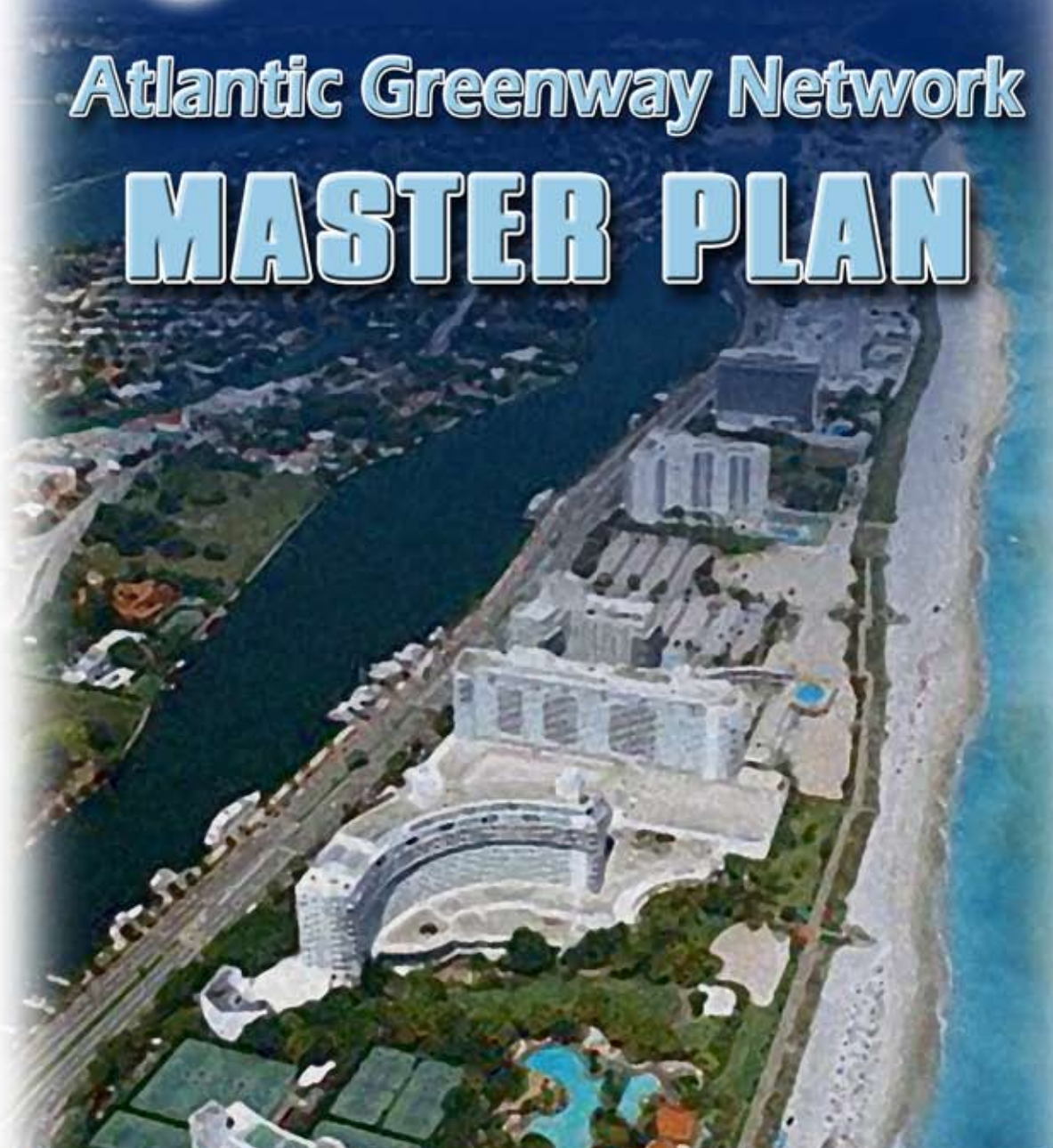




MIAMIBEACH

Atlantic Greenway Network

MASTER PLAN



December 2008



MIAMIBEACH

Atlantic Greenway Network

MASTER PLAN



Presented By:



December 2007



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Atlantic Greenway Network

ACKNOWLEDGEMENTS

The Atlantic Greenways Master Plan document is the culmination of an intensive effort to improve the bicycle and pedestrian systems within the City of Miami Beach for current and future Miami Beach residents and visitors.

Mayor: David Dermer

Vice Mayor: Matti Herrera Bower

Commissioner: Simon Cruz

Commissioner: Michael Gongora

Commissioner: Saul Gross

Commissioner: Jerry Libbin

Commissioner: Richard Steinberg

Commissioner: Matti Bower

City Manager: Jorge Gonzalez

Director, Public Works: Fred Beckmann

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City of Miami Beach Mayor's Blue Ribbon Bikeways Advisory Committee

Contributing Departments

City of Miami Beach Planning Department

City of Miami Beach GIS

City of Miami Beach Capital Improvements



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1.0 Introduction

1.1 Project Overview



The City of Miami Beach is in the process of integrating its bicycle, pedestrian and greenway facilities into the Atlantic Greenway Network (hereafter referred to as the AGN). The network will knit together elements of the Miami Beach bicycle/pedestrian transportation system: the north-south Beach Corridors running parallel to the dunes, and the Neighborhood Trails that provide access to the beach, parks, schools, and the commercial, cultural and civic destinations. The AGN shall be integrated with the City's policies on encouraging and fostering the development of multi-modal transportation systems throughout the City including integration and connection to the existing and proposed transit systems; linkages to existing and proposed multi-modal transportation

centers; and the creation of a network of safe transportation alternatives. The overall goal of the AGN is to provide seamless multi-modal connectivity along Miami Beach's streets and greenways.

The overall objectives of the AGN include:

- Supporting the multi-modal transportation network
- Creating links to common bicycle and pedestrian destinations
- Increasing safety and visibility for bicycles and pedestrians
- Improving connectivity in the local and regional trails network
- Eliminating barriers for cyclists and pedestrians
- Establishing future bikeway corridors

1.2 Project Methodology

This Master Plan report was commissioned in 2007 to specifically address the following goals:

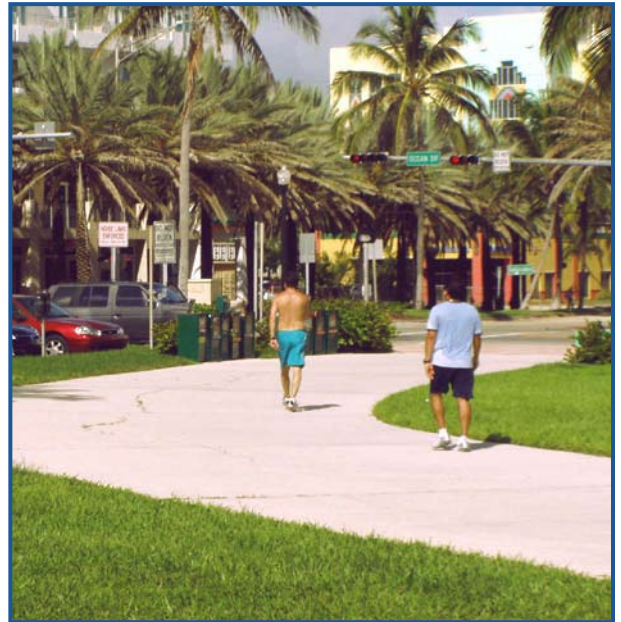
- Determine the best routes for bicycle facilities;
- Determine the safest alternative to fill in gaps in the existing network and existing City Bicycle Master Plan;
- Determine where and how to upgrade proposed bicycle and pedestrian facilities in the proposed City CIP Projects, the County's plans, and State proposed projects;
- Formulation of an action plan designed to provide steps toward implementation of the system.

To that end, a methodology was created to address the project's objectives. This methodology was tailored specifically to the needs of the City of Miami Beach, and includes the following general steps:

1. **Data Collection and Inventory** – A single base map was created for the project. This base map was a combination of working with GIS data and CAD files from City, County and State sources augmented with field observations made over many days of site visits. Documents such as the City's Comprehensive Plan, CIP and GO Bond projects, transportation plans and other documents were reviewed for their pertinence to this project. An overview of the inventory is presented in Section 2.
2. **Analyze Existing Conditions** – Working with the base data, background documents and site visit information, the existing Bicycle Plan was reviewed and analyzed for appropriateness of proposed bicycle and pedestrian facilities, and to identify potential 'gaps' in the system. This analysis is presented in Section 3.
3. **Meetings with Stakeholders** – Meetings were held with specific stakeholders and with staff at intervals throughout the project to test the data, observations and analysis. Adjustments were made in the plan in response to stakeholder concerns. Minutes of these meetings are presented in Section 6.



- 4. Public Workshop and Presentations** – The public was invited to comment on the Master Plan at a public workshop held on August 30, 2007. Minutes from this meeting, as well as a copy of the presentation from that meeting are presented in Section 6.
- 5. Final Master Plan Map** – The culmination of the analysis, meetings, workshops and field observations is summarized in the AGN Map. This map is presented in Section 4.
- 6. Implementation Plan** – Section 5 contains recommendations for the implementation of the AGN system.



What is a “Greenway”?

The definition of a traditional Greenway is a network of safe, clean, walking & bicycle paths, nature trails and waterways.

In the general sense, a greenway network is comprised of a system of physical places and spaces, each contributing to an overall recreational experience.

Destinations for greenway users are also important in that they provide a place to park their car, have access to drinking water, information, restrooms and bike racks.

A greenway network can be the uniting factor for "Places of Meaning", such as downtown areas, schools, cultural destinations, bus stops, prominent public buildings, libraries, city halls and civic centers. These make excellent destinations for greenways and can primarily emphasize them. It can also establish the importance of these places to the community, and

add to the overall quality of life provided to residents and visitors alike.

Travelways within a Greenway System are generally comprised of a combination of dedicated paths, bike lanes, bike routes and/or wide sidewalks.

2.0 Inventory of Existing Conditions

2.1 Miami Beach Community Profile

Founded: 1913

Population: 86,916 (2007 Estimate)

Size: 18.7 sq. mi. land, 11.7 sq. mi. water

A - Overview

Miami Beach is a major tourist destination for travelers worldwide. Its climate, beaches, culture and nightlife have made it a trend-setting hotspot for decades. We will explore some of the unique features of Miami Beach and provide a context for the Atlantic Greenway Network. The City of Miami Beach is part of the South Florida metropolis extending from the Palm Beaches to South Miami, and is intertwined with the greater whole, but retains its own culture and identity. The City – mostly built-out – has reached a point in its evolution where in order for continued growth, it is necessary to redevelop aging infrastructure and civic centers, including parks, school, libraries and streets.

B - History

The development history of the City of Miami Beach is primarily responsible for the overall geographical layout of its streets and open spaces. The network – as originally planned by the Lummus Brothers, as well as Carl Fisher and John Collins in the North Beach Neighborhoods – connects the north and south of the City through a series of main arterial roadways. Commercial properties were strategically placed at major crossroads, and large development lots were created to lure the wealthy to the City. Hotels were then developed along the major thoroughfares along the waterfront.

This development organization remains prevalent within the City today. The traditionally designed gridded network of neighborhood streets serves to allow easy access and travel throughout the City. It is this traditional network – and the foresight to create open space and parks – that allows for the development of the AGN. It is this same system, however, that provides the greatest constraint to the AGN along arterial roadways: constrained Right-of-Way widths. A descriptive historical summary is located in Section 6 – Appendix.

C - Geography

Miami Beach is located on the southernmost end of a chain of natural barrier islands on the southeast coast of Florida. Located between the Atlantic Ocean to the east and Biscayne Bay to the west, the city limits include a number of spoils islands that were created by dredging. The City is bounded on the north by the City of Surfside, and ends at the Government Cut waterway to the south.

Within the City there are three general areas – North, Middle and South Beach.

- North Beach is defined as the neighborhoods north of 65th Street. This area is largely lower density residential along Biscayne Bay, commercial centers located along 71st Avenue, and higher density residential along the beach;
- Middle Beach stretches from 65th Street to 23rd Street. This area is largely residential;
- South Beach is the most widely known area of Miami Beach. This area is defined as everything south of 23rd Street, plus the two clusters of islands on the southwest side.

D - Demographics

Total Population: 86,916 (2007 Estimate)

Median Age: 46

Percent Female: Male: 48.8/51.2

Percent of Housholds with Individuals Under 18: 15.5

Percent of Housholds with Individuals Over 65: 27.8

Median Household Income: \$27,322

Density: 12,502 per square mile

Miami Beach has a large Jewish community, many of whom winter in there, and spend the summer in the north. The Latin American influence is also very strong in Miami Beach, with 53.4 percent of the population (47,000 residents) identifying themselves as Hispanic or Latino.

E - Civic and Cultural Life

A large part of Miami Beach's identity is built on its long history as a center for the arts.

Cultural activities in Miami Beach include:

- City-owned arts facilities include several theaters, a public art gallery in City Hall, the Bass Museum of Art and the SoBe Musical Institute.
- The City has an Art in Public Places program that has enriched the civic landscape for over 2 decades. The City requires that 1.5 percent of the construction budget for city-owned projects be committed to public art. Existing examples include City and neighborhood welcome signage, sculpture in the Convention Center and decorative sidewalk tiles in Collins Park, the Flagler Monument on an island in Biscayne Bay, and many others.
- The City's Convention Center hosts an array of major events, from trade shows to boat shows to jewelry exhibitions to food and wine festivals. Adjacent to City Hall and the Lincoln Road pedestrian mall, the Convention Center can accommodate tens of thousands of visitors.
- The Miami Beach Botanical Garden in South Beach, an 'urban greenspace' boasting a variety of subtropical collections including palms, bromeliads and orchids. The 4.5 acre garden has free admission and is convenient to the Convention Center, City Hall, and other cultural destinations.
- The New World Symphony Orchestra is located on Lincoln Road, as is the ArtCenter South Florida and Britto Central.



Colony Hotel – A Miami Beach landmark

A number of annual cultural events are held in Miami Beach, including:

- The Festival of the Arts in February. Described as 'one of the most prestigious cultural arts festivals on the East Coast,' the festival attracts over 150 artists and attracts over 30,000 visitors.
- Art Basel Miami Beach in December, an international art show spanning many galleries, tours, film screenings, concerts and other events.

F - Policy Profile - Miami Beach Comprehensive Plan

The following Goals, Objectives and Policies in the Miami Beach Comprehensive Plan refer to the bicycle and pedestrian network. (Refer to Section 5 – Implementation Plan for recommendations).

- Traffic Circulation Element Goal: To ensure the development of a safe, efficient and integrated motorized and non-motorized transportation system in the City of Miami Beach.

Objective 3 addresses parking, bicycle and pedestrian issues, including implementation of the parking master plan; provision of adequate parking areas; development of a bicycle path network; acquisition of grant funding for beachfront parks and promenades; accessibility for the elderly and handicapped; and bicycle storage areas for multi-family housing, shopping, and recreational areas.

- The Mass Transit Element does not address the needs of cyclists or pedestrians. The City however has implemented a number of multi-modal initiatives and policies addressing these needs. (It should be noted that the local transit agency: Miami-Dade Transit has instituted bicycle accessible busses along all of its routes in Miami Beach).
- Conservation/Coastal Zone Management Element Goal: Provide public improvements and restrict development activities that would damage or destroy coastal resources, protect human life and limit public expenditures in areas subject to destruction by natural disasters in a manner maintaining or improving the marine and terrestrial animal habitats, vegetation, land, air, water, and the visual, aesthetic quality of Miami Beach for present and projected, future populations.

Objective 1 addresses the beach and dunes, including a policy that directs the City to pursue State and Federal grants for pedestrian walkways that ‘minimally impact beach or dune systems on public property.’

- Recreation and Open Space Element Goal: Develop and Maintain a Comprehensive System of Parks and Recreational Open spaces to Meet the Needs of the Existing and Future Population by Maximizing the Potential Benefits of Existing Facilities and Open Space While Encouraging the Preservation and Enhancement of the Natural Environment.

Objective 1 concerns waterfront parks, and calls for the preservation of beach parks and for improved access to these parks. This includes beachfront promenades, park improvements, and improved parking and beach access.

Objective 5 proposes “a network of greenways, scenic open space vistas, beachfront promenades, bicycle and pedestrian trails, and multi-purpose public access corridors to waterways, the beach and outdoor recreational opportunities in order to preserve natural eco-systems and to enhance the quality of urban life.” Policy recommendations to meet this objective include implementation of the Atlantic Greenway Corridor Initiative, which includes a variety of corridor projects. Interpretive signage along the City’s greenways is also recommended to provide historical, cultural and environmental information about Miami Beach.

G - Historic Districts - Destination Points

The significance of these districts within the AGN Master Plan is that they serve as destinations for bicyclists and pedestrians. The geographic distribution of these districts offers opportunities across the AGN City-wide.

North Beach:

- Altos Del Mar Historic District
- Harding Townsite/South Altos Del Mar Historic District
- Historic 69th Street Fire Station
- North Beach Resort Historic District

Middle Beach:

- Bath Club Historic Site
- Flamingo Waterway Historic District
- Pinetree Drive Historic Roadway
- Collins Waterfront Historic District
- 28th Street Obelisk and Pumping Station Historic Structure
- Dade Boulevard Fire Station Historic Site
- Miami Beach Woman's Club Historic Site
- Sunset Island Bridges - #1, #2 and #4 Historic Structures
- Venetian Causeway Historic Structure



Pinetree Drive - Miami Beach

South Beach:

- The Art Deco National Historic Landmark Architectural District is the world's largest collection of buildings in the Art Deco style, containing 960 historic buildings built in the 1920's and 30's. The boundaries of the District overlay several locally designated historic districts (marked with a star* below).
- * 21st Street Recreation Center Historic Site
- * Museum Historic District
- * Ocean Drive/Collins Avenue Historic District
- * Espanola Way Historic District
- * Old City Hall Historic Site
- * Flamingo Park Historic District
- Congregation Beth Jacob Complex Historic Site
- Ocean beach Historic District
- Flagler Memorial and Monument Island Historic Site
- Palm View Historic District



South Beach's Vibrant Night Life

H - Redevelopment Districts

Redevelopment Districts can be key to the implementation of potential AGN projects. As redevelopment occurs, individual projects may address the creation of future links in the AGN, as well as the creation of AGN amenities, such as bike racks, pedestrian signs and wayfinding, bike ways and paths.

The Miami Beach Redevelopment Agency (RDA) oversees two redevelopment districts:

- The South Pointe RDA, located south of 5th Street, includes renovation of South Pointe Park, the Baywalk path, streetscape improvements, commercial and residential rehabilitation, and a community garden.
- The City Center RDA is located in the dense central area of South Beach. The focal point of this RDA is the Collins Park Cultural Center, a museum district that will be connected to other cultural destinations with an electric-powered circulator bus. Other City Center RDA projects here include several projects on Lincoln Road, and a paved beach trail that will extend from the existing boardwalk at 21st Street to the northern edge of Lummus Park.



Lincoln Road Projects



Loew's Hotel

I - CIP and GO Bond Projects

The Capital Improvements Projects (CIP) Office is the City department responsible for implementing the projects in the City's General Obligation (GO) Bond, Water and Wastewater Bond, and Stormwater Bond. Thirteen Miami Beach neighborhoods have been delineated, and a series of public workshops are held within each neighborhood to address residents' concerns.

For this study, most citizen input was in regards to the streetscaping projects funded by the City's GO Bond. The variety of streetscape projects include: safety improvements to roadways such as textured crosswalks and bulbouts; sidewalk repairs; improved parking; traffic calming measures, such as reducing pavement width and adding speed tables; additional trees to provide shade for pedestrians; neighborhood entry features; and new bicycle and pedestrian features on local streets. Repaving, swale, and curb and gutter projects have also been planned for streets where drainage is an issue.



The ongoing planning process for these projects has involved extensive public involvement and coordinating with the Public Works Dept. to ensure the inclusion of bicycle facilities where ever and when ever possible. Many have been constructed or are currently in the design phase. Anticipated bicycle network improvements under consideration include the following:

- Bid Package 1: Biscayne Pointe - Bicycle Routes, Traffic Calming
- Bid Package 3: Normandy Shores - Bicycle Routes, Traffic Calming
- Bid Package 5: La Gorce - Bicycle Routes, Bicycle Lanes on 51st Street
- Bid Package 6: Oceanfront - Pedestrian Connections to future Indian Creek Greenway
- Bid Package 7: Nautilus - Bicycle Lanes on 47th Street, Royal Palm Avenue; Bicycle Routes
- Bid Package 8: Bayshore - Bicycle Lanes and Routes
- Bid Package 9: City Center - Bicycle Routes
- Bid Package 11: West Avenue - Bicycle Lanes
- Bid Package 12: South Pointe - Bicycle Lanes

Public Works will continue to coordinate with CIP to ensure all City projects consider the development of bicycle facilities. These projects have been mapped and appear in Section 4 to show how they will enhance the Miami Beach bicycle/pedestrian network.

Recommendations are included in Section 5.

2.2 Origin, Destination and Land Use

A - Overview

Every trip includes a beginning and an end – known as an origin and a destination. Critical to the success of an implemented Greenway network are continuous, safe connections between the origins and destinations. An inventory of potential origins and destinations is included in the following section.

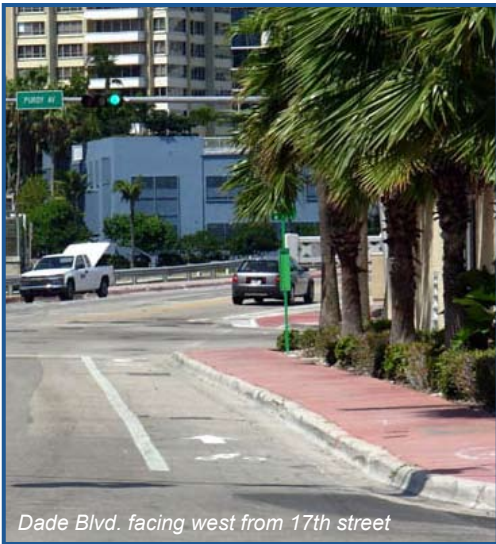
This inventory is primarily based on land use. City residents will generally originate from their place of residence within their neighborhood. Other users may be tourist trips – all of which are accounted for by considering land use.

Therefore, a comprehensive inventory of origins and destinations must then consider all components of land use within the City. Included in the following are all of the physical components of the City:

- Neighborhoods (primarily residential) – includes residential uses
- Civic and Cultural Areas – includes schools, civic centers, libraries, churches
- Commercial Areas – includes shopping centers, employment centers
- Parks and Open Space – includes all parks and City open spaces, such as golf courses
- Natural Lands – includes the beaches
- Transportation Corridors – arterial roadways, neighborhood streets, drainage canals and waterways, sidewalks, trail and pathway systems (included in section 2.3)

See the “Base Map”, “Current Land Use”, “Current Zoning Map” and “Facilities Map” in this section for the complete inventory.





Dade Blvd. facing west from 17th street

B - Neighborhoods

North Beach:

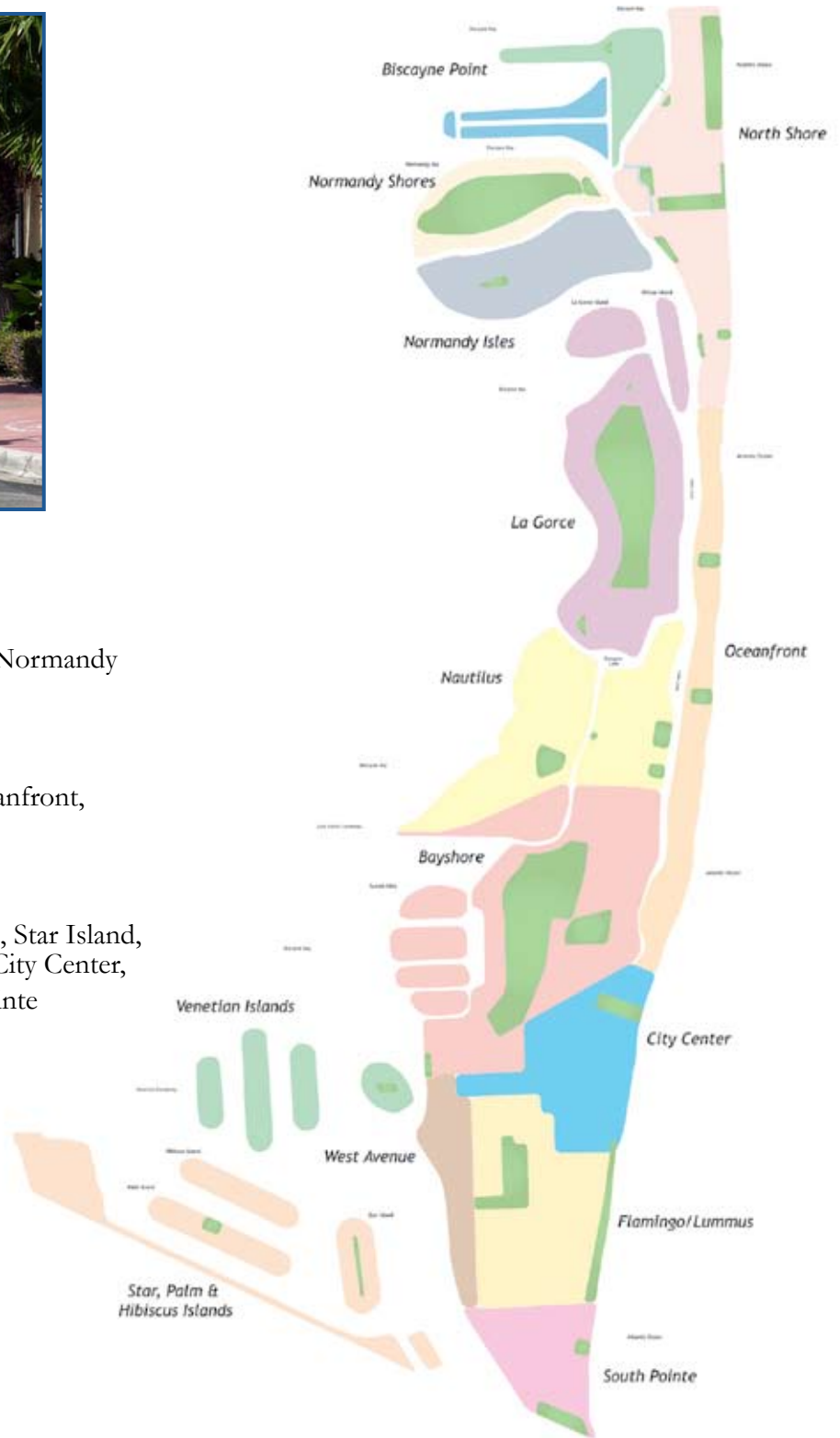
North Shore, Biscayne Point, Normandy Shores, Normandy Isles

