46.00	$20.48	$942.08
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	6.00	$102.32	$613.92
0711 11123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	LF	420.00	$0.52	$218.40
0711 11125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	LF	471.00	$0.95	$447.45
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	EA	16.00	$350.95	$5,615.20

Notes:
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TOTAL SIGNING & MARKING		**$17,212.66**
SUB TOTAL		**$1,022,552.73**
CONTINGENCY	**20%**	**$204,510.55**
DESIGN	**20%**	**$204,510.55**
SURVEY	**5%**	**$51,127.64**
CEI	**5%**	**$51,127.64**
GRAND TOTAL		**$1,533,829.10**

Old Cutler Neighborhood Hub

Table 33: Detailed Cost Estimate of Old Cutler Mobility Hub

OPINION OF PROBABLE COST VILLAGE OF PALMETTO BAY MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN OLD CUTLER NEIGHBORHOOD MOBILITY HUB Miami-Dade County					
Pay Item	Description	Unit	Qty	Unit Cost	Cost
ROADWAY INFRASTRUCTURE					
0101 1	MOBILIZATION (10%)	LS		10%	$99,584.81
0102 1	MOT (8%)	LS/DA		8%	$79,667.85
0104 10 3	SEDIMENT BARRIER	LF	24,340.00	$1.95	$47,463.00
0104 18	INLET PROTECTION SYSTEM	EA	10.00	$65.03	$650.30
0110 1 1	CLEARING & GRUBBING	AC	3.08	$26,990.98	$83,202.36
0110 4 10	REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	110.56	$33.07	$3,656.07
0120 1	REGULAR EXCAVATION	CY	2,486.63	$7.29	$18,127.53
120-6	EMBANKMENT	CY	2,381.81	$19.90	$47,398.11
160-4	STABILIZATION TYPE B	SY	482.22	$0.07	$33.76
0162 1 11	PREPARED SOIL LAYER, FINISH SOIL, 6"	SY	238.89	$0.40	$95.56
0327 70 1	MILLING EXISTING ASPHALT PAVEMENT 1"	SY	482.22	$5.37	$2,589.53
0337 7 80	ASPH CONC FC,TRAFFIC C,FC-9.5,PG 76-22	TN	26.52	$290.70	$7,710.01
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	85.00	$22.42	$1,905.70
0520 2 4	CONCRETE CURB , TYPE D	LF	400.00	$23.24	$9,296.00
0522 1	CONCRETE, 4" THICK - SIDEWALK	SY	13,988.33	$38.73	$541,768.15
0522 2	CONCRETE, 6" THICK - CURB RAMPS	SY	22.22	$46.51	$1,033.56
0526 1 1	PAVERS, ARCHITECTURAL, ROADWAY	SY	272.22	$80.00	$21,777.78
0526 1 2	PAVERS, ARCHITECTURAL, SIDEWALK	SY	253.89	$103.17	$26,193.72
0527 2	PED DETECTABLE WARNINGS	SF	12.00	$25.69	$308.28
0570 1 2	PERFORMANCE TURF, SOD	SY	326.11	$2.62	$854.41
	LANDSCAPE COMPLETE- SMALL PLANTS - 12' to 15'	EA	7.00	$2,000.00	$14,000.00
	FLEXIBLE PERMEABLE PAVEMENT SIDEWALK	SY	1550.00	$108.00	$167,400.00
	OPTIONAL MEDIAN PLANTING SOD	SY	146.67	$2.62	$384.27
		TOTAL ROADWAY			**$1,175,100.75**

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
OLD CUTLER NEIGHBORHOOD MOBILITY HUB
Miami-Dade County

Pay Item	Description	Unit	Qty	Unit Cost	Cost
SIGNING & PAVEMENT MARKING					
0711 11224	THERMOPLASTIC, STD, YELLOW, SOLID, 18"	LF	135.00	$2.49	$336.15
0711 15101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	0.09	$3,876.30	$348.72
0711 15131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	GM	0.01	$1,394.86	$13.21
	THERMOPLASTIC, STD-OP, Green/White Bicycle Lane, SKIP, 6"	GM	0.03	$4,184.58	$114.92
0711 15201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	GM	0.50	$3,890.84	$1,945.42
0711 15231	THERMOPLASTIC, STD-OP, YELLOW, SKIP, 6"	GM	1.49	$6,500.00	$9,708.96
0710 11160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	EA	4.00	$35.48	$141.92
0710 11170	PAINTED PAVT MARK,STD,WHITE, ARROWS	EA	2.00	$20.48	$40.96
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	50.00	$273.94	$13,697.00
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	50.00	$102.32	$5,116.00
0711 11123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	LF	940.00	$0.52	$488.80
0711 11125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	LF	870.00	$0.95	$826.50
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	EA	8.00	$350.95	$2,807.60

Notes:
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TOTAL SIGNING & MARKING		**$35,586.16**
SUB TOTAL		**$1,210,686.91**
CONTINGENCY	**20%**	**$242,137.38**
DESIGN	**20%**	**$242,137.38**
SURVEY	**5%**	**$60,534.35**
CEI	**5%**	**$60,534.35**
GRAND TOTAL		**$1,816,030.36**

Downtown Neighborhood Hub

Table 34: Detailed Cost Estimate for the Downtown Mobility Hub

OPINION OF PROBABLE COST VILLAGE OF PALMETTO BAY MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN DOWNTOWN NEIGHBORHOOD MOBILITY HUB Miami-Dade County					
Pay Item	Description	Unit	Qty	Unit Cost	Cost
ROADWAY INFRASTRUCTURE					
0101 1	MOBILIZATION (10%)	LS		10%	$27,528.56
0102 1	MOT (8%)	LS/DA		8%	$22,022.85
0104 10 3	SEDIMENT BARRIER	LF	1,500.00	$1.95	$2,925.00
0104 18	INLET PROTECTION SYSTEM	EA	5.00	$65.03	$325.15
0110 1 1	CLEARING & GRUBBING	AC	0.56	$26,990.98	$15,069.34
0110 4 10	REMOVAL OF EXISTING CONCRETE PAVEMENT	SY	66.67	$33.07	$2,204.67
0120 1	REGULAR EXCAVATION	CY	450.37	$7.29	$3,283.20
120-6	EMBANKMENT	CY	450.37	$19.90	$8,962.37
160-4	STABILIZATION TYPE B	SY	263.33	$3.74	$984.87
285701	OPTIONAL BASE, BASE GROUP 01	SY	382.22	$7.85	$3,000.44
0327 70 1	MILLING EXISTING ASPHALT PAVEMENT 1"	SY	380.00	$5.37	$2,040.60
0337 7 25	ASPH CONC FC,TRAFFIC C,FC-5,PG 76-22	TN	21.02	$126.48	$2,658.89
0337 7 80	ASPH CONC FC,TRAFFIC C,FC-9.5,PG 76-22	TN	35.38	$290.70	$10,285.94
0334 1 11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	TN	21.02	$112.81	$2,371.52
0520 1 10	CONCRETE CURB & GUTTER, TYPE F	LF	893.00	$22.42	$20,021.06
0522 1	CONCRETE, 4" THICK - SIDEWALK	SY	1,941.11	$38.73	$75,179.23
0522 2	CONCRETE, 6" THICK - CURB RAMPS	SY	16.89	$46.51	$785.50
0526 1 1	PAVERS, ARCHITECTURAL, ROADWAY	SY	263.33	$80.00	$21,066.67
0523 1 3	PATTERNED PAVEMENT, VEHIC AREAS-BIKE LA	SY	866.67	$107.16	$92,872.00
0527 2	PED DETECTABLE WARNINGS	SF	28.00	$25.69	$719.32
0570 1 2	PERFORMANCE TURF, SOD	SY	202.22	$2.62	$529.82
	LANDSCAPE COMPLETE- SMALL PLANTS - 12' to 15'	EA	5.00	$2,000.00	$10,000.00
		TOTAL ROADWAY			$324,837.00
SIGNING & PAVEMENT MARKING					

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
DOWNTOWN NEIGHBORHOOD MOBILITY HUB
Miami-Dade County

Pay Item	Description	Unit	Qty	Unit Cost	Cost
0711 15201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	GM	0.37	$3,890.84	$1,433.27
0711 15101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	0.42	$3,876.30	$1,629.81
0711 15131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	GM	0.11	$1,394.86	$153.22
	THERMOPLASTIC, STD-OP, Green/White Bicycle Lane, SKIP, 6"	GM	0.02	$4,184.58	$79.25
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	14.00	$273.94	$3,835.16
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	14.00	$102.32	$1,432.48
0711 11123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	LF	500.00	$0.52	$260.00
0711 11125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	LF	436.00	$0.95	$414.20
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	EA	4.00	$350.95	$1,403.80

Notes:
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TOTAL SIGNING & MARKING		**$10,641.20**
SUB TOTAL		**$335,478.19**
CONTINGENCY	**20%**	**$67,095.64**
DESIGN	**20%**	**$67,095.64**
SURVEY	**5%**	**$16,773.91**
CEI	**5%**	**$16,773.91**
GRAND TOTAL		**$503,217.29**

Village Center / Eureka Drive Neighborhood Hub

Table 35: Detailed Cost Estimate for Village Center / Eureka Drive Neighborhood Mobility Hub

OPINION OF PROBABLE COST VILLAGE OF PALMETTO BAY MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN VILLAGE CENTER NEIGHBORHOOD MOBILITY HUB Miami-Dade County					
Pay Item	Description	Unit	Qty	Unit Cost	Cost
ROADWAY INFRASTRUCTURE					
0101 1	MOBILIZATION (10%)	LS		10%	$72,930.39
0102 1	MOT (8%)	LS/DA		8%	$58,344.31
0104 10 3	SEDIMENT BARRIER	LF	18,302.00	$1.95	$35,688.90
0104 18	INLET PROTECTION SYSTEM	EA	20.00	$65.03	$1,300.60
0110 1 1	CLEARING & GRUBBING	AC	2.56	$26,990.98	$69,147.97
0120 1	REGULAR EXCAVATION	CY	2,066.59	$7.29	$15,065.46
120-6	EMBANKMENT	CY	2,066.59	$19.90	$41,125.19
160-4	STABILIZATION TYPE B	SY	2,612.22	$3.74	$9,769.71
0162 1 11	PREPARED SOIL LAYER, FINISH SOIL, 6"	SY	566.11	$0.40	$226.44
285701	OPTIONAL BASE, BASE GROUP 01	SY	5,466.22	$7.85	$42,909.84
0337 7 83	ASPH CONC FC,TRAFFIC C,FC-9.5,PG 76-22	TN	125.95	$290.70	$36,613.67
0334 1 11	SUPERPAVE ASPHALTIC CONC, TRAFFIC A	TN	300.64	$112.81	$33,915.45
0520 2 2	CONCRETE CURB , TYPE B	LF	125.00	$23.87	$2,983.75
0520 2 4	CONCRETE CURB , TYPE D	LF	1,075.00	$23.24	$24,983.00
0520 2 8	CONCRETE CURB , TYPE RA	LF	167.00	$30.37	$5,071.79
0522 1	CONCRETE, 4" THICK - SIDEWALK	SY	1,053.33	$38.73	$40,795.60
0522 2	CONCRETE, 6" THICK - CURB RAMPS	SY	38.89	$46.51	$1,808.72
0526 1 1	PAVERS, ARCHITECTURAL, ROADWAY	SY	322.22	$80.00	$25,777.78
0527 2	PED DETECTABLE WARNINGS	SF	85.00	$25.69	$2,183.65
0570 1 2	PERFORMANCE TURF, SOD	SY	220.00	$2.62	$576.40
	LANDSCAPE COMPLETE- SMALL PLANTS - 12' to 15'	EA	3.00	$2,000.00	$6,000.00
	FLEXIBLE PERMEABLE PAVEMENT SIDEWALK	SY	3086.67	$108.00	$333,360.00
		TOTAL ROADWAY			$860,578.63
SIGNING & PAVEMENT MARKING					
0711 15201	THERMOPLASTIC, STD-OP,YELLOW, SOLID, 6"	GM	0.21	$3,890.84	$825.33
0711 15231	THERMOPLASTIC, STD-OP, YELLOW, SKIP, 6"	GM	0.69	$6,500.00	$4,469.57

OPINION OF PROBABLE COST
VILLAGE OF PALMETTO BAY
MOBILITY HUBS & TRANSIT INFRASTRUCTURE PLAN
VILLAGE CENTER NEIGHBORHOOD MOBILITY HUB
Miami-Dade County

Pay Item	Description	Unit	Qty	Unit Cost	Cost
0711 15101	THERMOPLASTIC, STD-OP, WHITE, SOLID, 6"	GM	0.19	$3,876.30	$734.15
0711 15131	THERMOPLASTIC, STD-OP, WHITE, SKIP, 6"	GM	0.38	$1,394.86	$525.27
0710 11160	PAINTED PAVT MARK,STD,WHITE, MESSAGE	EA	8.00	$35.48	$283.84
0710 11170	PAINTED PAVT MARK,STD,WHITE, ARROWS	EA	12.00	$20.48	$245.76
0711 14160	THERMOPLASTIC, PREFORMED, WHITE, MESSAGE	EA	20.00	$273.94	$5,478.80
0711 14170	THERMOPLASTIC, PREFORMED, WHITE, ARROW	EA	20.00	$102.32	$2,046.40
0711 11123	PAINTED PAVT MARK,STD,WHITE,SOLID, 12"	LF	550.00	$0.52	$286.00
0711 11125	PAINTED PAVT MARK,STD,WHITE,SOLID,24"	LF	430.00	$0.95	$408.50
0700 1 11	SINGLE POST SIGN, F&I GM, <12 SF	EA	22.00	$350.95	$7,720.90
		TOTAL SIGNING & MARKING			**$23,024.52**
		SUB TOTAL			**$883,603.15**
		CONTINGENCY		**20%**	**$176,720.63**
		DESIGN		**20%**	**$176,720.63**
		SURVEY		**5%**	**$44,180.16**
		CEI		**5%**	**$44,180.16**
		GRAND TOTAL			**$1,325,404.73**

Notes:
MARLIN has no control over competitive bidding or market conditions or the cost of labor, materials, equipment, or over the contractor's methods of determining prices. The quantities and pricing used in the Opinion of Probable Cost were composed based on FDOT historical cost and our engineering opinion and judgement. Opinions of Probable Cost represent only the Engineers judgement as a design professional familiar with the construction industry. MARLIN nor the signing Engineer cannot and does not guarantee that proposals, bids, or actual construction cost will not vary from the values stated in this document.

APPENDIX V: PUBLIC INVOLVEMENT MEETING ATTENDANCE & MATERIALS

July 24, 2019 Public Involvement Workshop #1

VILLAGE OF PALMETTO BAY

PUBLIC INVOLVEMENT WORKSHOP

WEDNESDAY
JULY 24, 2019
7 PM – 9 PM

Village Hall, 9705 Hibiscus Street
First Floor Conference Room

PROJECT OVERVIEW

The Village of Palmetto Bay was awarded a grant from the Miami-Dade Transportation Planning Organization to conduct a local area Strategic Miami Area Rapid Transit (SMART) Moves Study for the purpose of enhancing connectivity between the Village and the South Dade Transitway. The Plan will analyze existing Metrobus service, the Village iBus, and identify enhancements to the transit services. The focus is to improve accessibility, connectivity, mobility and safety for pedestrians, bicyclists and transit users through the placement of community-level mobility hubs with the Village's roadway network. A mobility hub is the convergence of frequent transit, development with mixed uses, density and people to cater to the mass movement of people.

WHAT TO EXPECT

Two public meetings will be held at the Village Hall to obtain input from residents and stakeholders, share information and conceptual designs. Graphics will be displayed and the project team will be available to answer any questions.

The public involvement workshop is being conducted in a universally accessible location. Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in the hearing is asked to advise the Village at least four (4) business days before the hearing by contacting the Village Clerk at (305) 259-1234.

Any non-English speaking person wishing to attend the public hearing should contact the Village Clerk at (305) 259-1234 at least four (4) business days prior to the hearing and an interpreter will be provided.

MOBILITY HUBS

EL PUEBLO DE PALMETTO BAY

TALLER DE PARTICIPACIÓN PÚBLICA

MIÉRCOLES
24 DE JULIO DEL 2019
7 PM – 9 PM

Village Hall, 9705 Hibiscus Street
First Floor Conference Room

DESCRIPSIÓN DEL PROJECTO

El Pueblo de Palmetto Bay recibió una subvención de la Organización de Planificación de Transporte de Miami-Dade para conducir un estudio de movimiento de área local del Transito Rápido en Áreas Estratégicas de Miami (SMART) con el proposito de mejorar la conectividad entre el Pueblo de Palmetto Bay y el Sur de Dade Transitway. El Plan analizará el servicio existente de Metrobus, Village iBus, e identificar mejoramientos en el servicio de tránsito. El objetivo es mejorar la accesibilidad, la conectividad, movilidad y seguridad para peatones, ciclistas y usarios del tránsito a través de la colocación de la movilidad a nivel de centros de comunidad con la red de carreteras del pueblo. Un centro de movilidad es la convergencia del tránsito frecuente, un desarrollo con usos mixtos, densidad y personas para atender al movimiento masivo de personas.

QUE ESPERAR

Dos reuniones públicas se llevarán a cabo en el Village Hall para obtener aportes de residentes y accionistas, y para compartir información y diseños conceptuales. Se mostrarán gráficos y el equipo del proyecto estará disponible para responder cualquier pregunta.

El taller de participación pública se está llevando a cabo en un lugar de acceso universal. Bajo las disposiciones de la Ley de Estadounidenses con Discapacidades, se le pide a cualquier persona que requiera adaptaciones especiales para participar en la audiencia que avise a el pueblo al menos cuatro (4) días hábiles antes de la audiencia comunicándose con el Secretario Municipal al (305) 259-1234.

Cualquier persona que no hable inglés y desee asistir a la audiencia pública debe comunicarse con el Secretario Municipal al (305) 259-1234 al menos cuatro (4) días hábiles antes de la audiencia, y se le proporcionará un intérprete.

MOBILITY HUBS

VILLAGE OF PALMETTO BAY

PUBLIC INVOLVEMENT WORKSHOP

SIGN-IN SHEET

WEDNESDAY
JULY 24, 2019
7 PM – 9 PM

Village Hall, 9705 Hibiscus Street
First Floor Conference Room

NAME (PRINT)	ORGANIZATION	ADDRESS	PHONE #	E-MAIL
Jenny Polynice-Hall	Village of Palmetto Bay	9705 E. Hibiscus St.	305-259-1277	dhall@palmettobay-fl.gov
Madeline Roman		9383 SW 182 st	3.496.0518	
Leanne Tellan	resident	14625 SW 83 Ave	3059750281	LTellan@aol.com
Kayn Cunningham	resident		3057990695	KCunningham@palmettobay-fl.gov
Jeannine Gastarde	TPO	Downtown Miami	3/3751739	Jeannine.Gastarde@mdtpo.org
Dionisio Torres	Village of Palmetto Bay	9705 E Hibiscus	3/969-5011	dtorres@palmettobay-fl.gov SOC-A
Christina Fermin	MARLIN	Plantation	9/850 5070	CFermin@Marlin
Bernardo Gomez	Marlin	"	7866325043	
John Blankenship	Marlin	"	9/850 5070	

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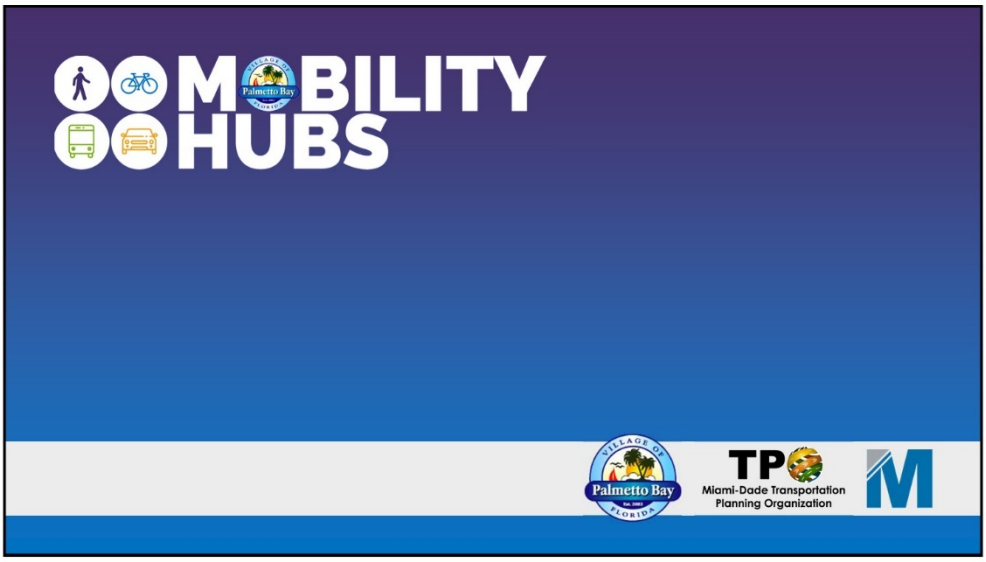
MOBILITY HUBS
Palmetto Bay
TPO
Miami-Dade Transportation Planning Organization

1


VILLAGE OF PALMETTO BAY
MOBILITY HUBS PLAN
-
Overview
1 Mobility Hub
2 Purpose
3 Background
4 Development
5 Data
6 Next Steps
7 Questions

2

1/23/2020

Mobility Hub

3

What is a Mobility Hub?

"Places of connectivity where different modes of transportation come together seamlessly and where there is an intensive concentration of working, living, shopping and/or playing."

– Kennedy Station Mobility Hub

LA Department of Planning *Mobility Hubs A Reader's Guide*

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TRANSIT AMENITIES
PEDESTRIAN AMENITIES
BIKE AMENITIES
MOTORIZED SERVICES AMENITIES
SUPPORT SERVICES & AMENITIES
bus stop
library
bikeshare
bike pump
Source: ICTC - Mobility Hub Features Catalog

5


Photos courtesy of Aurel Design Urbain and Régie Autonome des Transports Parisiens (RATP)

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"Transit hubs are also social centers and expressions of civic identity that can boost or damage local pride." - CityLab

Transit Transfer Point

Mobility Hubs make transferring between different transportation modes and services easy, safe and efficient.

Comfortable Walking Destination For All

A great pedestrian environment makes Mobility Hubs accessible to everyone — not just the very dedicated.

Context-Sensitive Designs Are Well Adapted to Site

Mobility Hubs are more than just functional. They are also welcoming, enjoyable, safe, intuitive and enticing.

Popular Place for Private Mobility Services

Successful Mobility Hubs need to be in places that make sense for transportation users and providers alike.

Source: Mobility Hubs – Project Connect

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Mobility Hub Amenities

Carshare

Bikeshare

EV Charging

Signage/Real-Time Info

Solar Charging Station

Bicycle Storage

Package Pickup Locker

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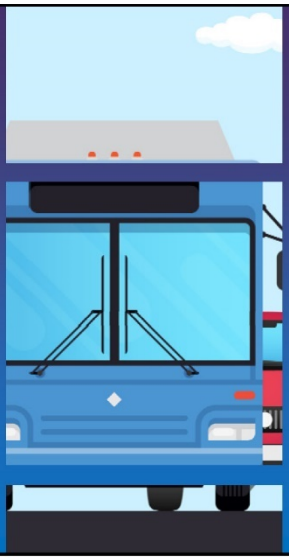
Purpose



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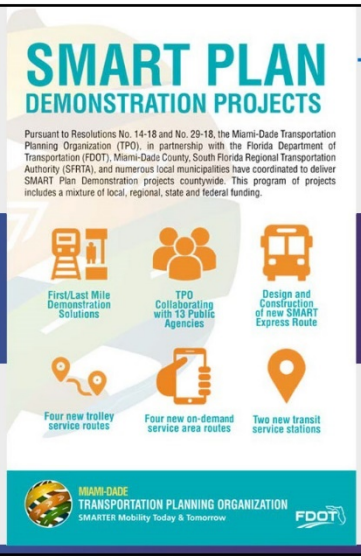
UPWP 5.2 SMART Moves Program

Used by TPO to prioritize and program planning studies to support projects, including:

- **Complete Streets**
- **First Mile/Last Mile Connections**
- **Connected & Autonomous Vehicles**
- **Projects to Enhance Connectivity**

Municipal Program: Encourages municipal participation in implementing transportation planning studies and plans.

Public Input: Solicit transportation planning ideas from the general public and other agencies.



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Scope of Services


Boston Crosswalk

- **Identify** a **comprehensive network** of mobility hubs.
- **Improve mobility and safety** for pedestrians, bicyclists and transit users.
- **Assess the iBus** and provide recommendations.
- **Final recommendations** will be evaluated and prioritized.