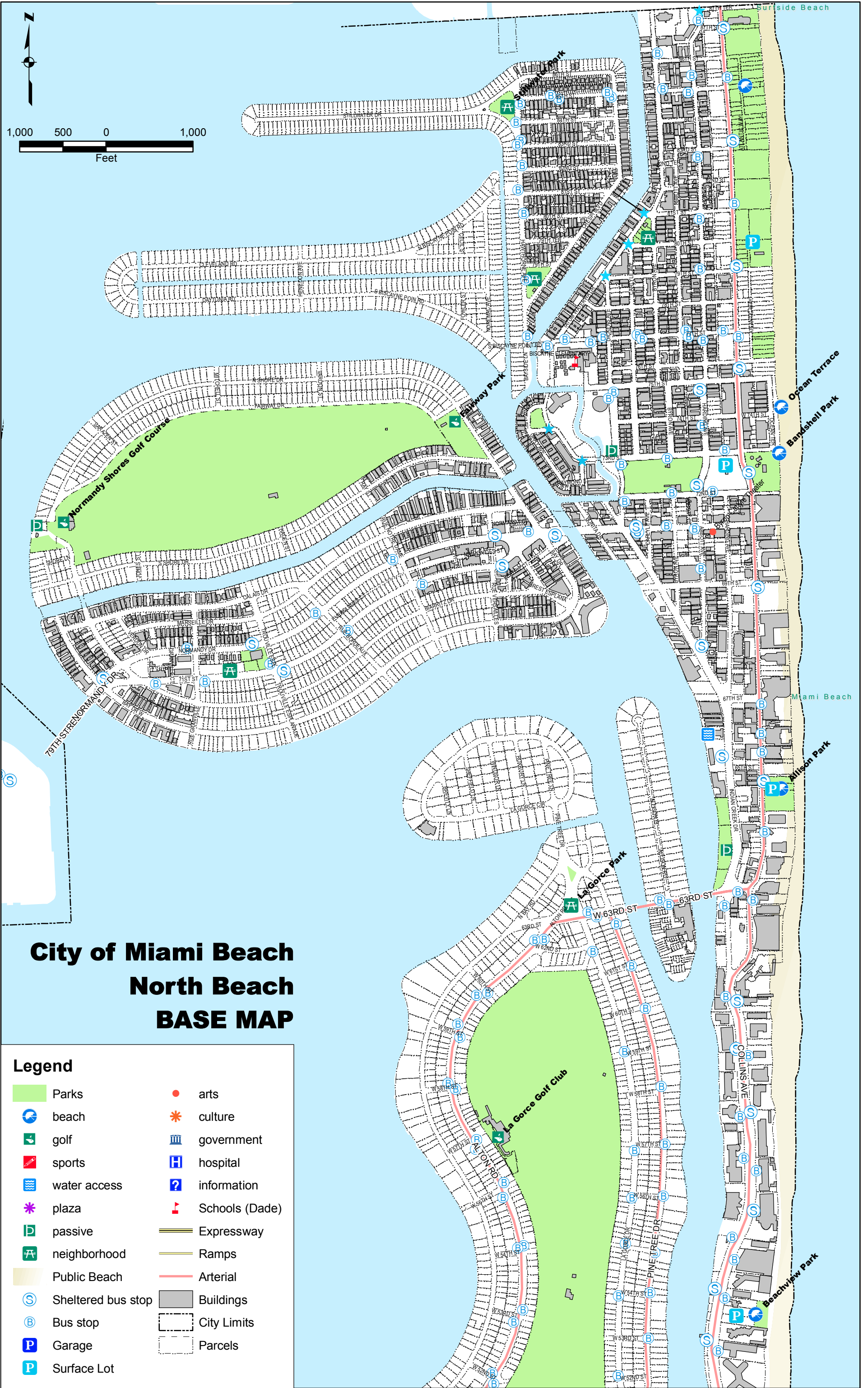
Middle Beach:

Allison Island, La Gorce, Oceanfront, Nautilus, Bayshore

South Beach:

Venetian Islands, West Avenue, Star Island, Palm Island, Hibiscus Island, City Center, Flamingo/Lummus, South Pointe






























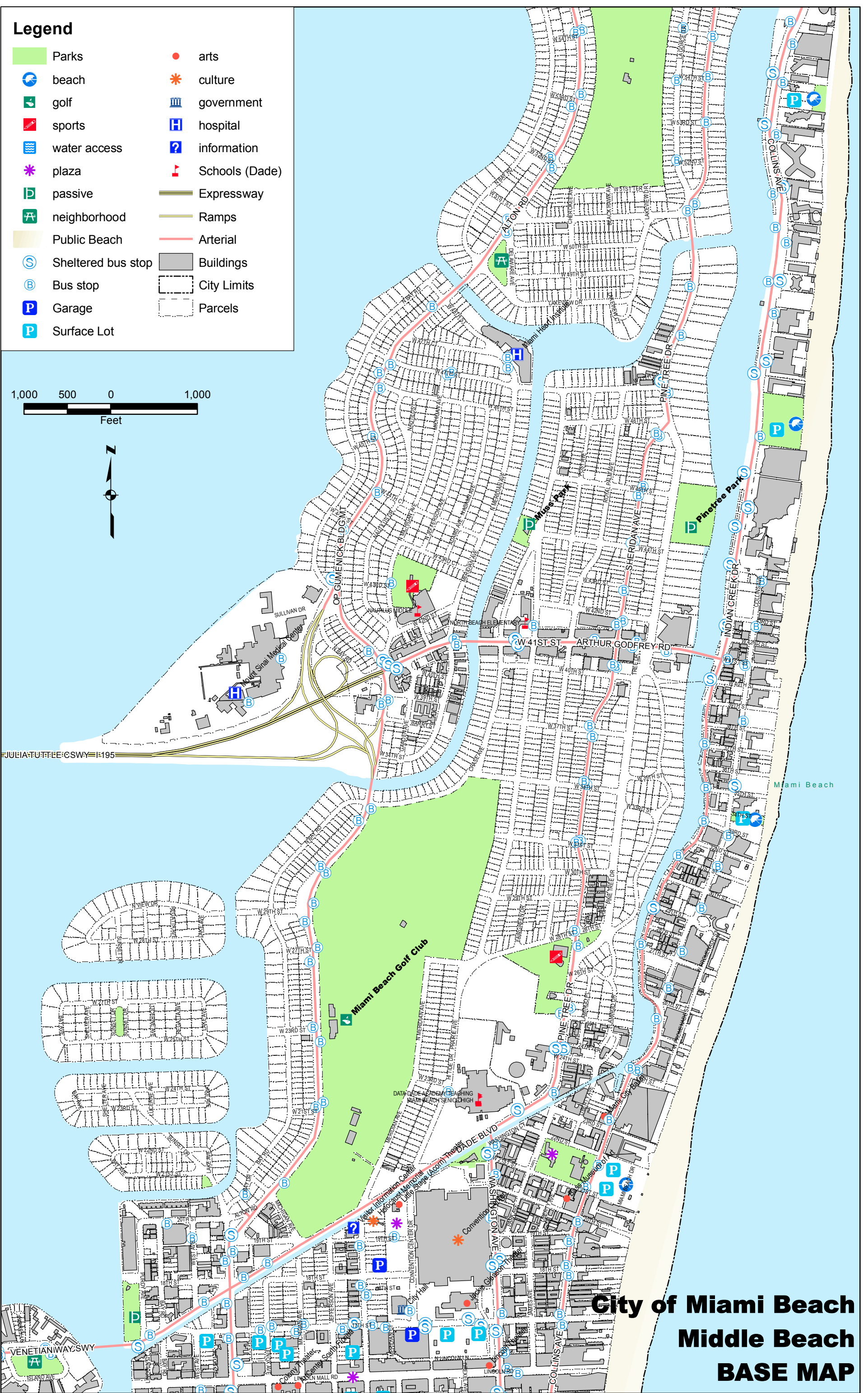
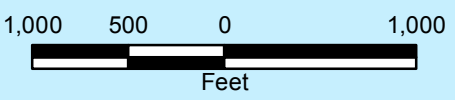
City of Miami Beach North Beach BASE MAP

Legend

- | | | | |
|--|--------------------|--|----------------|
| | Parks | | arts |
| | beach | | culture |
| | golf | | government |
| | sports | | hospital |
| | water access | | information |
| | plaza | | Schools (Dade) |
| | passive | | Expressway |
| | neighborhood | | Ramps |
| | Public Beach | | Arterial |
| | Sheltered bus stop | | Buildings |
| | Bus stop | | City Limits |
| | Garage | | Parcels |
| | Surface Lot | | |

Legend

- | | |
|--|--|
|  Parks |  arts |
|  beach |  culture |
|  golf |  government |
|  sports |  hospital |
|  water access |  information |
|  plaza |  Schools (Dade) |
|  passive |  Expressway |
|  neighborhood |  Ramps |
|  Public Beach |  Arterial |
|  Sheltered bus stop |  Buildings |
|  Bus stop |  City Limits |
|  Garage |  Parcels |
|  Surface Lot | |



City of Miami Beach Middle Beach BASE MAP



Legend

- | | | | |
|--|--------------------|--|----------------|
| | Parks | | arts |
| | beach | | culture |
| | golf | | government |
| | sports | | hospital |
| | water access | | information |
| | plaza | | Schools (Dade) |
| | passive | | Expressway |
| | neighborhood | | Ramps |
| | Public Beach | | Arterial |
| | Sheltered bus stop | | Buildings |
| | Bus stop | | City Limits |
| | Garage | | Parcels |
| | Surface Lot | | |

**City of Miami Beach
South Beach
BASE MAP**

C - Cultural and Civic



Holocaust Memorial

Cultural destinations include art galleries and theaters as well as historic sites and districts, movie theaters, gardens and museums. Civic destinations include libraries, post offices, schools, churches and synagogues, parks and recreational centers, meeting halls, beach access points, and other public facilities that are typically more heavily visited by local residents.

North Beach

Normandy Shores Golf Course, Historic Log Cabin, Byron Carlyle Arts Center

Middle Beach

Miami Beach Golf Club, US Post Office, La Gorce Golf Course, Fisher Park, La Gorce Park, Muss Park, Pinetree Park, Polo Park, Scott Rakow Youth Center & Ice Rink

South Beach

Miami Beach Branch Library, Miami Beach Botanical Gardens, Community Garden, Convention Center, City Hall, Art Deco Welcome Center, Jewish Holocaust Museum, Bass Museum, Miami City Ballet, 21st Street Recreation Center, Flamingo Park, Lummus Park, Maurice Gibb Memorial Park, Marjory Stoneman Douglas Park, South Pointe Park

D - Parks and Recreation



Beachwalk

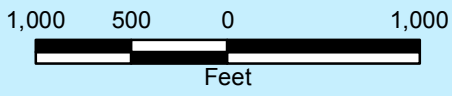
The City of Miami Beach provides public parks, recreational facilities, open spaces, and golf courses. The parks system includes some 18 municipal parks including Ocean Terrace Bandshell and Park, Crespi Park, Fairway Park, Normandy Shores Park, North Shore Open Space, North Shore Park & Youth Center, Stillwater Park, Tatum Park, 3 golf courses and a beach boardwalk

The entire Atlantic coastline in Miami Beach is a Miami-Dade County Park.

Legend

Current Land Use:

- | | | | |
|---|----------------------------------|---|----------------|
|  | Commercial, Office, Resort |  | beach |
|  | Condominium Residential |  | golf |
|  | Med. Density Residential |  | sports |
|  | Low Density Residential |  | water access |
|  | Institutions |  | plaza |
|  | Parks, Open Space |  | passive |
|  | Lt. Industry, Wholesale |  | neighborhood |
|  | Utility |  | arts |
|  | parking lot |  | culture |
|  | extra feature other than parking |  | government |
|  | ROW |  | hospital |
|  | <Null> |  | information |
|  | Parks |  | Schools (Dade) |
|  | Public Beach |  | Expressway |
|  | Garage |  | Ramps |
|  | Surface Lot |  | Arterial |
| | |  | City Limits |



**City of
Miami Beach
Middle Beach
CURRENT LAND USE**



Legend

Current Land Use:

	Commercial, Office, Resort		beach
	Condominium Residential		golf
	Med. Density Residential		sports
	Low Density Residential		water access
	Institutions		plaza
	Parks, Open Space		passive
	Lt. Industry, Wholesale		neighborhood
	Utility		arts
	parking lot		culture
	extra feature other than parking		government
	ROW		hospital
	<Null>		information
	Parks		Schools (Dade)
	Public Beach		Expressway
	Garage		Ramps
	Surface Lot		Arterial
			City Limits

City of Miami Beach
South Beach
CURRENT LAND USE

Legend

Zoning District Name

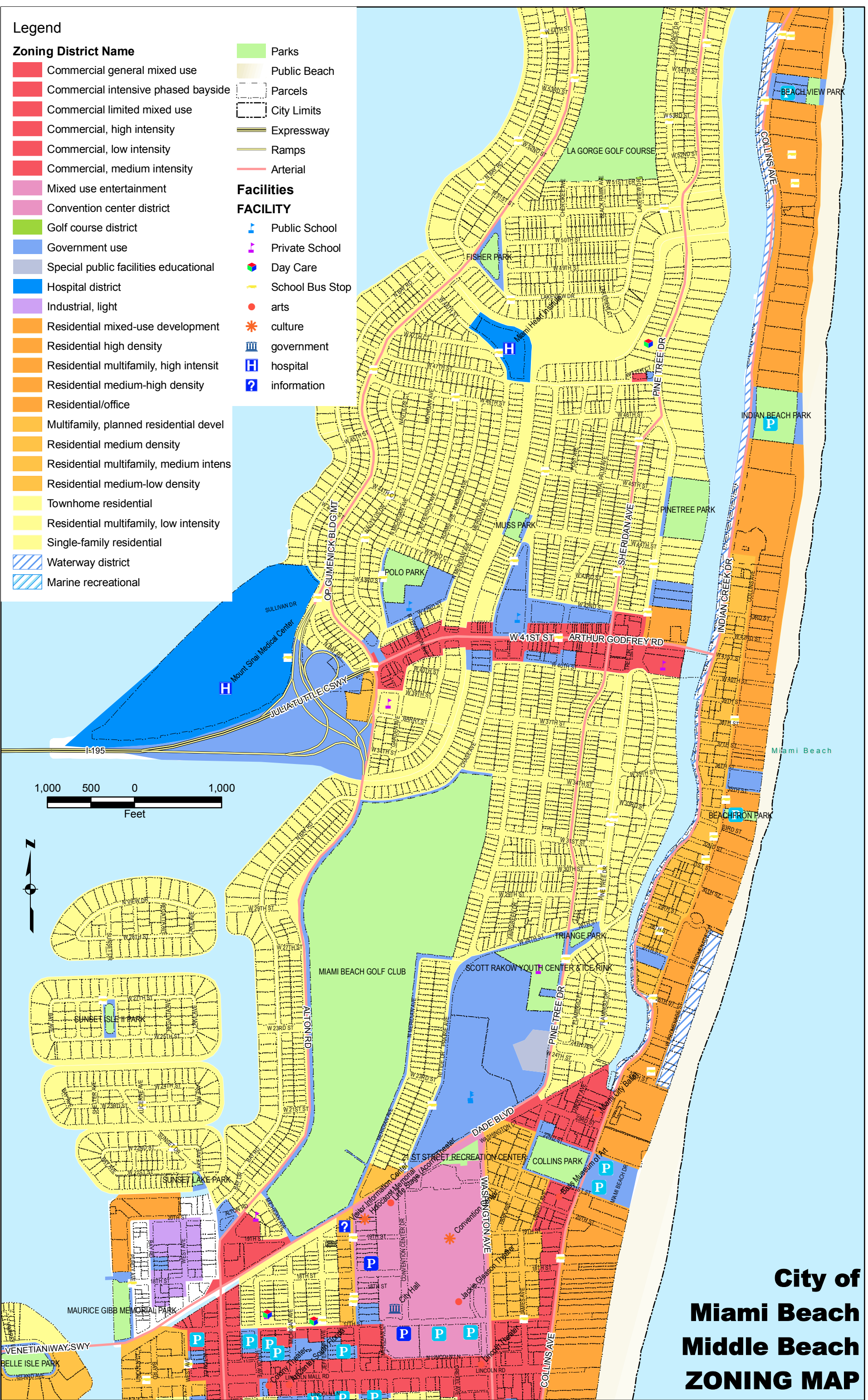
- Commercial general mixed use
- Commercial intensive phased bayside
- Commercial limited mixed use
- Commercial, high intensity
- Commercial, low intensity
- Commercial, medium intensity
- Mixed use entertainment
- Convention center district
- Golf course district
- Government use
- Special public facilities educational
- Hospital district
- Industrial, light
- Residential mixed-use development
- Residential high density
- Residential multifamily, high intensit
- Residential medium-high density
- Residential/office
- Multifamily, planned residential devel
- Residential medium density
- Residential multifamily, medium intens
- Residential medium-low density
- Townhome residential
- Residential multifamily, low intensity
- Single-family residential
- Waterway district
- Marine recreational

- Parks
- Public Beach
- Parcels
- City Limits
- Expressway
- Ramps
- Arterial

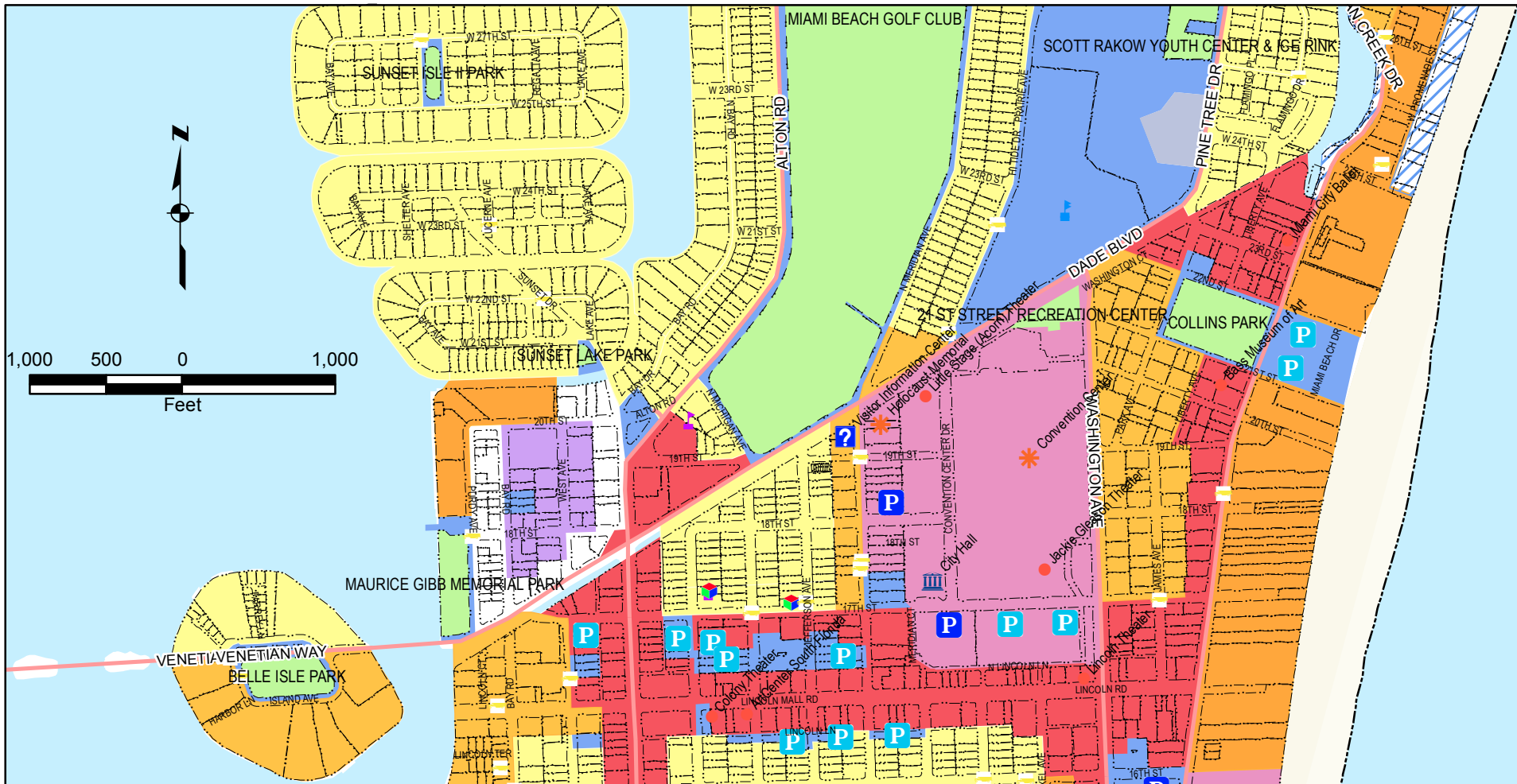
Facilities

FACILITY

- Public School
- Private School
- Day Care
- School Bus Stop
- arts
- culture
- government
- hospital
- information



**City of
Miami Beach
Middle Beach
ZONING MAP**



Legend

Zoning District Name

- Commercial general mixed use
- Commercial intensive phased bayside
- Commercial limited mixed use
- Commercial, high intensity
- Commercial, low intensity
- Commercial, medium intensity
- Mixed use entertainment
- Convention center district
- Golf course district
- Government use
- Special public facilities educational
- Hospital district
- Industrial, light
- Residential mixed-use development
- Residential high density
- Residential multifamily, high intensit
- Residential medium-high density
- Residential/office
- Multifamily, planned residential devel
- Residential medium density
- Residential multifamily, medium intens
- Residential medium-low density
- Townhome residential
- Residential multifamily, low intensity
- Single-family residential
- Waterway district
- Marine recreational
- Public Beach
- City Limits
- Expressway
- Ramps
- Arterial

Facilities

FACILITY

- Public School
- Private School
- Day Care
- School Bus Stop
- arts
- culture
- government
- hospital
- information
- Parks
- Parcels

City of Miami Beach
South Beach
ZONING MAP



City of Miami Beach North Beach FACILITIES




































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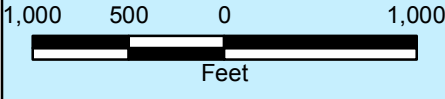
Facilities

- | | | | |
|--|------------------------|--|--------------|
| | Library | | arts |
| | Hospital | | culture |
| | Gallery | | government |
| | Theatre | | hospital |
| | Performing arts Center | | information |
| | Museum | | beach |
| | Movie Theater | | golf |
| | Places of Worship | | sports |
| | Police Station | | water access |
| | Fire Station | | plaza |
| | Public School | | passive |
| | Private School | | neighborhood |
| | Day Care | | Parks |
| | School Bus Stop | | Public Beach |
| | Garage | | Parcels |
| | Surface Lot | | City Limits |
| | | | Expressway |
| | | | Ramps |
| | | | Arterial |

Legend

Facilities

- | | | | |
|--|------------------------|---|--------------|
|  | Library |  | arts |
|  | Hospital |  | culture |
|  | Gallery |  | government |
|  | Theatre |  | hospital |
|  | Performing arts Center |  | information |
|  | Museum |  | beach |
|  | Movie Theater |  | golf |
|  | Places of Worship |  | sports |
|  | Police Station |  | water access |
|  | Fire Station |  | plaza |
|  | Public School |  | passive |
|  | Private School |  | neighborhood |
|  | Day Care |  | Parks |
|  | School Bus Stop |  | Public Beach |
|  | Garage |  | Parcels |
|  | Surface Lot |  | City Limits |
| | |  | Expressway |
| | |  | Ramps |
| | |  | Arterial |



City of Miami Beach Middle Beach FACILITIES



Legend

Facilities

- | | | | |
|--|------------------------|--|--------------|
| | Library | | arts |
| | Hospital | | culture |
| | Gallery | | government |
| | Theatre | | hospital |
| | Performing arts Center | | information |
| | Museum | | beach |
| | Movie Theater | | golf |
| | Places of Worship | | sports |
| | Police Station | | water access |
| | Fire Station | | plaza |
| | Public School | | passive |
| | Private School | | neighborhood |
| | Day Care | | Parks |
| | School Bus Stop | | Public Beach |
| | Garage | | Parcels |
| | Surface Lot | | City Limits |
| | | | Expressway |
| | | | Ramps |
| | | | Arterial |

**City of Miami Beach
South Beach
FACILITIES**

E - Commercial Destinations

A variety of shopping and employment destinations should be considered in the development of Miami Beach's bicycle and pedestrian network, such as pedestrian malls, neighborhood shopping and business areas, hospitals, grocery stores, and redevelopment areas. (See the "Commercial Centers" map series for the complete inventory.)



Dade Blvd. Publix supermarket

They include but are not limited to:

North Beach

Normandy/71st Street commercial area, Ocean Terrace Business District, North Beach Resort District, North Beach Town Center, Shane Watersports Center, North Beach Farmer's Market.

Middle Beach

Miami Heart Institute, Mt. Sinai Medical Center, 41st Street

Commercial Area.

South Beach

Lincoln Road, Espanola Way, Washington Avenue, Miami Beach Marina, grocery stores (Publix, Wild Oats, Alton Road, Miami Beach Convention Center.

Commercial Activity Centers

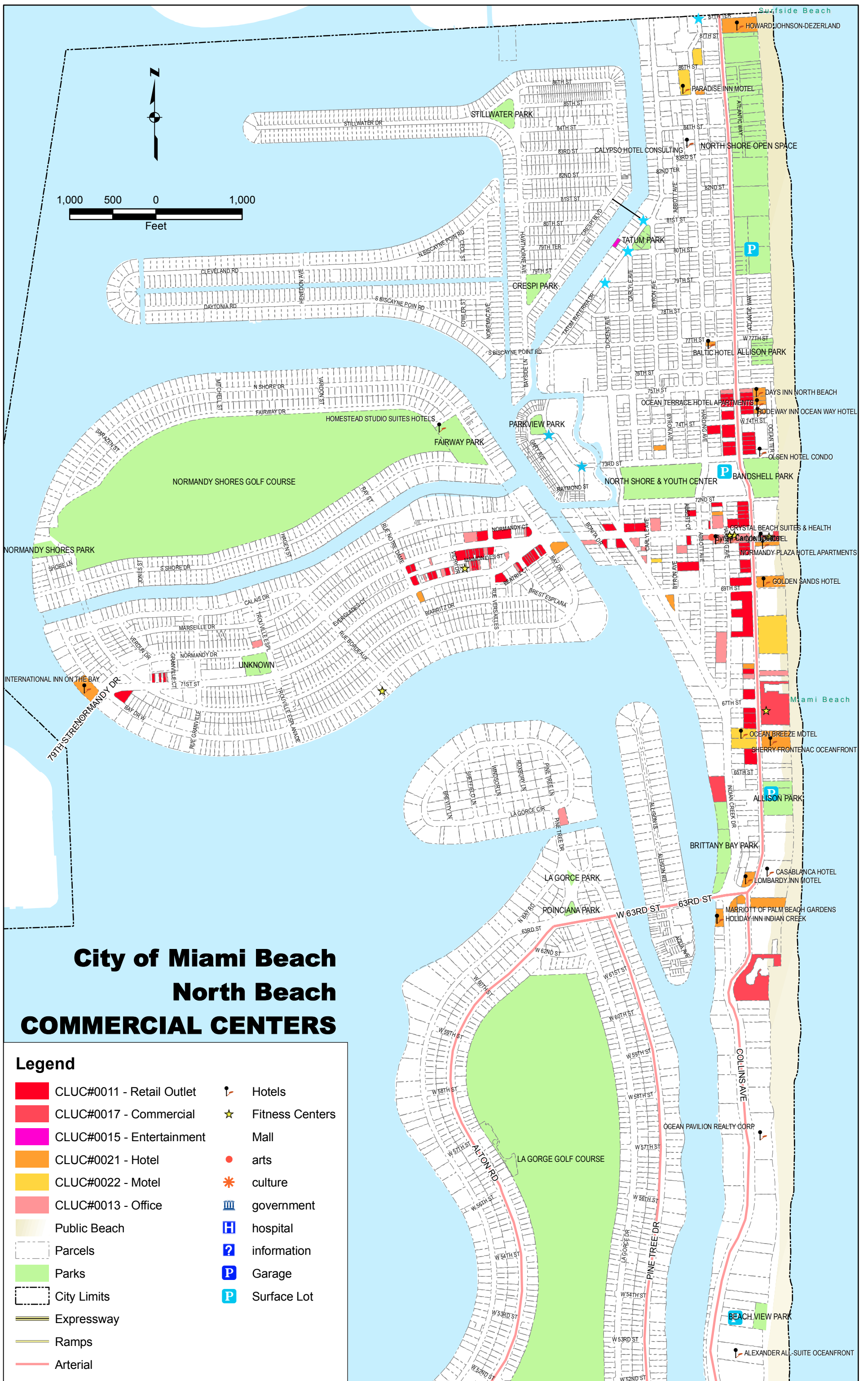
Commercial uses in Miami Beach are focused along the major corridors such as Collins Avenue. These areas include many of Miami Beach's world class hotels to support the tourism-based economy.

Some of the City's activity centers include:

- Lincoln Road, which has been part of the Miami Beach landscape for almost a century as a social and shopping center, is a key activity center. Early in the City's history, the 'Fifth Avenue of the South' was a major destination for the elite who wintered in South Florida. After a decline in the 1950's, the street was redesigned and converted to a pedestrian mall in 1960.
- The Historic Spanish Village on Espanola Way was modeled on the charm of a Mediterranean street. This three-block landmark street includes shops, hotels and fine dining, North Beach Bandshell, Lummus Park



Espanola Way neighborhood



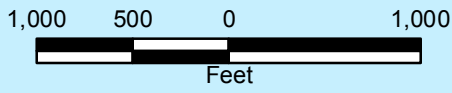
City of Miami Beach North Beach COMMERCIAL CENTERS

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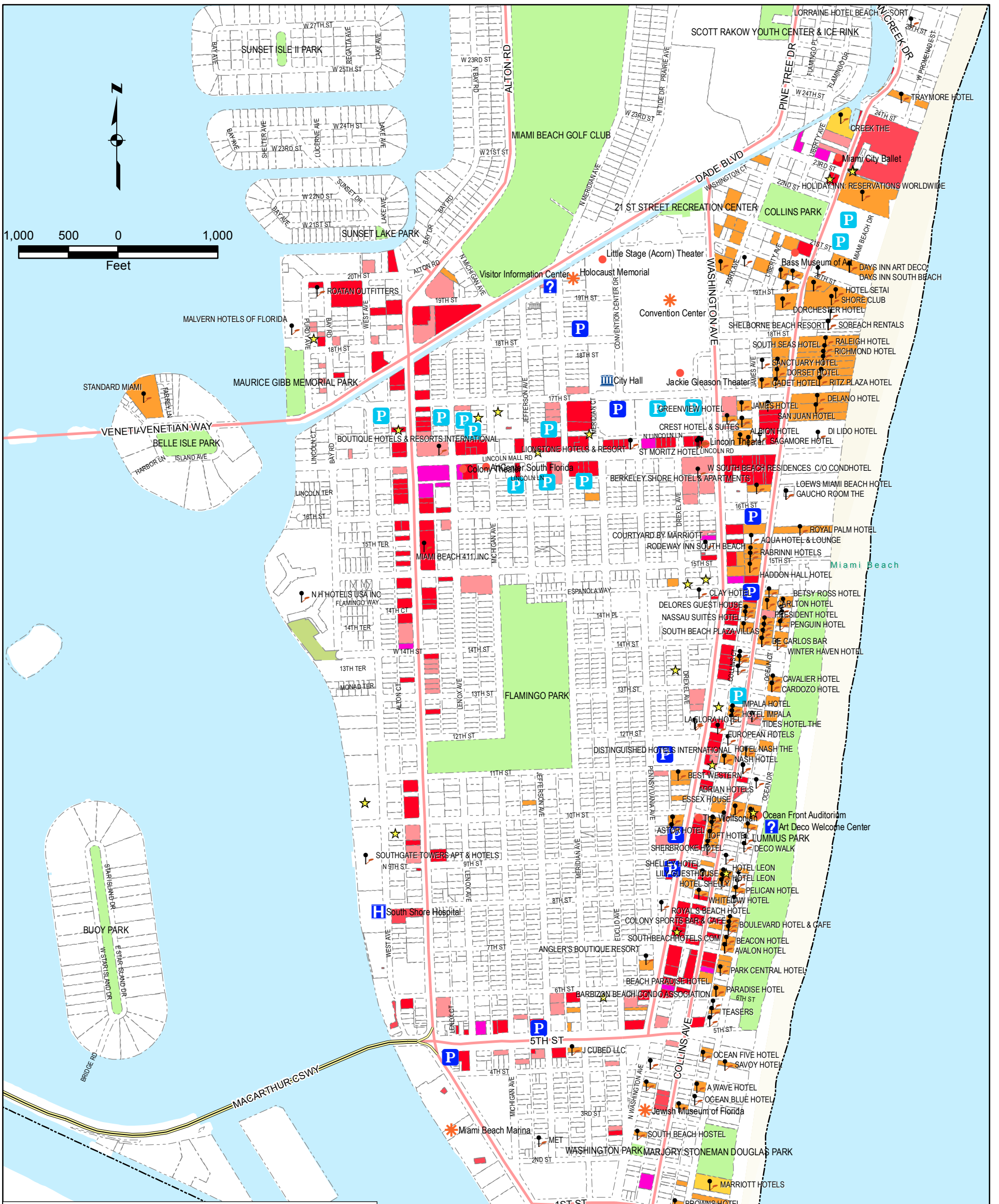
- | | |
|---|---|
| CLUC#0011 - Retail Outlet | Hotels |
| CLUC#0017 - Commercial | ★ Fitness Centers |
| CLUC#0015 - Entertainment | Mall |
| CLUC#0021 - Hotel | ● arts |
| CLUC#0022 - Motel | ✳ culture |
| CLUC#0013 - Office | ⚖ government |
| Public Beach | H hospital |
| Parcels | ? information |
| Parks | P Garage |
| City Limits | P Surface Lot |
| Expressway | |
| Ramps | |
| Arterial | |

Legend

- CLUC#0011 - Retail Outlet
- CLUC#0017 - Commercial
- CLUC#0015 - Entertainment
- CLUC#0021 - Hotel
- CLUC#0022 - Motel
- CLUC#0013 - Office
- Public Beach
- Hotels
- Fitness Centers
- Mall
- Parcels
- Parks
- City Limits
- arts
- ✱ culture
- ⚡ government
- H hospital
- ? information
- P Garage
- P Surface Lot
- Expressway
- Ramps
- Arterial



City of Miami Beach Middle Beach COMMERCIAL CENTERS



Legend

- | | |
|---|--|
| CLUC#0011 - Retail Outlet | arts |
| CLUC#0017 - Commercial | culture |
| CLUC#0015 - Entertainment | government |
| CLUC#0021 - Hotel | hospital |
| CLUC#0022 - Motel | information |
| CLUC#0013 - Office | Garage |
| Parks | Surface Lot |
| Public Beach | Expressway |
| Parcels | Ramps |
| Lodging & Shopping | Arterial |
| Hotels | City Limits |
| Fitness Centers | |
| Mall | |

City of Miami Beach
South Beach
COMMERCIAL CENTERS

2.3 Corridors

A - Overview

Connecting every origin and destination is a corridor. Critical to the success of the AGN is a series of continuous, safe connections between these origins and destinations. An inventory of these corridors is included in the following section. (See the “Corridors Map” series for the complete inventory.)



Fresh stripes for a bicycle lane.

For the purposes of this Master Plan, Corridors include:

- Arterial roadways
- Neighborhood streets
- Transit, Transit Stops and Parking
- Existing bicycle and pedestrian facilities
- Drainage canals and waterways

Also for consideration is the Draft Bicycle Master Plan created by the City of Miami Beach staff and the Bicycle Advisory Board.

B - Arterial Corridors

Arterial roads are characterized as the major roads within a community. These roadways are important links in the transportation system by allowing high volumes of traffic to move efficiently through the City. These corridors generally must function as multi-modal corridors, supporting all types of transportation use, including bicycles and pedestrians. Additional emphasis is placed on the arterial roads due to the limited connections back to the mainland, thereby putting further pressure on the arterial system to have to support all modes of transportation.

Miami Beach is connected to the City of Miami by four causeways, including:

- John F. Kennedy Causeway (SR 934; NE 79th Street in Miami, then becomes 71st Street/Normandy Drive in Miami Beach);
- Julia Tuttle Causeway (Interstate 195; becomes 41st Street/Arthur Godfrey Road)
- Venetian Causeway splits to become Dade Boulevard and 17th Street)
- MacArthur Causeway (US 41; becomes 5th Street)

Major north-south corridors include:

- Collins Avenue (splits into a one-way pair with Indian Creek Drive in Middle Beach; splits into a one-way pair with Abbott/Harding Avenue in North Beach)
- Washington Avenue (South Beach)
- Alton Road (South and Middle Beach)
- Pine Tree Drive (Middle Beach)

Major east-west corridors include:

- 5th Street – 17th Street
- Dade Boulevard
- 41st Street
- 63rd Street
- 71st Street/Normandy Drive

Included in the inventory of arterial streets are traffic counts to give an indication of an order of magnitude of peak time traffic.

C - Neighborhood Streets

Within the City, most areas are served by a grid of local streets. The grid is occasionally broken by waterways, parks and golf courses. Most residential roadways are amenable to bicycle and pedestrian circulation. Most are characterized by two lanes of traffic, with on-street parking. These physical features of the roadway lend themselves to pedestrian and bicycle traffic where there is lower speed and lower volume automobile traffic.

D - Transit, Transit Stops and Parking

Bicycle and pedestrian access to transit is a key feature in an effective and well-designed transportation system. Every transit trip begins and ends as a walking trip, so routes from neighborhoods to transit lines should be prioritized.

While not characterized as a corridor per-se, surface and structure parking are important to the bicycle/pedestrian system and transit system to allow visitors to park once and enjoy the AGN without having to rely on a car while having access to sidewalks, bikeways and transit.

E - Existing Bicycle and Pedestrian Facilities

Currently, there are very few dedicated bicycle facilities within the City. Aside from the City's official bike route system the following constitutes the inventory of these facilities:

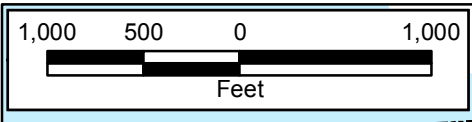
- Venetian Causeway bicycle lanes
- Beachwalk, from 5th Street to 21st Street, as well as from south of South Pointe Drive to South Pointe
- Beachwalk, from South Pointe Pier to 5th Street Pier
- North Shore Open Space Park path, Prairie Ave. from 28th Street to 42nd Street
- Alton Road bicycle lane, (northbound lane only) between just north of Michigan Ave. to Chase Ave.
- 42nd Street bicycle lane, (westbound only) between Prairie Ave. and Sheridan Ave.
- 16th Street, from Bay Road to Washington Ave.
- Lincoln Road Mall, from Washington Ave. to Lenox Ave.
- Miami Beach Drive, from 23rd Street to 29th Street
- Julia Tuttle Baywalk, from Alton Road to Biscayne Bay

- Collins Canal Promenade, from Convention Center Drive to Washington Ave.
- Various parks throughout the City have short paths within.

Sidewalks:

There is not a current inventory of sidewalks throughout the City. However, most roadways, both existing and proposed improvements, do have sidewalks and/or crosswalks at major intersections.

For the purposes of this master plan, special attention will be made for utilization and analysis, and proposed retrofitting of the existing sidewalk system in more detail to infill the gaps in the overall master plan.



Legend

Corridor Types:

- Expressway
- Ramps
- Arterial
- Collector
- Neighborhood Streets
- Existing Bicycle Facilities

Transit Facilities:

- Sheltered bus stop
- Bus stop
- School Bus Stop

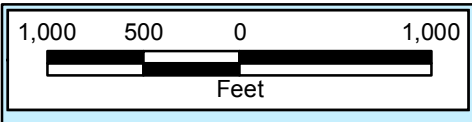
Parking:

- Garage
- Surface Lot

General:

- Parks
- City Limits
- Parcels
- Water

City of Miami Beach North Beach CORRIDOR MAP



Legend

Corridor Types:

- Expressway
- Ramps
- Arterial
- Collector
- Neighborhood Streets
- Existing Bicycle Facilities

Transit Facilities:

- Sheltered bus stop
- Bus stop
- School Bus Stop

Parking:

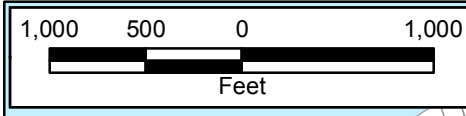
- Garage
- Surface Lot

General:

- Parks
- City Limits
- Parcels
- Water



**City of
Miami Beach
Middle Beach
CORRIDOR MAP**



Legend

Corridor Types:

- Expressway
- Ramps
- Arterial
- Collector
- Neighborhood Streets
- Existing Bicycle Facilities

Transit Facilities:

- Sheltered bus stop
- Bus stop
- School Bus Stop

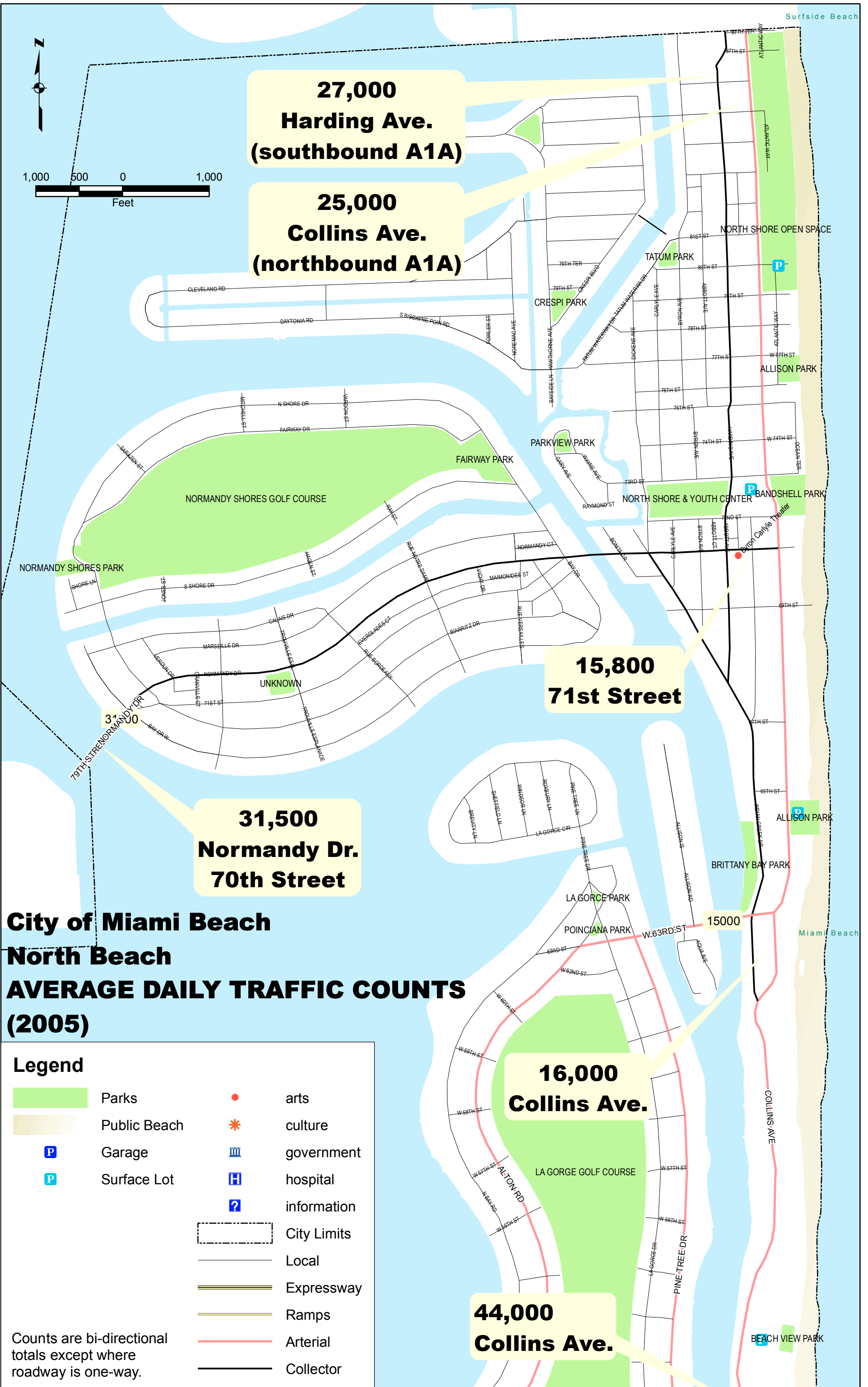
Parking:

- Garage
- Surface Lot

General:

- Parks
- City Limits
- Parcels
- Water

**City of
Miami Beach
South Beach
CORRIDOR MAP**



27,000
Harding Ave.
(southbound A1A)

25,000
Collins Ave.
(northbound A1A)

15,800
71st Street

31,500
Normandy Dr.
70th Street

16,000
Collins Ave.

44,000
Collins Ave.

City of Miami Beach
North Beach
AVERAGE DAILY TRAFFIC COUNTS
(2005)

Legend

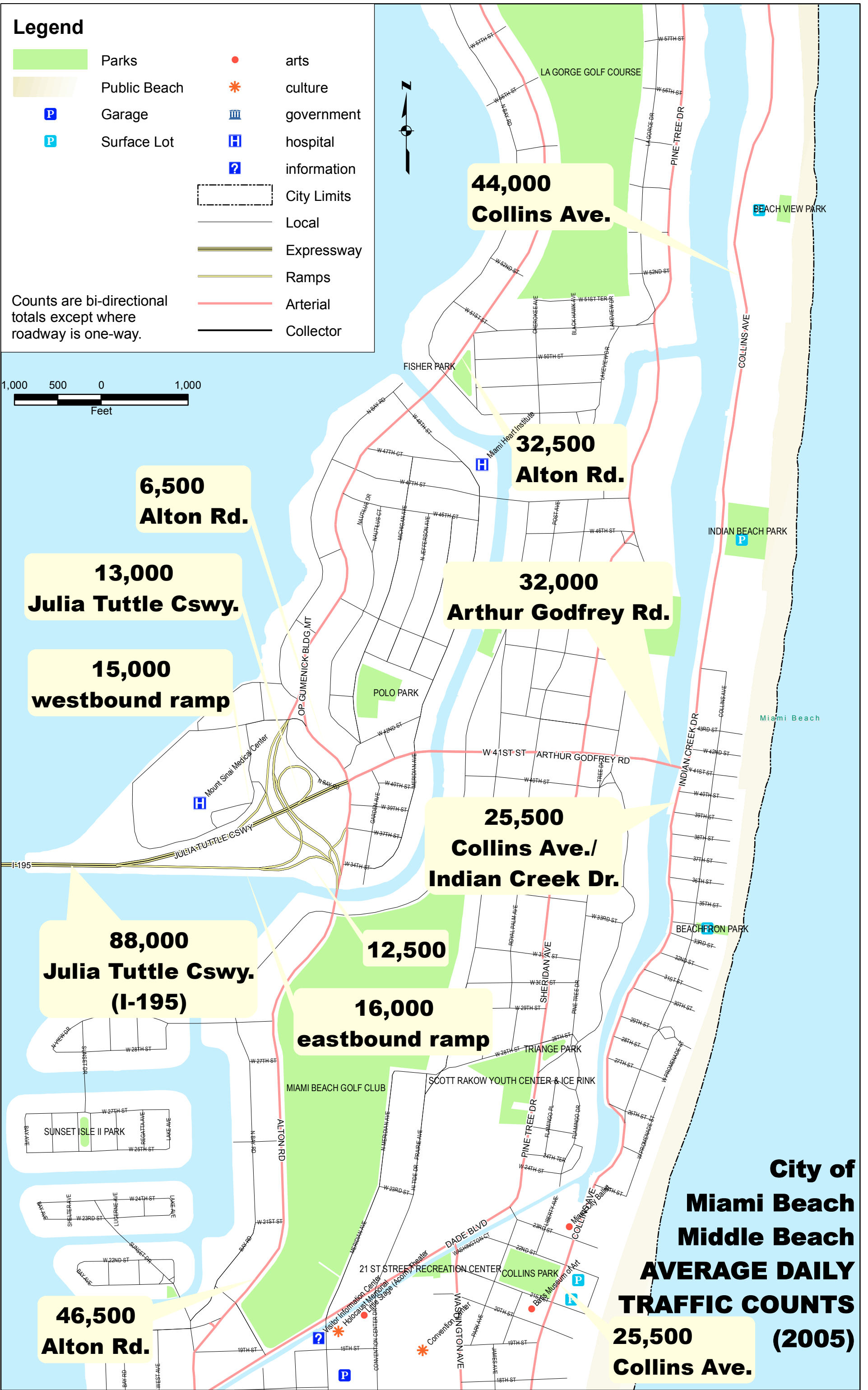
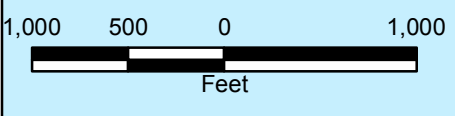
	Parks		arts
	Public Beach		culture
	Garage		government
	Surface Lot		hospital
			information
			City Limits
			Local
			Expressway
			Ramps
			Arterial
			Collector

Counts are bi-directional totals except where roadway is one-way.

Legend

- Parks
- Public Beach
- Garage
- Surface Lot
- arts
- culture
- government
- hospital
- information
- City Limits
- Local
- Expressway
- Ramps
- Arterial
- Collector

Counts are bi-directional totals except where roadway is one-way.





46,500 Alton Rd.

25,500 Collins

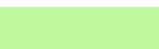








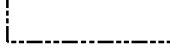

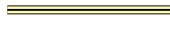


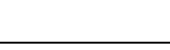
34,000 Alton Rd.

78,000 Macarthur Causeway

17,500 5th Street

16,100 Collins Ave.

Legend

	Parks		arts
	Public Beach		culture
	Garage		government
	Surface Lot		hospital
			information
			City Limits
			Local
			Expressway
			Ramps
			Arterial
			Collector

Counts are bi-directional totals except where roadway is one-way.

F - Drainage Canals and Waterways

Most waterways and canals within the City are private in nature – lots or land uses which include the waters edge. Exceptions to this include:

- Dade Boulevard
- Portions of Indian Creek Drive
- Specific Street-End locations
- South Pointe Park
- Portions of the Venetian Causeway
- Biscayne Bay shoreline from 14th Street Park to Lincoln Drive.

The Dade Boulevard frontage is being designed as a public waterway with a proposed multipurpose path between the north shore of the Collins Canal and Dade Boulevard. These plans are underway and due to be implemented by 2009. Portions of Indian Creek Drive have in the past been considered for public use, but gaps in public ownership and lack of depth from roadway to water's edge have made this use almost prohibitive. However, an orchestrated effort has been put forth by the owners granting easement use reduction of roadway lane widths that can also achieve results.

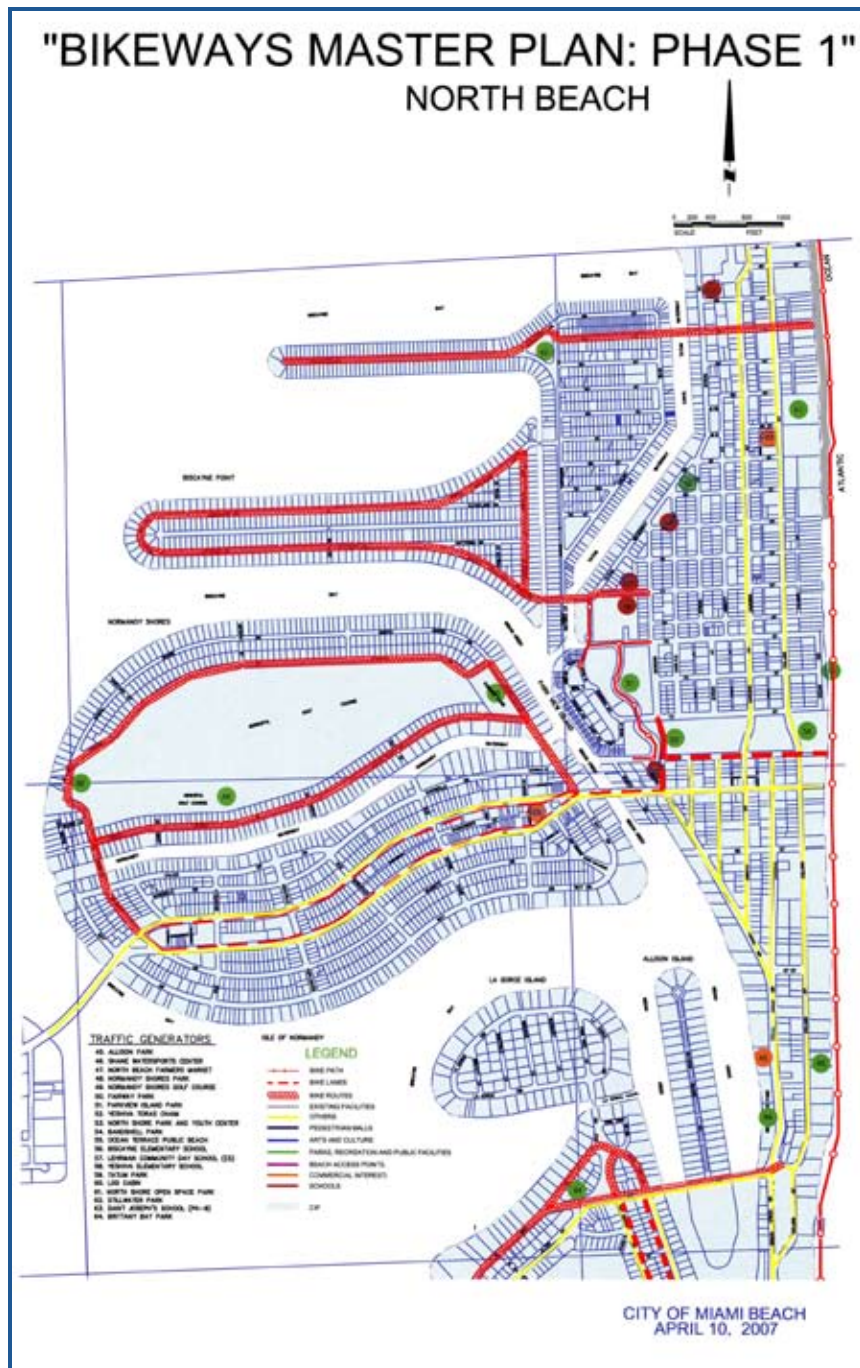
Several street end locations throughout the City are being j-zoned for public use. However, these lands would only serve as stops or trailheads, as opposed to offering opportunities for new corridor development. The Biscayne Bay shoreline from 14th Street Park to Lincoln Drive has been designated a future Baywalk. Currently, property owners have postponed this development, preparing privacy treatments.