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Scope Of Services Continued

1. **BACKGROUND INFORMATION & EXISTING CONDITIONS**
   Began April - June
2. **PUBLIC INVOLVEMENT PLAN**
   Ongoing
3. **DATA COLLECTION**
   May - August
4. **CONCEPTUAL DESIGN**
   August - December
5. **RECOMMENDATIONS**
   November - January
6. **FINAL REPORT**
   Due January 29, 2020

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Schedule

Village of Palmetto Bay
SMART Mobility Hubs and Transit Infrastructure Plan

TASKS AND SUBTASKS	Apr-19	May-19	Jun-19	Jul-19	Aug-19	Sep-19	Oct-19	Nov-19	Dec-19	Jan-20
Task 1.0 Background Info/Existing Conditions										
a. Review existing plans										
b. Review Village's TOD										
c. Collect GIS data										
d. Identify 5 best practices										
e. Review TPO plans										
Task 2.0 Public Involvement Plan										
a. Outreach to public and elected officials										
b. Notify local agencies										
c. 3 TAC meetings										
Task 3.0 Data Collection										
a. Analysis of I-Bus										
b. Review I-Bus MDT connections										
c. Interview riders and drivers										
d. Collect traffic, bike and ped count data										
Task 4.0 Conceptual Design										
a. Identify mobility hub locations										
b. Develop conceptual designs (up to 4 designs)										
c. Develop quantities and costs										
Task 5.0 Recommendations										
a. Final Plan with recommendations										
b. Develop criteria for prioritization										
c. Review of available funding										
Task 6.0 Documentation										
a. Grant documentation										

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Background

The Strategic Miami Area Rapid Transit (SMART) Plan

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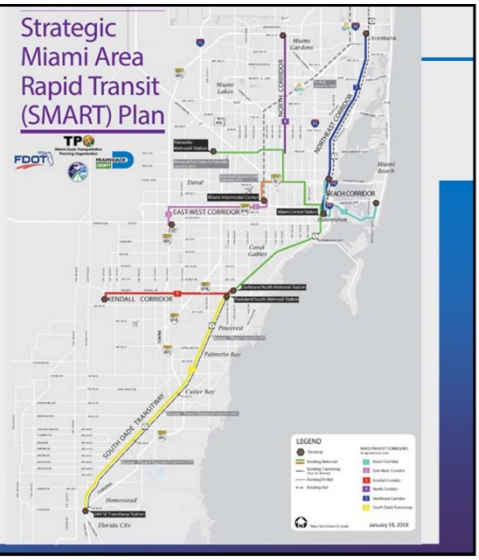
1/23/2020

South Dade Transitway

- **20-miles:** Beginning at Dadeland South Metrorail Station to SW 344th Street Park and Ride/Transit Terminal
- **Connects Miami CBD** to Village of Pinecrest, Village of Palmetto Bay, Town of Cutler Bay, City of Homestead, and Florida City.
- **BRT to begin by 2022**



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Bus Rapid Transit (BRT)

- High-Quality Bus-Based Transit System
- Dedicated Lanes
- Transit Signal Preemption
- Fast
- Comfortable
- Frequent

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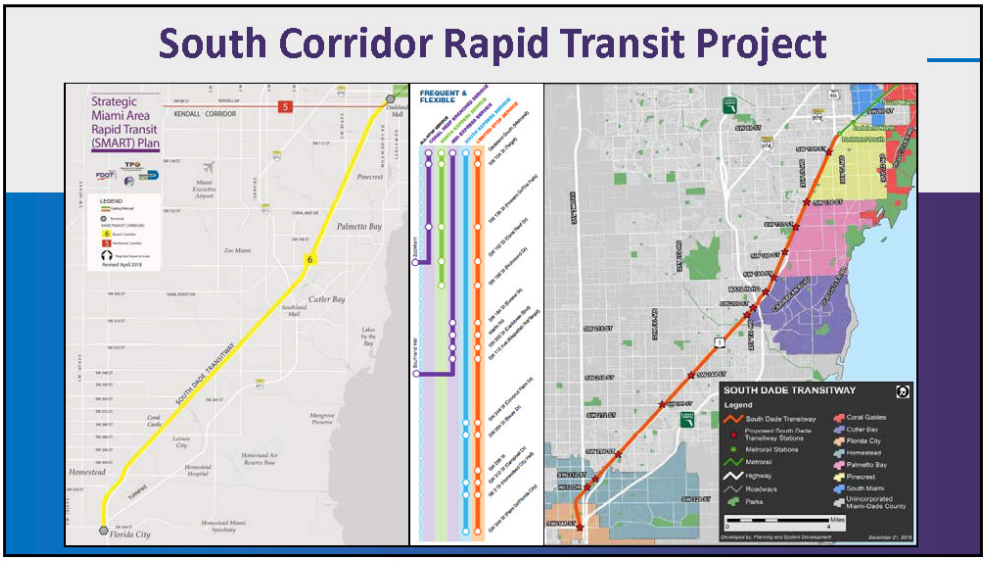

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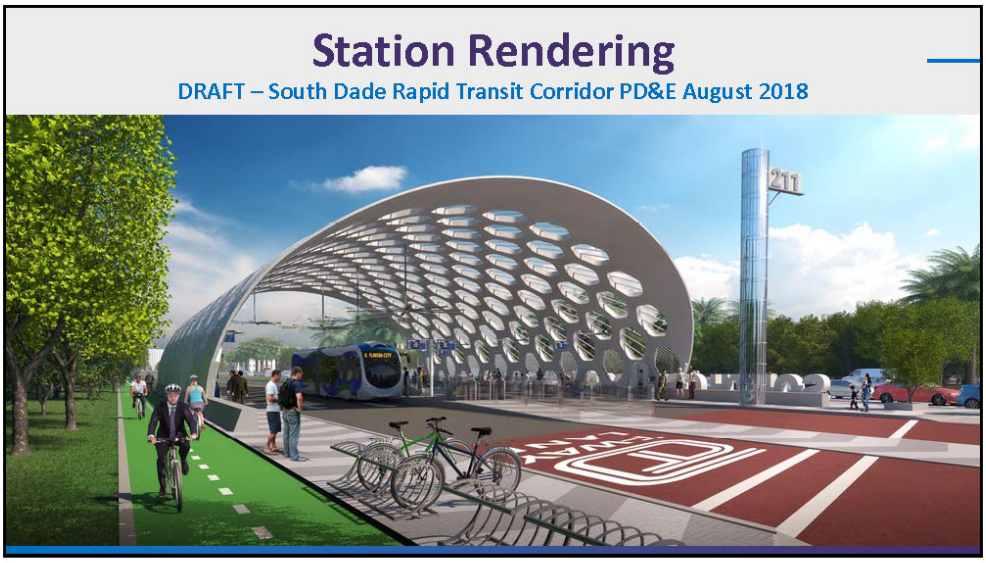

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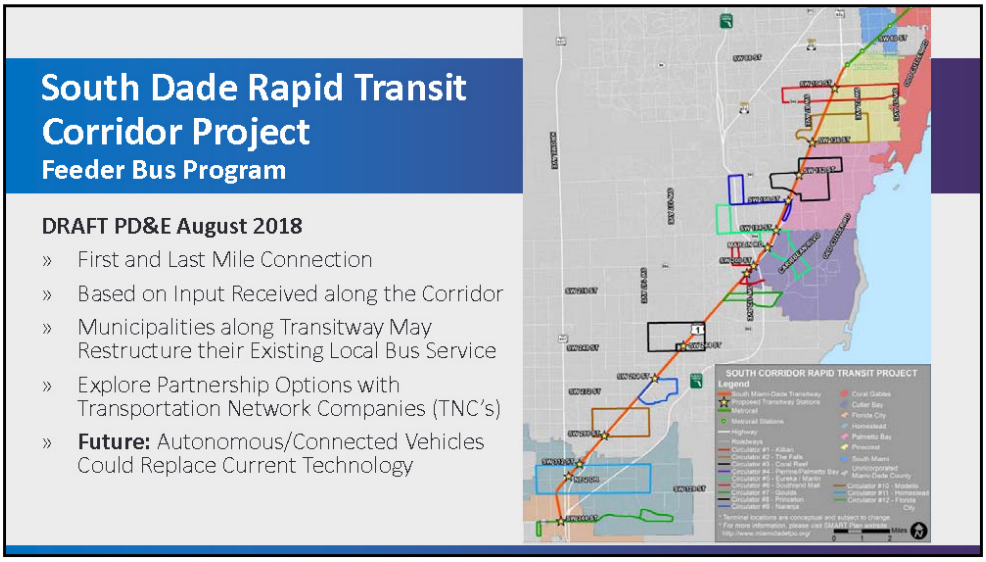

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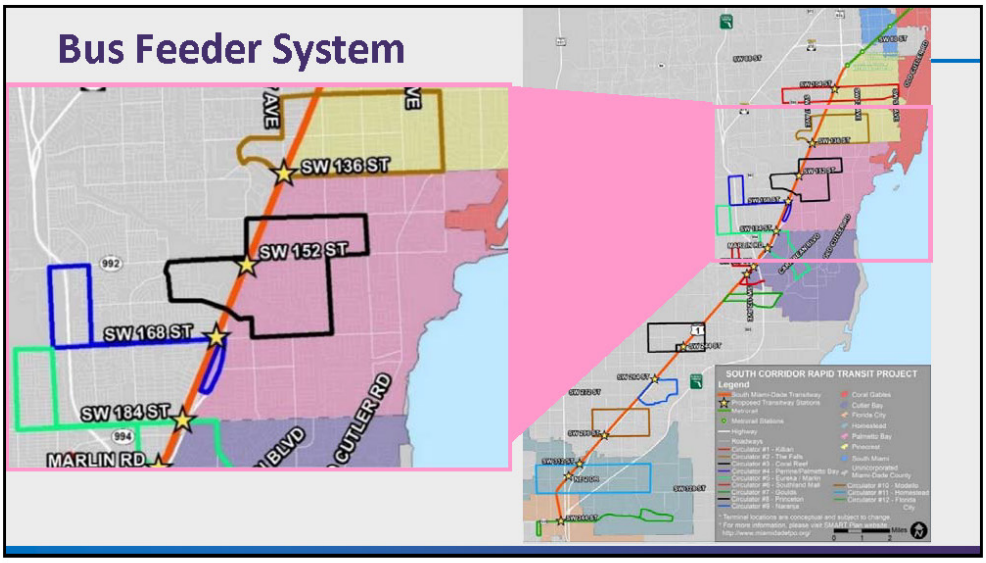

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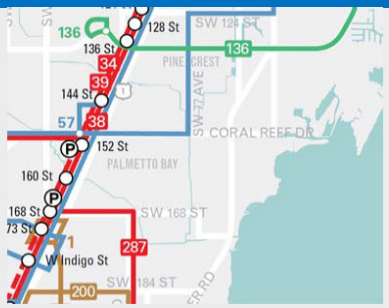
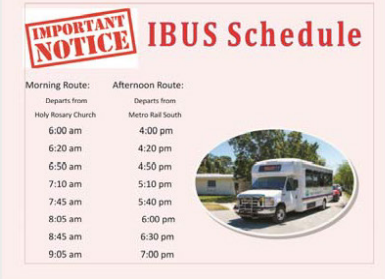
Existing Bus Service

METROBUS



iBus



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Planning & Development

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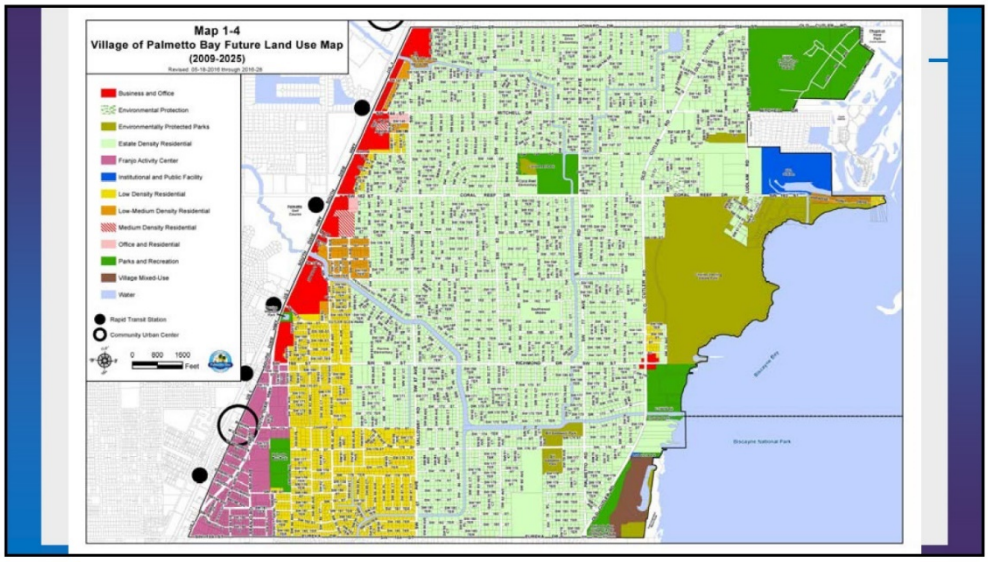

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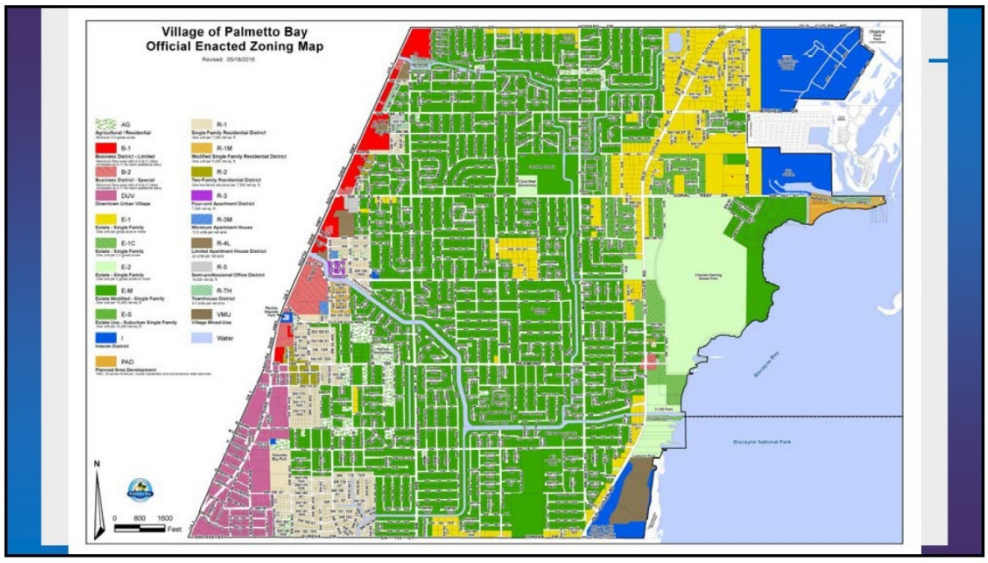

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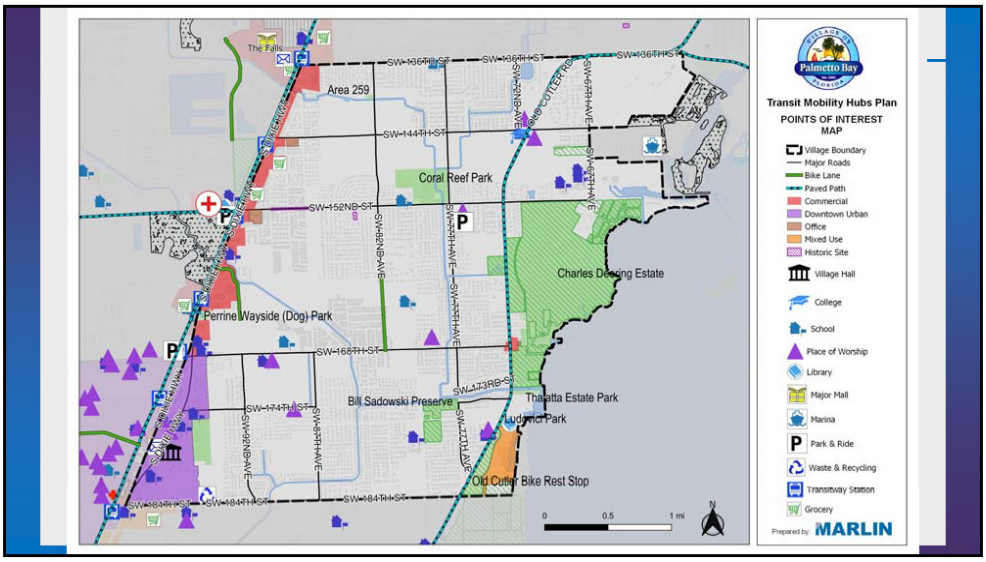

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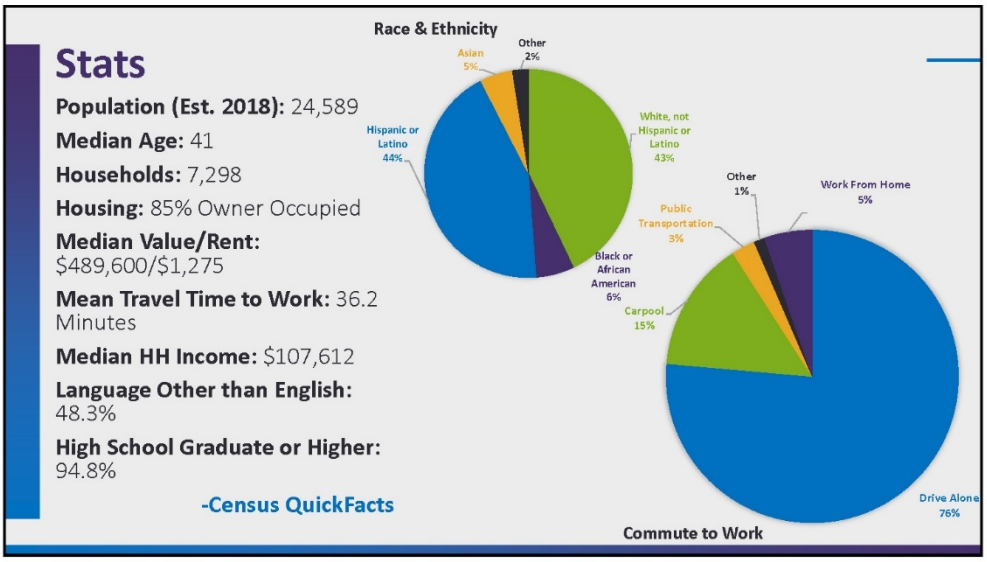

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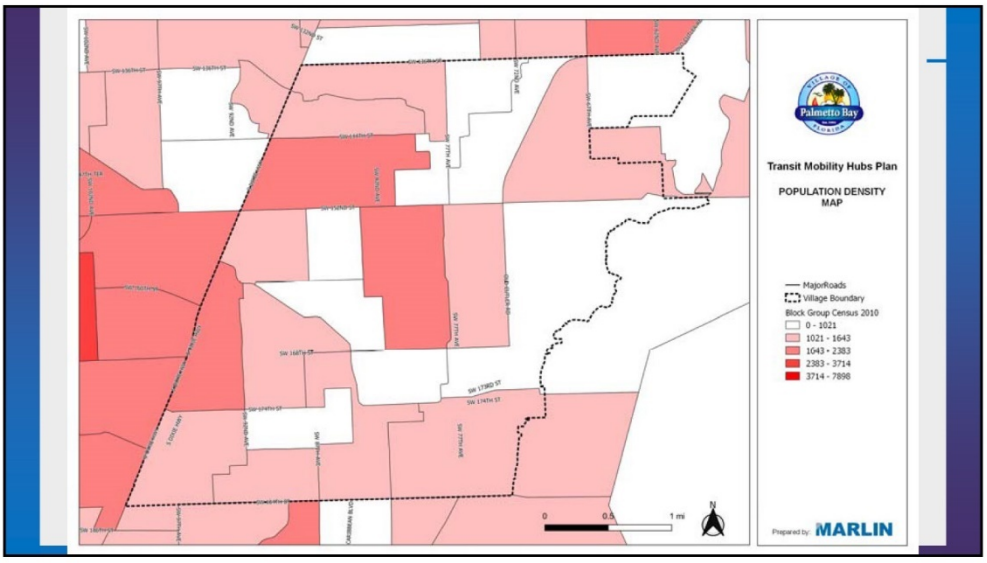

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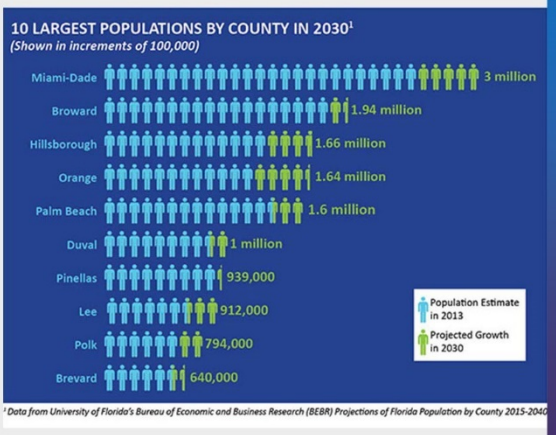
Future Growth

» 2030 County Growth Projected: 10.5%

» 2040 County Projection: 3.3 Million



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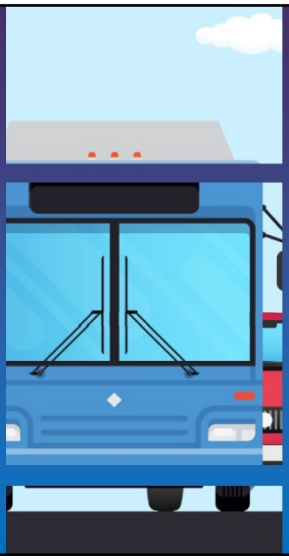
Transit

DATA



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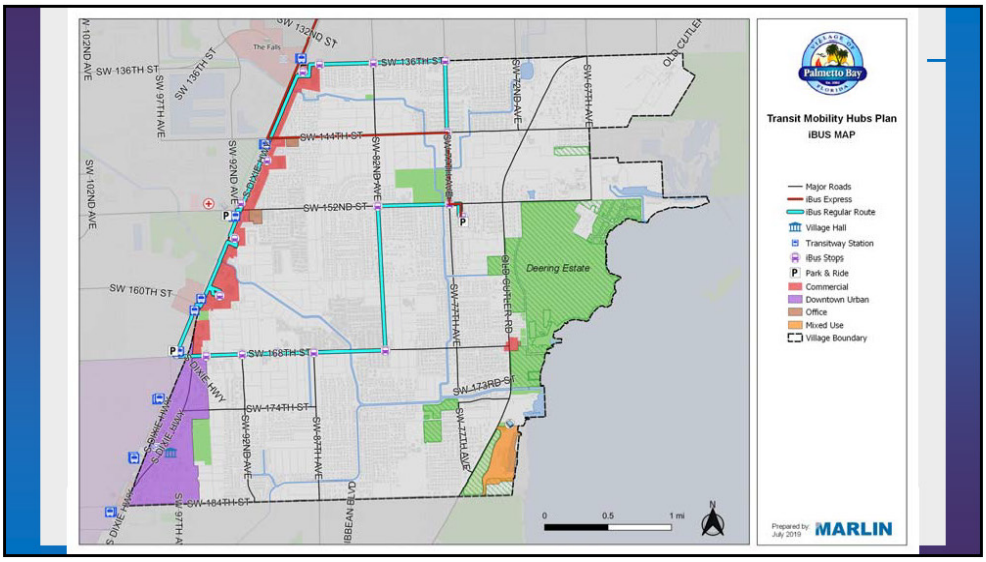

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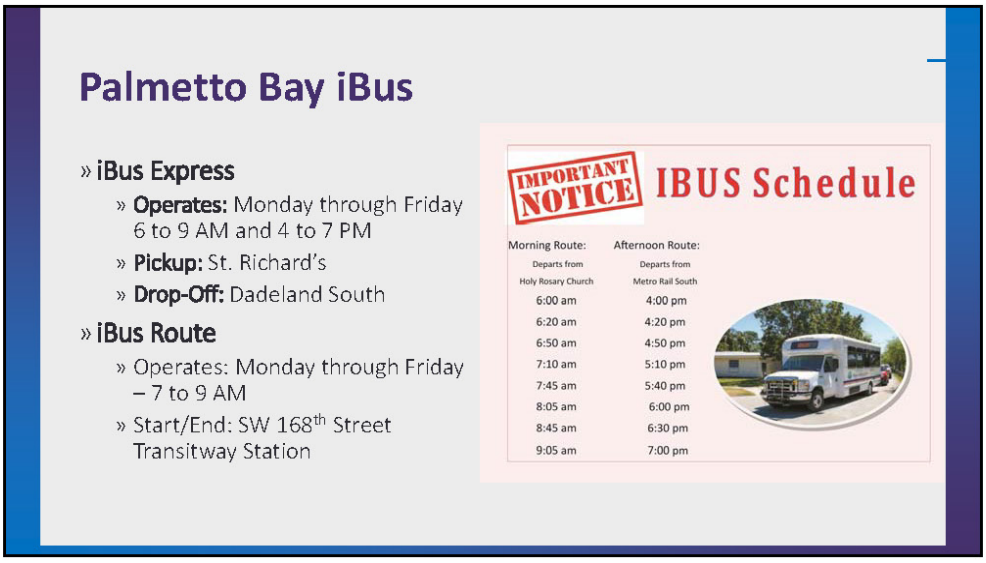

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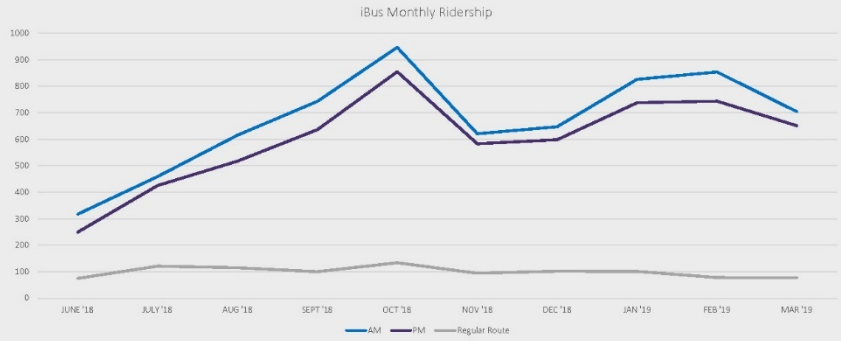
iBus Ridership



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MDT Tracker/Palmetto Bay IBUS App

- Download via the Google Play or Apple Store
- Real-time tracking of all Transit
- Trip Planning

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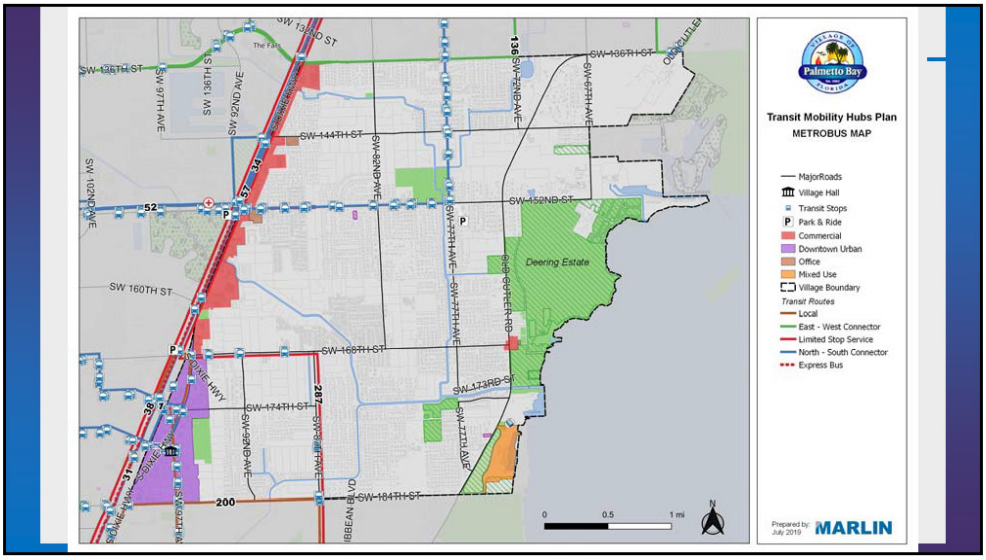

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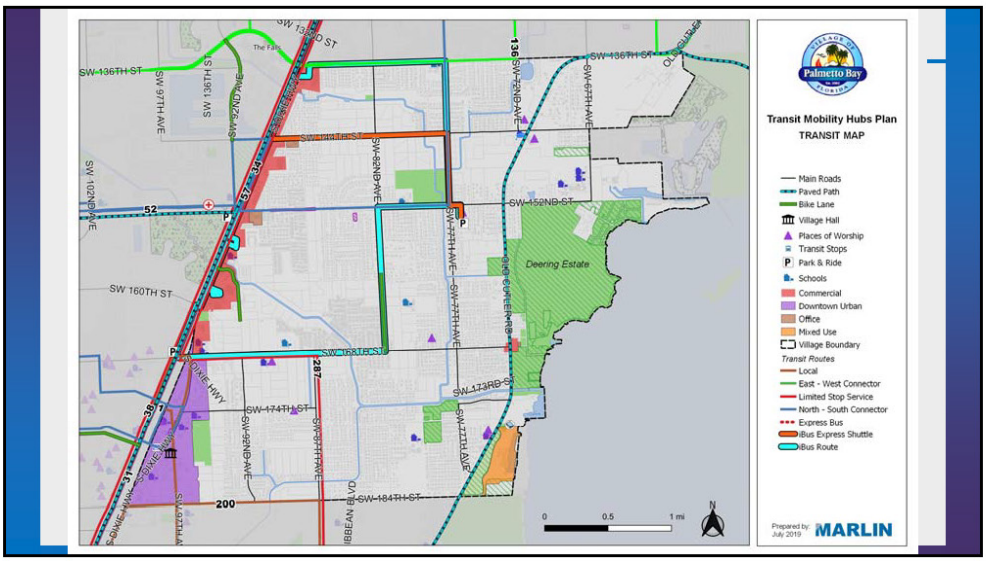

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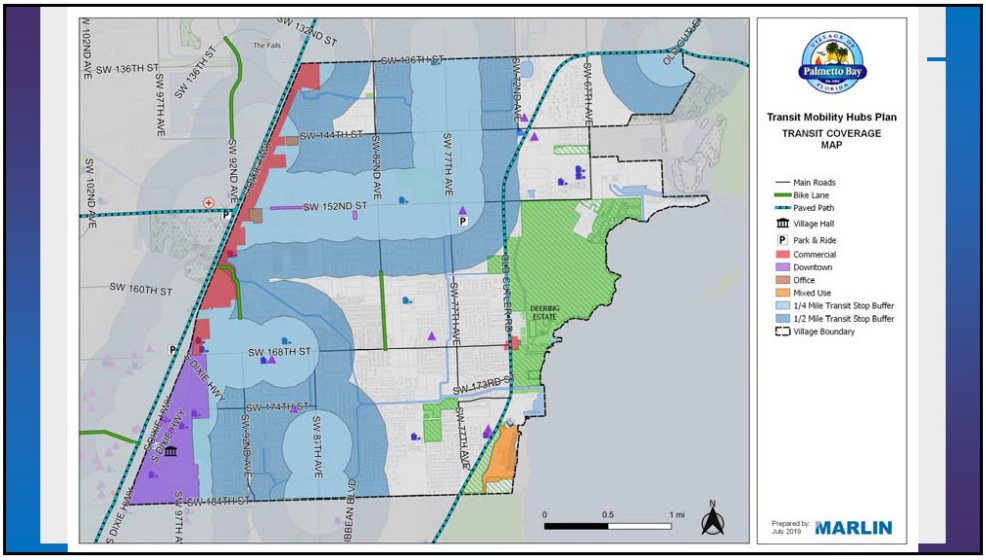

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Pedestrian Network

- **Existing facilities are limited** within the Village.
- Many **pedestrians utilizing the roadway**.
- The Village has **ample right-of-way available** to construct sidewalks.
- The Village recently adopted **Traffic Calming Master Plan**
- Includes **Pedestrian Improvements**
- **Six canals | FPL Easement**

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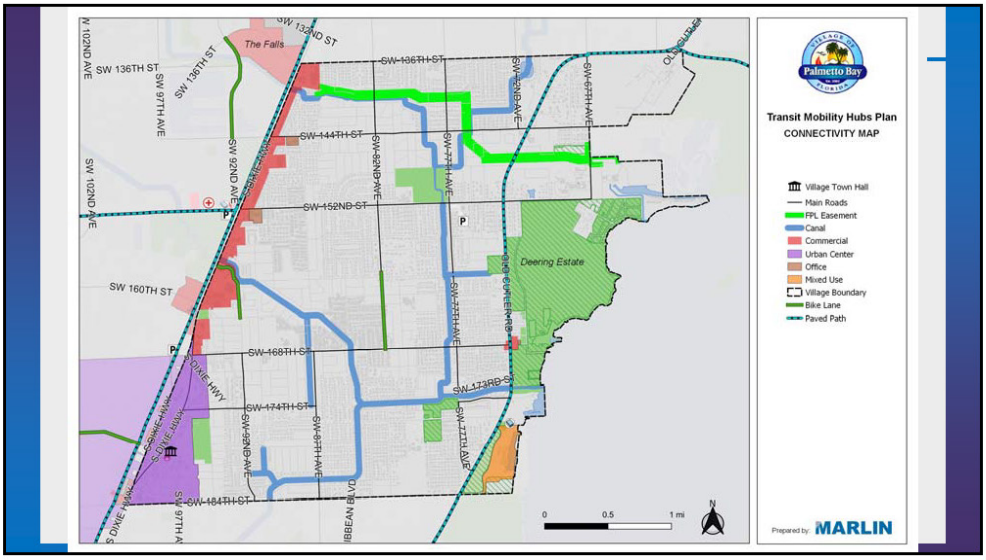

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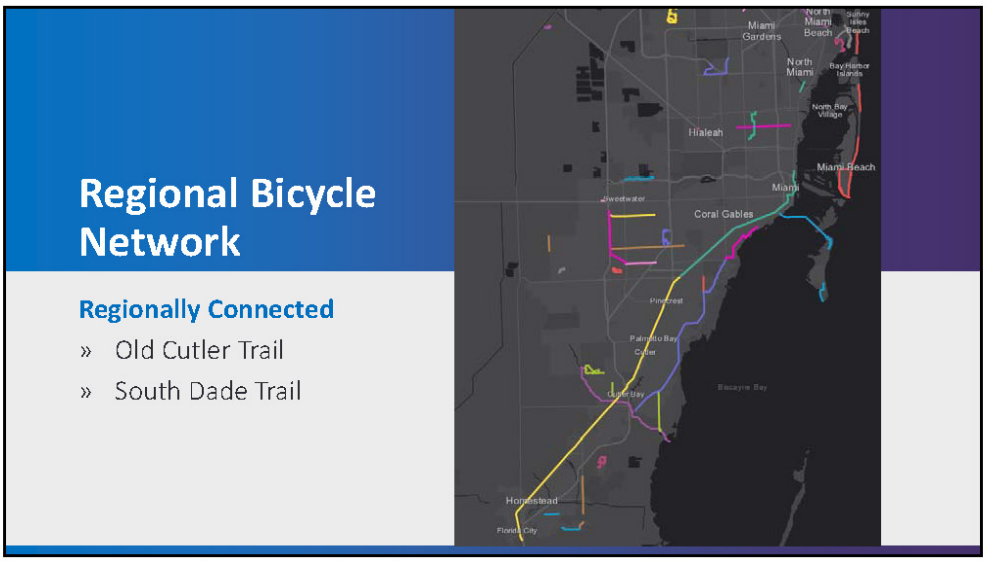

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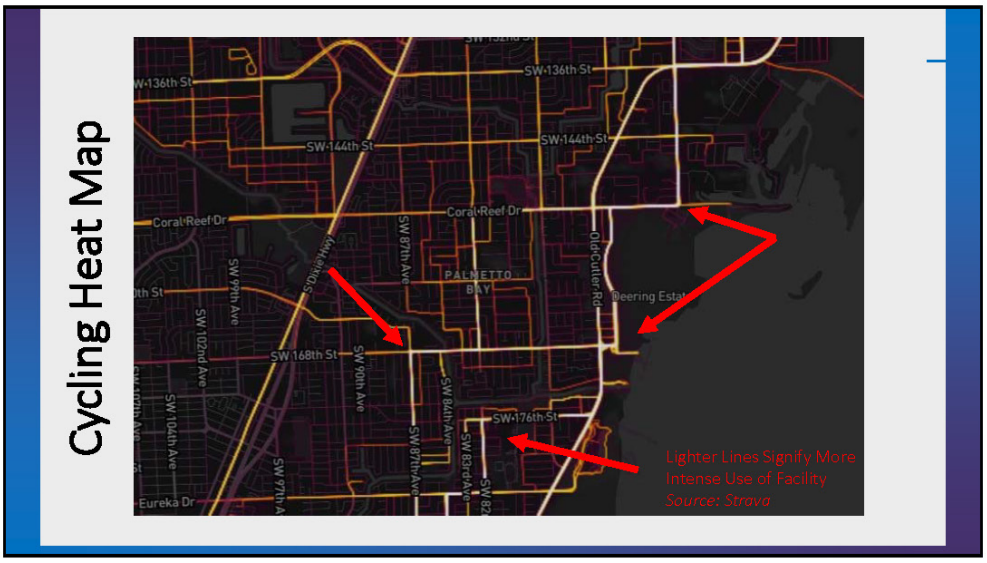

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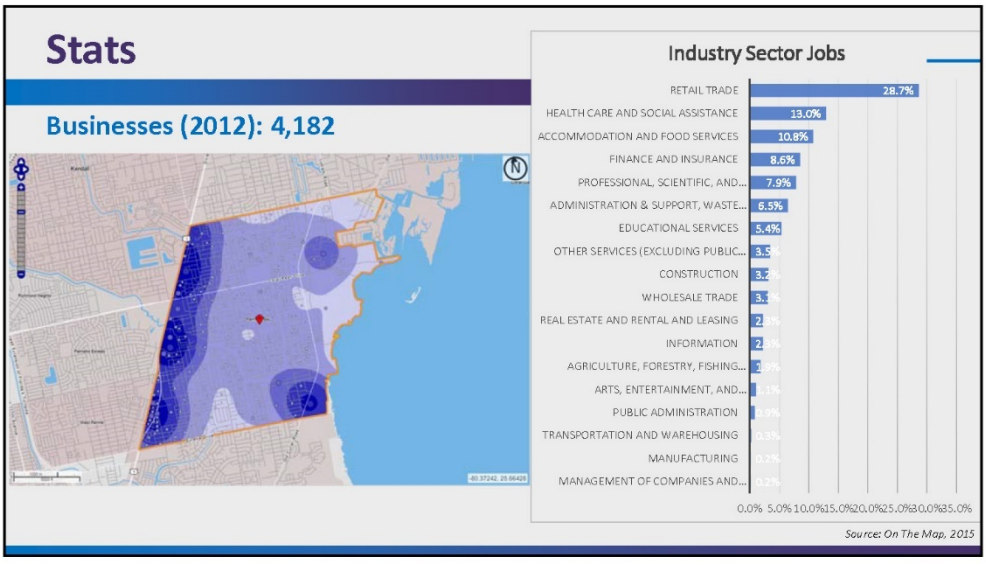

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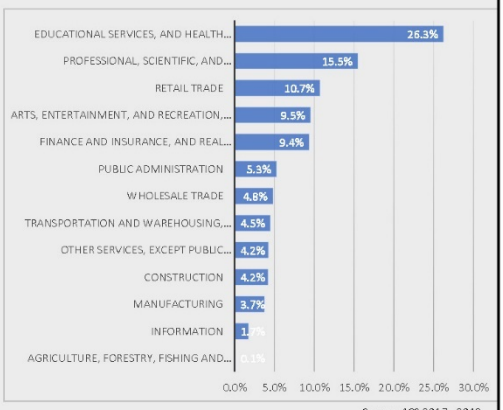
1/23/2020

Palmetto Bay Residents & Employed Industries

- » Education Services, Health Care and Social Services
- » Professional, Scientific, Management, Administration and Waste Management
- » Retail Trade



Source: ACS 2017 - 2013

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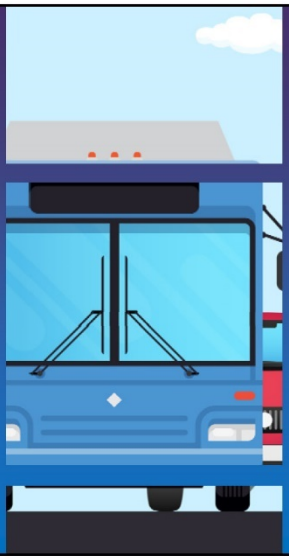
Next Steps



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Data Collection & Conceptual Design

» Analysis of iBus and Transit
» Interviews & Surveys
» Traffic, Bicycle and Pedestrian Data Collection
» Mobility Hub Locations (up to 4)
» Conceptual Designs
» Cost Estimates

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Public Involvement

» Public Workshop #2 TBA
  » Mobility Hub Locations
  » Conceptual Designs
  » Recommendations
» Stakeholder Advisory Committee Meetings
  » May
  » August
  » November

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1/23/2020

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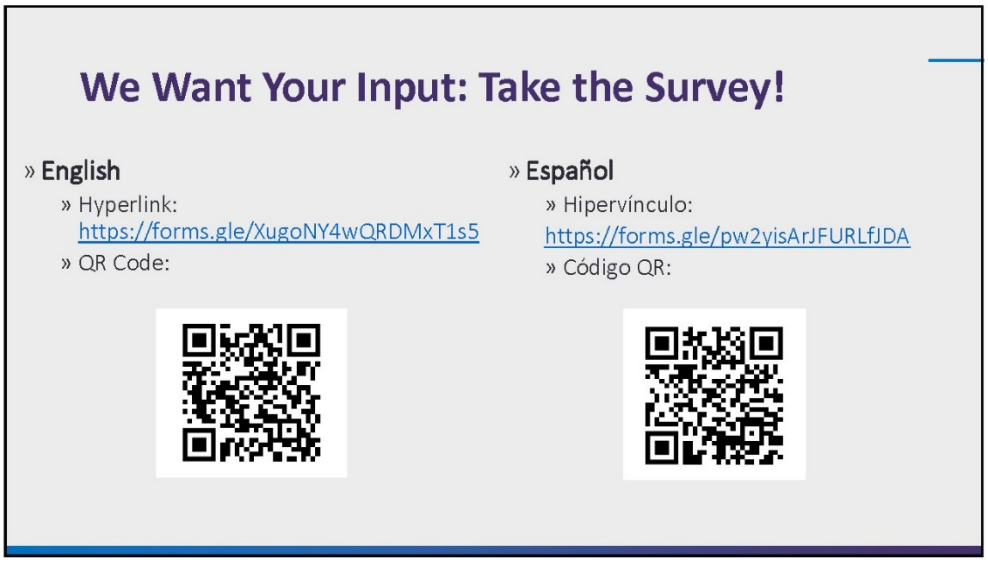

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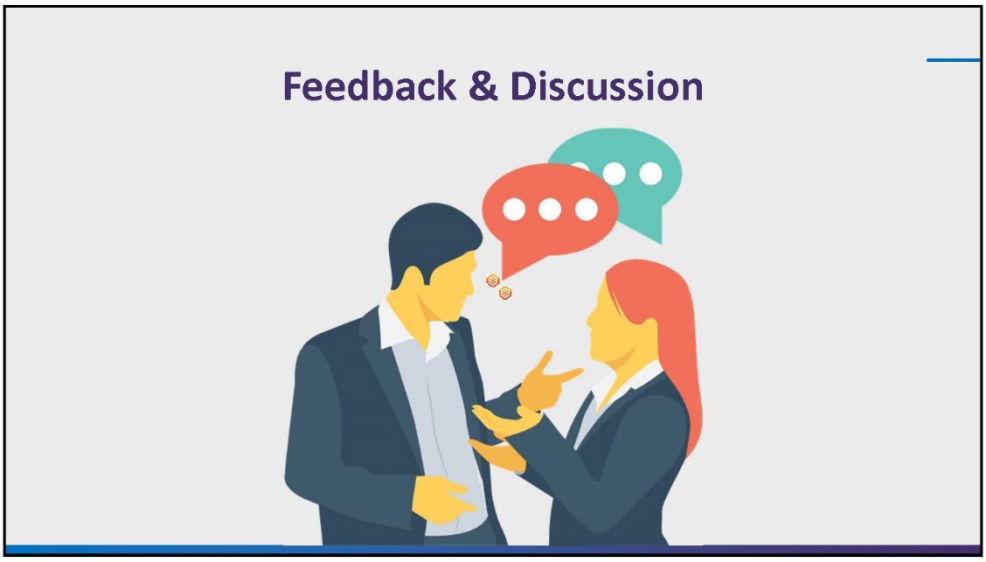

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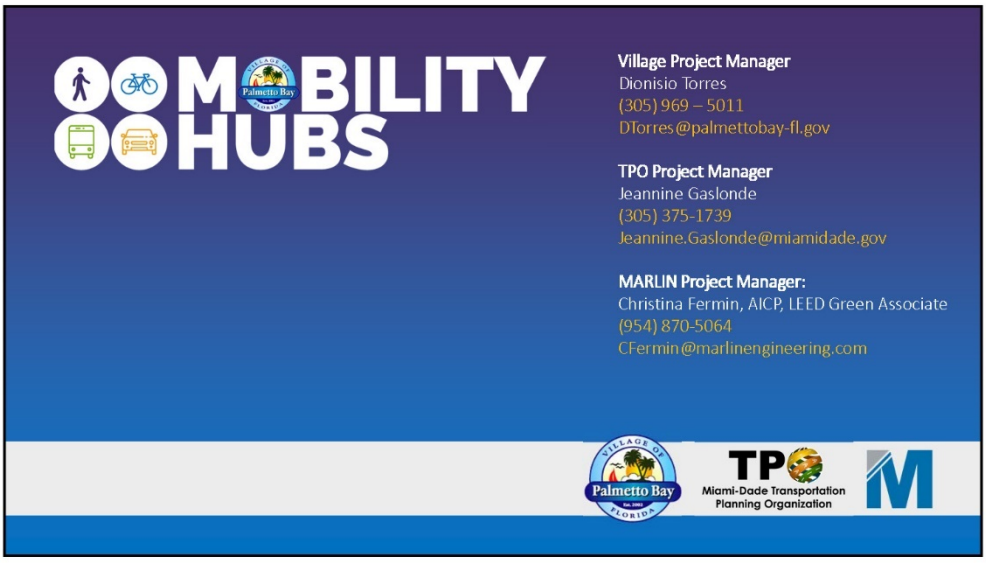

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PUBLIC WORKSHOP NOTES:

Open House - 7 PM

- Freebie service began this week, service provides free pickup and drop-off service anywhere within the Village including the Falls and South Dade Shopping Center.
- Village beginning Park and Ride service September 3, 2019 with Freebie Electric 8-Passenger Vehicles at the Palmetto Bay Park.
- Resident Comment: Lives within DUV - Utilizes transit, work is 6.5 miles away and takes 45-minutes or more to travel by car to work. Has ridden her bike to Transitway but sometimes waits up to 5 buses due to the buses being full or bike rack being full. Does not want to leave bicycle at park and ride because has had her bicycle stolen.
    - 87th Avenue needs a bridge to complete the network – lots of traffic on 168th St, US 1, especially during the school year.
- Resident Comment: Lives near Coral Reef Park, daughter utilizes iBus Express and enjoys it.

Presentation – 7:35 PM

- Resident Comment: Bicycle storage lockers are very important, has had 2 bicycles stolen at Dadeland South.
- Resident Question: What is the corridor in the North getting the train?
    - TPO Rep: North Corridor (NE 27th Avenue) – not actually getting a train. TPO Board selected a locally preferably alternative for an elevated option. Did not specify the technology, can be any. TPO representatives have recently travelled to China and Japan to understand the different technologies. Decision was made by the TPO that the transit option cannot be underground or at grade, must be grade separated alternative. Considering MAGLEV – Magnetic levitation trains.
- Resident Comment: People work all over and if you use the MDT app to plan your route for public transit, it probably takes 2 hours to get to the beach, it's not that long by car. It is very hard to get people out of their cars when County transit does not have the connectivity needed to efficiently move people. Follows Transit Alliance who issued a report on transit, Village pays more per rider than any other municipality in the County. Village pays $17/rider. How many people are going to utilize the future BRT?
    - TPO: Connecting to SMART corridors is vital and will determine how successful this project is. Finding solutions for the first/last mile is critical.
- Resident Comment: There is a large reduction in cars due to schools not being in session. Why isn't the County investing in making public transit for the people in schools and have the parents go to the hubs to utilize transit to get students/parents to school?
- Resident Comment: Was told by School Board that her sons' pickup location will be Coral Reef Elementary so it appears they may be doing that. Private schools are better at transportation than public schools. Convenience that a lot of the traffic in the Malbrook area is due to people driving their kids to Coral Reef Elementary from outside the Village.
- TPO Rep: Students who live within 2-miles do not have access to busing, because of the School Board policy, many of those parents are forced to drive their kids to school. There is a Petition to provide transit for those students right now.

- Resident Comment: One element in regards to traffic issues is how schools are being pushed beyond their original capacities, this addition in capacity is adding to traffic with more parents dropping off their kids.
- Resident Question: (Refering to South Corridor Station Proposal Map) Stations are already existing in those locations, will existing stations be upgraded?
    - Consultant: Stations that exist will be refurbished. The new stations will be constructed within 100' of these corridors.
- Resident Question: If I ride my bike to these stations? Are the buses equipped for bicycles?
    - TPO Rep: Yes, you will be able to board the bus with your bike.
- Resident Comment: Fear is crossing U.S. 1. Must make eye contact with drivers to cross.
- Resident Comment: Nice to have covered bike racks, UM has them and it makes a lot of sense.
- Resident Comment: Lockers would be better than bike racks, the lockers at Dadeland South are not ideal.
- Resident Question: The honeycomb structure (on proposed station rendering) is open?
    - TPO Rep: It is covered, the openings illustrated will be glass or solar panels, therefore structure will be completely covered.
- Resident Question: (Referring to feeder buses) Will MDT provide service along these proposed routes?
    - Consultant: MDT and Cities are encouraged to feed into stations to provide the first/last mile connection.
- Resident Question: How are the statistics determined?
    - Consultant: This is taken from the American Community Survey (ACS) which provides 1 year, 3 year and 5-year data sets in between decennial census, using a sample size to determine these statistics. The 5-year dataset is typically the most accurate.
- Resident Comment: I'm surprised that 15% carpool. I do not know anyone who does. That statistic surprises me.
    - Consultant: That statistic is similar to the National Average.
- Resident Comment: Many students are using the iBus Express to commute into Downtown for school in the mornings.
- Resident Comment: The area in the middle of the Village does not get transit.
- Resident Question: What is considered a pedestrian improvement?
    - Consultant: Crosswalks, Sidewalks, Pedestrian Signals, Adjusting the countdown Signals.
- Resident Comment: One of the things we did in the past was a Safe Routes to Schools Grant and we walked around with Joe Corradino for improvements.
    - Consultant: The applications typically take 10 years from when they are submitted to construction, but they provide a funding source for pedestrian improvements near schools.
    - Village Rep: The Village is currently putting out to bid and finalizing a set of plans for two separate projects. The applications the Village is working on now are from applications submitted 5-6 years ago.
- Resident Question: Does the Village have anything on the website that provides a status update on the Safe Routes to School grants?
    - Village Rep: Not to my knowledge.

- Resident Question: Is there a model with FPL where other municipalities utilizing their easement for multiuse pathway?
    - Consultant: Yes, there are several cities throughout South Florida, I used to work for City of Pembroke Pines and they utilized portions of their easement for park space and multiuse trail. Broward County has also identified several FPL easements for greenway projects, as Miami-Dade has in their greenways plan.
- Resident Question: What is On the Map?
    - Consultant: On the Map is a census tool that utilizes American Community Survey (ACS) and Longitudinal Employer-Household Dynamics (LEHD) data to provide data on employment.
- Resident Question: Mobility Hub locations – what does this mean – its not the ones established along the Transitway? Is this study looking at placing these Hubs within the Village, can you provide an example?
    - Consultant: Part of this is looking at the Transitway and making recommendations to enhance the stations with mobility options. Part of this Plan is also identifying locations within the community to establish mobility hubs and services and make them comfortable places to utilize not only transit, but other types of mobility services.

Comments After Presentation:

- The Village should post the survey on social media and email blast to the different groups within the Village.
- A lot of this will be how successful the SMART Plan will be. If we're trying to get people out of their cars, we need more connectivity throughout the County, especially here in the Village. My cousin was taking transit to Miami-Dade College and the County stopped service, and she could no longer utilize transit to school anymore.
- It would be interesting to collaborate with the School Board and see if they have already identified hubs for the students and what their process was/is.
- Part of my mission over the course of the years is to try and reduce the number of students at the schools. I also know that there are many students coming from outside the Village to our schools, and this causes tremendous traffic congestion in the morning.
- Many students traveling into Pinecrest and Perrine for high school.
- Some of this will be to let students lead the way and utilize transit on their own.
- Someone from District 3 who ran has figured out how to market to the area to utilize transit.
- Convincing parents to let their children ride transit is an issue.
- Five years ago, the committee tried to get students to ride the iBus, but the challenge was ridership.
- This study is focused on first/last mile? While schools are focusing on the first 2 miles to get students to school safely.
    - Yes – it Transit Planning we call it the first/last mile challenge, but its really about the connection onto the main lines that service the area which is typically the first 1 – 3 miles.
- What do you think the issue is with parents not allowing their students to take the bus?