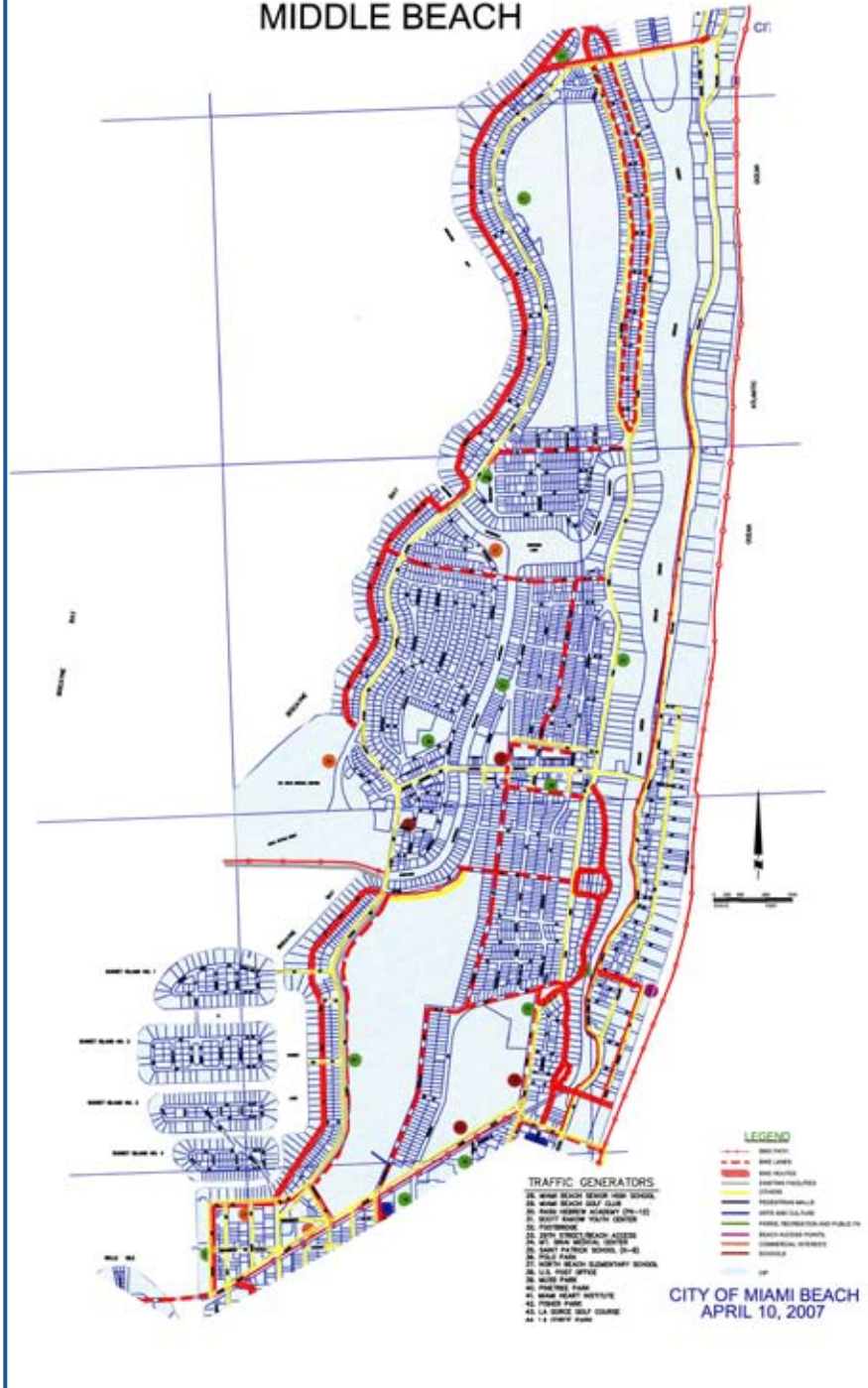
Conditions surrounding Collins Canal along Dade Blvd.

G - Miami Beach “Draft” Bicycle Plan

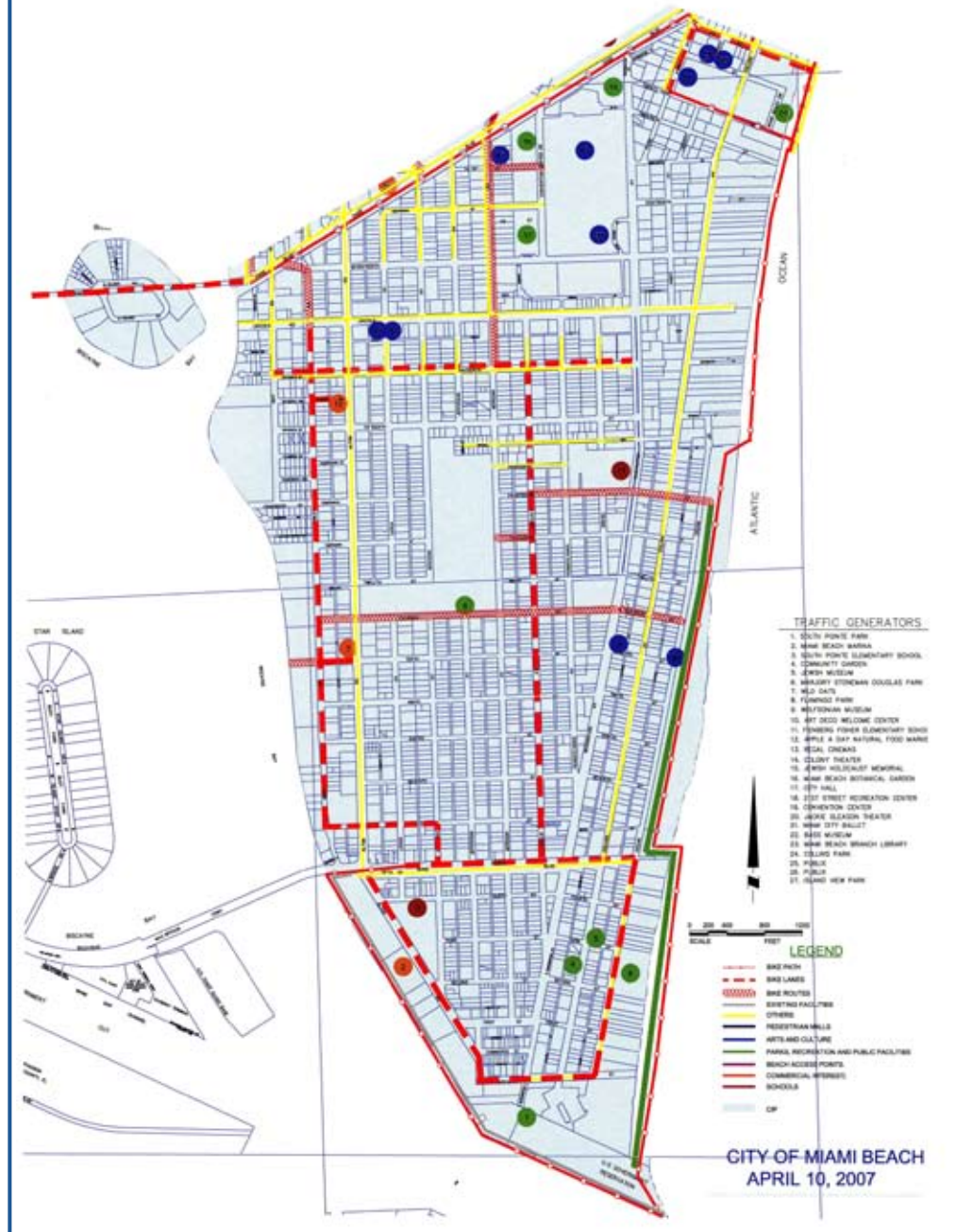
The City of Miami Beach has created a “draft” Bicycle Master Plan. This plan identifies proposed facilities that are funded within the City’s CIP, GO Bond program, existing County and State projects, and any other proposed facility.



"BIKEWAYS MASTER PLAN: PHASE 1"
MIDDLE BEACH



"BIKEWAYS MASTER PLAN: PHASE 1" SOUTH BEACH



The details of the Bicycle Plan are discussed in the Analysis section. However, it should be noted that a hierarchy of facility types are proposed within this plan.

They include:

1. **Bicycle Paths** – dedicated and signed paths within a roadway corridor, but separated from the roadway by either a curb and/or landscaping. These facilities are multi-modal in nature, and allow for bicycling, pedestrian use, roller blading, etc.



2. **Bicycle Lanes** – dedicated, striped and signed space within the roadway pavement used specifically for bicycle travel. Special standards for these facilities are being developed for the city by others.



3. **Bicycle Routes** – signed routes that allow for safer bicycle travel including where cyclists share the roadway with automobiles.



4. **Bicycle Boulevard** – This will be a dedicated area for cyclists where they will have priority over automobiles. The area in this case is Carlyle Avenue between 73rd Street and 80th Street (Tatum Park).

H – FDOT District 6 ‘Draft’ Bicycle Lane Feasibility Study

The Florida Department of Transportation District 6 issued a ‘draft’ feasibility study for additional bicycle lanes within the City of Miami Beach. The study focused on the following corridors:

1. Alton Road, from south of 8th Street to West 63rd Street
2. 79th Street from Bay Drive to Collins Avenue
3. Normandy Drive from Bay Drive to 71st Street
4. Arthur Godfrey Road from Alton Road to Collins Avenue

The details of the feasibility plan included analysis of each roadway’s level of service, vehicular traffic counts, roadway geometry and safety factors. As a result, the following roadway segments were classified as suitable for the creation of new bicycle lanes:

1. Alton Road between Dade Blvd and Michigan Ave – northbound only
2. Alton Road from the southernmost onramp at Julia Tuttle to W 41st Street on the north side of the interchange
3. Arthur Godfrey Road from Alton Road to Indian Creek Bridge



The only problematic corridor is the Normandy Drive / 71st corridor. The FDOT study does indicate that bike lanes are possible for 71st from W Bay Drive to E Bay Drive, but no further east from that point. The westbound lanes on Normandy Drive allow for a bike lane from Rue Notre Dame to W Bay Drive, with a gap existing between Rue Notre Dame to E Bay Drive. Based on the study, it appears there is insufficient pavement width to accommodate both a westbound bike lane and the existing parking configuration/travel lanes. The same exists for 71st east of E Bay Drive – the existing ROW will not permit new bike lanes assuming the existing parking and travel lanes configuration are not modified. Therefore, to create a continuous bike lane, removal of some parking would become necessary.

3.0 Analysis

3.1 Analysis of Existing Conditions and the Bicycle Plan

A - Overview

Considering the background information and inventory, an analysis was developed for the project. This analysis requires sifting through the details of the inventory – supplemented with field reviews – to create a generalized assessment of the existing conditions. The opportunities and constraints listed describe general issues but do not attempt to list every possible specific opportunity and constraint.

The following analysis considers opportunities and constraints which may include but are not limited to the following:

Opportunities:

- Access to important nodes (destinations and origins)
- High demand routes for public access and travel
- Continuity of land uses
- Parallel facilities
- Properties in governmental ownership

Constraints:

- Continuity blocks, such as gaps in the existing and proposed network
- Safety issues
- Construction costs
- Right-of-Way widths
- Utility and infrastructure regulations



B - Corridors - Arterial Roadways

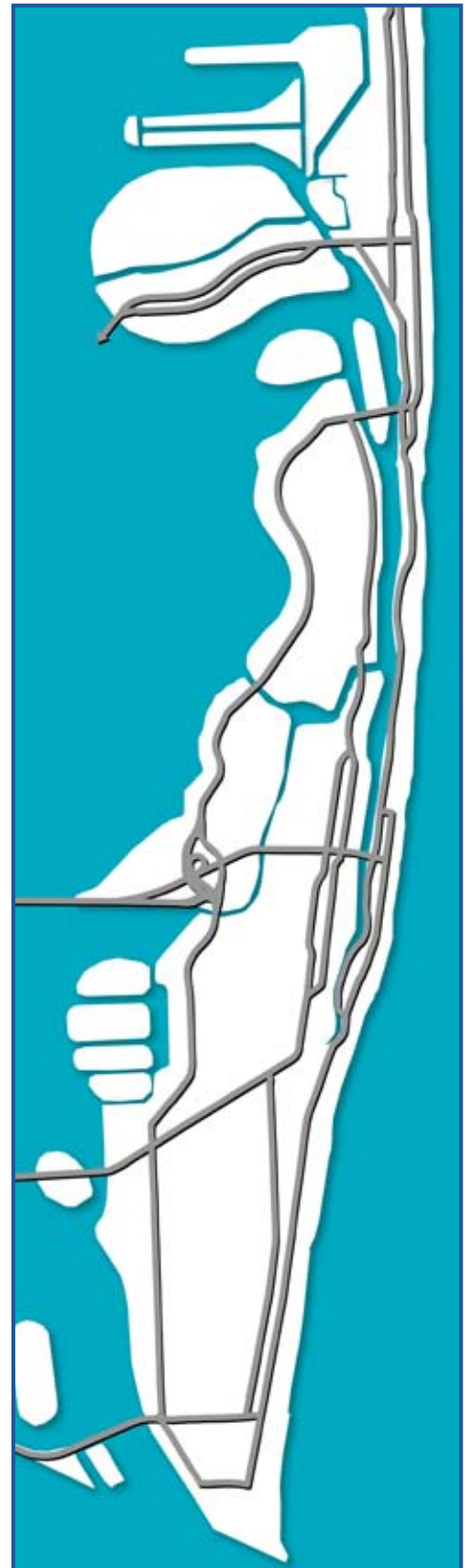


Arterial roads are the most frequently traveled roadways within the City. These roads essentially link the entire City together in terms of mobility – they serve as the primary access routes for residents and visitors, moving many vehicles quickly throughout the City. Consequently, these roadways are already frequently used by

bicyclists regardless of the presence of dedicated facilities based on field observations.

The features of the arterial roadways that affect the perceived safety and comfort of bicyclists in Miami Beach include:

- **Vehicle speed** – many posted speeds on arterials are higher than that of neighborhood streets. Due to high volumes, however, the actual travel speed during peak hours may be much slower, increasing a perception of safety;
- **Vehicle volumes** – as indicated by the traffic volumes noted in the project inventory, some of the arterials within Miami Beach are high enough to trigger new improvements to help move the higher volumes through the City more efficiently;
- **Numbers of traffic lanes present** – all arterials have more than two lanes;
- **Outside travel lane characteristics** – a wide outside lane will be perceived as a safer condition, while an outside lane that frequently becomes a dedicated turn lane will present an obstacle;
- **On street parking** – on street parking creates unexpected turn movements and obstructions that influence perceived safety for the cyclist;
- **Driveway frequency** – like on street parking, these present generally unexpected or unanticipated turning movements;
- **Continuity of the route** – an absence of stop sign, well timed traffic signals and lack of traffic interruptions create a predictable, direct route.



Opportunities:

1. These corridors are the most prominent transportation corridors by providing continuous access throughout all portions of the City. These corridors afford the opportunity to serve as the major links in the pedestrian and bicycle system as well.
2. They also provide ideal locations for support facilities, such as bicycle racks, drinking water, wayfinding, transit stops etc.
3. Some arterials do have parallel counterparts. These roadways provide an alternative to the busier arterial. Connections and crossings back to the arterial would be required.

Constraints:

1. All arterial roadways within the City are constrained by the width of public rights-of-way for the creation of new standalone bicycle or pedestrian facilities. At the least, restriping of the roadway may be possible; however, to do so would require major revamping of the existing travel lanes for each road.
2. The arterial roadways are highly urbanized corridors which may also include the City's utility infrastructure. Major corridor improvements or reconfigurations require large construction expenditures.
3. Safety issues exist on most arterial roadways. These safety issues include, but are not limited to:
 - Lack of a bicycle lane transition on the northbound Alton Road bike lane, as well as neighborhood use of parking lanes on the southbound side.
 - Lack of, or confusing, termination of the existing bike lane on the Venetian Causeway. (This situation is being addressed through a new project by the county that includes the restriping of portions of the 17th Street / Dade Boulevard intersection.)

All arterials within the City support pedestrian travel through the use of sidewalks, although frequent driveways, and motorists' habits can be hazardous.



C - Corridors - Neighborhood Streets



As stated in the project inventory, most areas of the City are also served by a grid of local streets. Most neighborhood roadways – highlighted in white in the graphic to the right – are amenable to bicycle and pedestrian circulation. Most streets are characterized by two lanes of traffic, with on-street

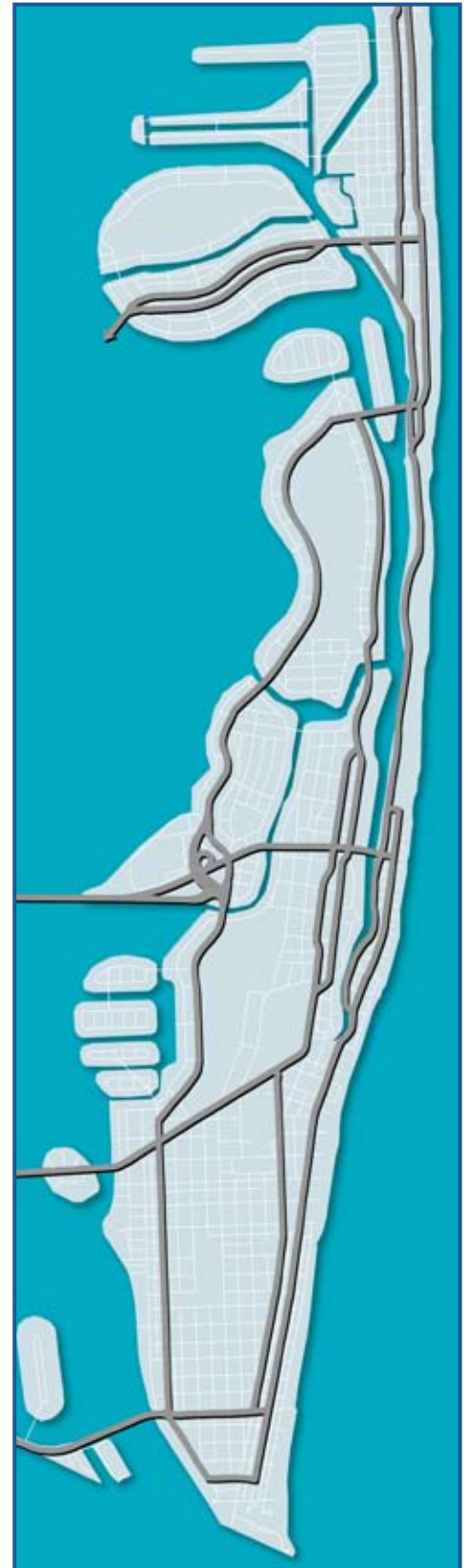
parking where possible. These physical features of the roadway lend themselves to pedestrian and bicycle traffic due to their typical lower speed and lower volume automobile traffic.

Opportunities:

1. Neighborhood Street corridors are the most numerous street type within the City. These corridors generally support a safer interaction with vehicular traffic to the lower speeds and volumes. These street types are more suitable for the creation of Bicycle Routes.
2. Reconfiguration and / or restriping of residential streets are generally more cost effective than with arterials.
3. Some neighborhood streets run parallel to arterial roadways and serve as an alternative travel way to the busier arterial. Connections and crossings back to the arterial would be required. These also present the opportunity for the creation of a ‘bicycle boulevard’, where bicycles have the priority over automobiles. This concept will be described within the Master Plan and Implementation sections.

Constraints:

1. Numerous driveway cuts exist on the neighborhood streets. This is a somewhat limiting factor in terms of safety for the creation of bicycle lanes. Alternately, some bicycle riders utilize sidewalks within neighborhoods – also a limiting factor in terms of safety.
2. Most neighborhood streets are very narrow in width, limiting their ability to support the development of dedicated bike/ped facilities.
3. Neighborhood streets are generally not continuous and are often less than one mile long.
4. Traffic control on neighborhood streets intersecting with arterials usually gives priority to the arterial, creating a barrier to mobility.



D - Origins - Neighborhoods and Residential Areas



The neighborhoods within the City are very well-defined geographically, each being delineated by either their proximity to the water, or other physical features such as major roadways. This clear delineation – as depicted graphically on this page – creates well-defined places of origin for every resident

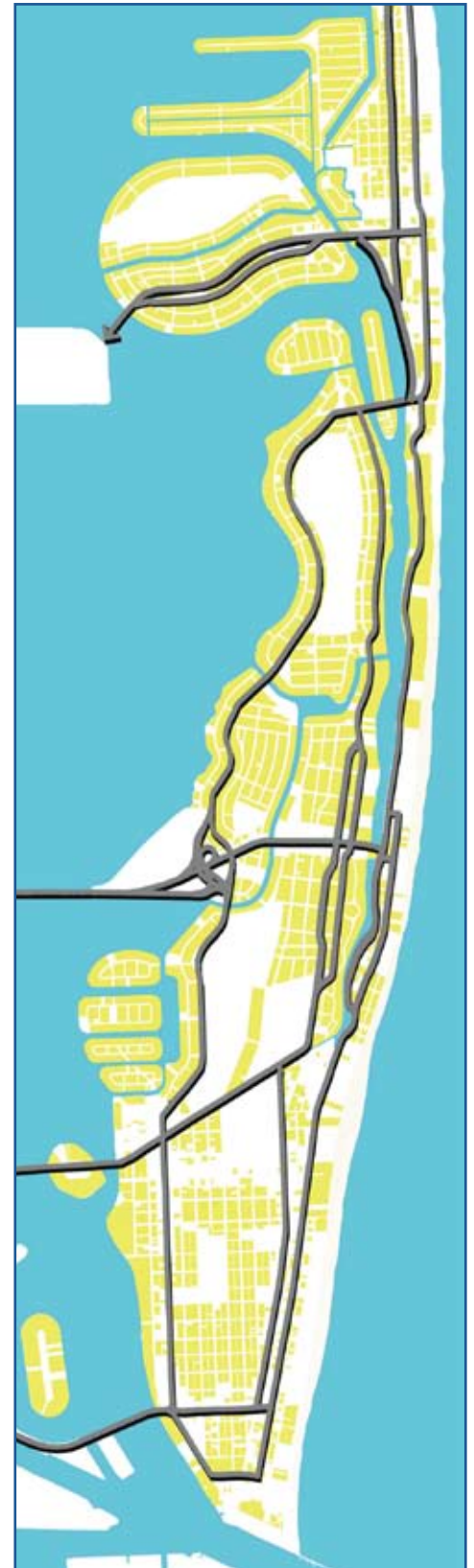
trip within the City. Trips within the neighborhood begin on a neighborhood street, except of those directly bordering an arterial. Therefore, a logical progression of bicycle facility is possible within these areas – from bike route, to lane or path as the level of vehicle interaction increases.

Opportunities:

1. Streets within the neighborhoods generally support a safer interaction with vehicular traffic to the lower speeds and volumes. Bicycle routes within the residential areas are more appropriate.
2. Neighborhoods adjacent to golf courses – such as Nautilus and Bayshore – provide opportunities for potential multi-use paths around the perimeter of golf course.

Constraints:

1. The physical layout of most neighborhoods do not promote the creation of dedicated bike paths due to the available land or configuration for such facilities.
2. Some neighborhoods – such as La Gorce and Oceanfront within the Middle Beach district – depend on bicycle circulation on arterial roadways alone. Special emphasis on this mode of travel should be made in these areas.
3. Frequent driveway cuts or on street parking create a safety issue for on-street cyclists.



E - Destinations - Parks, Open Space and Natural Lands



The City's parks are ideal locations for bicycle and pedestrian support facilities, such as bike racks, water and air stations, restrooms, wayfinding and informational signage, etc. The City's parks are well-distributed geographically, allowing for recreation opportunities in each neighborhood.

Opportunities:

1. Access to a City park within each neighborhood provide opportunities for the placement of bicycle support facilities nearby to every resident;
2. The perimeter of the various golf courses provide a unique opportunity for the creation of multi-use paths between the roadway and the golf course;
3. Existing beach paths and an opportunity for future facilities can link the beachfront across the entirety of the City's beach;

Constraints:

1. Many parks are either developed or have only limited access due to physical constraints, such as proximity to arterial roadways, or overall small size;
2. Possible objections to use of the golf course perimeter for a multi-use path.



F - Destinations - Commercial Areas, Civic and Cultural Areas



Similar to many communities in South Florida, most commercial land uses are located with direct access to an arterial roadway. Miami Beach – being a narrow island – nearly all destinations (highlighted in red on the graphic on this page) for bicyclists and pedestrians are co-located along these corridors. Additionally, most

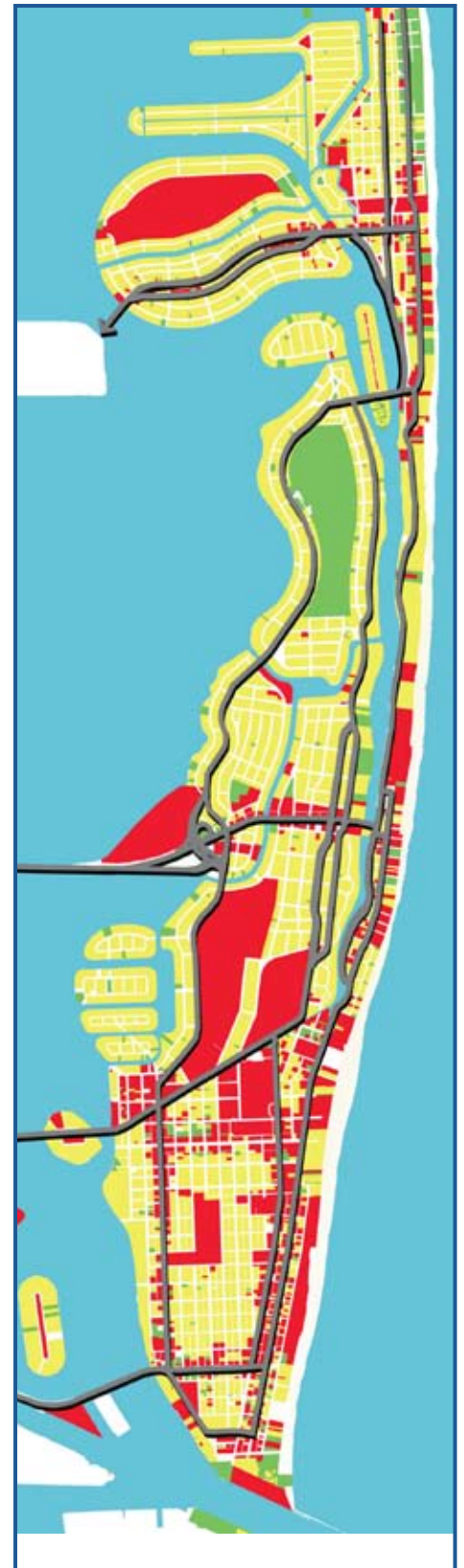
civic and cultural destinations are also located along the City’s arterial roadways. This puts major emphasis on the arterial corridors to be accessible to bicycles and pedestrians as well.

Opportunities:

1. Nearly all destinations – commercial, civic and cultural – are located along arterial roadways making them highly accessible;
2. In some instances, these land uses are only one block in depth creating an opportunity for the destinations to be accessed from roadways and alleys from the rear;
3. A mixed distribution of commercial, civic and cultural uses along the same corridors allows for a ‘park once’ environment, lending themselves to increased pedestrian traffic;

Constraints:

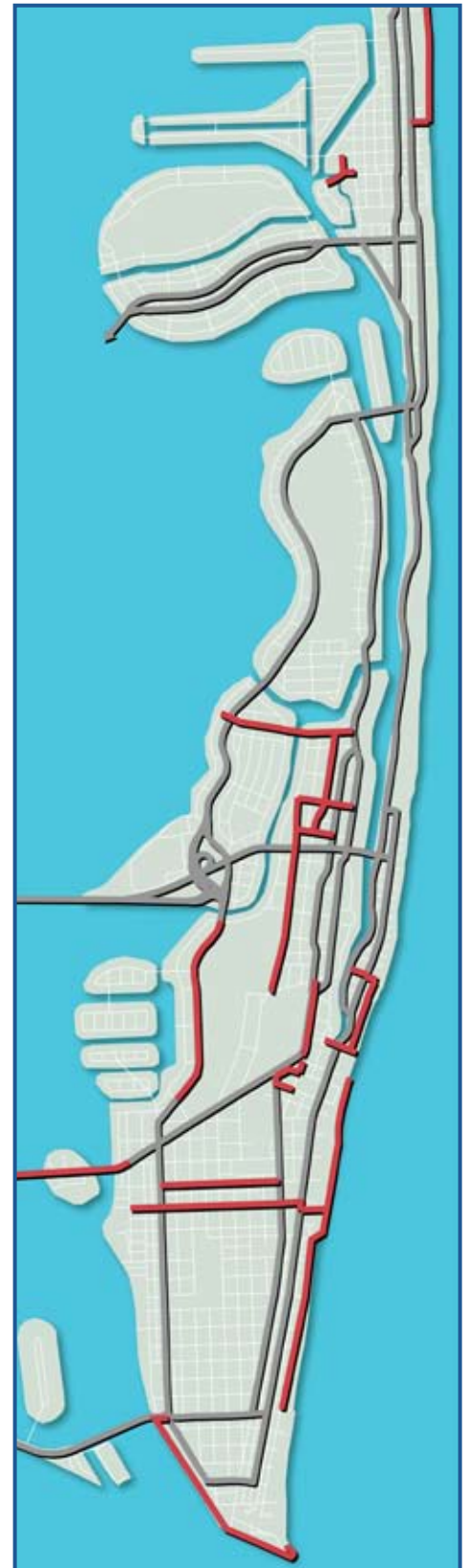
1. Most arterials are highly constrained with high vehicle volumes and other infrastructure and have not been designed to properly accommodate bicycle mobility;
2. Some large commercial or civic parcels have been developed without direct site access or facilities for bicycles.