  - Some of the horror stories that get reported or people hear about in terms of inappropriate, illegal or even violent behavior that sometimes occurs. This scares people and parents and people tend to avoid the things that may seem frightening.
- Resident has seen and reported to 311 Metrorail security sleeping, talking or not taking action on items being reported.
- Change is good when people have lots of workshops and discussions. Need to have little victories to ensure behavior changes.
- Friend of resident began taking public transit and tweeting about it, within several weeks saw the frustration with her experience in using public transit.
- In Atlanta MARTA cops are extremely responsive to any event or incident. Perhaps, it's a matter of enforcement her in the County.
- Cameras are great, especially if parents can tap into the camera to ensure their kids are okay taking transit.
- Once the resident passes 152 Street, traffic is smooth sailing and no longer makes sense to ride transit.
- The Park and Ride location at St. Richard's is great, but does not serve the residents who live in the southern portion of the Village where traffic is heavily congested.
- Freebie will be providing 8-passenger vans for the new park and ride location in Palmetto Bay Park and this provide a test run to see how they perform.
- Presentation was very very informative.

November 6, 2019 Public Involvement Workshop #2

VILLAGE OF PALMETTO BAY

PUBLIC INVOLVEMENT WORKSHOP

WEDNESDAY
NOVEMBER 6, 2019
7 PM – 9 PM

Village Hall Council Chamber
9705 Hibiscus Street

PROJECT OVERVIEW

The Village of Palmetto Bay was awarded a grant from the Miami-Dade Transportation Planning Organization to conduct a local area Strategic Miami Area Rapid Transit (SMART) Moves Study for the purpose of enhancing connectivity between the Village and the South Dade Transitway. The Plan will analyze existing Metrobus service, the Village iBus, and identify enhancements to the transit services. The focus is to improve accessibility, connectivity, mobility and safety for pedestrians, bicyclists and transit users through the placement of community-level mobility hubs with the Village's roadway network. A mobility hub is the convergence of frequent transit, development with mixed uses, density and people to cater to the mass movement of people.

WHAT TO EXPECT

Three public meetings will be held at the Village Hall to obtain input from residents and stakeholders, share information and conceptual designs. Graphics will be displayed and the project team will be available to answer any questions.

The public involvement workshop is being conducted in a universally accessible location. Pursuant to the provisions of the Americans with Disabilities Act, any person requiring special accommodations to participate in the hearing is asked to advise the Village at least four (4) business days before the hearing by contacting the Village Clerk at (305) 259-1234.

Any non-English speaking person wishing to attend the public hearing should contact the Village Clerk at (305) 259-1234 at least four (4) business days prior to the hearing and an interpreter will be provided.

MOBILITY HUBS

EL PUEBLO DE PALMETTO BAY

TALLER DE PARTICIPACIÓN PÚBLICA

MIÉRCOLES
6 DE NOVIEMBRE DEL 2019
7 PM – 9 PM

Village Hall Council Chamber
9705 Hibiscus Street

DESCRIPSIÓN DEL PROJECTO

El Pueblo de Palmetto Bay recibió una subvención de la Organización de Planificación de Transporte de Miami-Dade para conducir un estudio de movimiento de área local del Transito Rápido en Áreas Estratégicas de Miami (SMART) con el proposito de mejorar la conectividad entre el Pueblo de Palmetto Bay y el Sur de Dade Transitway. El Plan analizará el servicio existente de Metrobus, Village iBus, e identificar mejoramientos en el servicio de tránsito. El objetivo es mejorar la accesibilidad, la conectividad, movilidad y seguridad para peatones, ciclistas y usarios del tránsito a través de la colocación de la movilidad a nivel de centros de comunidad con la red de carreteras del pueblo. Un centro de movilidad es la convergencia del tránsito frecuente, un desarrollo con usos mixtos, densidad y personas para atender al movimiento masivo de personas.

QUE ESPERAR

Tres reuniones públicas se llevarán a cabo en el Village Hall para obtener aportes de residentes y accionistas, y para compartir información y diseños conceptuales. Se mostrarán gráficos y el equipo del proyecto estará disponible para responder cualquier pregunta.

El taller de participación pública se está llevando a cabo en un lugar de acceso universal. Bajo las disposiciones de la Ley de Estadounidenses con Discapacidades, se le pide a cualquier persona que requiera adaptaciones especiales para participar en la audiencia que avise a el pueblo al menos cuatro (4) días hábiles antes de la audiencia comunicándose con el Secretario Municipal al (305) 259-1234.

Cualquier persona que no hable inglés y desee asistir a la audiencia pública debe comunicarse con el Secretario Municipal al (305) 259-1234 al menos cuatro (4) días hábiles antes de la audiencia, y se le proporcionará un intérprete.

MOBILITY HUBS

VILLAGE OF PALMETTO BAY

PUBLIC INVOLVEMENT WORKSHOP

SIGN-IN SHEET

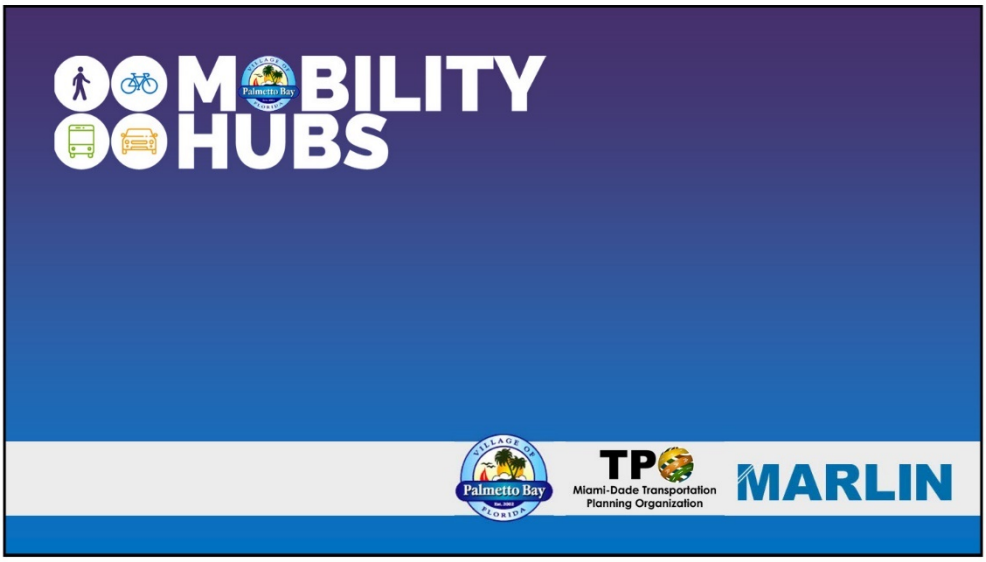
WEDNESDAY
NOVEMBER 6, 2019
7 PM – 9 PM

Village Hall, 9705 Hibiscus Street
First Floor Conference Room

NAME (PRINT)	ORGANIZATION	ADDRESS	PHONE #	E-MAIL
Jenny Polynice-Hall	Village of Palmetto Bay	VOPB	(3)259-1277	dhall@palmettobay-fl.gov
Dionisio Torres	VPB	VOPB	(3)969-5011	dtorres@palmettobay-fl.gov
Ramon Soria	Marlin		305 477-7575	rsoria@marlinengineering.com
Myra Patino	Marlin		305-477-7575	mpatino@marlinengineering.com
Eric Tullberg	BPAC GMN		305-2552594	e34k@bellsouth.net
Jeannine Gastonde	MDTPO	Downtown.	305-375 1739	Jeannine.gastonde@miamidade.gov
Alfredo Quintero	Town of CB	10120 CARIBBEAN BLVD	3/234-4262	AQUINTERO@CUTLERBAY-FL.GOV
Christina Fernin	Marlin	1700 NW Plantation	954 850 8070	CFernin@marlinengineering
Tiffany Crump	Marlin	" "	954/850 8050	TCrump@marlineng.
Karyn Cunningham	resident			

MOBILITY HUB AMENITIES: WHAT AMENITIES WOULD YOU LIKE TO SEE?
MOBILITY HUBS
VILLAGE OF PALMETTO BAY
MOBILITY HUBS PLAN
Bicycle Share
Bicycle Storage Locker
Bicycle Repair Station
Carshare
Electric Vehicle Charging
Park & Ride Facility
Kiss & Ride
Package Pickup Kiosk
Retail
Public Space
Public Art
WiFi
Information Kiosk
Enhanced Security
Lending Library
USB Charging Station
Real-Time Signage
NEIGHBORHOOD
COMMUNITY
(Future BRT Stations)
Additional Comments Here:
Water Fountain in both
MARLIN

1/23/2020


MOBILITY HUBS
Palmetto Bay
TPO
Miami-Dade Transportation Planning Organization
MARLIN

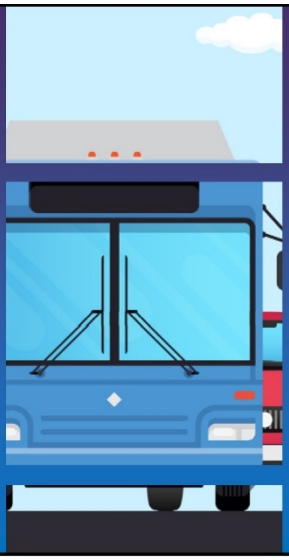
1


VILLAGE OF PALMETTO BAY
MOBILITY HUBS PLAN
-
Overview
1 Scope of Services
2 Background
3 Transit Data
4 Survey
5 Mobility Hubs
6 Next Steps
7 Questions

2

1/23/2020

Scope of **Services**



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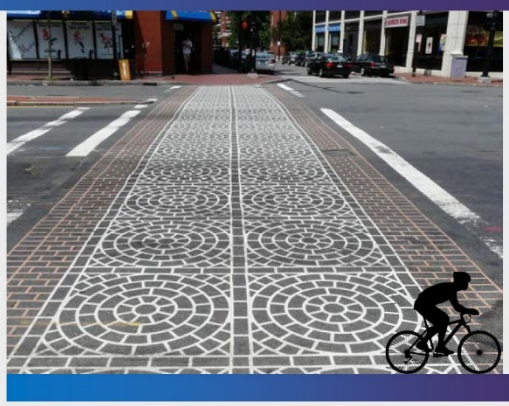
Scope of Services

- **Identify** a **comprehensive network** of mobility hubs.
- **Improve mobility and safety** for pedestrians, bicyclists and transit users.
- **Assess the iBus** and provide recommendations.
- **Final recommendations** will be evaluated and prioritized.



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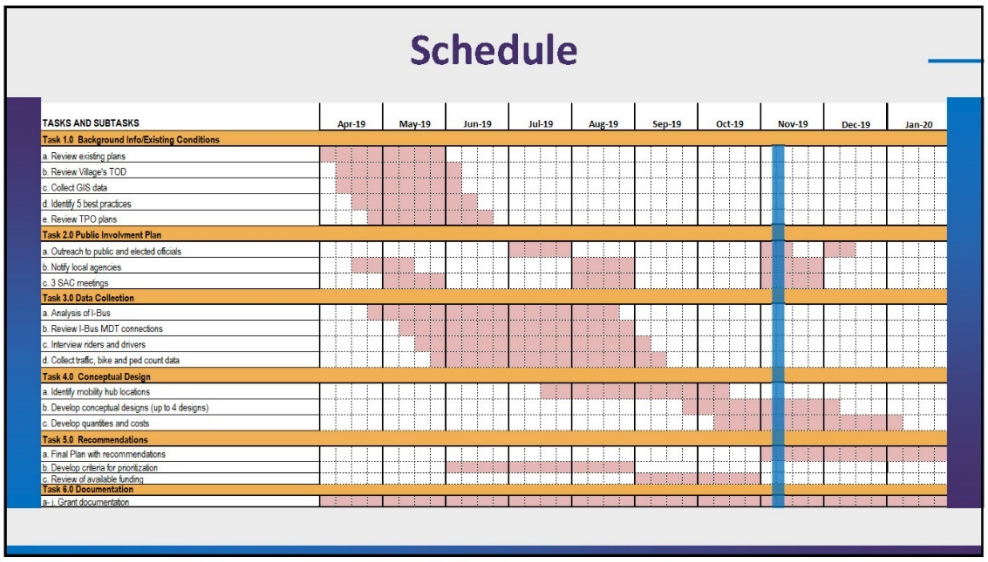
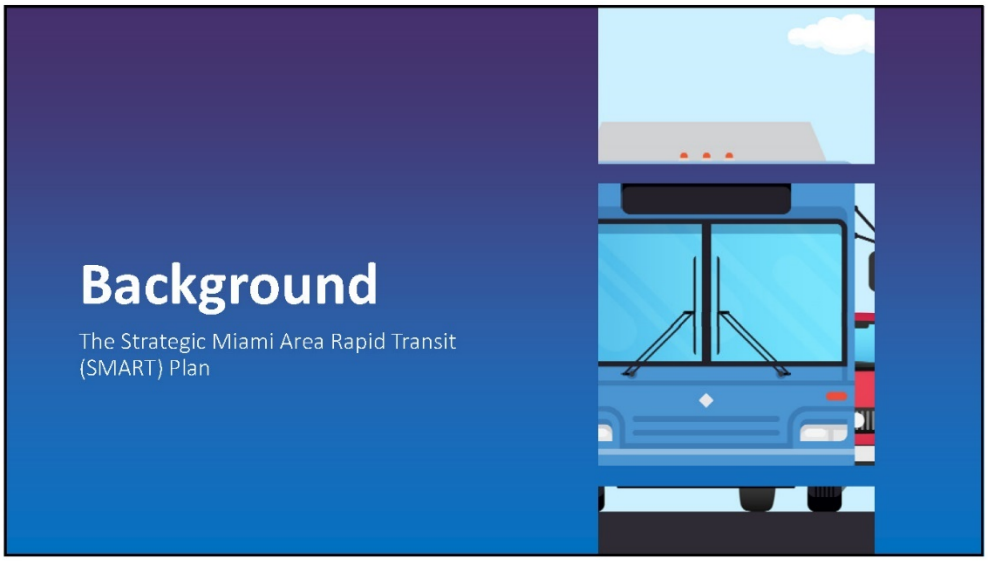

Schedule
TASKS AND SUBTASKS
Apr-19
May-19
Jun-19
Jul-19
Aug-19
Sep-19
Oct-19
Nov-19
Dec-19
Jan-20
Task 1.0 Background Info/Existing Conditions
a. Review existing plans
b. Review Village's TOD
c. Collect GIS data
d. Identify 5 best practices
e. Review TPO plans
Task 2.0 Public Involvment Plan
a. Outreach to public and elected officials
b. Notify local agencies
c. 3 SAC meetings
Task 3.0 Data Collection
a. Analysis of I-Bus
b. Review I-Bus MDT connections
c. Interview riders and drivers
d. Collect traffic, bike and ped count data
Task 4.0 Conceptual Design
a. Identify mobility hub locations
b. Develop conceptual designs (up to 4 designs)
c. Develop quantities and costs
Task 5.0 Recommendations
a. Final Plan with recommendations
b. Develop criteria for prioritization
c. Review of available funding
Task 6.0 Documentation
a- i. Grant documentation

5


Background
The Strategic Miami Area Rapid Transit (SMART) Plan

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1/23/2020

South Dade Transitway

- **20-miles:** Beginning at Dadeland South Metrorail Station to SW 344th Street Park and Ride/Transit Terminal
- **Connects Miami CBD** to Village of Pinecrest, Village of Palmetto Bay, Town of Cutler Bay, City of Homestead, and Florida City.
- **Bus Rapid Transit: 2022**

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Bus Rapid Transit (BRT)

- High-Quality Bus-Based Transit System
- Dedicated Lanes
- Transit Signal Preemption
- Fast
- Comfortable
- Frequent

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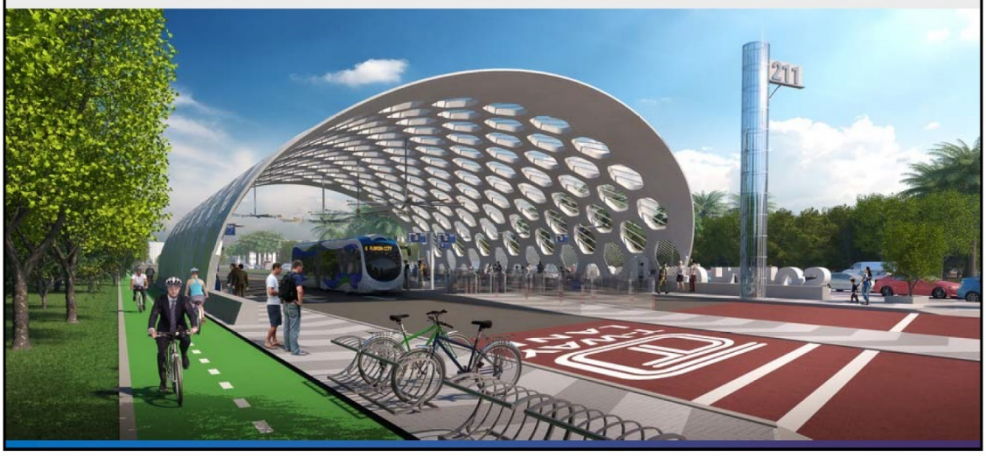
1/23/2020

Station Rendering

DRAFT – South Dade Rapid Transit Corridor PD&E August 2018



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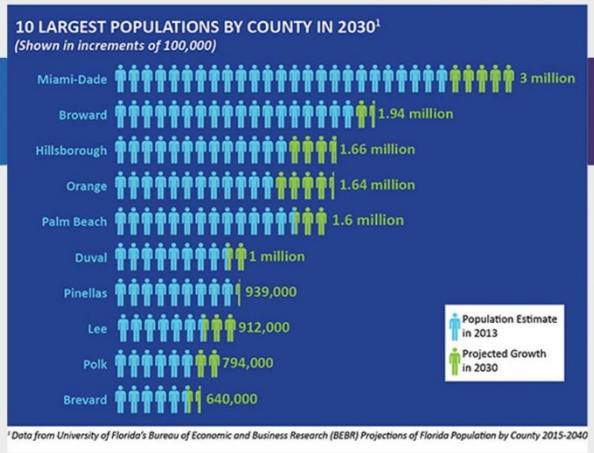
Future Growth

- **2030 County Growth Projected:** 10.5%
- **2040 County Projection:** 3.3 Million



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1/23/2020

Transit

DATA

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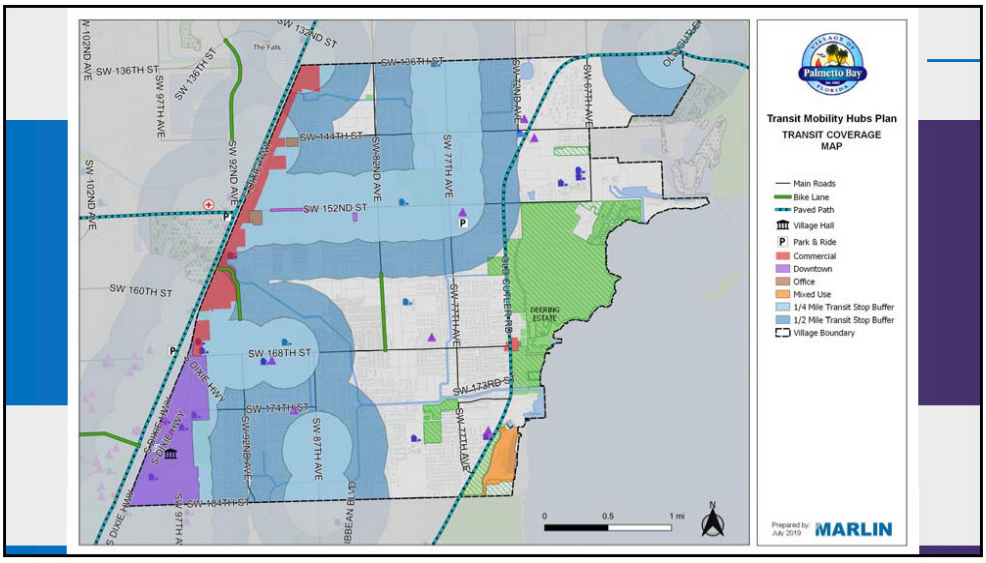

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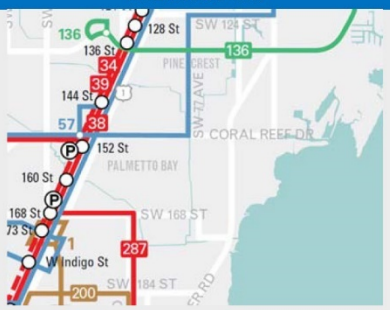
1/23/2020

Existing Bus Service

METROBUS



iBus

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Palmetto Bay iBus

iBus Express

- **Operates:** Mon - Fri
- **Hours:** 6 – 9 a.m. & 4 – 7 p.m.
- **Pickup:** St. Richard's
- **Drop-Off:** Dadeland South

iBus Regular Route

- **Operates:** Mon – Fri
- **Hours:** 7 to 9 a.m.
- **Start/End:** SW 168th Street Transitway Station

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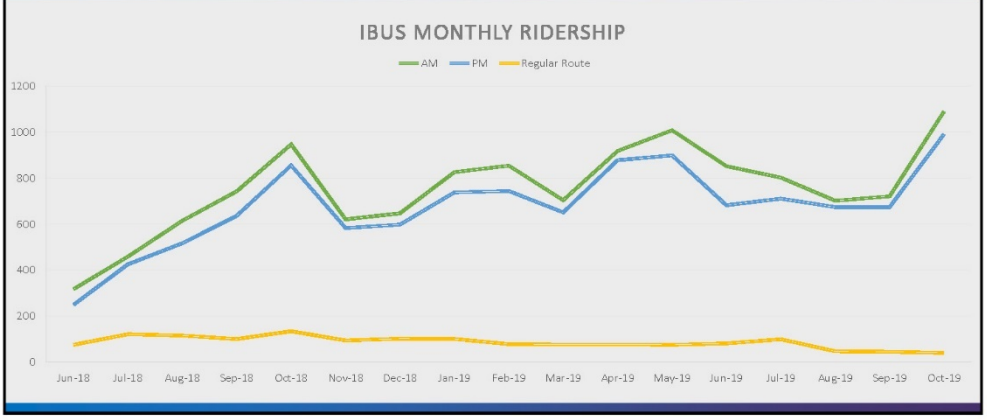
iBus Ridership



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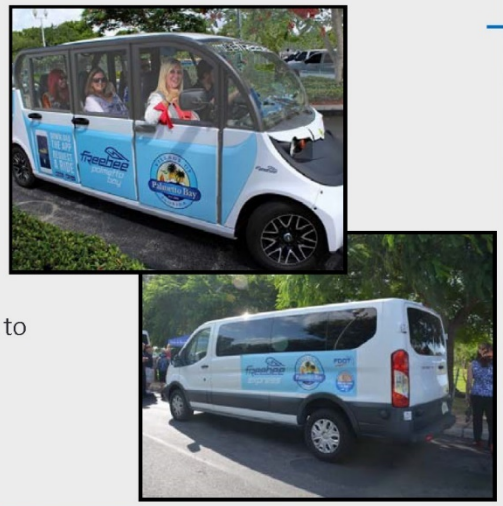
FreeBee

- **On-Demand Ride Share**
  Monday – Friday:
  6:30 a.m. – 9:50 a.m.
  3:20 p.m. – 7:10 p.m.
  Saturday: 1 p.m. – 10 p.m.
- **Express**
  Location: Palmetto Bay Park to Dadeland South Metrorail Station
  Monday – Friday:
  6:30 a.m. – 9:50 a.m.
  3:20 p.m. - 7:00 p.m.



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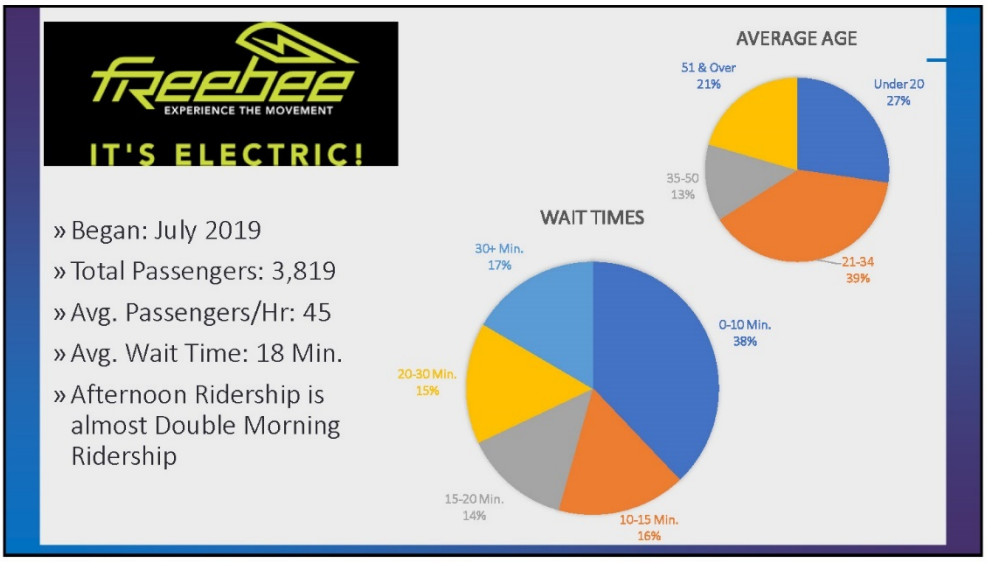

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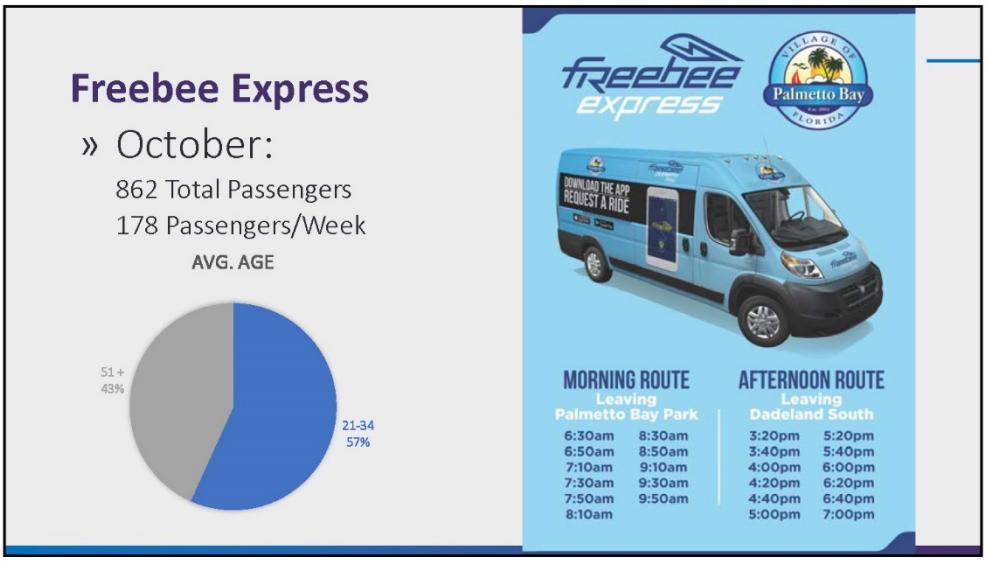

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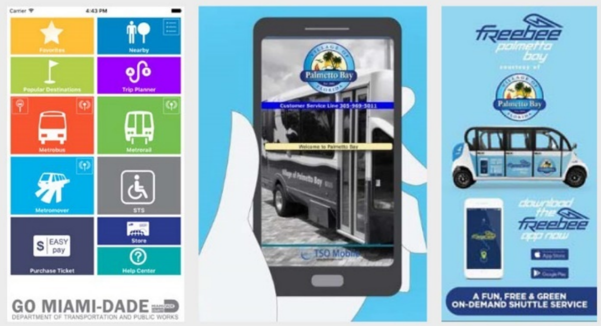
1/23/2020

Transit Apps: IBus, MDT Transit Tracker & Freebee

- Download via the Google Play or Apple Store
- Real-time tracking of all Transit
- Trip Planning



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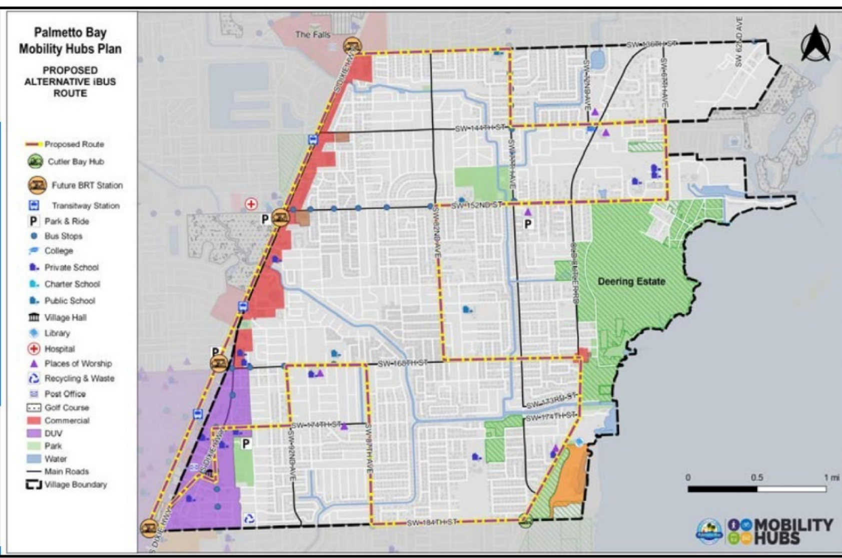

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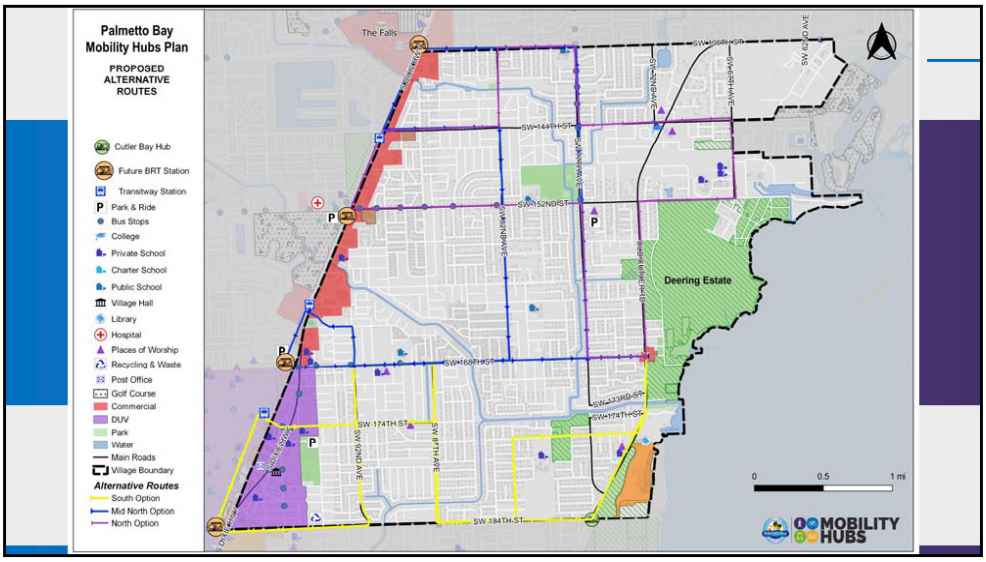

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1/23/2020

Survey Feedback

"Complete the Grid"

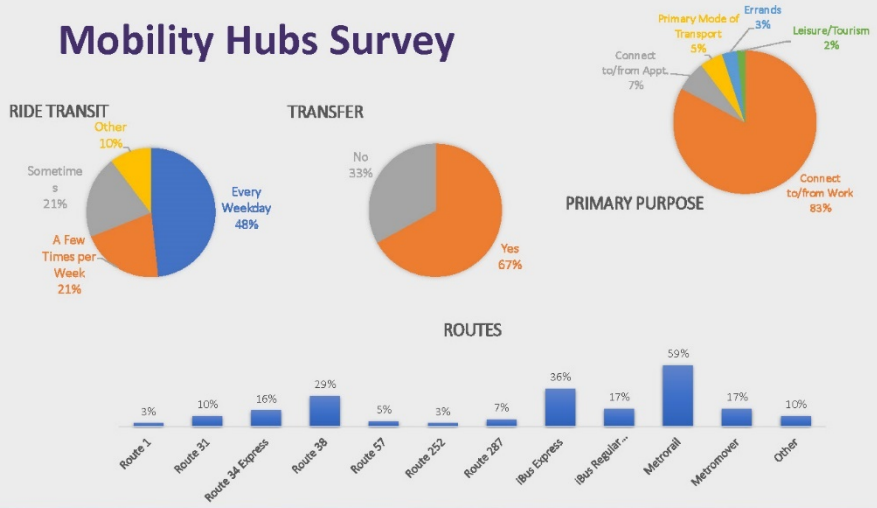
"Extend the Metrorail!"

"iBus has been great."

"Mass transit has to be clean, safe, attractive and reliable."

23

Mobility Hubs Survey



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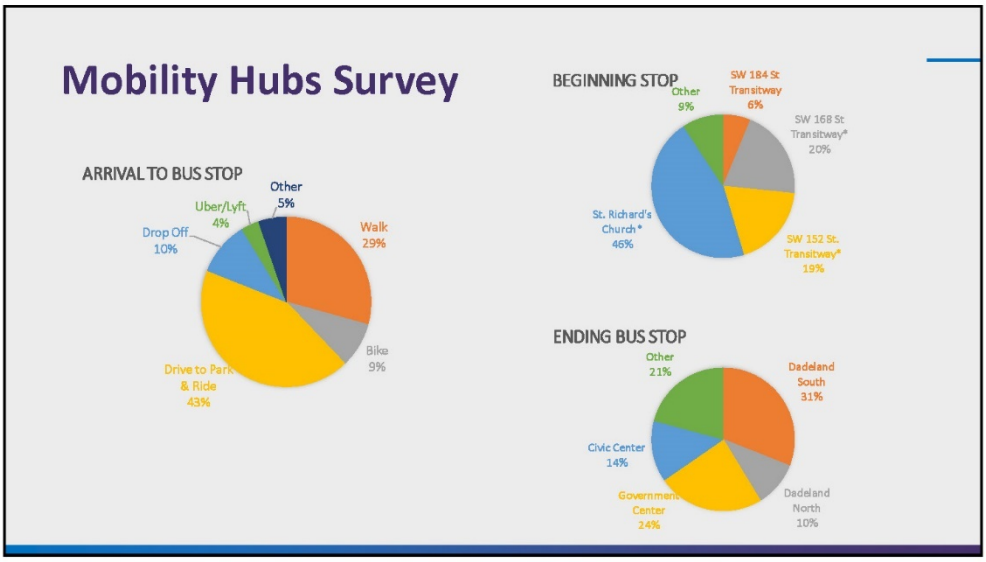

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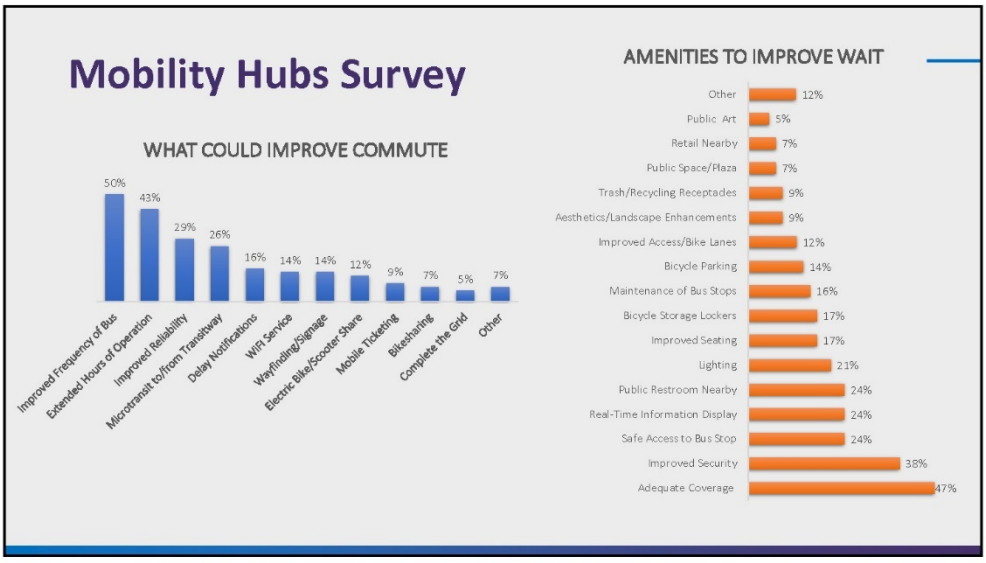

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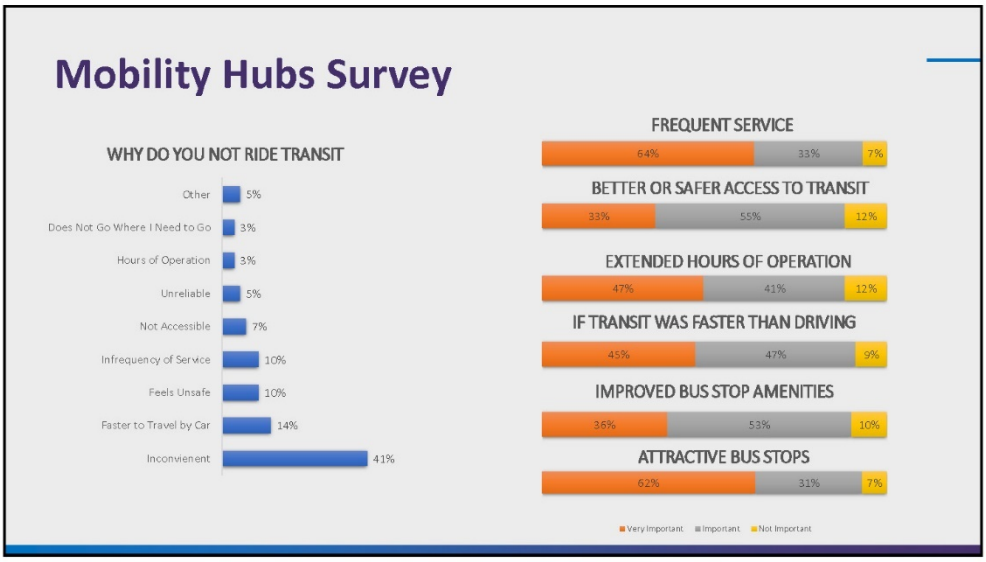

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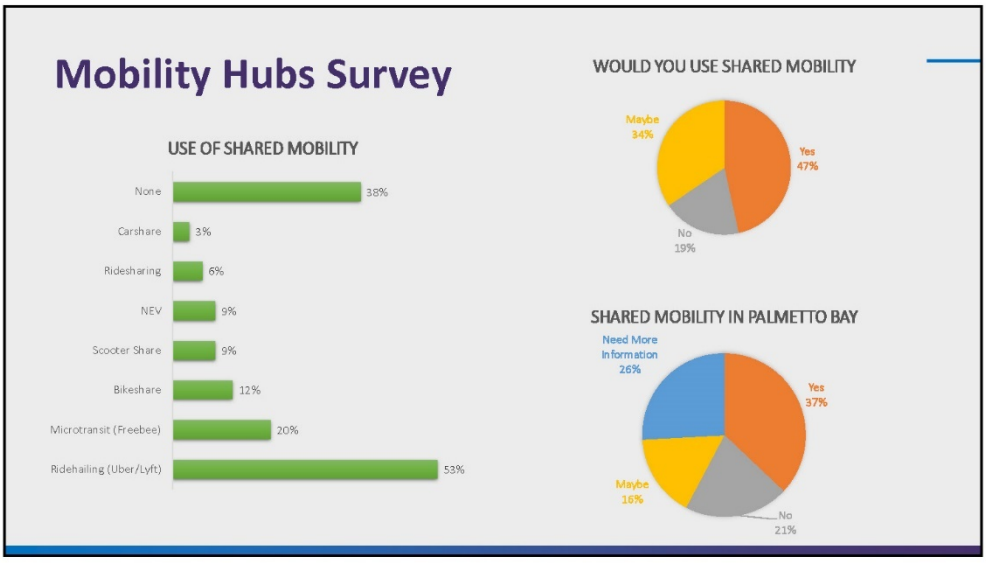

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1/23/2020

Mobility Hubs Survey
We Want Your Input

ENGLISH

Hyperlink:

https://forms.gle/XugoNY4wQRDMxT1s5

QR Code:

ESPAÑOL

Hipervínculo:

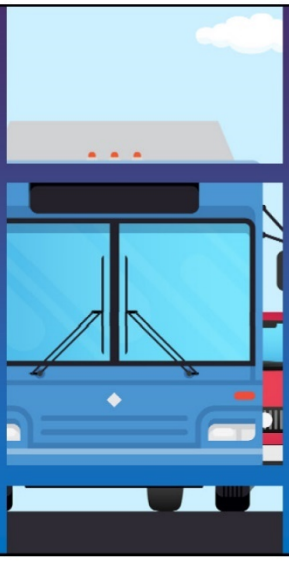
https://forms.gle/pw2yisArJFURLfJDA

Código QR:

29

Mobility **Hubs**

INFORMATION, ATTRIBUTES & PLACEMAKING



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1/23/2020

What is a Mobility Hub?

"Places of connectivity where different modes of transportation come together seamlessly and where there is an intensive concentration of working, living, shopping and/or playing."

– Kennedy Station Mobility Hub

LA Department of Planning *Mobility Hubs A Reader's Guide*

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Mobility Hub Amenities

Carshare

Bikeshare

EV Charging

Signage/Real-Time Info

Device Charging Station

Bicycle Storage

Package Pickup Locker

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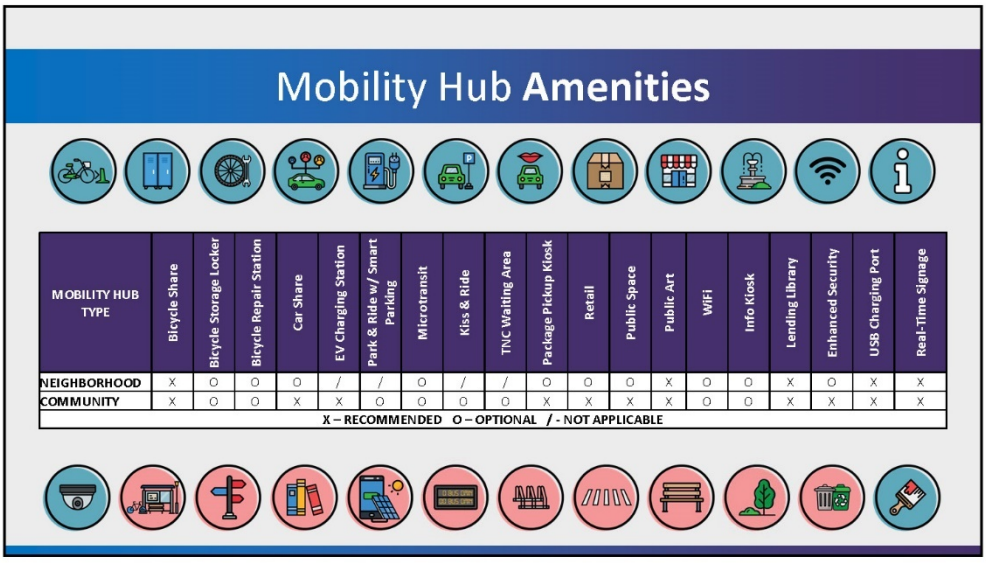

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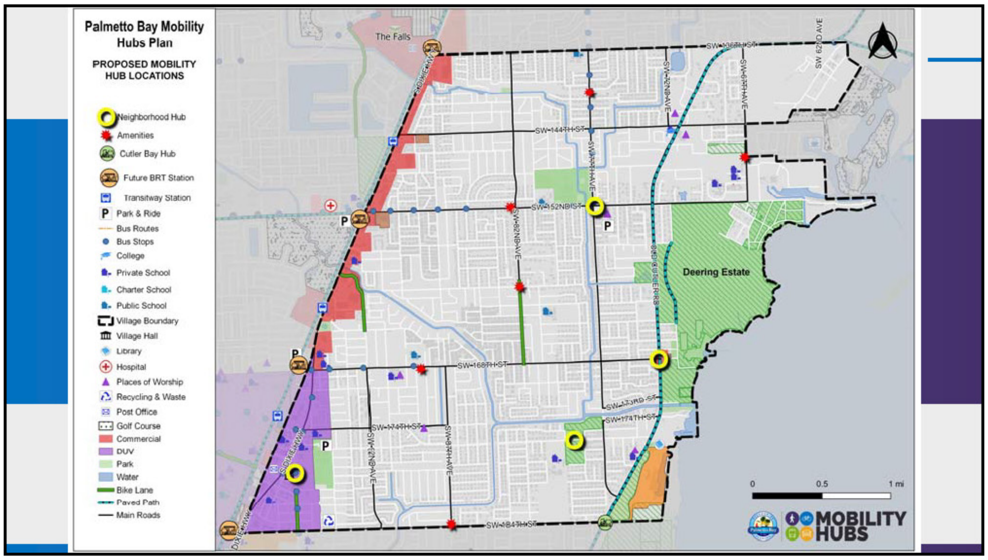

37

Future BRT Stations

» SW 136 St
» SW 152 St
» SW 168 St
» SW 184 St

38

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1/23/2020

Village Mobility Hubs

- Coral Reef Park
- Old Cutler Road Commercial
- Village Center / Bill Sadowski Preserve
- Downtown

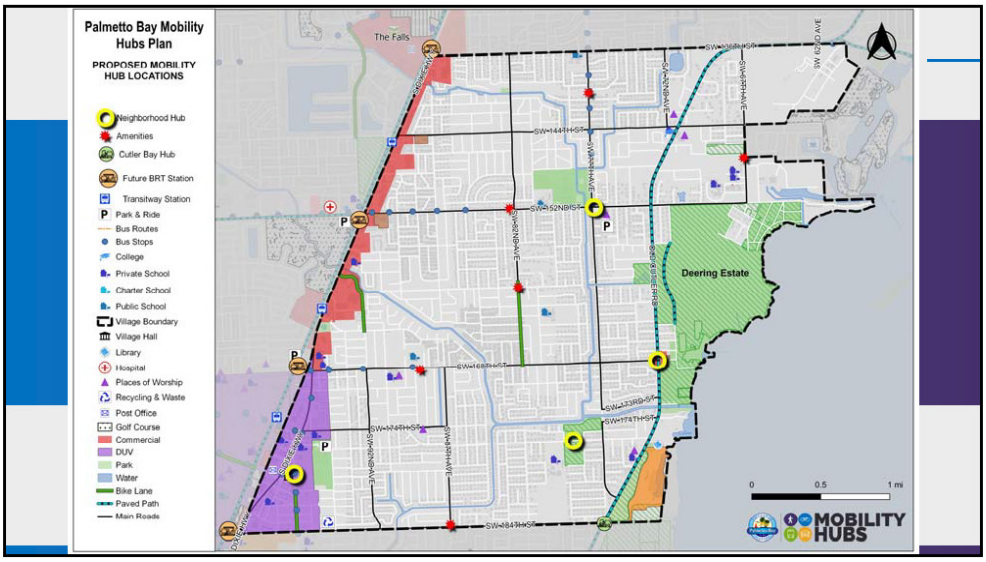
39

Amenity Locations

- SW 77 Ave & FPL Easement
- Old Cutler Rd & FPL Easement
- SW 152 St & SW 82 Ave
- SW 160 St & SW 82 Ave
- SW 168 St & SW 88 Ave
- SW 184 St & SW 87 Ave

40

1/23/2020



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1/23/2020

Conceptual Design & Recommendations

»Mobility Hub Locations
- »Conceptual Designs
- »Cost Estimates

43

Public Involvement

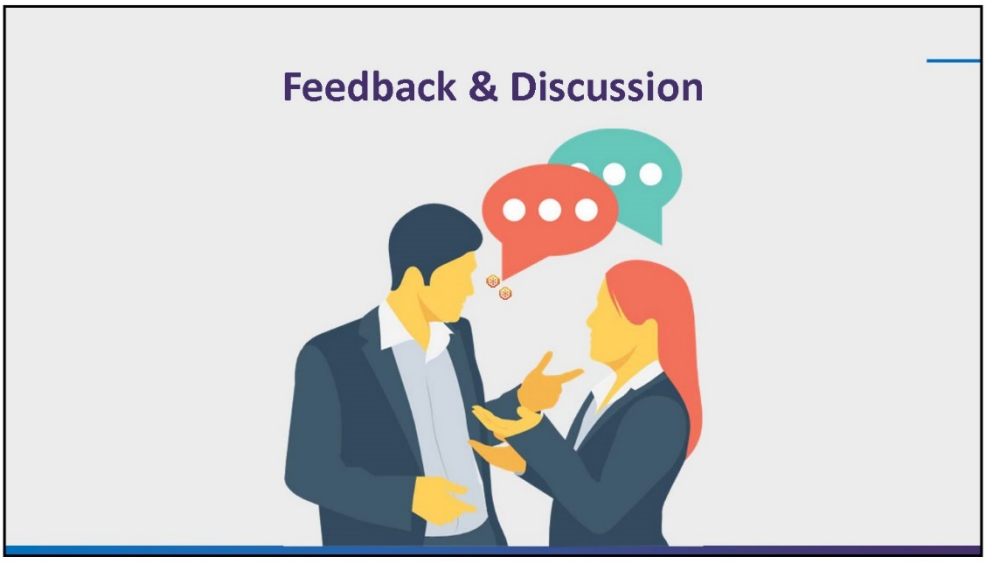
Public Workshop #3
- » **SAVE THE DATE: December 11, 2019**

Stakeholder Advisory Committee Meetings
- » May
- » August
- » November

44


1
What would make YOUR community more walkable?
2
How could Transit be more CONVENIENT than driving?
3
Change is inevitable, how could change be POSITIVE?

45


Feedback & Discussion

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1/23/2020

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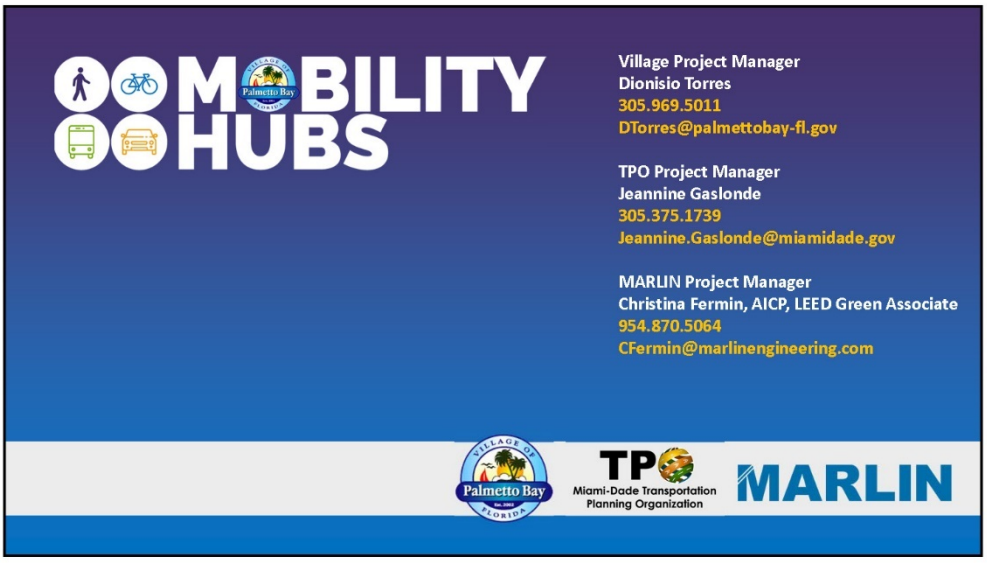

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VILLAGE OF PALMETTO BAY

PUBLIC INVOLVEMENT WORKSHOP

COMMENT SHEET

WEDNESDAY
NOVEMBER 6, 2019
7 PM – 9 PM

Village Hall, 9705 Hibiscus Street
First Floor Conference Room

Please write your comments in the box provided below:

Mobility Hub at:
Village Hall. – space with VPB PBP?
Sadowski Park - OK use ROW sidewalk on S side
168 & OCR where?
CRP – Space to put facilities?