G - Existing Bicycle Facilities

As noted in the inventory section, the City had only a few existing bicycle facilities. Most of these facilities do not interconnect, resulting in a collection of simple segments. *(Update: Added to this Master Plan are sections of the overall plan that have or will be completed in 2008 as indicated on the Phase 1 Master Plan Map in Section 4 of this book).* These facilities, and an analysis of each include:

- **Venetian Causeway bicycle lane** – located on an arterial roadway, there is a confusing termination of the bike lane heading east;
- **Beachwalk, 5th Street to 21st Street** – this multi-use facility is expected to be expanded to connect to the facility along the southern edge of Miami Beach to the northern city limits;
- **Alton Road bicycle lane** – (northbound lane only) between just north of Michigan St. to Chase Ave. The bicycle lane begins mid-block and terminates at an intersection without a clearly defined continuation of the route;
- **42nd Street bicycle lane** – this bicycle lane is only two blocks long, limiting its usefulness as a bicycle facility to children going to/from nearby elementary school;
- **16th Street, Bay Road to Washington Ave;**
- **Prairie Ave., from 28th Street to Washington Ave.** – these bike lanes lead from an elementary school towards the City’s only high school;
- **Baywalk from S. Pointe Dr. to 5th Street** – in the future, this multi-use path will connect with Oceanwalk;
- **Miami Beach Drive from 23rd to 29th Street** – limited access to this multi-use path limits its usefulness;
- **Julia Tuttle Baywalk** – this path has limited access, but potential to link to improved Alton Rd. bike lanes;
- **Collins Canal Promenade** – this multi-use facility has limited access;
- **Various paths throughout the City** – most of these paths are narrow and have limited access.



Palm Island Bike Lanes

H - Proposed Bicycle Paths

Bicycle or Multipurpose Paths – indicated in green on the graphic to the right – are defined as dedicated and signed paths typically separated from roadways by either a curb, landscaping, or situated along the beach's eastern edge. These facilities are multi-modal in nature and allow for bicycling, pedestrian use, rollerblading, etc. These bicycle paths are proposed as a part of other proposed projects to be either constructed by the City, County, State or combination of the three agencies.

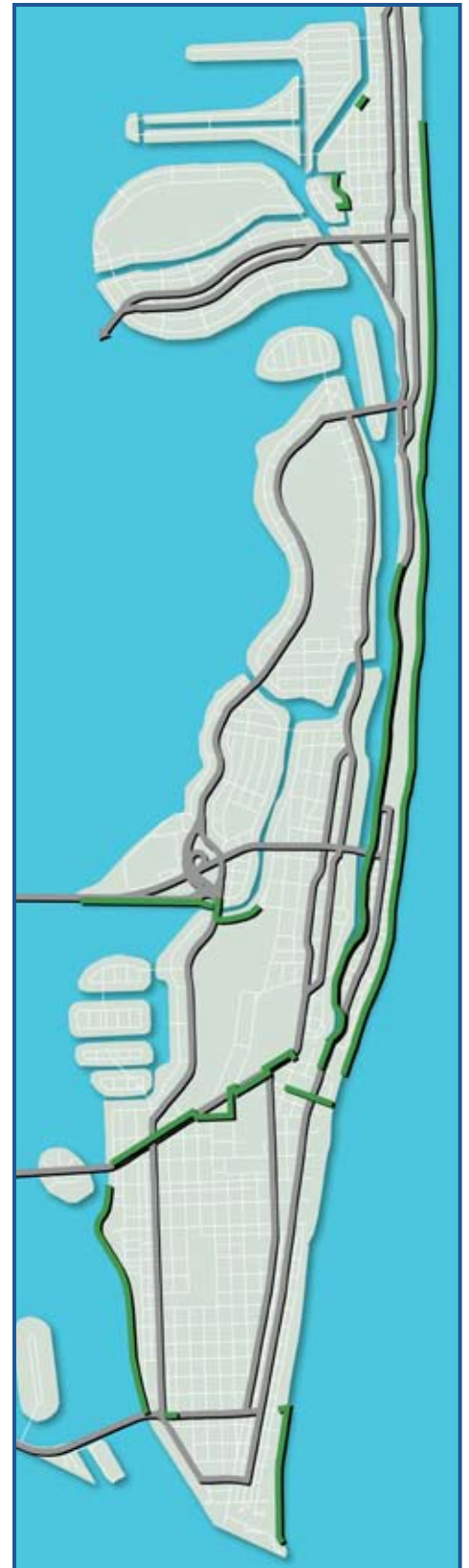
The major pathway projects proposed include but are not limited to:

- Continuation of the beach paths linking the north and south beach existing paths;
- Indian Creek Greenway, 22nd Street to 54th Street;
- Dade Boulevard bike path, 23rd Street to Purdy Ave.
- Park View Island bike path.

These paths are proposed at various pavement widths and standards and have limited connectivity.



Artist's conception of proposed Dade Boulevard Bicycle Path.



I - Proposed Bicycle Lanes

Bicycle Lanes – indicated in blue on the graphic to the right – are dedicated, striped and signed facilities within the roadway pavement used specifically for bicycle travel. These proposed bicycle lanes will generally be implemented as a part of the City’s GO Bond projects, but do not account for all improvements.

Note the proposed “Bicycle Boulevard” in the northern end of the City as indicated in red. This will be a dedicated area for cyclists where they will have priority over automobiles along Carlyle Avenue between 73rd Street and 80th Street (Tatum Park).

Some bike lanes are proposed along arterial roadways where possible, including:

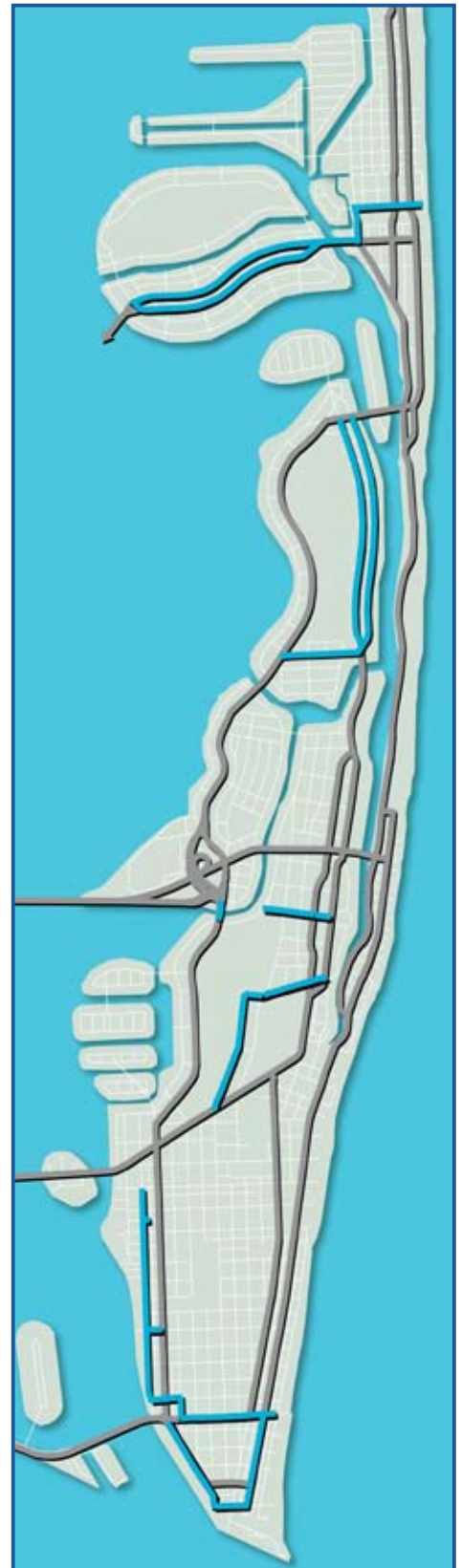
- **5th Street** – South Beach area
- **Pine Tree Drive** – Middle Beach area
- **Normandy Drive /71st Street** – North Beach area

Some bike lanes are planned to be constructed parallel to existing arterial roadways as an alternative route, such as:

- **West Avenue** – parallel to Alton Road south of Dade Blvd.
- **Euclid Avenue** – parallel to Collins Avenue / Washington Ave.
- **Meridian Avenue north of Dade Boulevard** – parallel to Pine Tree Drive within the Middle Beach and connecting to Prairie Avenue
- **Prairie Avenue** – parallel to Pine Tree Drive within the Middle Beach area



The remaining bike lanes serve primarily as connecting links between existing paths, arterial roads, proposed paths and proposed bike lanes. Combined with the proposed paths and existing facilities, the proposed bike lanes help to interconnect the system to a greater degree, with some gaps remaining.



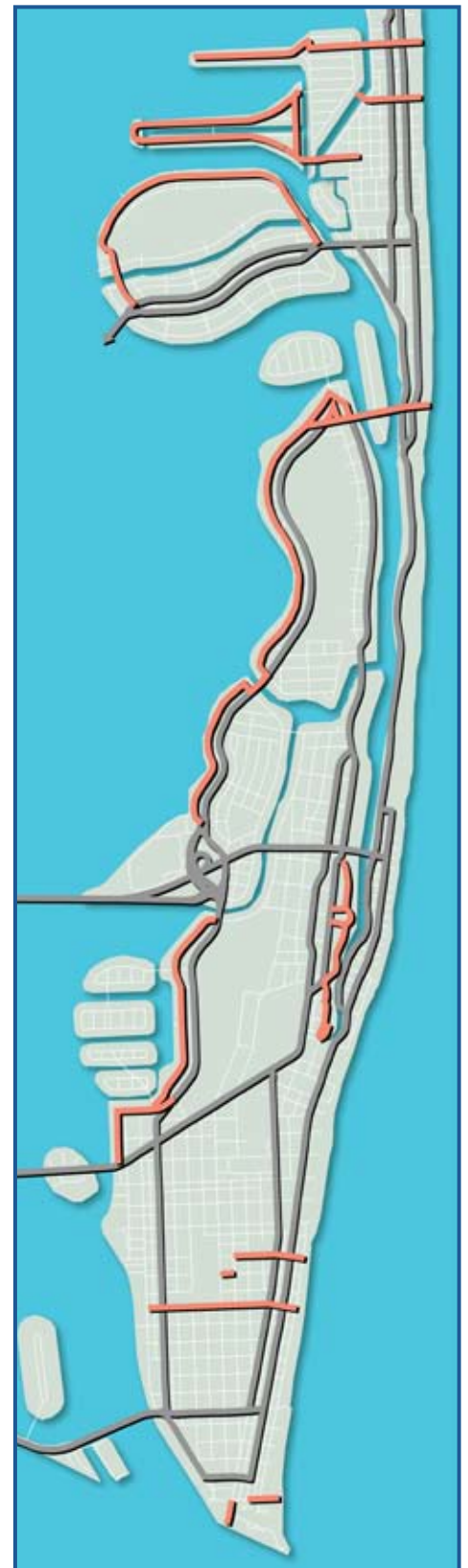
J - Proposed Bicycle Routes

Bicycle Routes – indicated in orange on the graphic to the right – are signed routes that allow for bicycle travel only where cyclists share the roadway with automobiles. Most of the bicycle routes are proposed within residential neighborhoods, on neighborhood streets – an appropriate location. Neighborhoods within the North Beach and Middle Beach area will have a proposed loop system, such as the systems proposed for Nautilus and LaGorce.

Some bicycle routes, however, are much more problematic. These routes are generally proposed as links between dedicated facilities (bike paths/lanes) and arterial roads due to insufficient available right-of-way or other factors. These routes should be reconsidered and either be relocated to neighborhood streets, or an alternative, dedicated facility should be designed for these links. Such prominent links include, but are not limited to:

- **Michigan Avenue** between Alton Road and Dade Boulevard – a possible relocation could be a multi-use path along the golf course’s western edge.
- **West Avenue**, between 17th Street/Venetian Causeway and Lincoln Road – CIP is striping bike lanes on Convention Center Drive.
- **Meridian Avenue**, between Dade Boulevard and Lincoln Road
- **11th Street**, between West Avenue and Collins Avenue

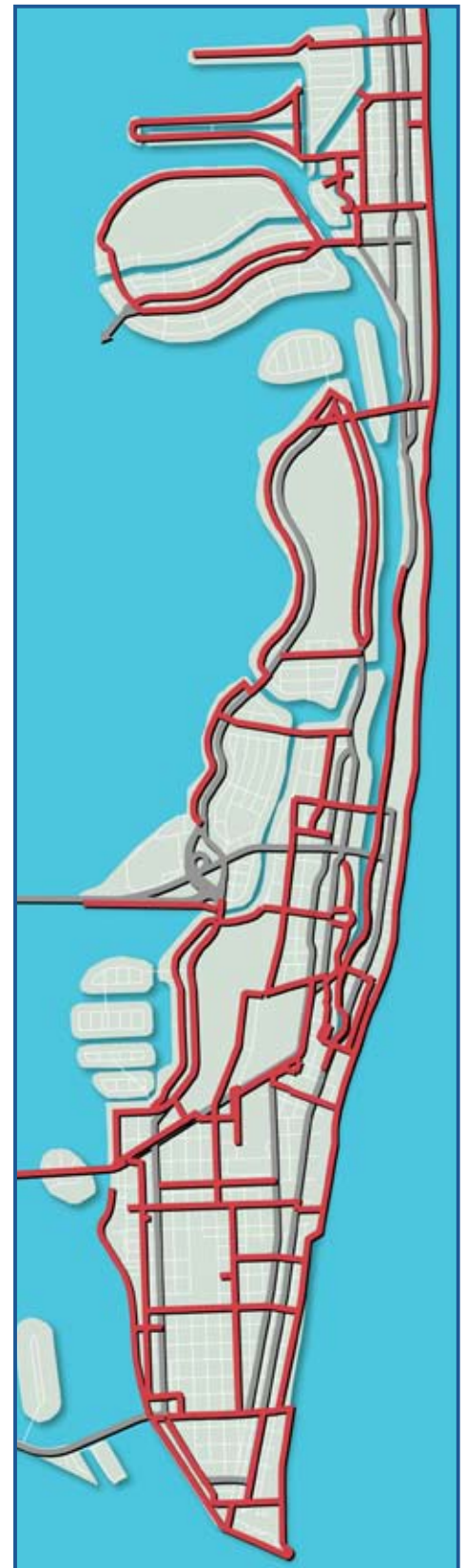
Traffic calming measures should be considered along shared roads wherever paved shoulders, or wide curb-lanes cannot be achieved.



K - The Proposed Bikeways System

The resulting system of bikeways is the combination of the existing facilities; as well as proposed bike paths, bike lanes and bike routes depicted in red on the graphic to the right and includes all current and existing projects under consideration within the City. Generally speaking, the proposed assembly of these facilities creates a well-connected bicycle network, and an excellent first step towards a complete bicycle system.

These proposed facilities also include the addition of bicycle racks on arterial roadways and other elements, such as benches and wayfinding, along these corridors.



Palm Island
Bike Lanes

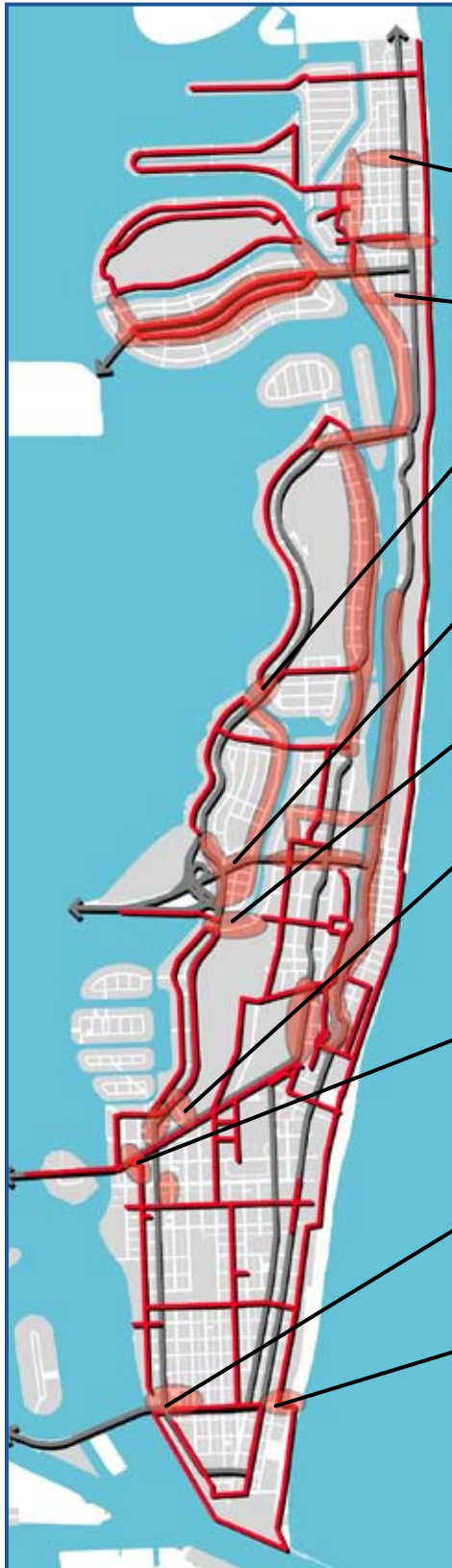
L - Gaps in the Proposed Bikeways System

Upon detailed inspection of the proposed bikeways system and the details of those proposed projects, 'gaps' in the system become apparent. These gaps include the following:

1. **North Beach Connector** – filling these gaps link the neighborhoods to the west with the beach;
2. **69th Street Beach Connector** – makes an east-west link from the commercial corridor along 71st down to 69th Street an the beach;
3. **Alton Road and 51st Street** – a half-block gap exists due to an irregular intersection of these roadways;
4. **Alton Road and Arthur Godfrey Road** – links the neighborhoods to the north and south to the Godfrey Road corridor;
5. **Alton Road bridge at North Bay Road** – bike lanes, paths and routes not clearly resolved at bridge due to confusing signs and indirect connections between facilities;
6. **Michigan Avenue between Alton Road and Dade Boulevard** – this proposed bike route is not an ideal solution for the connection between the Alton Road bike lane and the Dade Boulevard bikeway;
7. **West Avenue between Dade Boulevard / 17th Street and Lincoln Road** – this proposed bike route is not an ideal solution for this connection;
8. **Alton Road and 5th Street** – connects the Alton Road/West Ave neighborhood with the improvements planned for 5th Street;
9. **5th Street between Collins Avenue and Ocean Drive** – this is a one block gap between existing and proposed facilities, and includes the bike routes indentified that pose safety concerns.

These gaps are addressed in Section 4 through alternative concepts for connections and facilities. Filling these gaps will effectively close the open ends of the proposed network.

Gaps In The System



1. North Beach Connector (79th Street)
2. 69th Street Beach Connector
3. Alton Rd & 51st Street
4. Alton Rd & Arthur Godfrey Rd
5. Alton Rd Bridge at North Bay Rd
6. Michigan Ave between Dade Blvd /17th Street & Lincoln Rd
7. West Ave between Dade Blvd /17th Street & Lincoln Rd
8. Alton Rd & 5th Street
9. 5th Street between Collins Ave & Ocean Drive

**Includes Bike Routes Identified Previously*

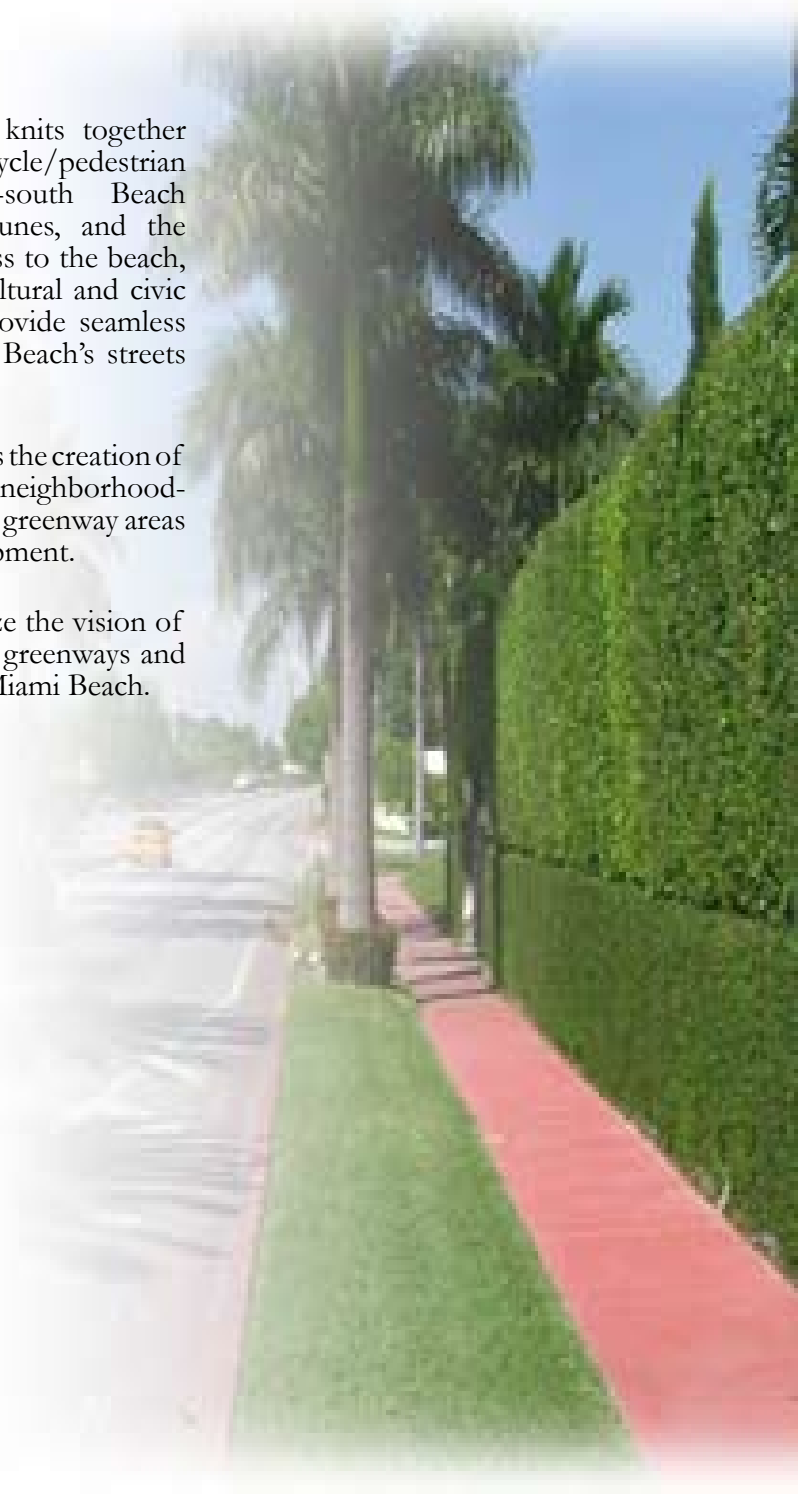
4.0 Atlantic Greenway Master Plan

4.1 Project Overview

The Atlantic Greenway Master Plan knits together elements of the Miami Beach bicycle/pedestrian transportation system: the north-south Beach Corridors running parallel to the dunes, and the Neighborhood Trails that provide access to the beach, parks, schools, and the commercial, cultural and civic destinations. The AGN attempts to provide seamless multi-modal connectivity along Miami Beach's streets and greenspaces.

The first component of the Master Plan is the creation of a long-range physical plan that details a neighborhood-based approach for upgrades of existing greenway areas and locations for new greenway development.

The Master Plan is created to summarize the vision of a system of interconnected bike paths, greenways and pedestrian facilities within the City of Miami Beach.



4.2 Components of the Master Plan

All the sub-areas within the overall Master Plan include a network of separate paths, on-street shared roads as routes, as well as dedicated bike lanes. Roadway striping, signage and street crossings at protected points with all help to define these various facilities.

North Beach Neighborhood:

The North Beach neighborhoods are densely populated, predominantly multi-family residential areas on the main island, with mostly single-family residential areas found on Normandy Isles.

The proposed greenway system will route westward from the North Beach Recreation Corridor to the neighborhoods surrounding Surfside Park, Tatum Waterway, Normandy Waterway and Normandy Shores Golf Course, as well as the commercial area of Normandy Drive/71st Street.

Middle Beach Neighborhood:

Middle Beach is largely a single-family residential area and is split by three waterways – Collins Canal, Indian Creek, and the Biscayne Waterway.

Although few options exist for an east-west interconnection at 63rd Street, 41st Street and 23rd Street bridges (the first two being heavily traveled by vehicular traffic, and making these roads poor routes for bicycle/pedestrian paths), the residential nature of this area offers viable opportunities in the north-south direction along the Pine Tree/La Gorce Drives and North Bay Road corridors. East-west connections will be made on alternative corridors, such as 28th Street, 34th Street, 47th Street and 52nd Street as well as using the Collins Canal along Dade Blvd..

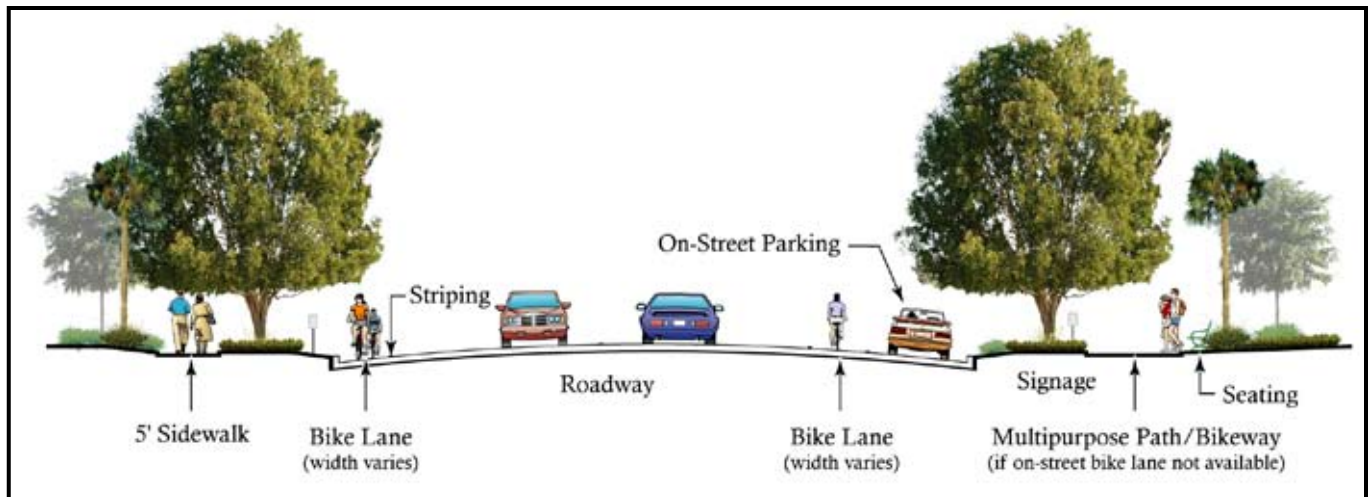
South Beach Neighborhood:

South beach is a densely populated area mostly comprised of multi-family dwellings.

All three neighborhoods will benefit from a multi-use path along the western edge of the Atlantic coastline.