Contact Information (please print)
Name: Eric Tullberg e341@bellsouth.net
Address: 7884 SW 179 Tr.
City: VPB State: FL Zip: 33157

Public Workshop #2 Notes

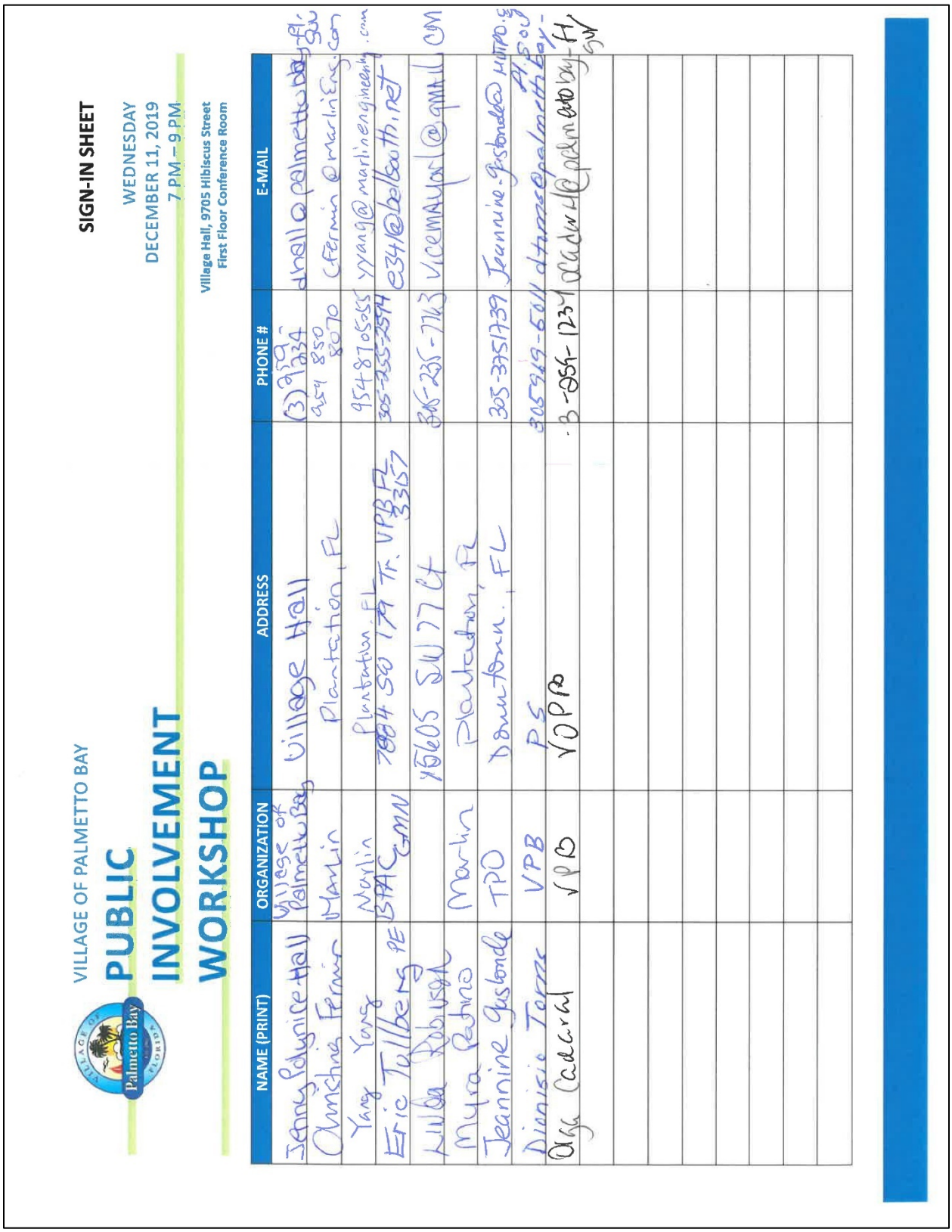
Wednesday, November 6, 2019

Presentation – 7:15 PM

- Age group not using Freebee are parents with children and taking their children to school.
- There is a total of 14 schools within the Village, lots of school traffic.
- Should look at the transit needs of the schools.
- When will the survey close?
    - Friday, November 15, 2019, available on the Village website and social media pages
- One of the biggest issues is the lack of bridges connecting the grid. No bridge at 176 St, we have to use 184 to go E/W.
- Simplest things are the most important (referring to shelter at bus stops) coverage is critical.
- Metrorail stations do not have A/C and it isn't an issue, but they are covered.
- Bicycle storage lockers are great, but require administration. Covered bicycle racks with the U-shaped rack are cheapest and do the job. They also take up the least amount of space.
- Bike lids, such as the ones near Metrorail's University Station are also good because you can use your own lock, but they take up space.
- What happened to the BRT Station at Banyan?
    - Originally the station at Banyan was going there due to a tentative developer agreement, but the developer decided not to move forward, the County has a park and ride facility at 168th St. where they own the land. Therefore, the decision was made to place the station at 168th St. instead.
    - The TPO study recommended the Station be placed at Banyan due to the ridership and Village plans for the DUV, but due to timing and the requirement for FTA funding, the County decided on 168th St.
    - If the County moved forward with the station at Banyan, there was a good chance that the process may have been on hold due to the County not owning any land in the area.
- It is difficult to get to the station at 184th St. and there are sidewalk gaps. 174th St. is also a major route and has higher ridership. There are existing stations at Banyan and Indigo.
    - Perhaps as part of our study we can recommend a Neighborhood Hub at Banyan, Hub would include amenities.
    - Also, part of the plan includes the renovation of existing stations, which will remain.
- If the Stations are not placed in the right spot, ridership won't be good.
- Ridership at Banyan is higher, Marlin Rd. has very little traffic in comparison and there is a Station proposed there.
    - Yes, part of it is also the spacing between stations. If the stations are placed too closely together then it may defeat the purpose of BRT.
- One of the main goals of this study is to provide transit within the Village to get the residents access to the BRT stations.
- I ride my bike 8 miles to Dadeland South, Metrorail has level boarding, existing buses do not and the bike rack on the front doesn't work very well and slows everyone down. I understand BRT buses will have level boarding, this is great, but if there is no service on the weekends, it won't work.

- [In reference to future park and rides at 184th and 136th St.] Are they going to be paid lots? This will make a huge difference.
    - We do not have that information at this time.
- Proposed Hubs for the Village must have pedestrian facilities, there needs to be sidewalks on both sides of the road.
    - Part of our analysis will include reviewing existing facilities and recommending what facilities to place near the Hub locations. We know the Village is working on a design for a shared-use path along 136th St.
- [Asked Village Public Works Director] Is there a sidewalk map available for the Village?
    - Public Works Director will check with staff to see if there is an inventory of sidewalks available.
- Shared use pathways are great for both bicyclists and pedestrians, but keep in mind you need a facility on the other side of the street as well.
- Water fountains are important, consider them at both Hubs.

December 11, 2019 Public Involvement Workshop #3



VILLAGE OF PALMETTO BAY

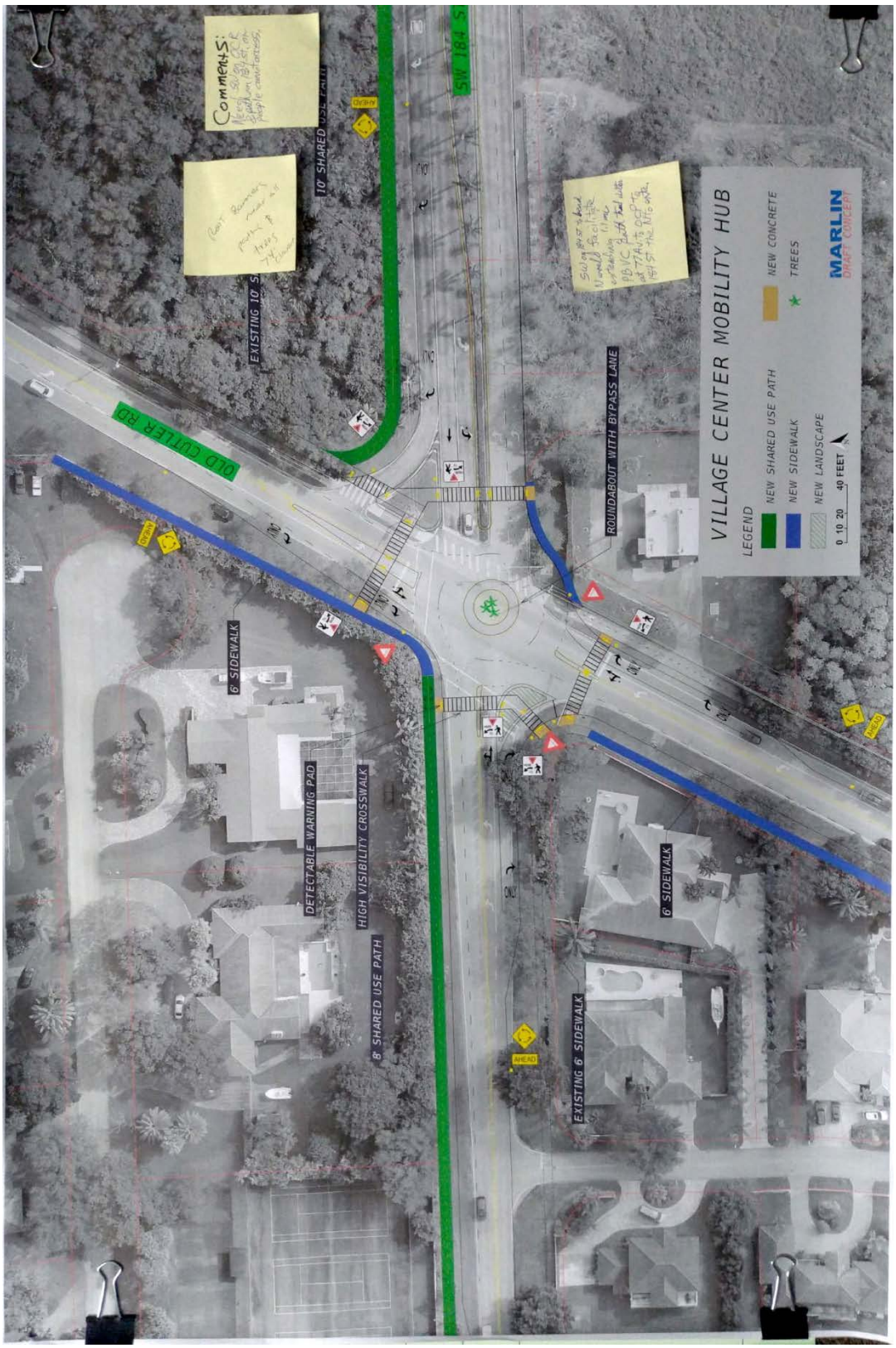
PUBLIC INVOLVEMENT WORKSHOP

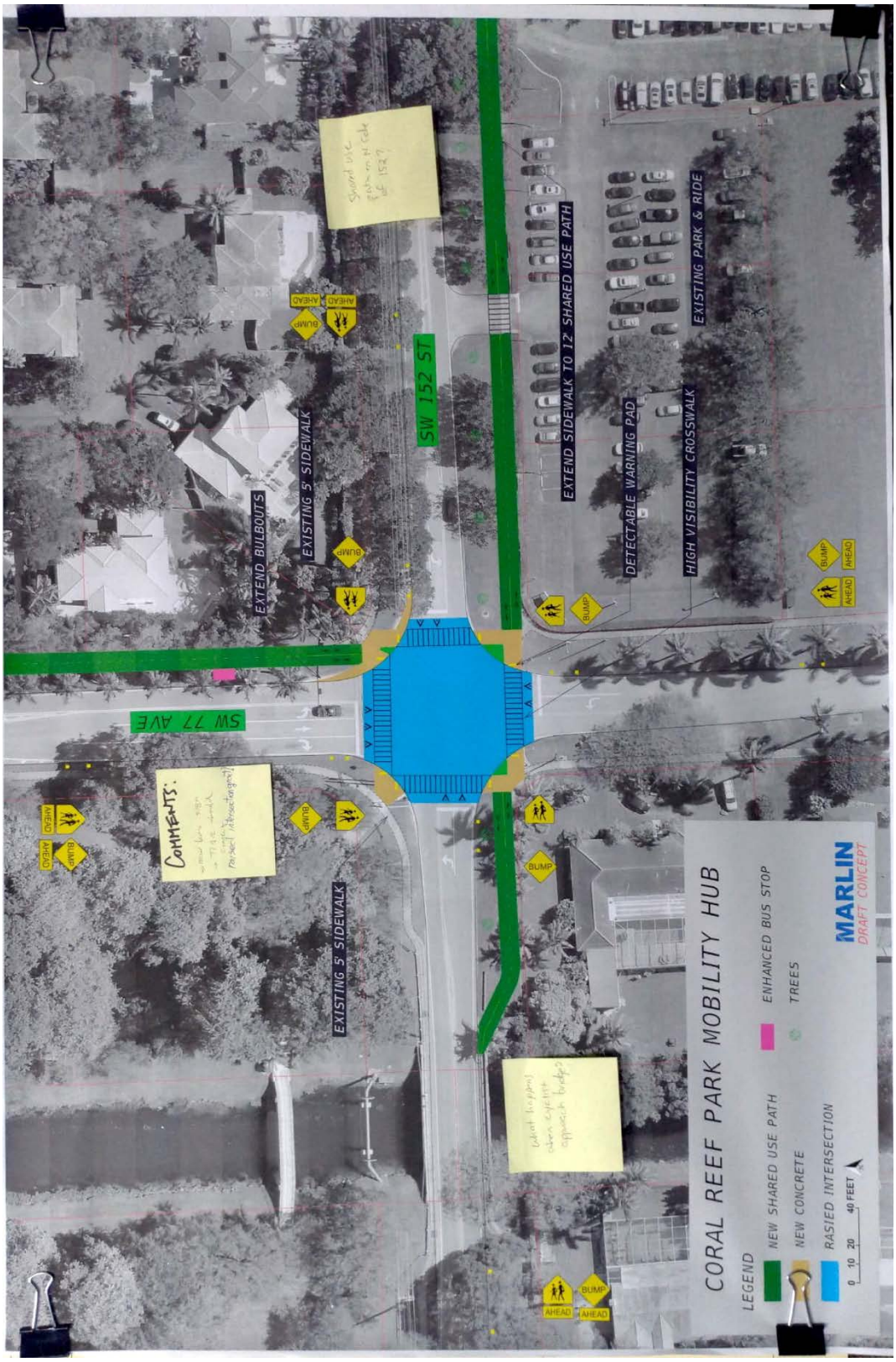
SIGN-IN SHEET

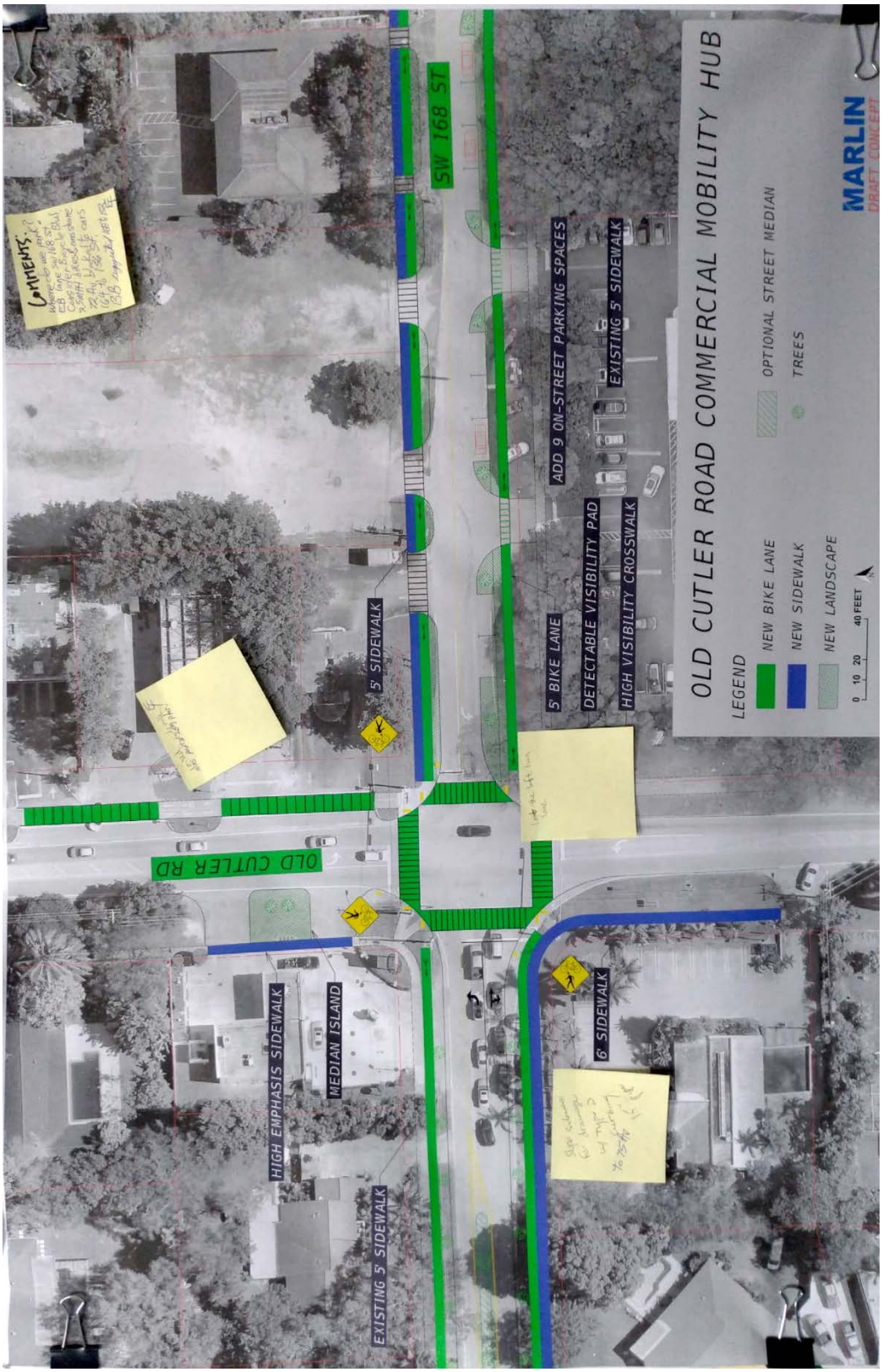
WEDNESDAY
DECEMBER 11, 2019
7 PM – 9 PM

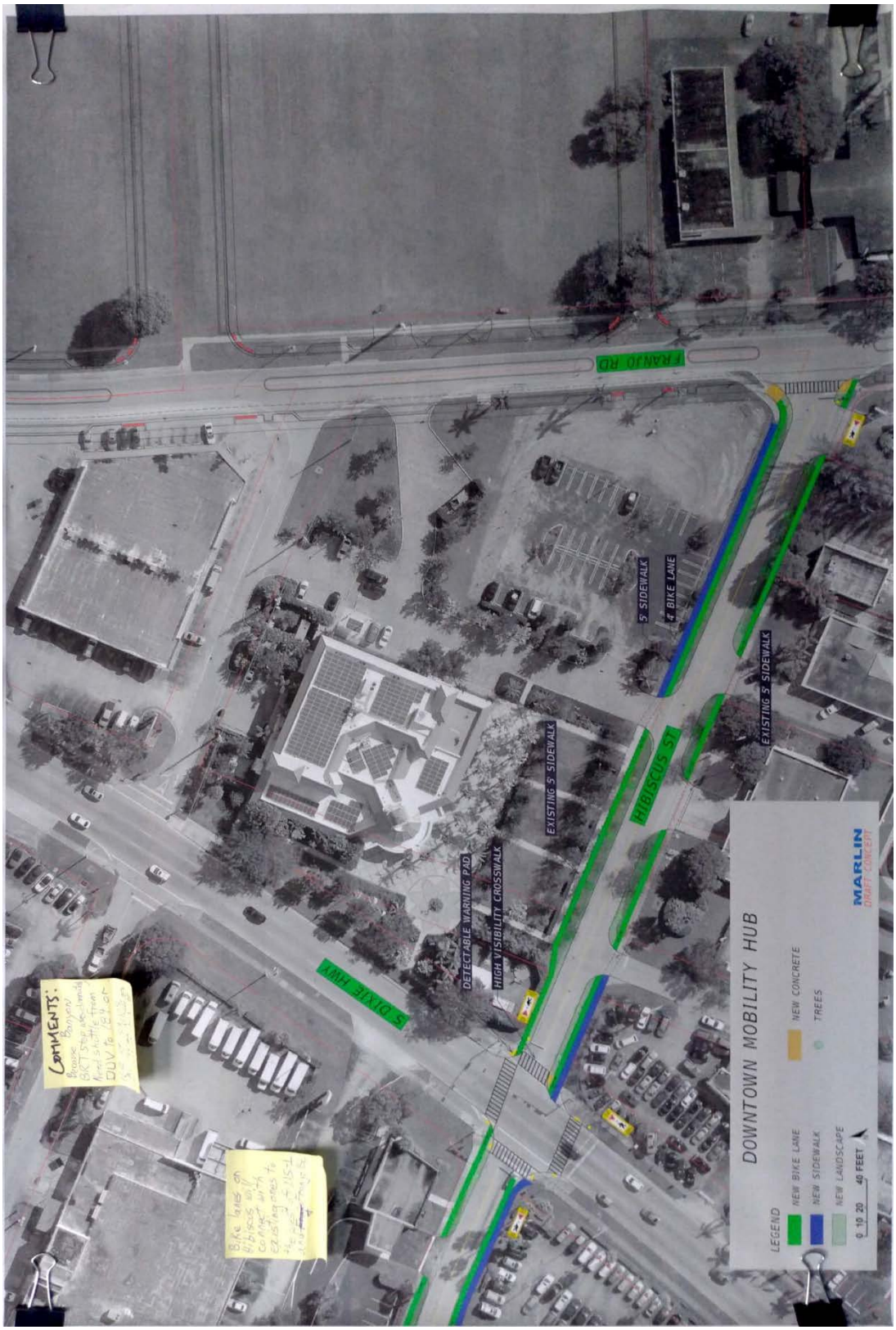
Village Hall, 9705 Hibiscus Street
First Floor Conference Room

NAME (PRINT)	ORGANIZATION	ADDRESS	PHONE #	E-MAIL
Jenny Polynice Hall	Village of Palmetto Bay	Village Hall	(3)9796334	dhall@palmettobay-fl.gov
Christine Fermin	Marlin	Plantation, FL	954 850 8070	cfermin@marlineng.com
Yang Yang	Marlin	Plantation, FL	9548705055	yyang@marlinengineering.com
Eric Tullberg PE	BPAC CMN	7884 SW 179 Tr. VPB FL 33157	305-335-2594	e3416@bellsouth.net
Nilda Robuso		16605 SW 77 Ct	786-235-7763	VICEMAYOR@GMAIL.COM
Myra Patino	Marlin	Plantation, FL		
Jeannine Jacobs	TPO	Downtown, FL	305-3751739	Jeannine.Jacobs@miamidade.gov
Dionisio Torres	VPB	PS	305 969-6011	dtorres@palmettobay-fl.gov
Olga Cadaval	VPB	VOPD	305-956-1235	OCadaval@palmettobay-fl.gov


VILLAGE CENTER MOBILITY HUB
LEGEND
NEW SHARED USE PATH
NEW SIDEWALK
NEW LANDSCAPE
NEW CONCRETE
TREES
0 10 20 40 FEET
MARLIN
OLD CUTLER RD
SW 184 ST
10' SHARED USE PATH
EXISTING 10' S
ROUNDABOUT WITH BYPASS LANE
6' SIDEWALK
DETECTABLE WARNING PAD
HIGH VISIBILITY CROSSWALK
8' SHARED USE PATH
6' SIDEWALK
EXISTING 6' SIDEWALK
AHEAD
ONLY
Comments:


CORAL REEF PARK MOBILITY HUB
LEGEND
NEW SHARED USE PATH
NEW CONCRETE
RAISED INTERSECTION
ENHANCED BUS STOP
TREES
0 10 20 40 FEET
MARLIN
DRAFT CONCEPT
SW 152 ST
SW 77 AVE
EXTEND BULBOUTS
EXISTING 5' SIDEWALK
EXTEND SIDEWALK TO 12' SHARED USE PATH
DETECTABLE WARNING PAD
HIGH VISIBILITY CROSSWALK
EXISTING PARK & RIDE
EXISTING 5' SIDEWALK
COMMENTS:
BUMP
AHEAD


OLD CUTLER ROAD COMMERCIAL MOBILITY HUB
LEGEND
NEW BIKE LANE
NEW SIDEWALK
NEW LANDSCAPE
OPTIONAL STREET MEDIAN
TREES
0 10 20 40 FEET
MARLIN
DRAFT CONCEPT
SW 168 ST
OLD CUTLER RD
5' SIDEWALK
ADD 9 ON-STREET PARKING SPACES
EXISTING 5' SIDEWALK
5' BIKE LANE
DETECTABLE VISIBILITY PAD
HIGH VISIBILITY CROSSWALK
HIGH EMPHASIS SIDEWALK
MEDIAN ISLAND
EXISTING 5' SIDEWALK
6' SIDEWALK
COMMENTS:


FRANJO RD
5' SIDEWALK
4' BIKE LANE
EXISTING 5' SIDEWALK
EXISTING 5' SIDEWALK
HIBISCUS ST
DETECTABLE WARNING PAD
HIGH VISIBILITY CROSSWALK
S DIXIE HWY
DOWNTOWN MOBILITY HUB
LEGEND
NEW BIKE LANE
NEW SIDEWALK
NEW LANDSCAPE
NEW CONCRETE
TREES
0 10 20 40 FEET
MARLIN
COMMENTS:

1/23/2020

MOBILITY HUBS

Palmetto Bay

TPO Miami-Dade Transportation Planning Organization

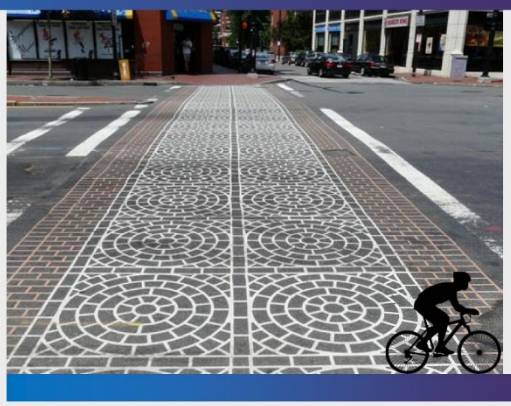
MARLIN

1

Scope of Services

- **Identify** a **comprehensive network** of mobility hubs.
- **Improve mobility and safety** for pedestrians, bicyclists and transit users.
- **Assess the iBus** and provide recommendations.
- **Final recommendations** will be evaluated and prioritized.

Boston Crosswalk



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1/23/2020

Scope Of Services Continued

1. **BACKGROUND INFORMATION & EXISTING CONDITIONS**
   Began April 2019
2. **PUBLIC INVOLVEMENT PLAN**
   Ongoing
3. **DATA COLLECTION**
   May through August
   Complete
4. **CONCEPTUAL DESIGN**
   October - December
5. **RECOMMENDATIONS**
   November - January
6. **FINAL REPORT**
   Due January 29, 2020

3

Background

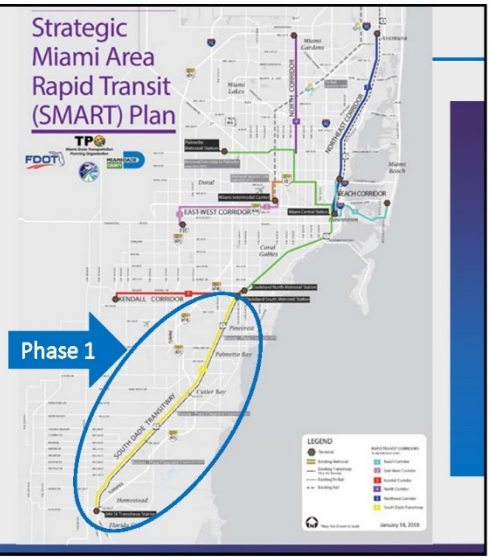
The Strategic Miami Area Rapid Transit (SMART) Plan

4

1/23/2020

South Dade Transitway

- **20-miles:** Beginning at Dadeland South Metrorail Station to W Palm Drive/SW 344th Street Park and Ride/Transit Terminal
- **15 Stations to Connect Miami CBD** to Village of Pinecrest, Village of Palmetto Bay, Town of Cutler Bay, City of Homestead, and Florida City.
- **Bus Rapid Transit: 2022**



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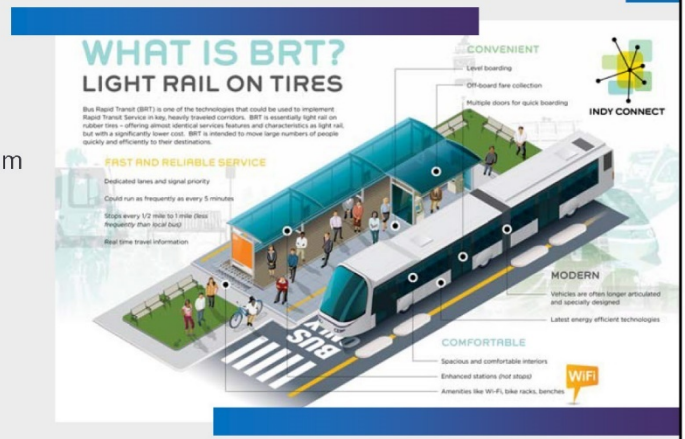
Bus Rapid Transit (BRT)

- High-Quality Bus-Based Transit System
- Dedicated Lanes
- Transit Signal Preemption
- Fast
- Comfortable
- Frequent



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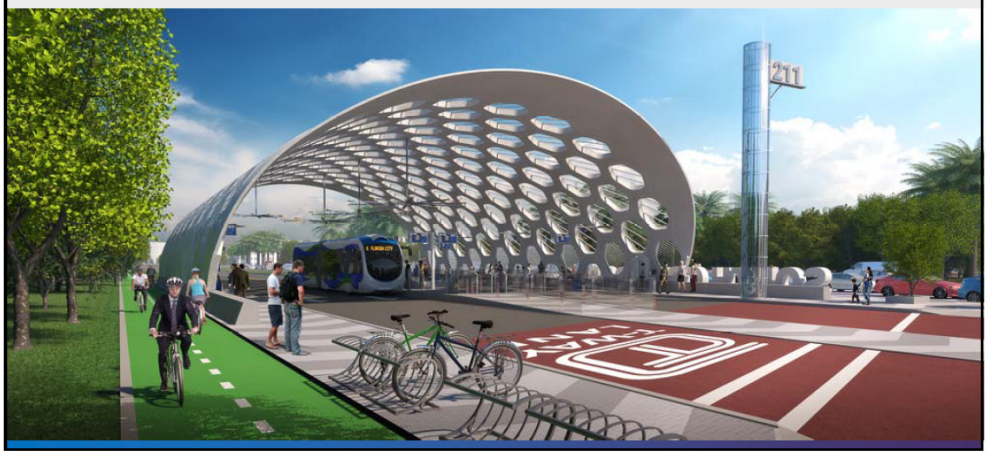
1/23/2020

BRT Station Rendering

South Dade Transitway Proposed Future Station



7

Future BRT Station Features

- Level Boarding
- Overhead Cooling Fans
- Air-Conditioned Vestibules
- CCTV
- Wi-Fi
- Signage & Real-Time Info
- Ticket Machines
- Basic Transit Amenities

8

1/23/2020

Village Station Locations

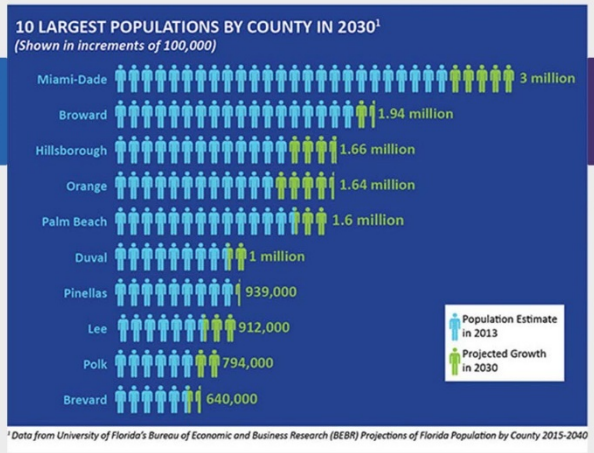
Transitway @:

- SW 136 Street
- SW 152 Street
- SW 168 Street
- SW 184 Street

9

Future Growth

- **2017 Population:** 2.75 Million
- **2030 County Growth Projected:** 10.5%
- **2040 County Projection:** 3.3 Million



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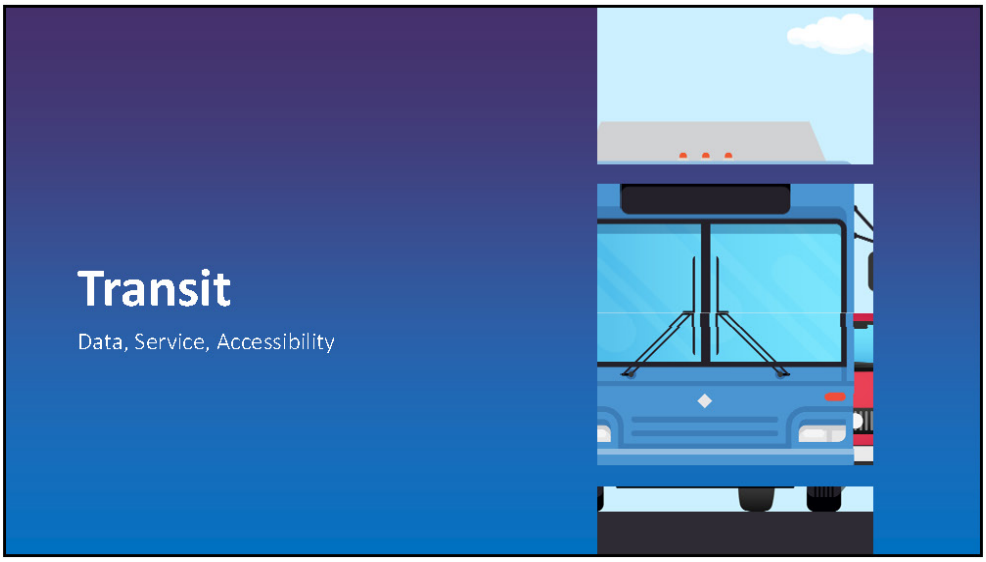

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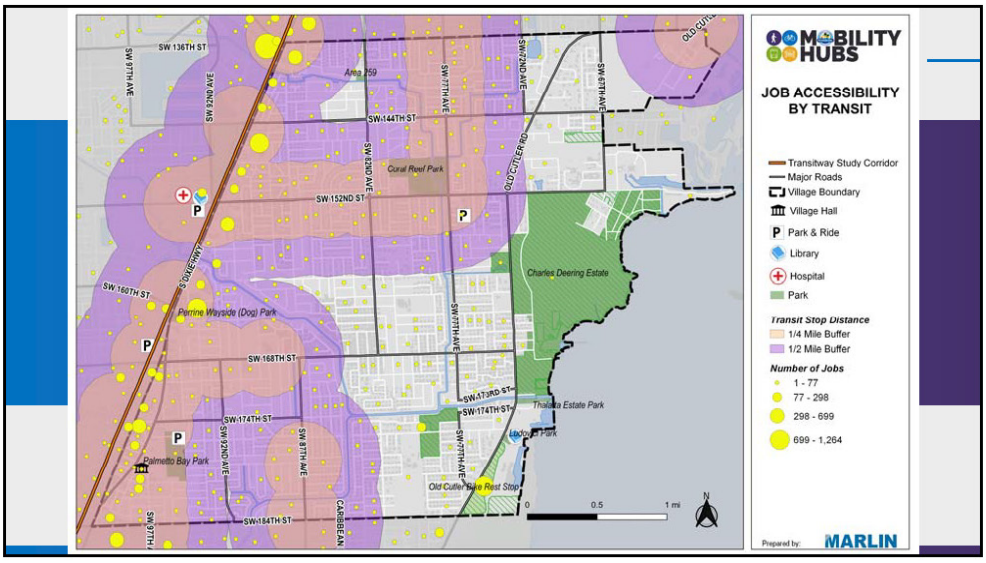

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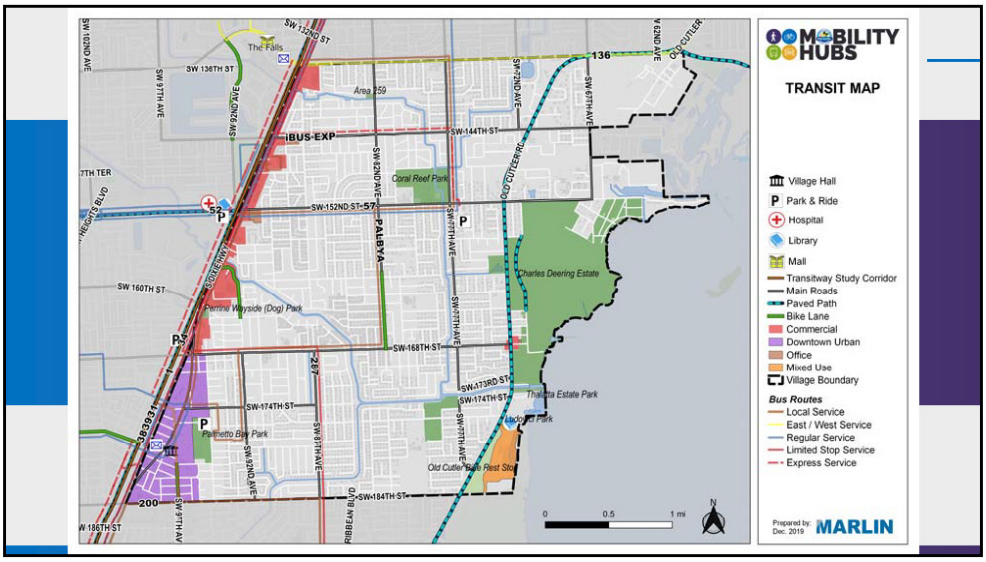

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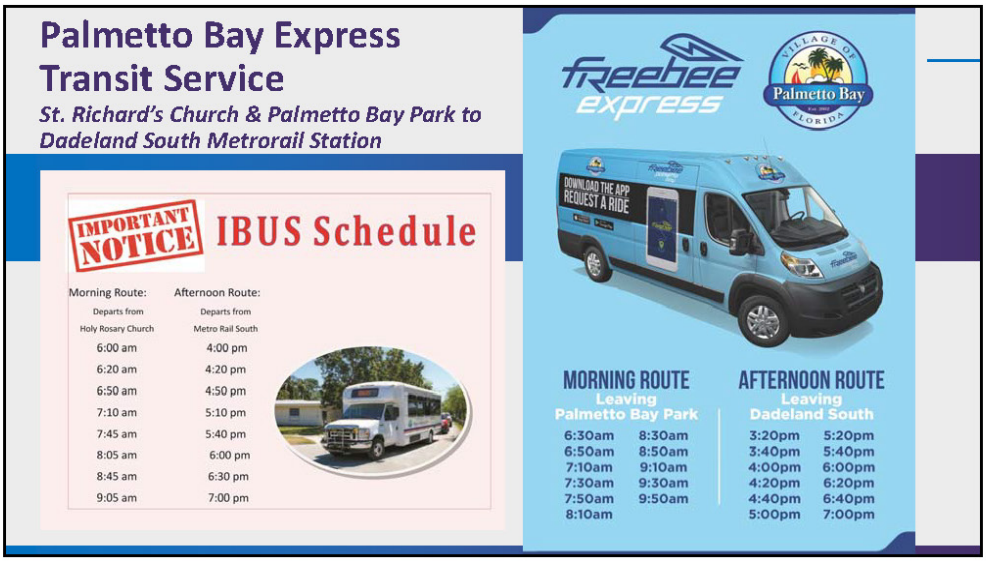

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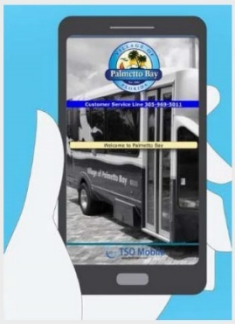
1/23/2020

Transit Apps: IBus, MDT Transit Tracker & Freebee

- Download via the Google Play or Apple Store
- Real-time tracking of all Transit
- Trip Planning



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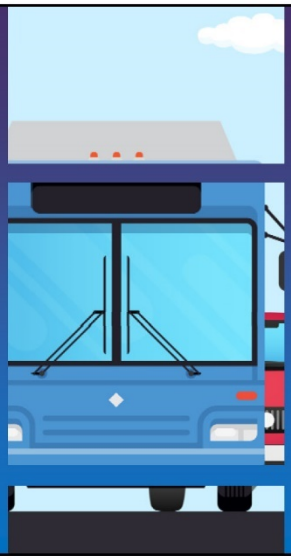
Survey

121 Total Survey Responses



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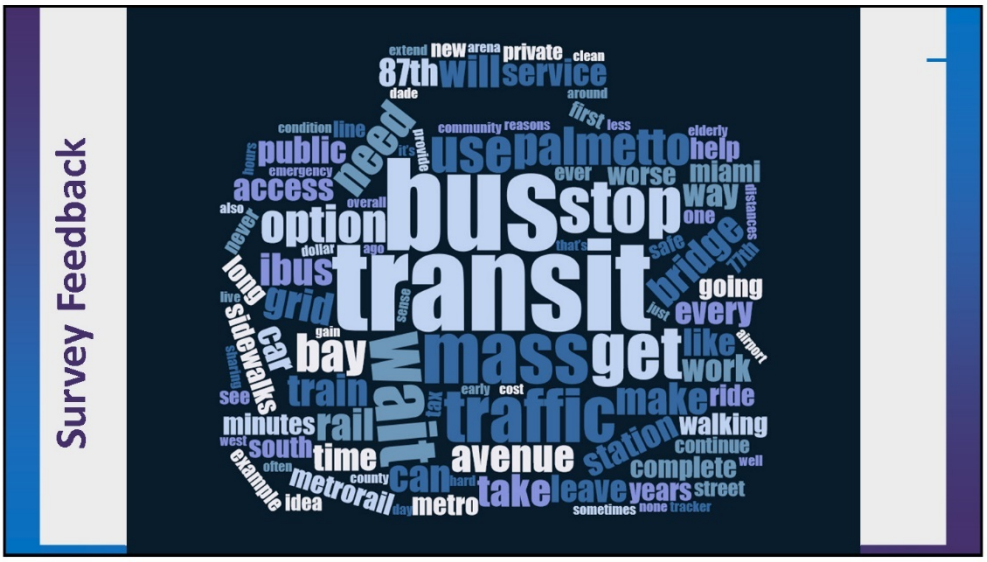

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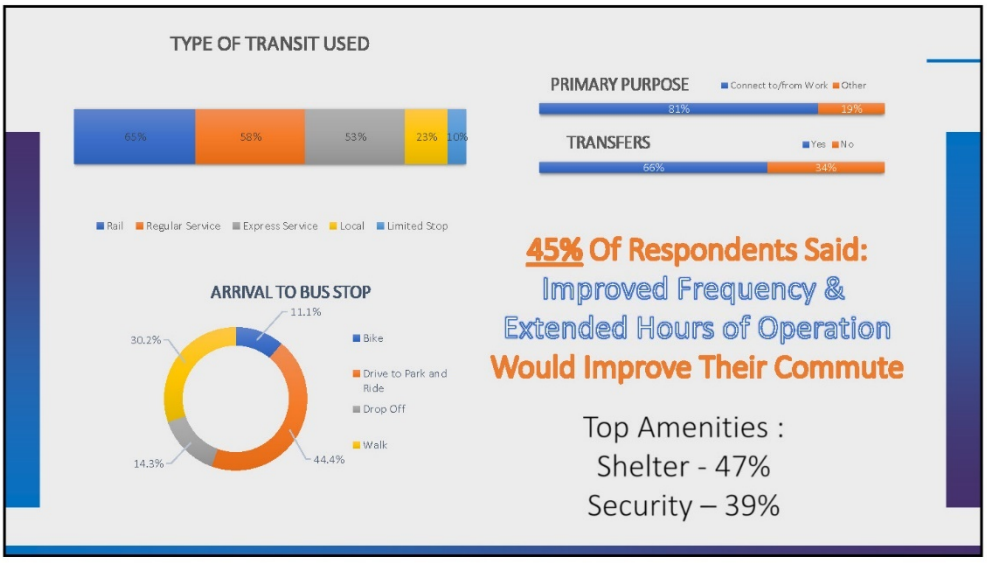

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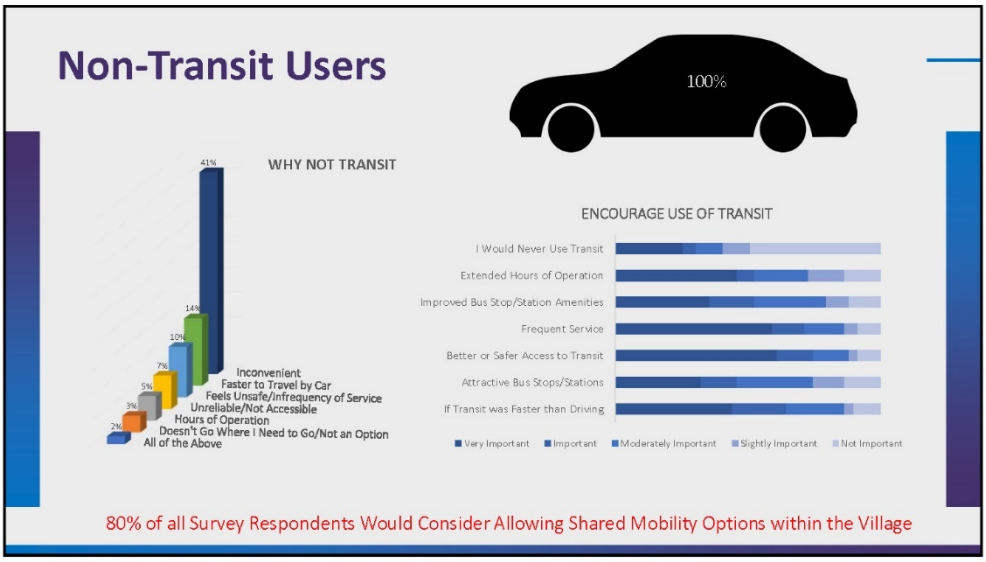

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1/23/2020

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LA Department of Planning *Mobility Hubs A Reader's Guide*

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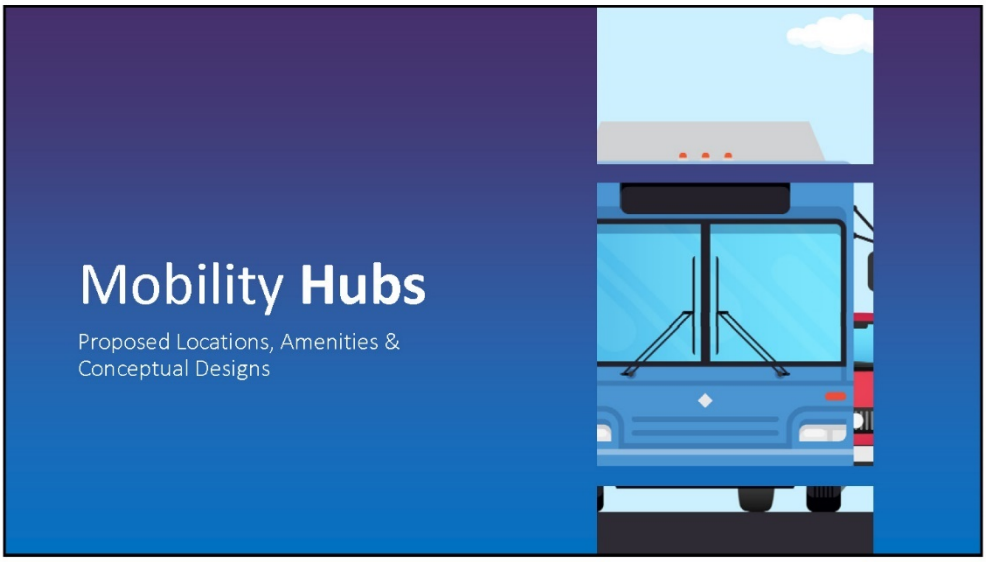

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Mobility Hub Amenities

MOBILITY HUB TYPE	Bicycle Share	Bicycle Storage Locker	Bicycle Repair Station	Car Share	EV Charging Station	Park & Ride w/ Smart Parking	Microtransit	Kiss & Ride	Water Fountain	Package Pickup Kiosk	Retail	Public Space	Public Art	WiFi	Info Kiosk	Lending Library	Enhanced Security	USB Charging Port	Real-Time Signage
NEIGHBORHOOD	X	O	O	O	/	/	O	/	O	O	O	O	X	O	O	X	O	X	X
COMMUNITY	X	O	O	X	X	O	O	O	O	X	X	X	X	O	O	X	X	X	X

X – RECOMMENDED O – OPTIONAL / - NOT APPLICABLE

**Recommendations based off best practices and placemaking techniques*

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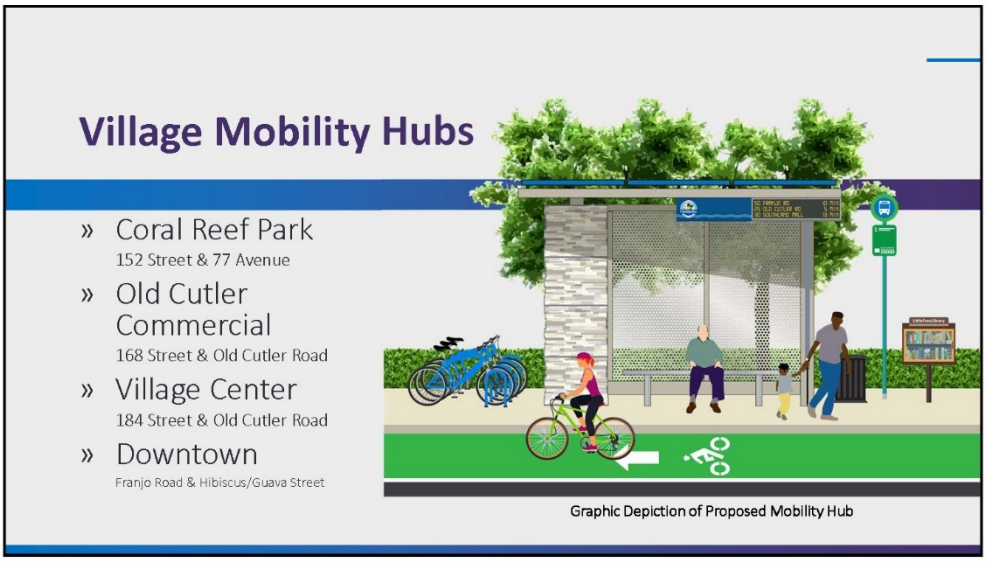
1/23/2020