The AGN Master Plan is comprised of a hierarchy of facility types. They include:

1. **Multi-use Paths and Greenways** – These facilities are paved, linear segments that safely separate cyclists and pedestrians from motor vehicle traffic. Users include cyclists, walkers, joggers, roller skaters, skateboarders and other methods of non-motorized transport.
2. **Bike Lanes** – On-street facilities that are marked and signed for exclusive bicycle use.
3. **Bike Routes** – Signed corridors that indicate users share the roadway with automobiles.
4. **Sidewalks** – Paved spaces for pedestrian traffic only.
5. **Parks and Open Spaces** – The City’s existing parks and open space network – including the beaches – should be considered part of the AGN. These lands are suitable as rest stops and destinations along a greenway, and may have the means facilities necessary to support greenway travel.
6. **Bicycle and Pedestrian Support Facilities** – These facilities include Parking Areas, Restrooms and Concession Areas, Water Fountains, Shade Areas, Benches, Bike Racks, Urban Greenspace Landscaping and Wayfinding.



Typical AGN Facilities

MIAMI BEACH
ATLANTIC GREENWAY NETWORK
 CITY OF MIAMI BEACH, FLORIDA

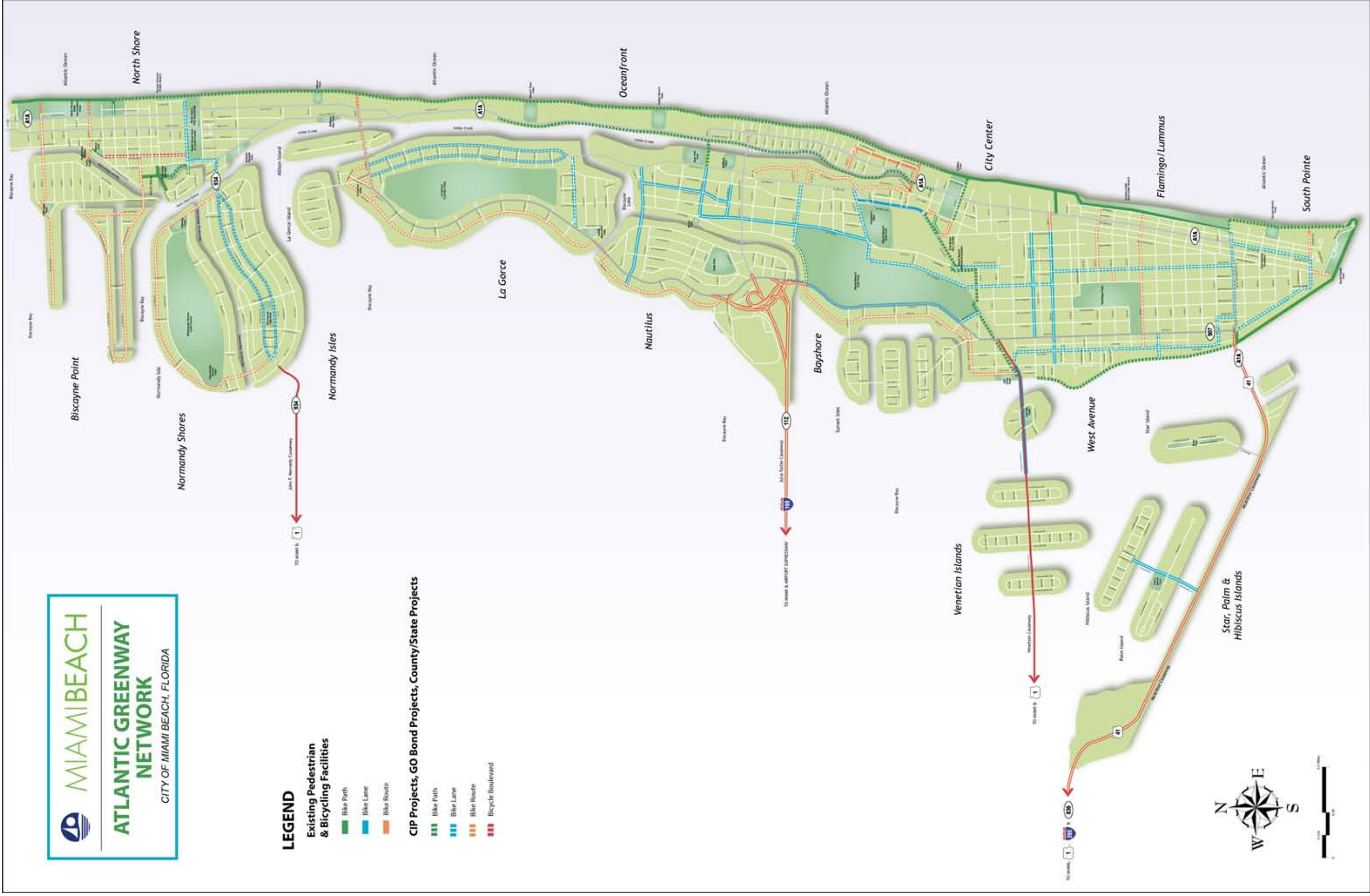
LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

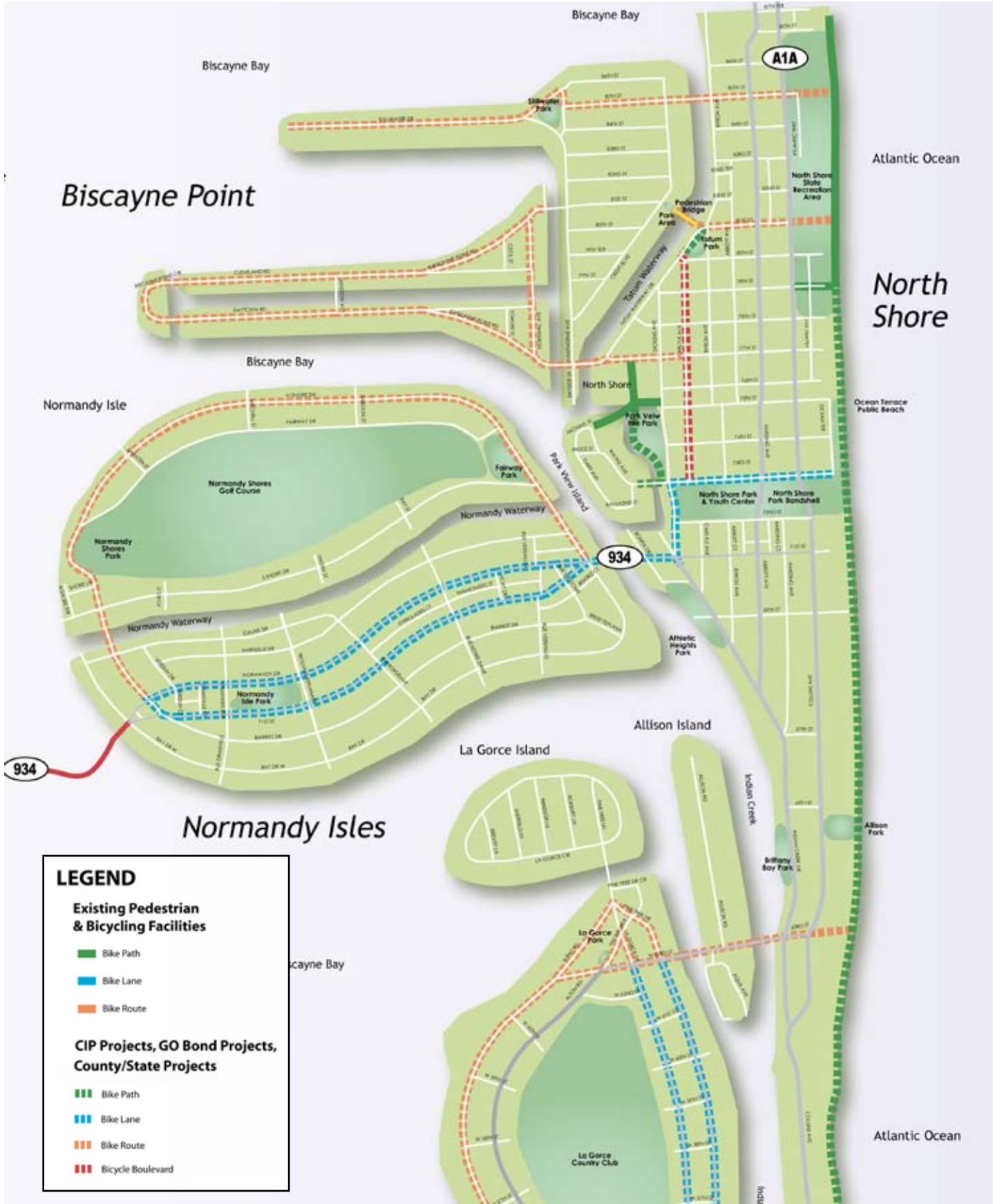
- Bike Path
- Bike Lane
- Bike Route
- Bicycle Boulevard





MIAMI BEACH

North Beach



Biscayne Point

Normandy Isles

LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

- ▬▬▬ Bike Path
- ▬▬▬ Bike Lane
- ▬▬▬ Bike Route
- - - - Bicycle Boulevard



MIAMI BEACH

Middle Beach



LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

- Bike Path
- Bike Lane
- Bike Route
- Bicycle Boulevard












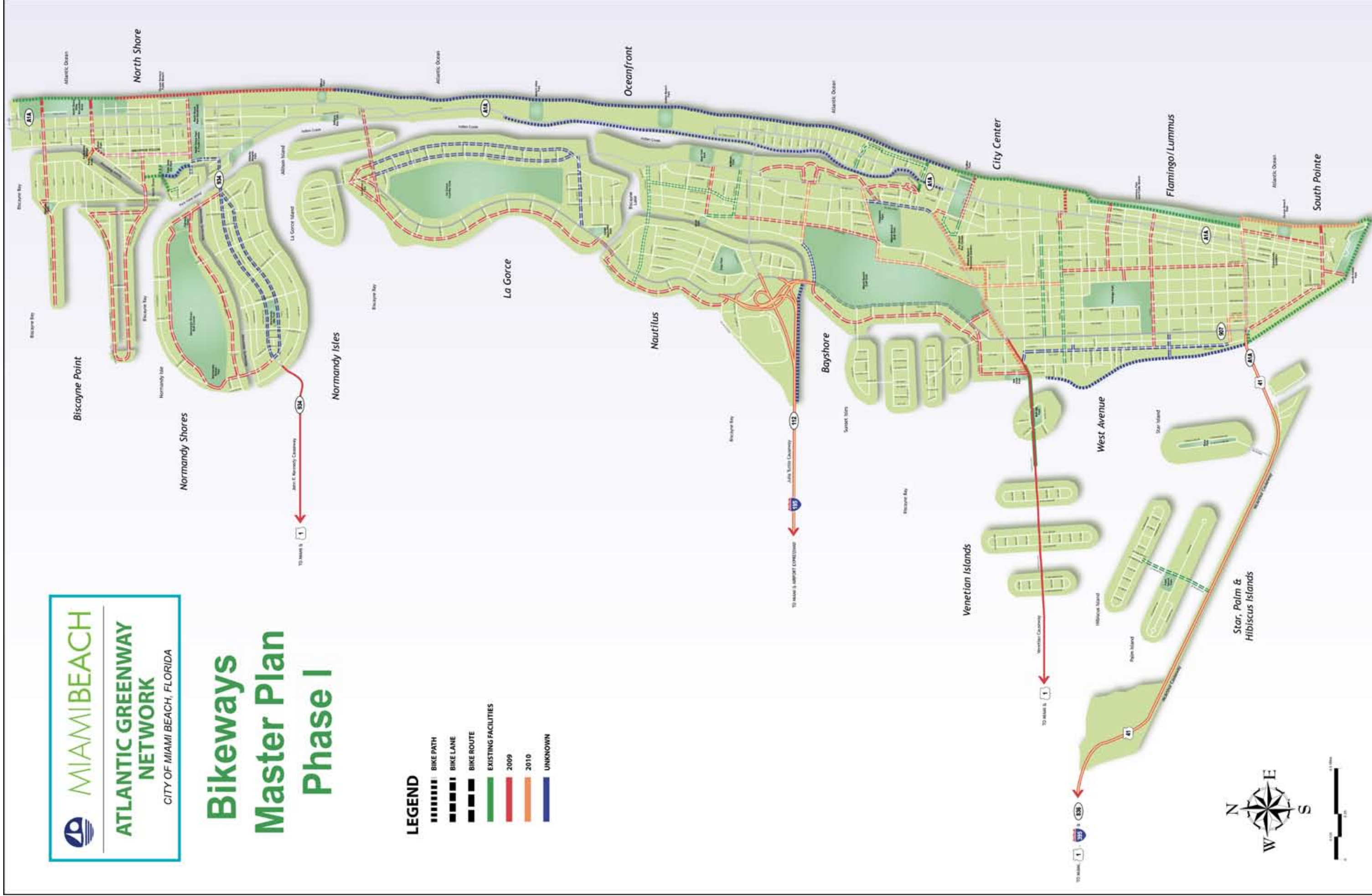
MIAMI BEACH

South Beach



Bikeways Master Plan Phase I

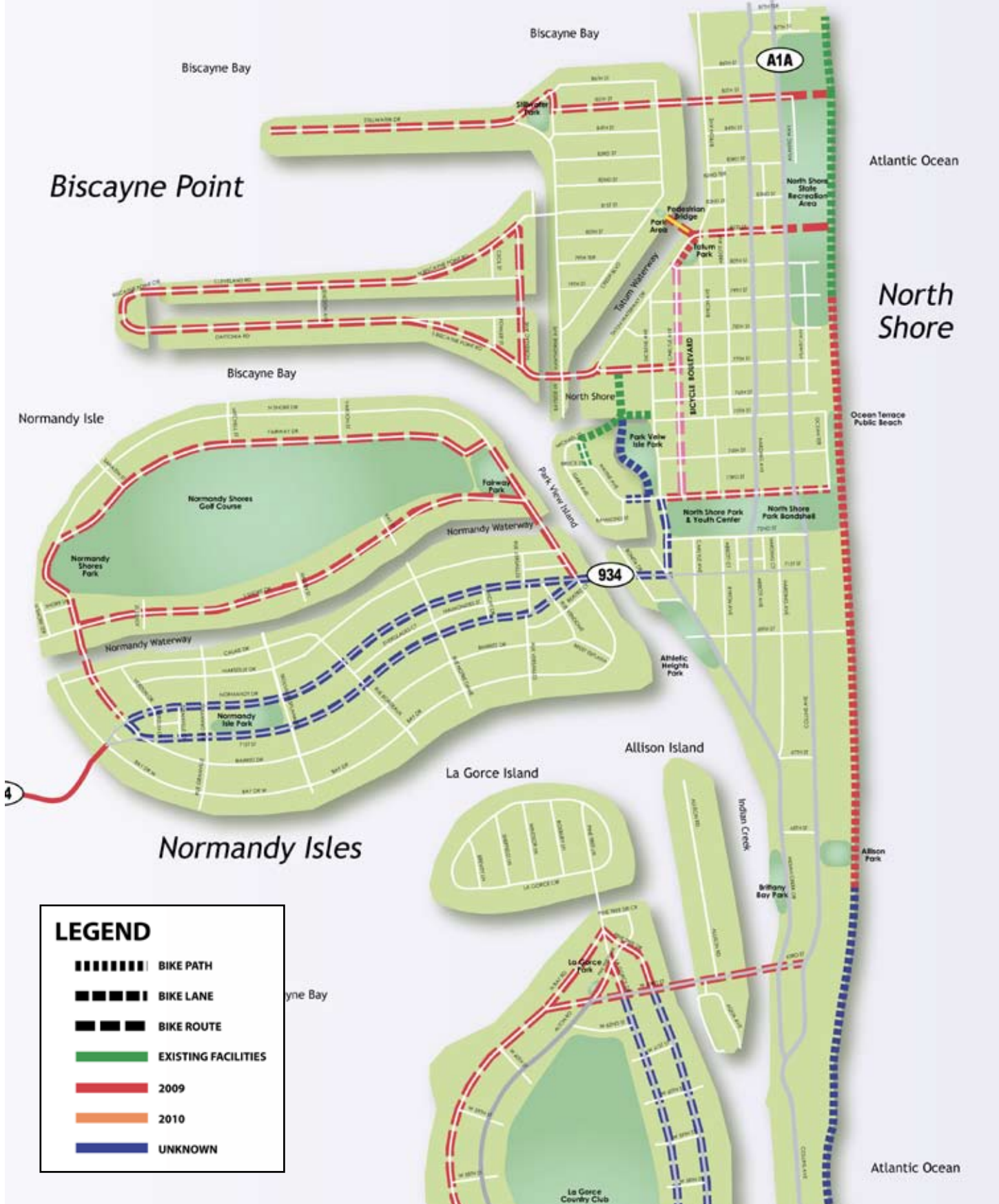
- LEGEND**
-  BIKE PATH
 -  BIKE LANE
 -  BIKE ROUTE
 -  EXISTING FACILITIES
 -  2009
 -  2010
 -  UNKNOWN





MIAMI BEACH

North Beach





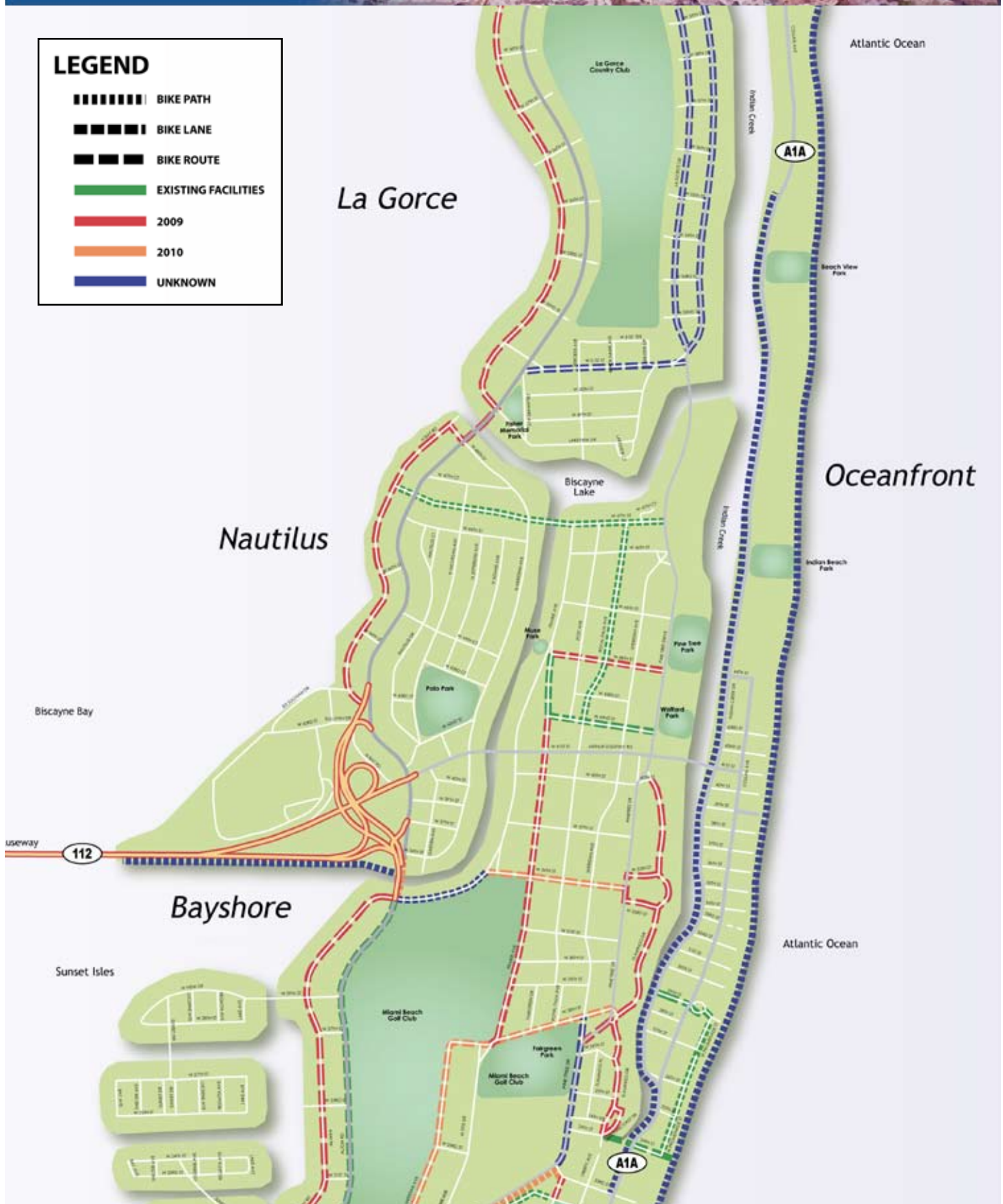
MIAMI BEACH

Middle Beach



LEGEND

-  BIKE PATH
-  BIKE LANE
-  BIKE ROUTE
-  EXISTING FACILITIES
-  2009
-  2010
-  UNKNOWN



4.3 Gaps in the Proposed Bikeways System

Potential solutions were developed to depict design options to fill in the gaps identified in Section 3.

The following gaps are addressed in detailed sketches following this page. They include:

1. **North Beach Connector** – filling these gaps link the neighborhoods to the west with the beach;
2. **69th Street Beach Connector** – makes an east-west link from the commercial corridor along 71st down to 69th Street and the beach;
3. **Alton Road and 51st Street** – a half-block gap exists due to an irregular intersection of these roadways;
4. **Alton Road and Arthur Godfrey Road** – links the neighborhoods to the north and south to the commercial area along Godfrey Road corridor;
5. **Alton Road bridge at North Bay Road** – bike lanes, paths and routes not clearly resolved at bridge due to confusing signs and direct connections between facilities;
6. **Michigan Avenue between Alton Road and Dade Boulevard** – this proposed bike route is not an ideal solution for the connection between the Alton Road bike lane and the Dade Boulevard Bike Path;
7. **West Avenue between Dade Boulevard / 17th Street and Lincoln Road** – this proposed bike route is not an ideal solution for this connection;
8. **Alton Road and 5th Street** – connects the Alton Road/West Ave neighborhood with the improvements planned for 5th Street;
9. **5th Street between Collins Avenue and Ocean Drive** – this is a one block gap between existing and proposed facilities.



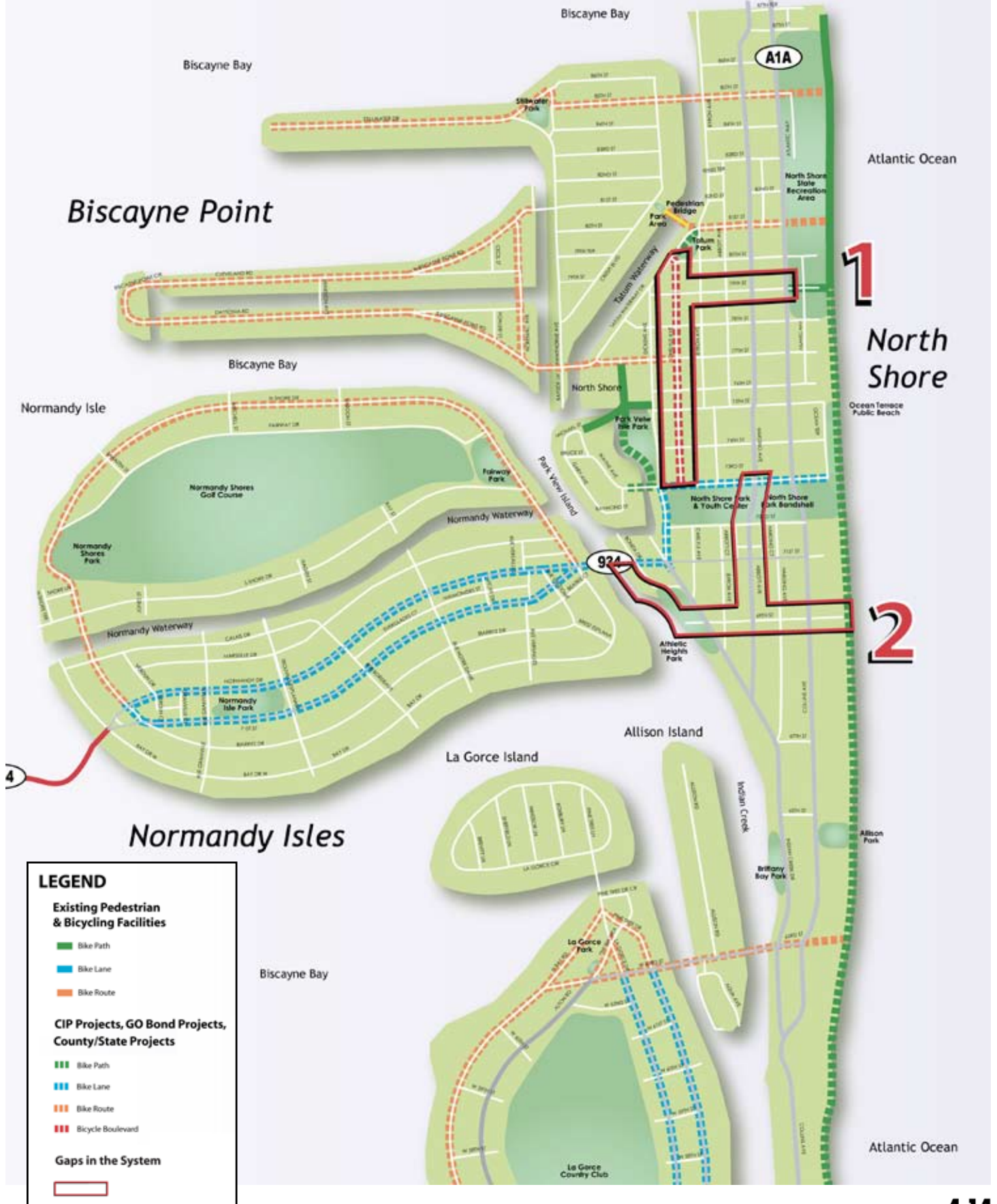
MIAMI BEACH
ATLANTIC GREENWAY NETWORK
 CITY OF MIAMI BEACH, FLORIDA





MIAMI BEACH

North Beach





MIAMI BEACH

Middle Beach



LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

- Bike Path
- Bike Lane
- Bike Route
- Bicycle Boulevard

Gaps in the System

- Gaps in the System



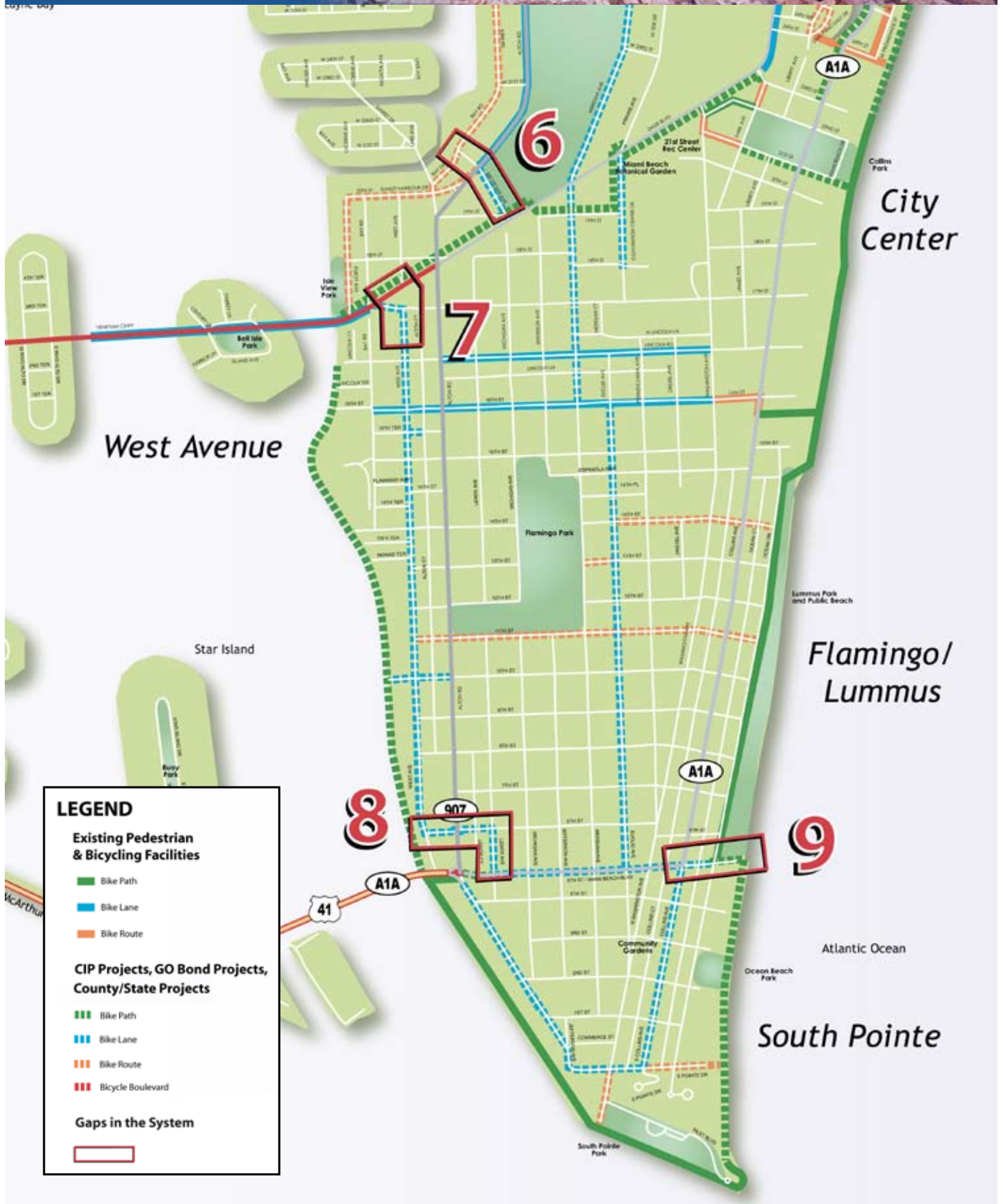


MIAMI BEACH

South Beach



Bayne Day



LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path (solid green line)
- Bike Lane (dashed blue line)
- Bike Route (dashed orange line)

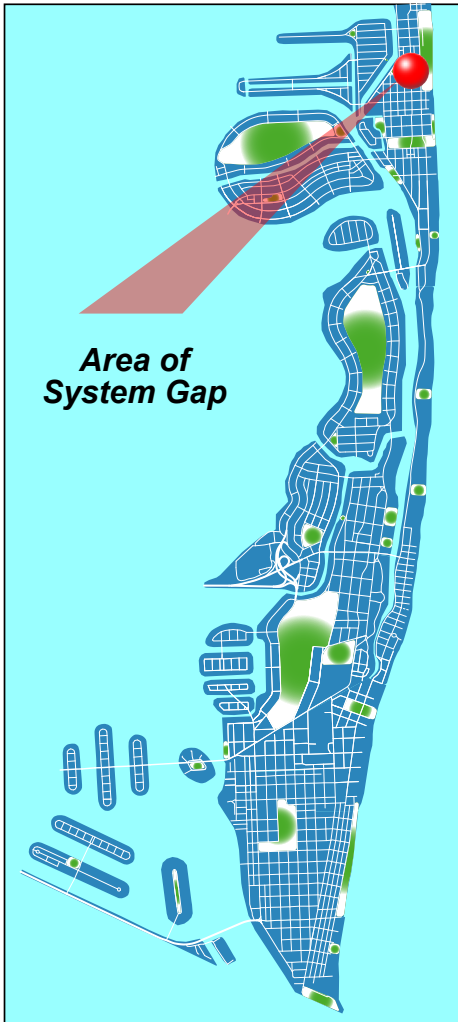
CIP Projects, GO Bond Projects, County/State Projects

- Bike Path (dotted green line)
- Bike Lane (dotted blue line)
- Bike Route (dotted orange line)
- Bicycle Boulevard (dotted red line)

Gaps in the System

- Red outline

Project 1: North Beach Connector (Carlyle Ave and 79th Street)



OBJECTIVES

- Connect North Beach neighborhood to beach

SHORT-TERM SOLUTIONS

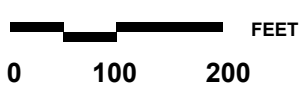
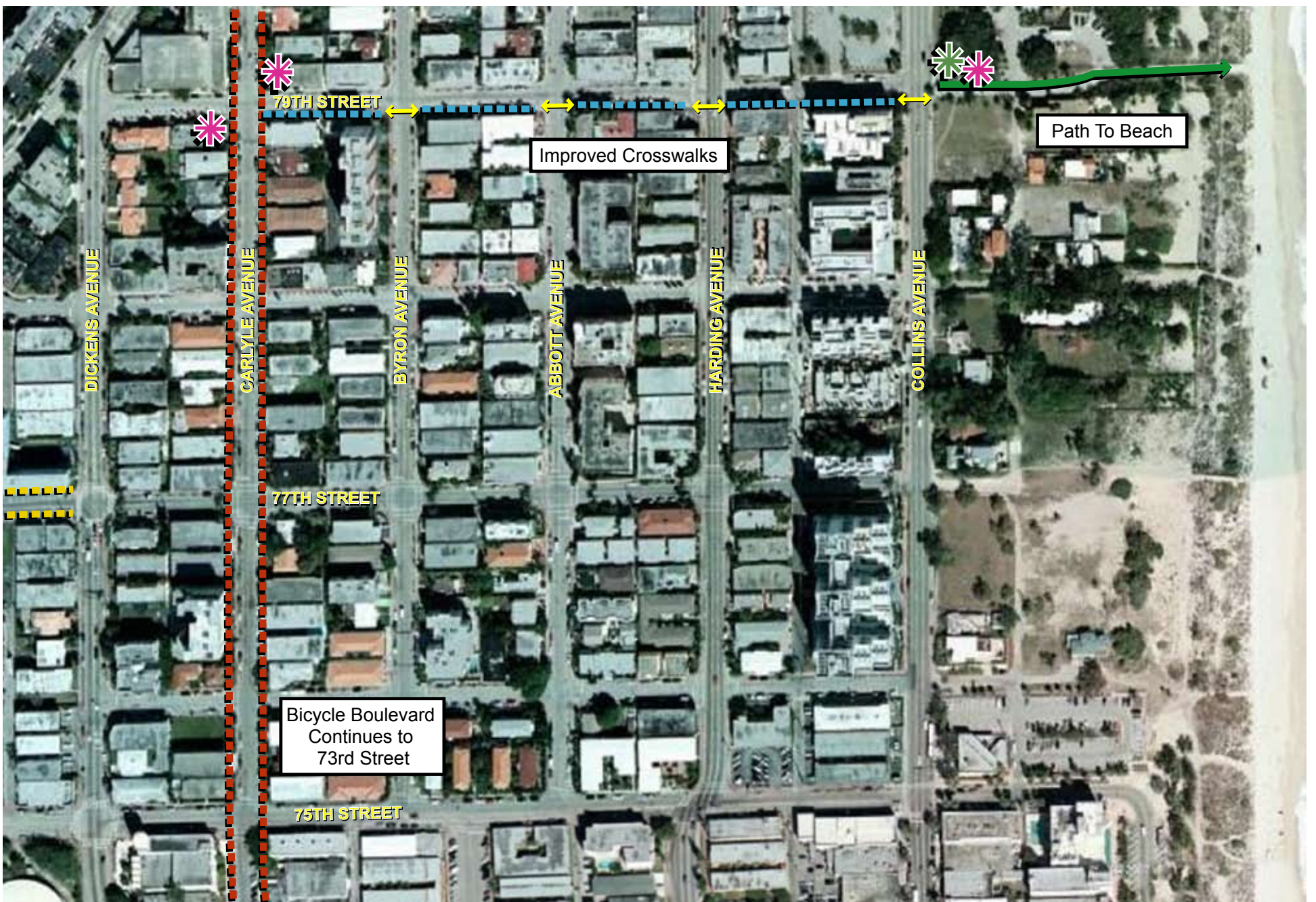
- Add bicycle racks to 79th Street
- Design Carlyle Ave. to function as a "Bicycle Boulevard"
- Improve crosswalks
- Connect to existing beach bike path
- Add bike lanes to 79th Street through reconfiguration of parking/roadway striping

LONG-TERM SOLUTIONS

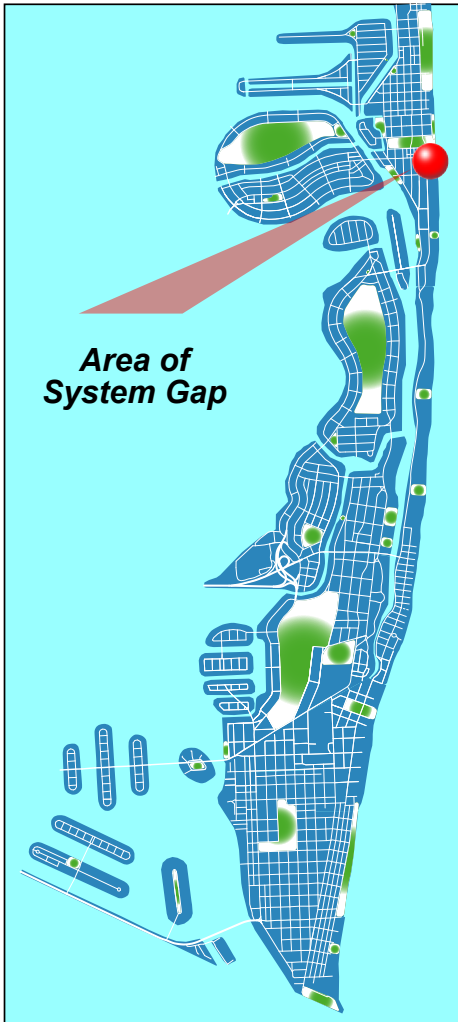
- Reconstruct roadway corridor to include parking/bike lanes/wide sidewalks

LEGEND

	Existing Bike Path		Existing Bike Lane		Existing Bike Route		Proposed Bike Racks
	Proposed Bike Path		Proposed Bike Lane		Proposed Bike Route		Proposed Bike/Ped Information Signs
	Proposed "Bicycle Boulevard"						



Project 2: 69th Street Beach Connector



OBJECTIVES

- Safe passage 71st Street corridor across Collins Avenue to the beach.

SHORT-TERM SOLUTIONS

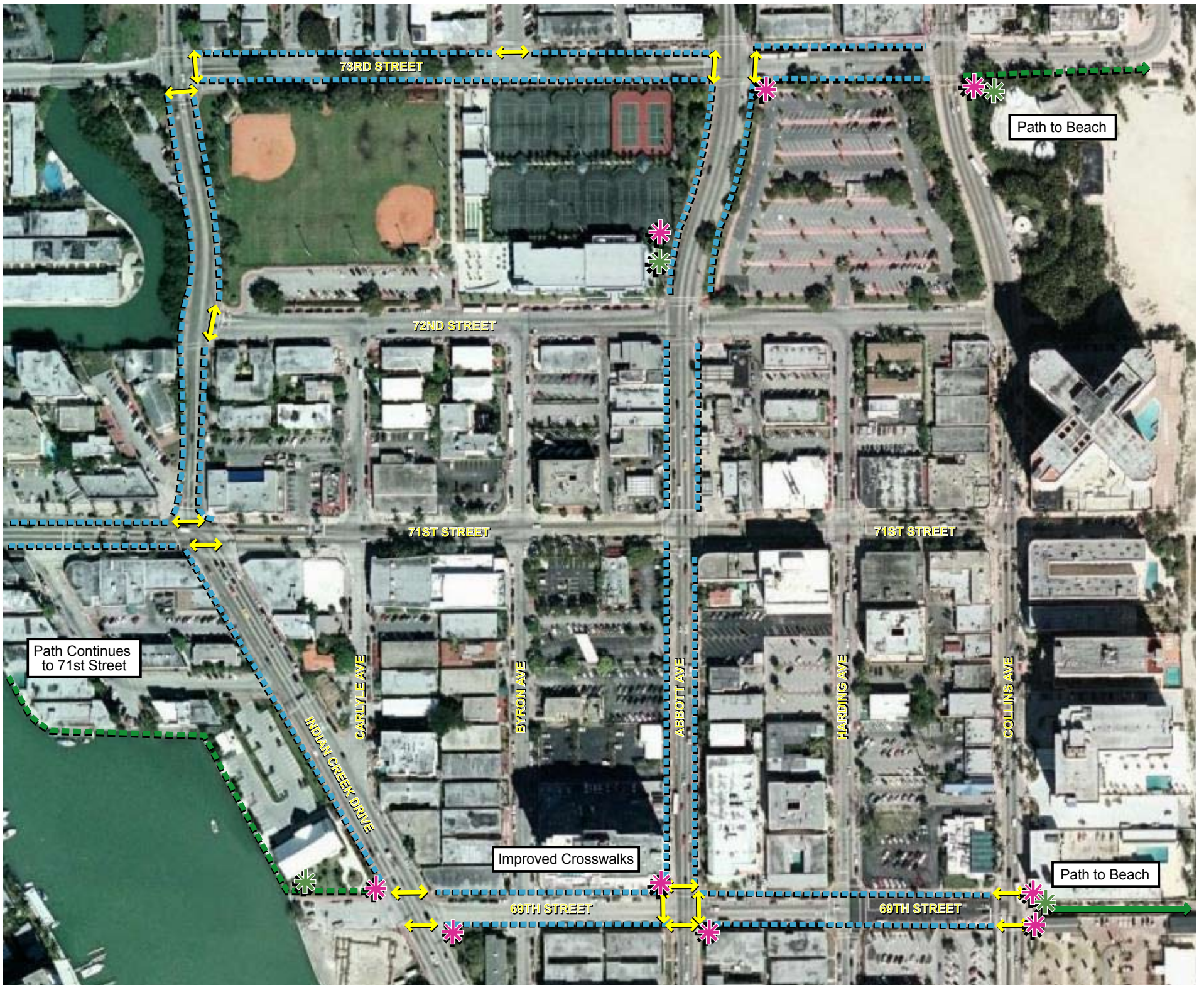
- Improve crosswalks
- Restripe roadways to include bike lanes (appears to be enough width)
- Add bicycle racks at designated locations
- Improve signage to include bicycle awareness and crossings
- Abott bike lanes

LONG-TERM SOLUTIONS

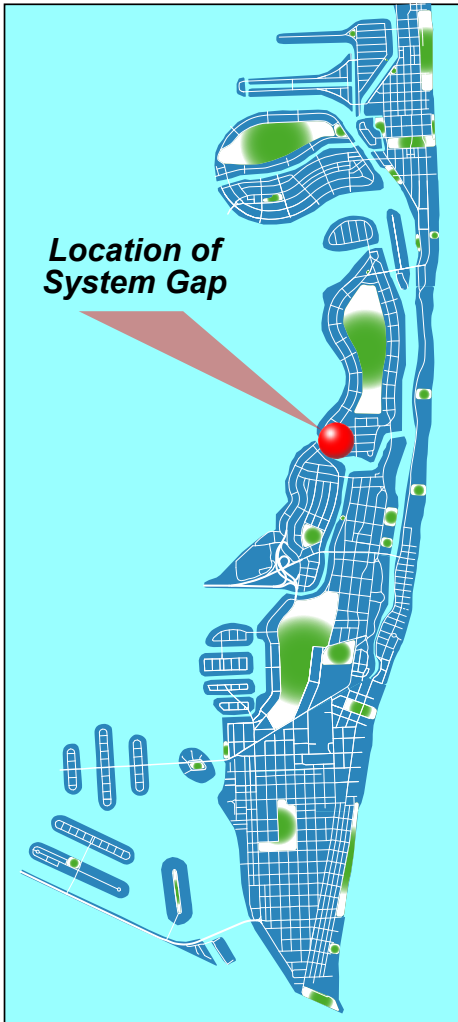
- Bike path along Indian Creek from 71st Street to 69th Street through easements/partnership agreements

LEGEND

- | | | | | | | | |
|--|--------------------|--|--------------------|--|---------------------|--|-------------------------------------|
| | Existing Bike Path | | Existing Bike Lane | | Existing Bike Route | | Proposed Bike Racks |
| | Proposed Bike Path | | Proposed Bike Lane | | Proposed Bike Route | | Proposed Bike/Ped Information Signs |



Project 3: Alton Road - 51st Street



OBJECTIVES

- Connect Alton Road bike routes and proposed bike lanes on 51st Street

SHORT-TERM SOLUTIONS

- Improve signage to include bicycle traffic awareness and crossings
- Add specialty pavement on 51st St. bike lane to emphasize conflict with continuous right turn lane
- Add crosswalks to intersecting streets
- Add bike paths to the park on Alton Road to allow for bicycle traffic to connect to mid-block crossing

LONG-TERM SOLUTIONS

- Design the bike paths for each roadway



Alton Road looking north



Park along Alton Road



Alton Road looking south at 51st St. intersection

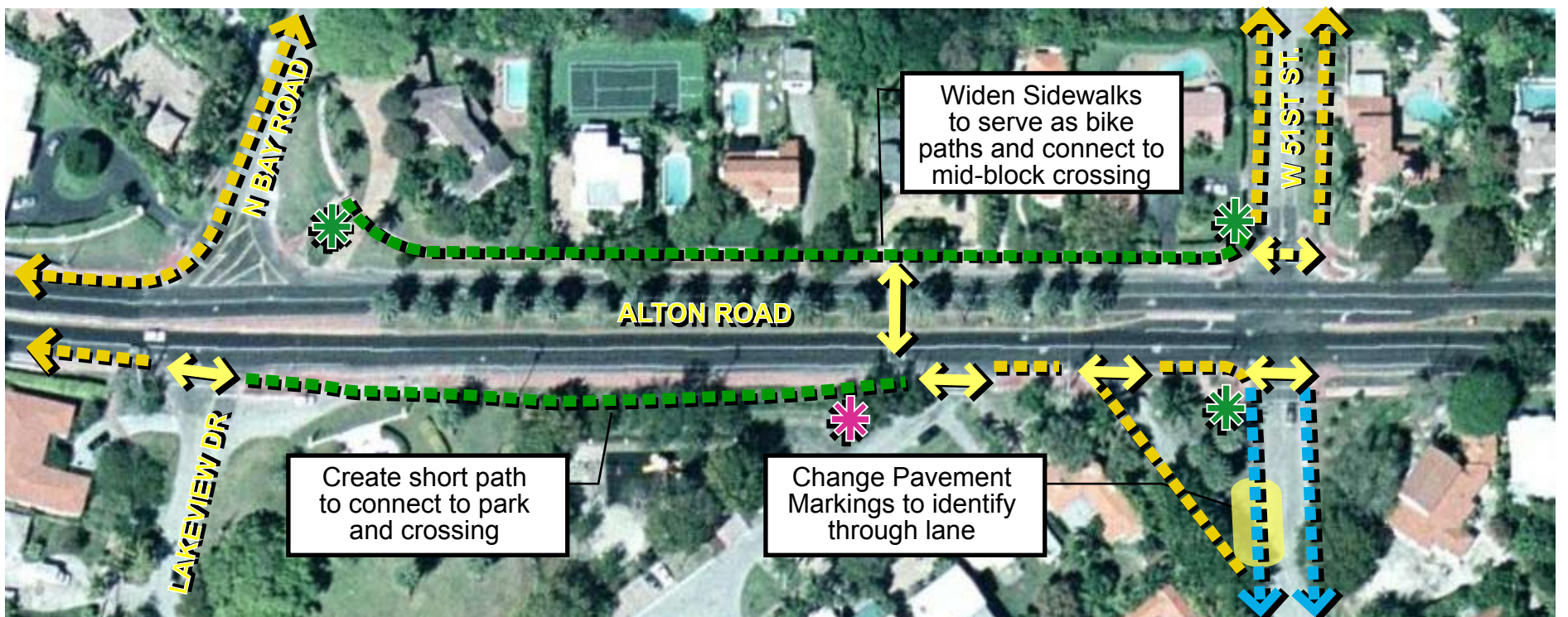


Alton Road looking north at mid-block crossing

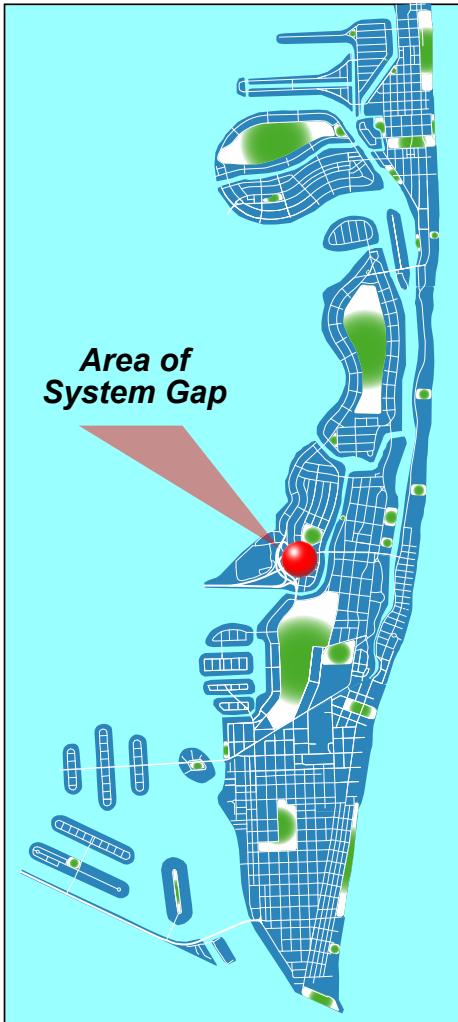


Mid-block crossing

LEGEND	Existing Bike Path	Existing Bike Lane	Existing Bike Route	Proposed Bike Racks
	Proposed Bike Path	Proposed Bike Lane	Proposed Bike Route	Proposed Bike/Ped Information Signs



Project 4: Alton Road and Arthur Godfrey Road



OBJECTIVES

- Connect neighborhoods across Arthur Godfrey Road

SHORT-TERM SOLUTIONS

- Improve crosswalks
- Restripe Alton Road north of Arthur Godfrey to include bike lanes
- Sign bicycle route



Arthur Godfrey Road

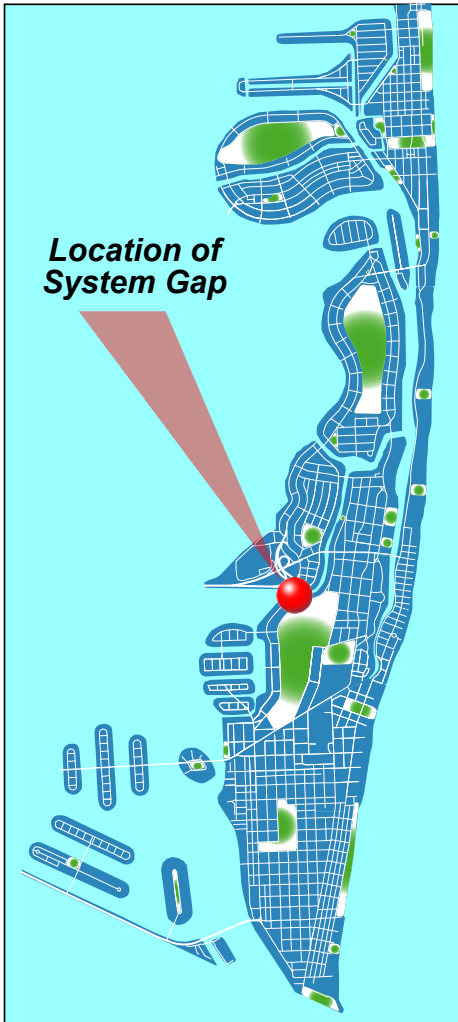
LEGEND

	Existing Bike Path		Existing Bike Lane		Existing Bike Route		Proposed Bike Racks
	Proposed Bike Path		Proposed Bike Lane		Proposed Bike Route		Proposed Bike/Ped Information Signs



0 100 200 FEET

Project 5: Alton Road - Chase Ave - N Bay Road



OBJECTIVES

- Connect Alton Road bike lane with multipurpose path at Tuttle Causeway

SHORT-TERM SOLUTIONS

- Transition existing bike lane into proposed bike path and connect to intersection
- Improve signage to include bicycle traffic awareness and crossings
- Add bicycle racks to emphasize importance of connection and use - allow users to stop at intersections for 'rest'



Julia Tuttle entering bridge travelling south



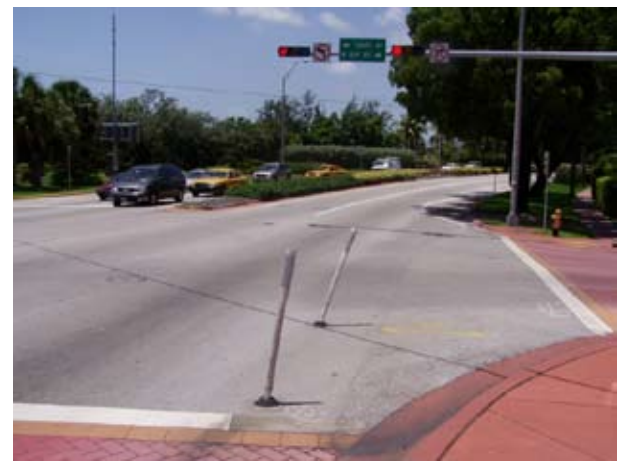
Looking west from Alton Road intersection



Traffic travelling north at Alton Road split



Bridge end on Alton Road

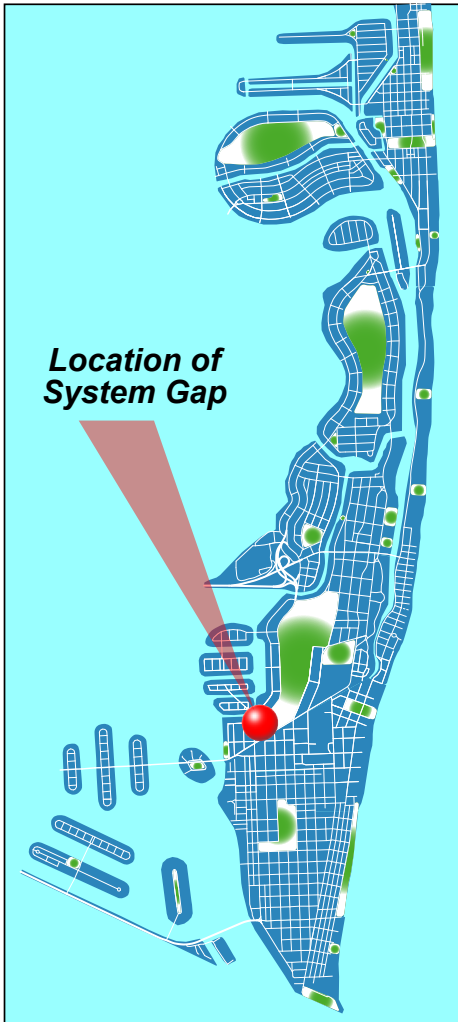


Alton Road at N Bay Road and Chase Ave. looking south

LEGEND							
	Existing Bike Path		Existing Bike Lane		Existing Bike Route		Proposed Bike Racks
	Proposed Bike Path		Proposed Bike Lane		Proposed Bike Route		Proposed Bike/Ped Information Signs



Project 6: Michigan Ave - Dade Blvd - Alton Road



OBJECTIVES

- Connect Alton Road Bike Lane to Dade Boulevard Bike Path along Michigan Avenue

SHORT-TERM SOLUTIONS

- Create a new bike path along perimeter of golf course and connect to existing crosswalks and bike lane
- Improve signage to include bicycle traffic awareness
- Create new crosswalks across Dade Boulevard and adjust signals to stop through-turns - such signals would be pedestrian-actuated

LONG-TERM SOLUTIONS

- Restripe roadway to include narrower vehicle travel lanes, bike lanes and eliminate continuous right turns



Michigan Ave. looking south to Dade Blvd.