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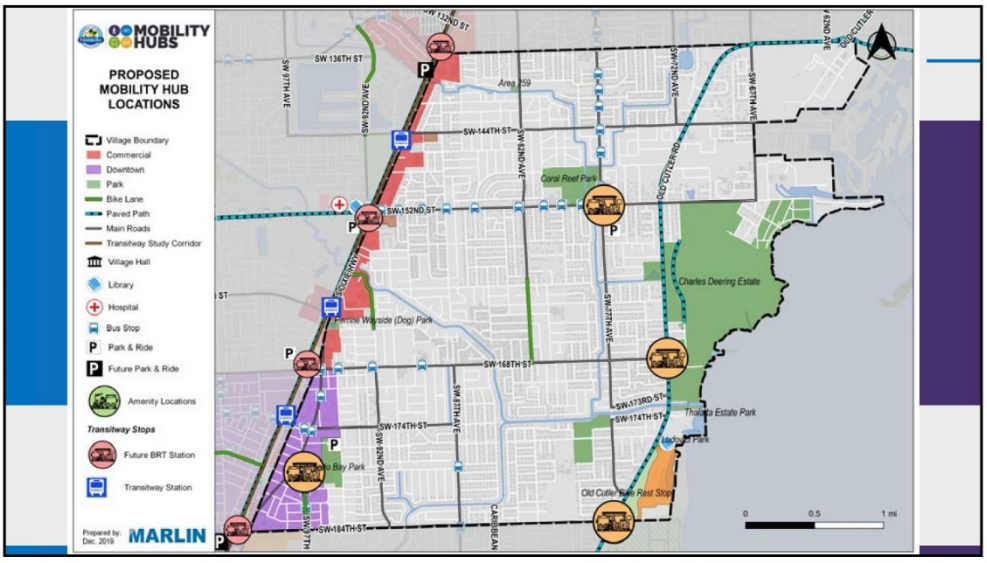

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Mobility Amenity Locations

- FPL Easement @ 77 Ave
  Existing Transit Stop: Recommended for Amenities
- FPL Easement & 67 Ave
  New Transit Stop with Amenities
- SW 82 Ave & 152 Ave
  Existing Transit Stop: Recommended for Amenities
- SW 82 Ave & 160 St
  New Transit Stop with Amenities
- SW 168 St & 88 Ave
  Existing Transit Stop: Recommended for Amenities
- SW 184 St & 87 Ave
  Existing Transit Stop: Recommended for Amenities
- Bill Sadowski Park
  New Transit Stop with Amenities

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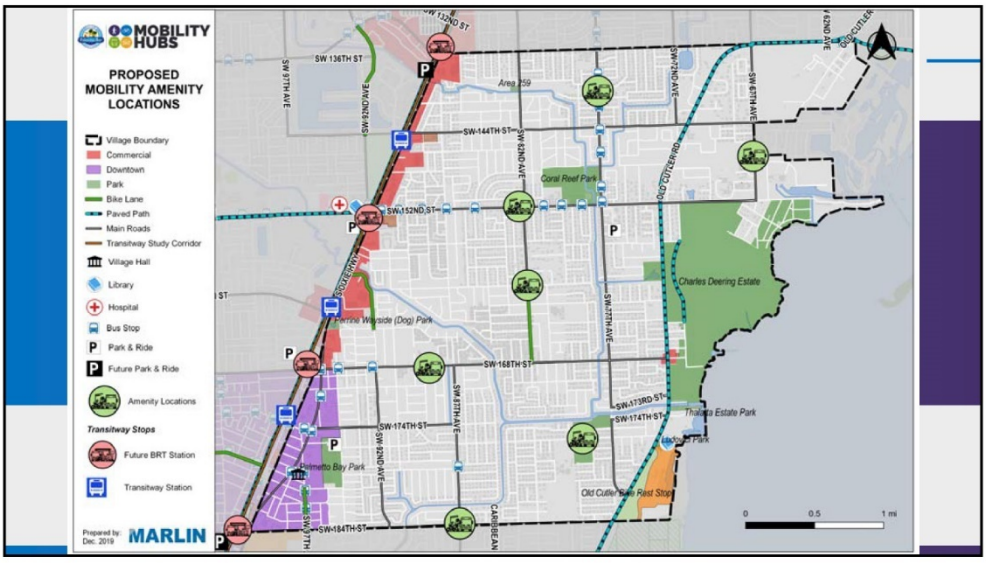

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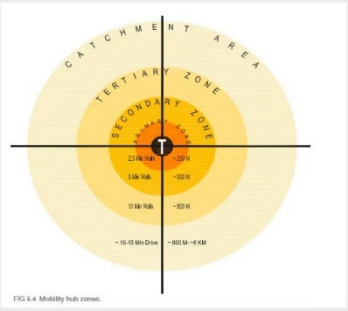
Hub Site Selection

Hubs & Mobility Locations Selection Criteria:

- Transit Data & Gaps
- Bicycle & Pedestrian Data
- Proximity to Schools & Community Facilities
- Land Use & Zoning
- Available Right-Of-Way
- Previous Recommendations



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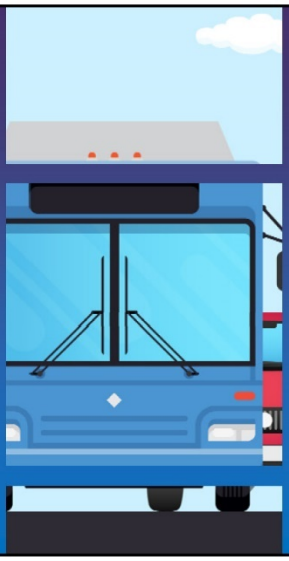
Conceptual Design

Street Sections



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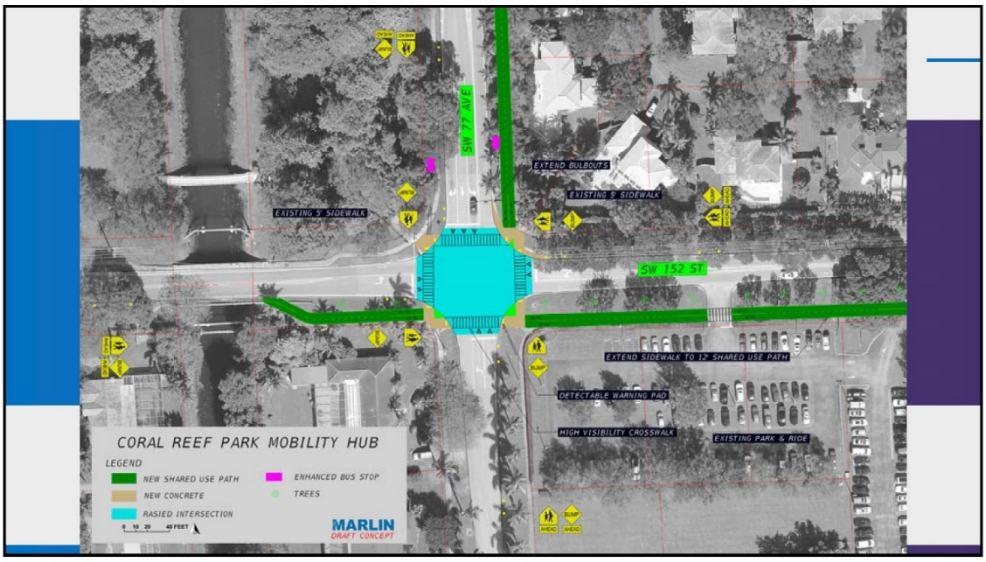

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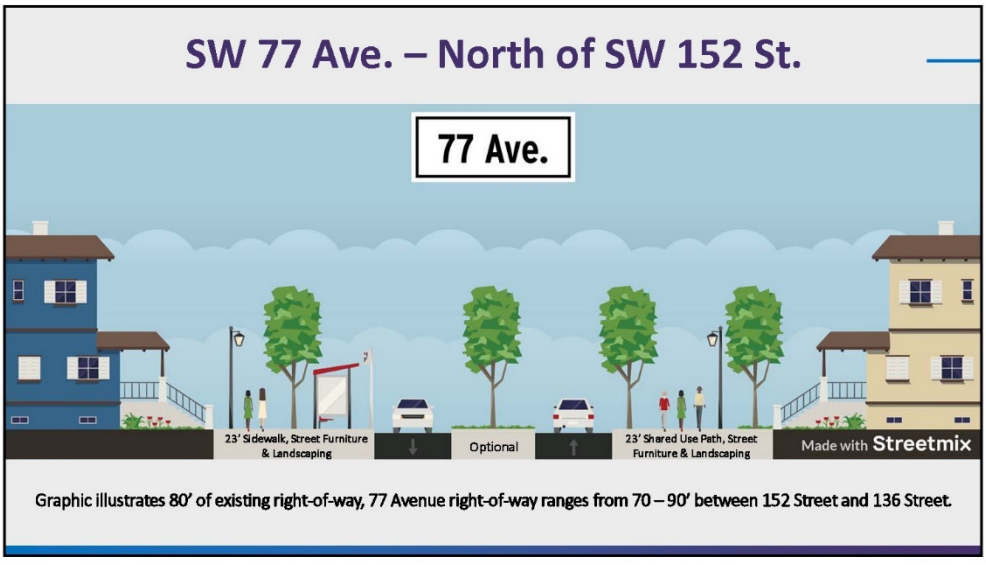

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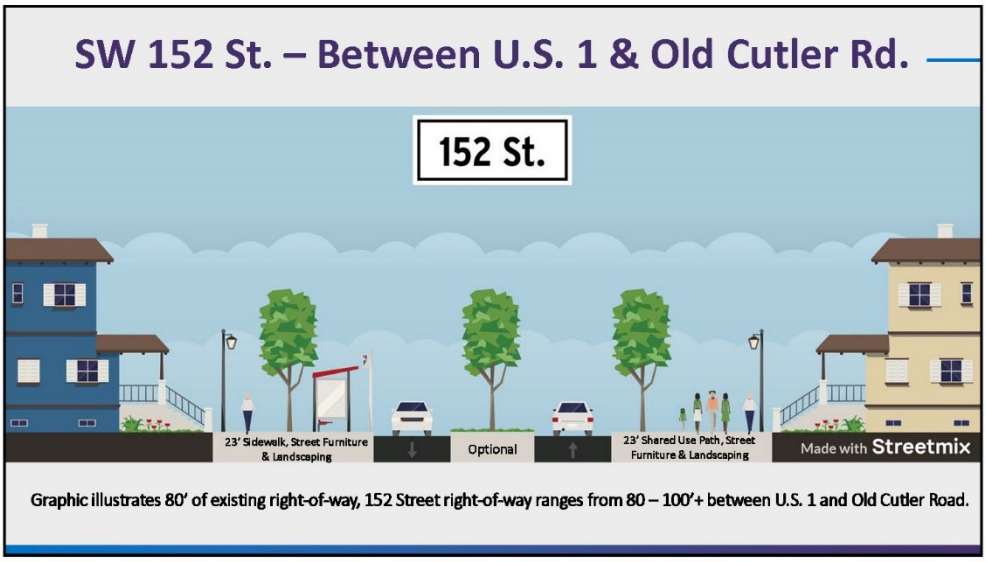

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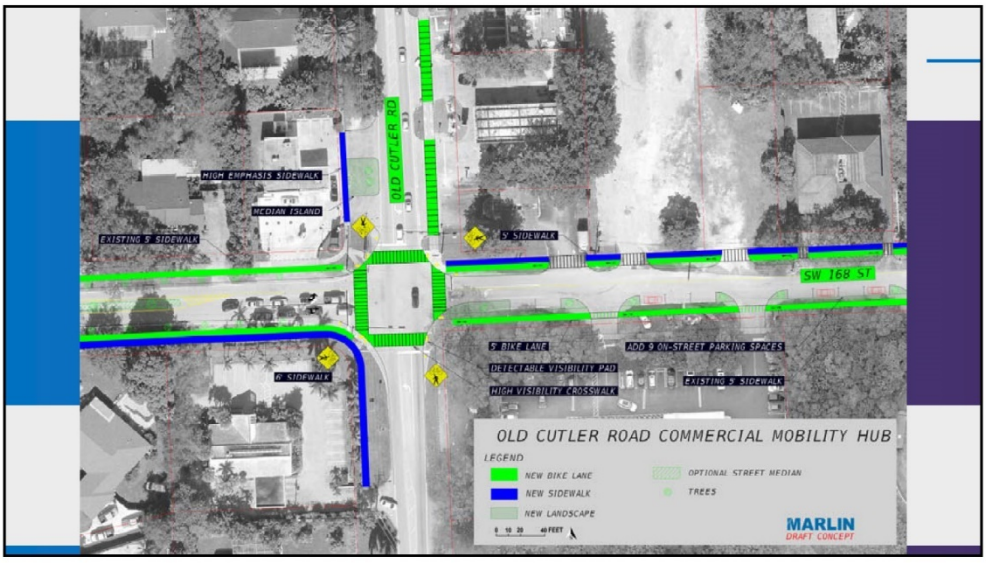

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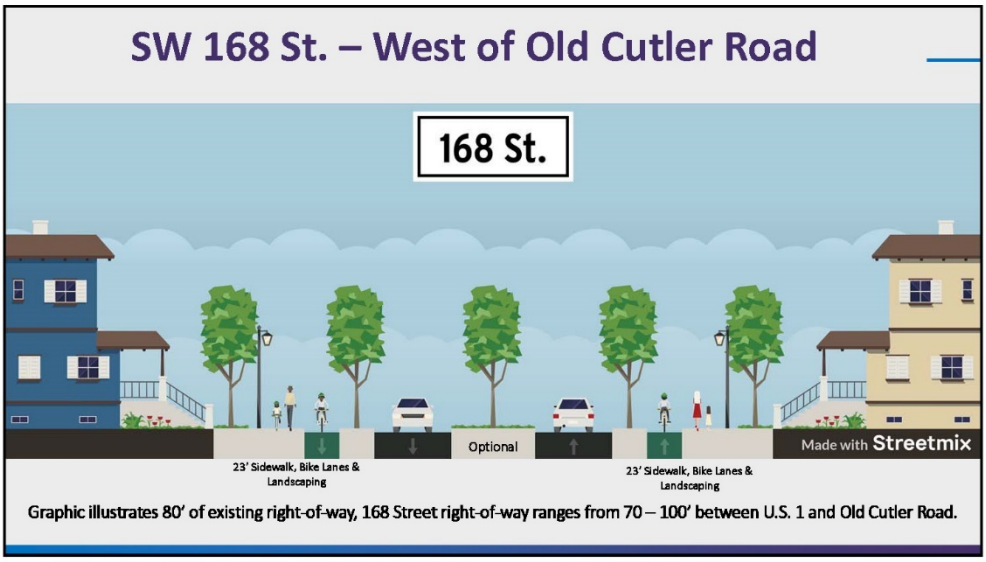

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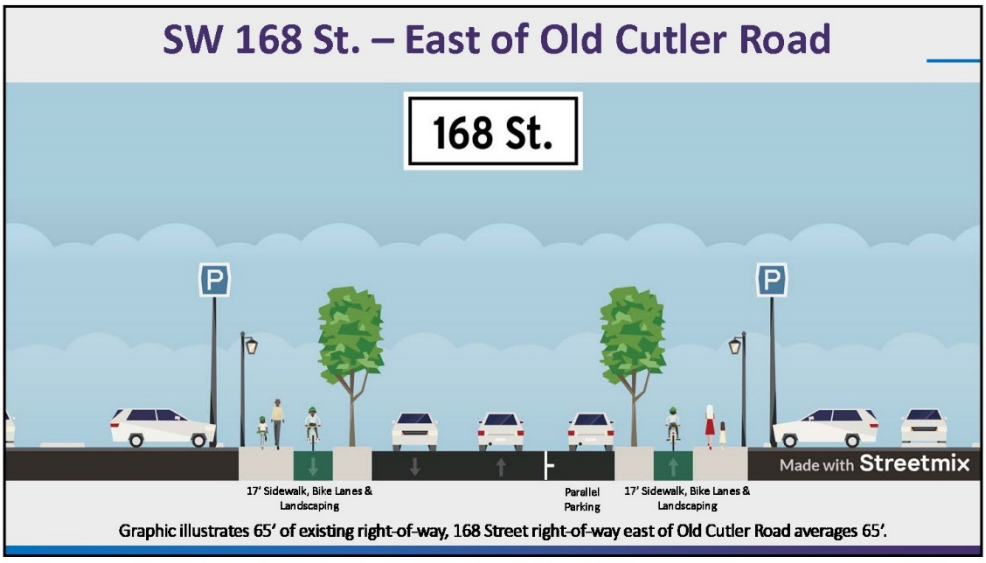

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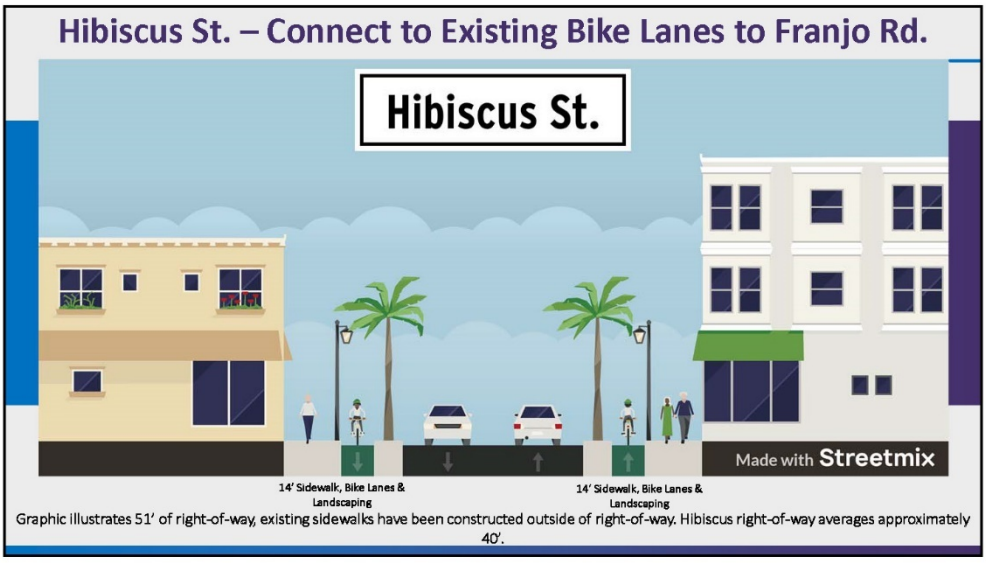

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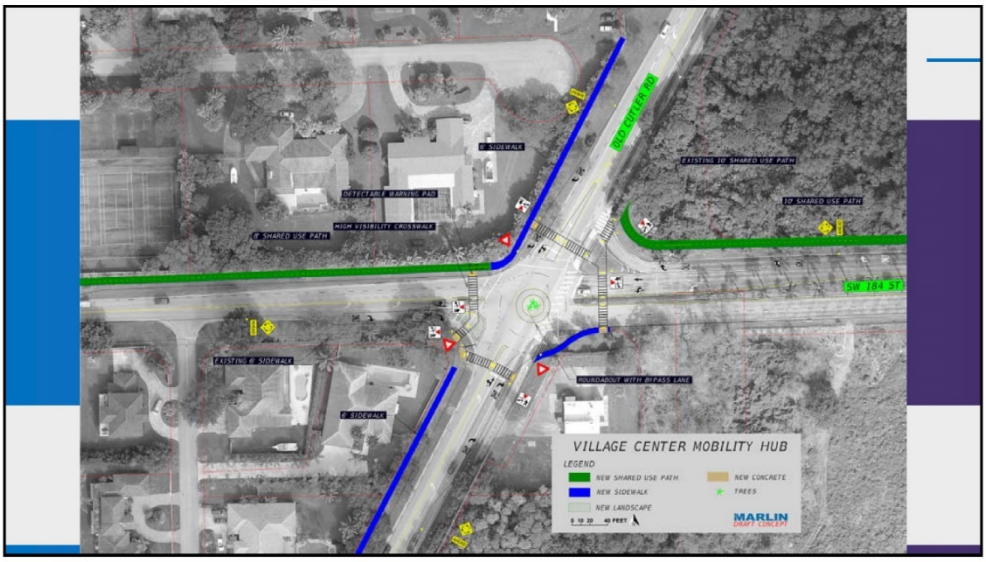

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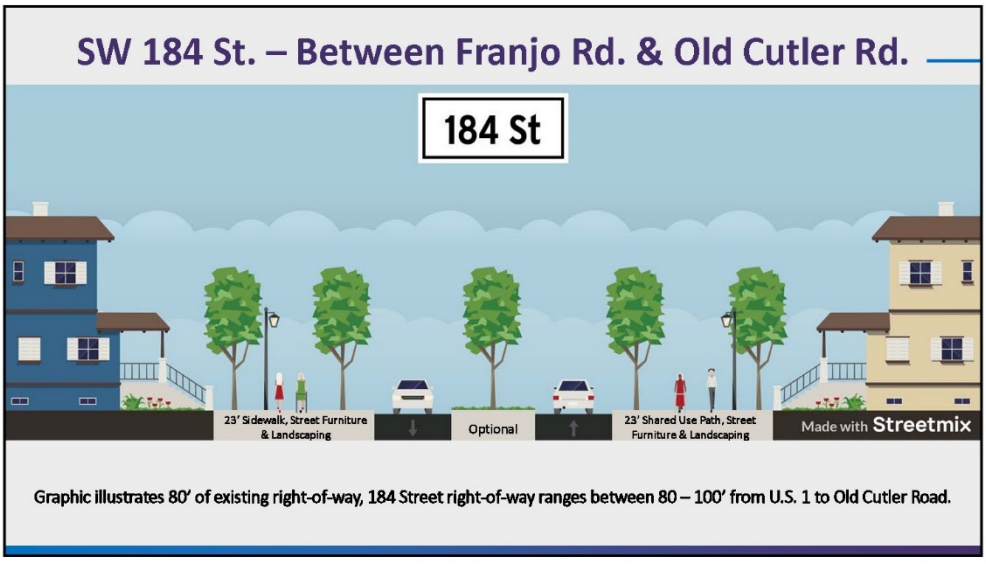

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Recommendations

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Recommendations

- » Fill **Sidewalk Gaps** within ¼-mile of all existing and proposed Transit Facilities
- » Support Previous Recommended **Bike/Ped** Improvements
- » Support **Increased Density** and Mixed-Use along U.S. 1/S. Dixie Hwy
- » Creation of a Village **Branding/Marketing** Plan
- » Creation of a **Curbside** Management Plan
- » Adoption of a **Transportation Demand Management** Program
- » Explore the use of **Shared Mobility**
- » Create Transit **Partnerships** with Neighboring Communities
- » Implement **Green Infrastructure** Techniques
- » Support **Mobility Hub Amenities & Mixed-Use Development** at Future BRT Stations

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Public Workshop #3 Notes

Wednesday, December 11, 2019

Open House – 7 PM – 8:45 PM

Public Questions & Comments:

- Coral Reef Mobility Hub (77 Ave & 152 St)
  - Existing bus stops need new signs, signage is faded
  - 77 Ave needs to connect across the canal to east traffic, a bridge should be built
  - Why not place the proposed shared use path on the north side of 152 St?
  - What happens when a bicyclist approaches the bridge?
  - Is it possible to narrow vehicle traffic lanes and extend sidewalk?
  - Raised intersection is great!
  - Coral Reef Park has WiFi already
- Old Cutler Road Commercial (168 St & Old Cutler Rd)
  - Where do we park?
  - The proposal east of Old Cutler Road would lose the left turn lane, consider creating a bicycle boulevard east of Old Cutler Rd and along 72 Ave, reduce the speed to 25 mph in this section so that bicyclists can share the road. This is a short segment to do this and would connect bicyclists to the Chinese Trail along 72 Ave.
  - Suggest creating a bicycle boulevard along 72 Ave between 168 St and 152 St.
  - 72 Ave does not have sidewalks.
  - There are two homes east of Old Cutler Rd on 168 St and seven houses on 72 Ave.
  - Cars are not allowed on the Chinese Trail along 72 Ave between 156 St and 164 Ter.
  - Old Cutler Trail should be raised at the ingress into the plaza, gas station and drive thru entrances. This was part of the 2009 Bicycle & Pedestrian Master Plan.
  - Support for separated bicycle lanes west of Old Cutler Rd on 168 St.
  - Consider sloping the proposed south side sidewalk on 168 St, between Old Cutler Rd and 75 Ave with Type D curbing and 1 ½ -inch pipe underneath the sidewalk for drainage.
- Downtown Mobility Hub (Franjo Rd & Guava/Hibiscus St)
  - Franjo Rd to have bike lanes
  - Proposed bike lanes on Hibiscus St should connect to existing bike lanes west of U.S. 1 and Franjo Rd.
  - Because Banyan BRT Station was eliminated, need a shuttle from DUV to 184 St and/or 168 St BRT Stations.
  - Missing sidewalk on northside of 184 St, east of U.S. 1

- Village Center Mobility Hub (184 St & Old Cutler Rd)
  - Need sidewalk on west side of Old Cutler Rd and path on 184 St, otherwise, people will not be able to access.
  - Extend sidewalk and connect to the trail at the Village Center. The trail begins near Ludovici Park by the lake. There is a shuttle tour.
  - Include sidewalk on south side of 184 St, east of Old Cutler Rd to bend north and connect to Palmetto Bay Village Center path trail this will complete the connection to 77 Ave to Old Cutler Trail to 184 St.
  - Consider root barriers near all proposed paths. If trees are more than 4' from the path, roots will typically not be an issue.
- Other:
  - Was Bill Sadowski Park eliminated as Mobility Hub option? You may be able to allocate parking here too.
    - No, we are recommended this location for a transit stop, amenities and mobility options.
  - Where are the exact locations of the Hubs?
    - There is no exact location, the intersection is considered the Hub with the idea that transit and mobility options be placed near the intersection to create a synergy so people have access to transportation options throughout the community.
  - Consider modifying the single route option to include 176 St, more people will have access here - Old Cutler Rd/184 St, not many people live here.
  - Check out the protected bike lanes along 152 St near 147 Ave, west of Palmetto Bay. These were built about a year ago.