Michigan/Dade Blvd intersection looking west



Michigan Ave/Alton Road intersection

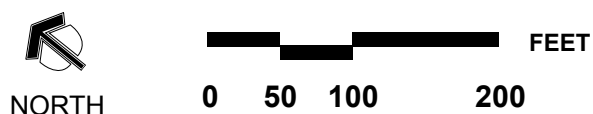


Michigan Ave looking north along golf course



Intersection of Michigan Ave and Dade Blvd

LEGEND	Existing Bike Path	Existing Bike Lane	Existing Bike Route	Proposed Bike Racks
	Proposed Bike Path	Proposed Bike Lane	Proposed Bike Route	Proposed Bike/Ped Information Signs



Project 7: West Avenue and 17th Street



OBJECTIVES

- Connect West Avenue Corridor with Dade Boulevard Bike Path (reconstruction required)

SHORT-TERM SOLUTIONS

- Implement bike lane solutions proposed in West Avenue BODR
- Improve signage to include bicycle traffic awareness
- Create new crosswalks across 17th Street to allow for pedestrian/bike travel crossings

LONG-TERM SOLUTIONS

- Purchase corner lot and create a gateway / greenspace park with pedestrian bridge connecting the bicycle/pedestrian facilities



West Ave / 17th Street Intersection looking east



Closeup of vacant corner lot



West Avenue looking south

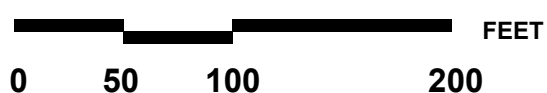
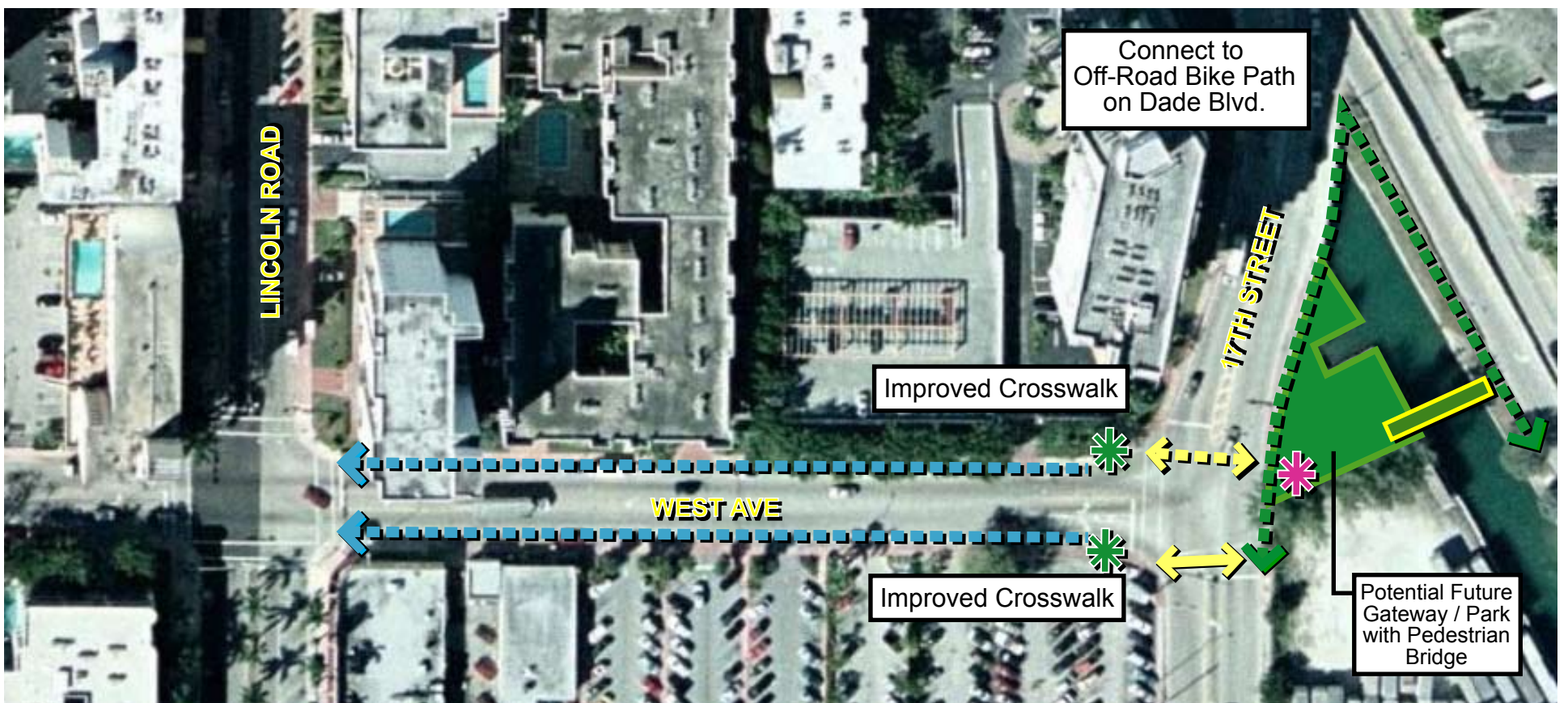


West Avenue looking north

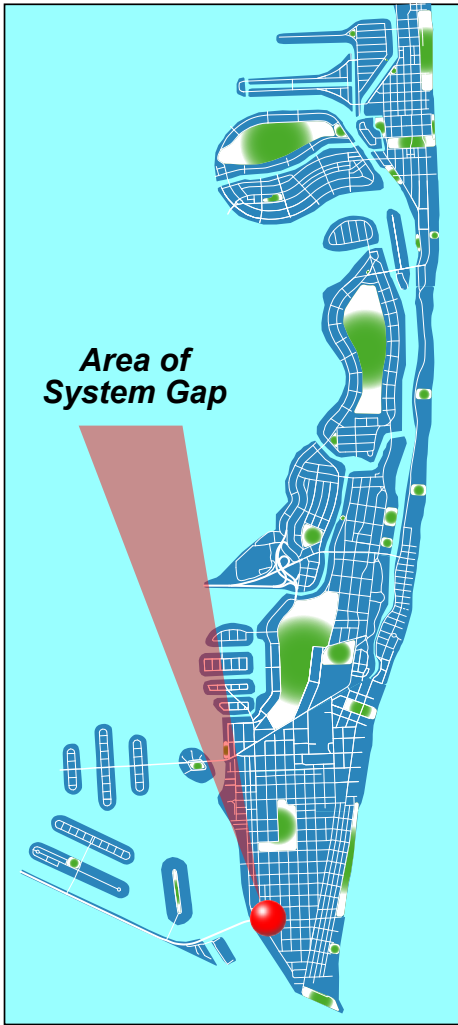


West Avenue / 17th Street Intersection

LEGEND							
	Existing Bike Path		Existing Bike Lane		Existing Bike Route		Proposed Bike Racks
	Proposed Bike Path		Proposed Bike Lane		Proposed Bike Route		Proposed Bike/Ped Information Signs



Project 8: Alton Road and 5th Street



OBJECTIVES

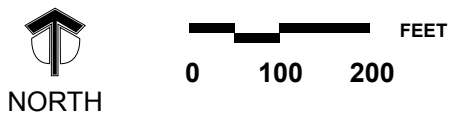
- Connect Alton Road/West Ave. to 5th Street improvements

SHORT-TERM SOLUTIONS

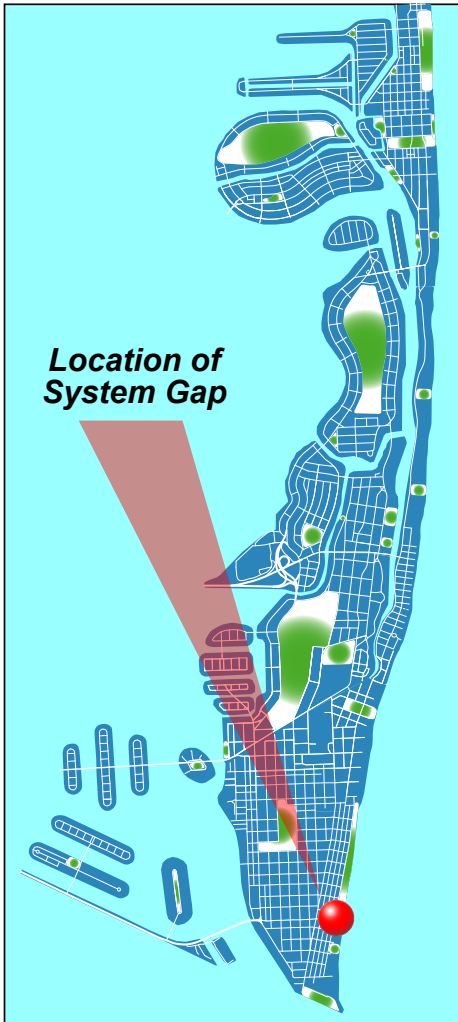
- Improve crosswalks
- Restripe roadways to include bicycle lanes
- Add bicycle racks/signs

LEGEND

	Existing Bike Path		Existing Bike Lane		Existing Bike Route		Proposed Bike Racks
	Proposed Bike Path		Proposed Bike Lane		Proposed Bike Route		Proposed Bike/Ped Information Signs



Project 9: 5th Street and Ocean Drive



OBJECTIVES

- Connect 5th Street bicycle facilities to Ocean Drive

SHORT-TERM SOLUTIONS

- Add bike racks to 5th Street and Ocean Drive - create a place for casual riders to either park their bicycles or dismount
- Widen sidewalks so bicycles can be walked along sidewalk
- Sign the block of 5th Street as a bike route
- Improve signage to include bicycle traffic awareness and direct users to beach path

LONG-TERM SOLUTIONS

- Reconstruct roadway to include narrower vehicle travel lanes, bike lanes and eliminate continuous right turns



5th Street looking west across Ocean Drive



5th Street looking east to beach area



Ocean Drive looking north at 5th intersection



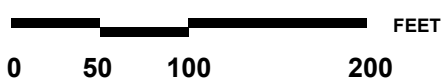
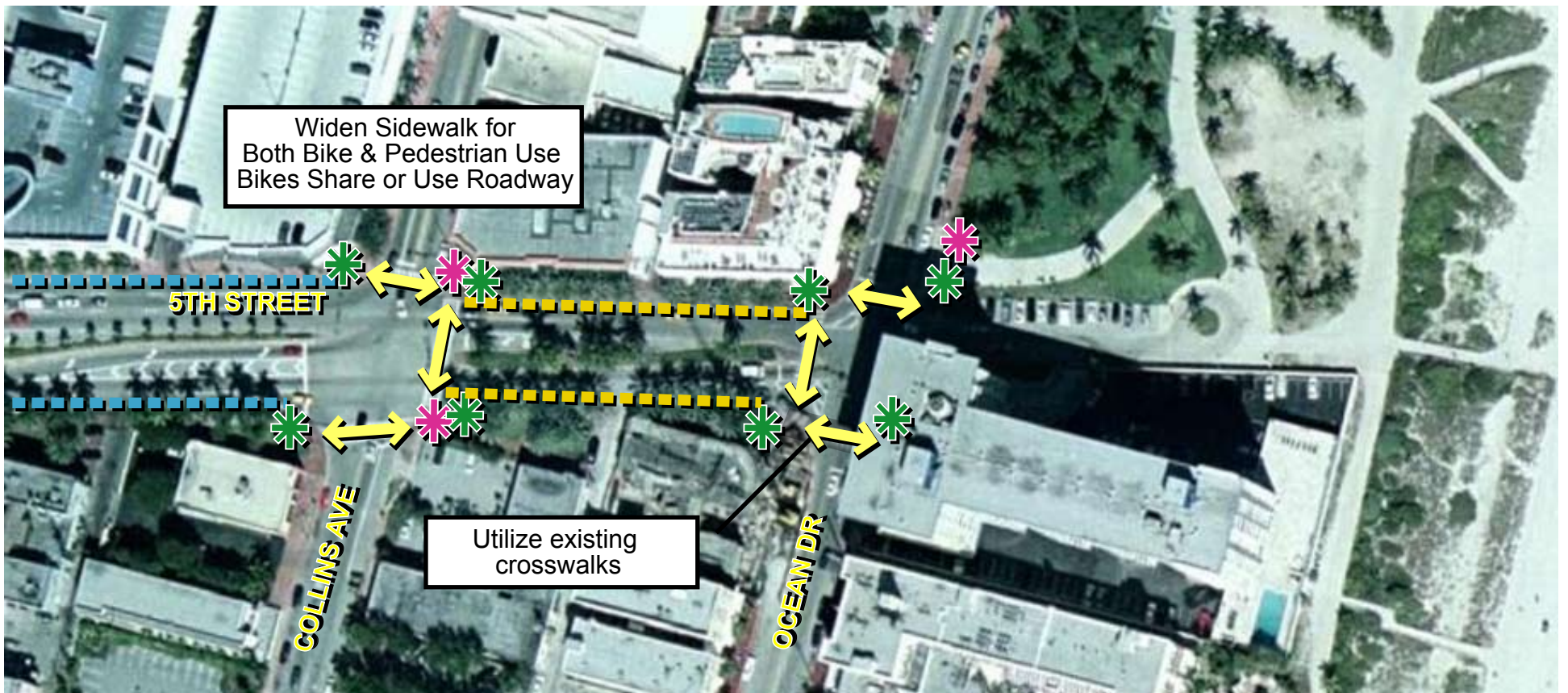
South crosswalk crossing Ocean Drive



Paved existing bike route to beach

LEGEND

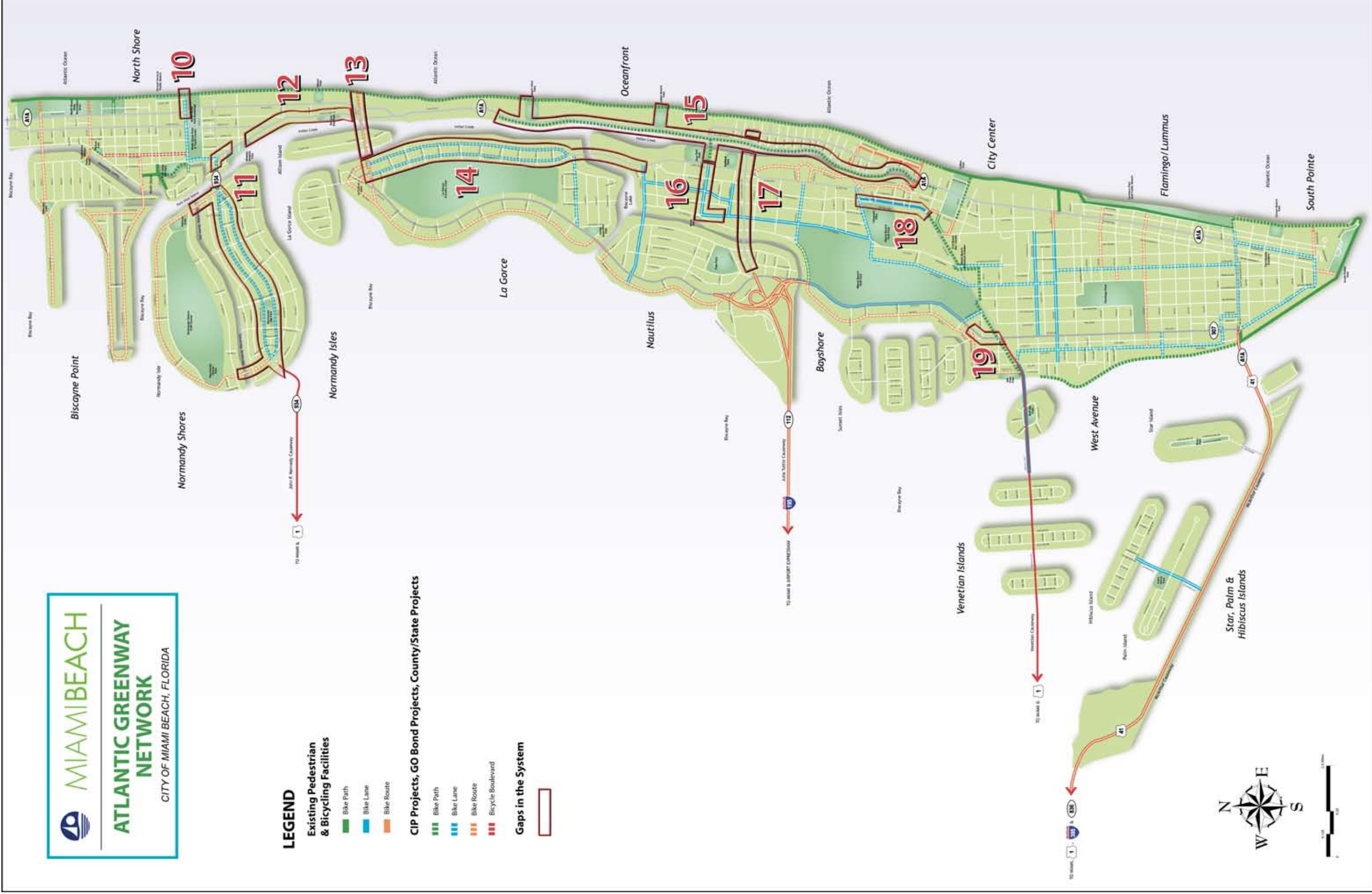
- | | | | |
|--------------------|--------------------|---------------------|-------------------------------------|
| Existing Bike Path | Existing Bike Lane | Existing Bike Route | Proposed Bike Racks |
| Proposed Bike Path | Proposed Bike Lane | Proposed Bike Route | Proposed Bike/Ped Information Signs |



The following represent solutions which are depicted in the overall Master Plan graphic and have been given preliminary consideration by the City, County and/or State. These areas may not necessarily be considered 'gaps' in the system because other parallel facilities have been proposed, or facilities that may have been under consideration as part of other planning projects.

10. **73rd Street Beach Connection** – the construction of a proposed bike path along the south side of 73rd St. on City property north of the band shell facility between Collins Ave. and Ocean Terrace;
11. **Normandy Drive/71st Street Bike Lanes** – proposed bike lanes along these roadways making a critical east-west connection through the North Beach commercial area;
12. **Indian Creek Drive Bike Lanes** – potential for southbound bike lanes along Indian Creek Drive;
13. **63rd Street Bridge** – creation of a bike route along 63rd Street connecting LaGorce with the beach;
14. **Pine Tree/LaGorce Drive** – proposed restriping to allow for bike lanes on each road making a critical north-south connection through LaGorce;
15. **Indian Creek Greenway** – the potential for a dedicated path along the east bank of the Indian Creek. Potential connections – both directly and through potential pedestrian bridges – can be made at City parks along the path's alignment;
16. **44th Street Bike Lanes** – a small several block connector using bike lanes;
17. **Arthur Godfrey Bike Lanes** – from Alton Road on the west to the Indian Creek Bridge – FDOT completed a feasibility study that allows for bicycle lanes on both sides of Arthur Godfrey Road;
18. **Pine Tree Drive** – a several block connection between 28th Street to the north and Dade Blvd. to the south;
19. **Alton Road Bike Lane Extension** – FDOT completed a bicycle lane feasibility study that allows for the addition of a northbound bicycle lane from the Alton Road/Dade Blvd. intersection to the Alton Road/Michigan Ave. intersection.

MIAMI BEACH
ATLANTIC GREENWAY NETWORK
 CITY OF MIAMI BEACH, FLORIDA



LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

- Bike Path
- Bike Lane
- Bike Route
- Bicycle Boulevard

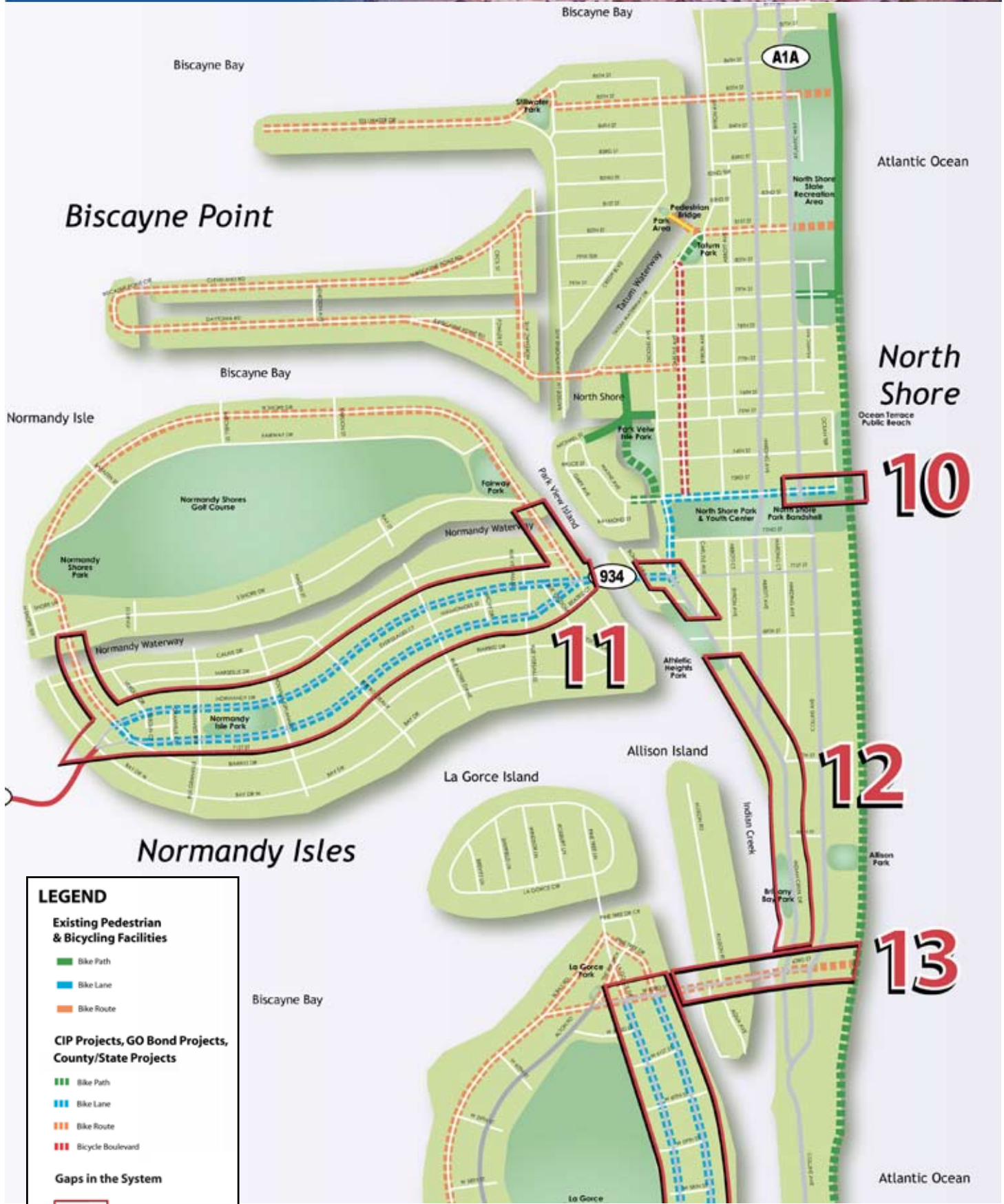
Gaps in the System





MIAMI BEACH

North Beach





MIAMI BEACH

Middle Beach



LEGEND

Existing Pedestrian & Bicycling Facilities

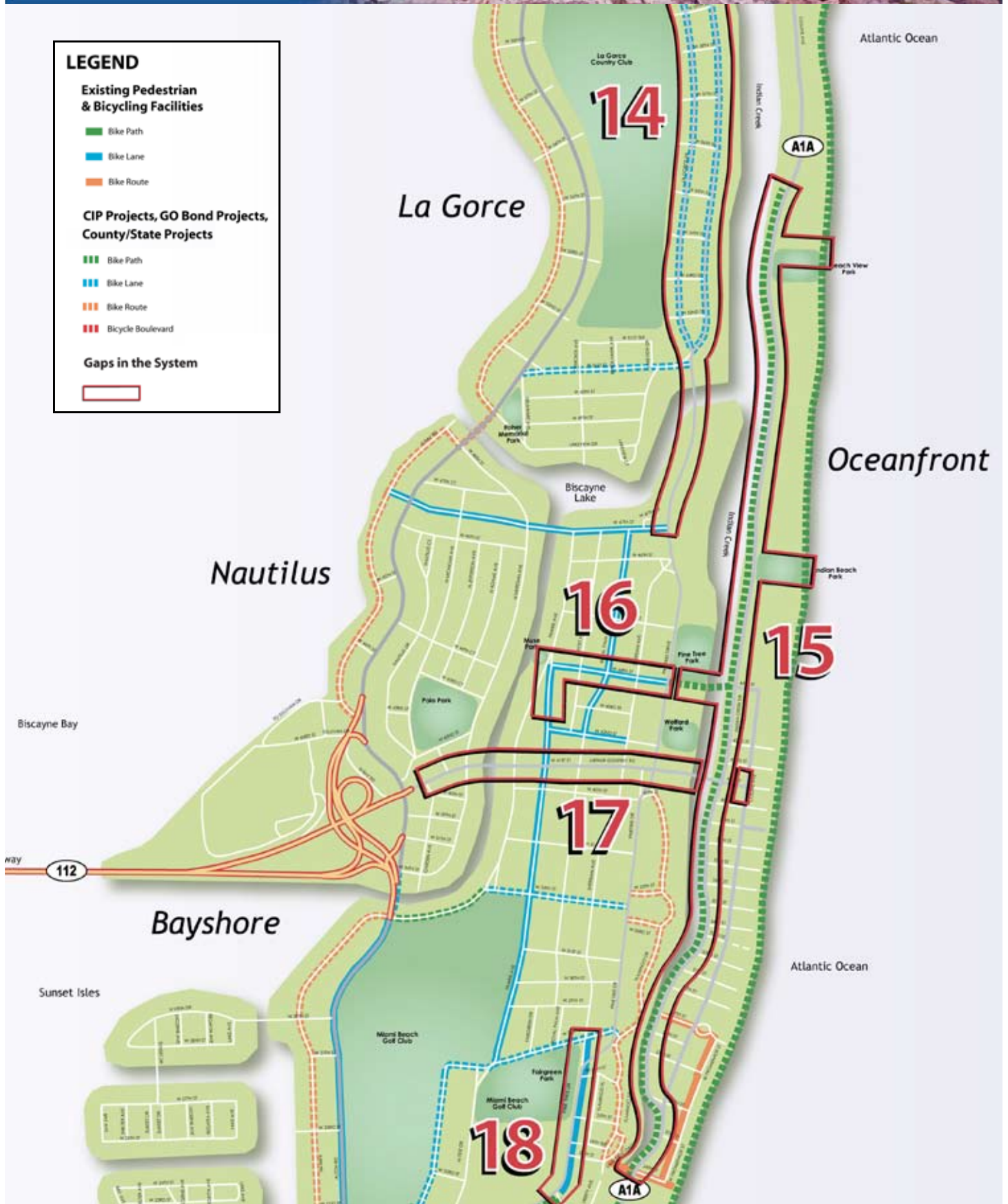
- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

- Bike Path
- Bike Lane
- Bike Route
- Bicycle Boulevard

Gaps in the System

- Gaps in the System





MIAMI BEACH

South Beach



Bay



LEGEND

Existing Pedestrian & Bicycling Facilities

- Bike Path
- Bike Lane
- Bike Route

CIP Projects, GO Bond Projects, County/State Projects

- - - Bike Path
- - - Bike Lane
- - - Bike Route
- - - Bicycle Boulevard

Gaps in the System



5.0 Implementation Plan

5.1 Overview

This section presents the Implementation Plan for the City of Miami Beach's AGN Master Plan. It contains a set of strategies and actions that will allow the City of Miami Beach to realize the development of the Atlantic Greenway Network. They include the following:

- 5.2a General Actions and Steps for AGN Adoption – These include the general actions and steps that need to be taken in the near-term;
- 5.2b City Policy Adjustments – These include modifications, amendments or adjustments to City policies for the implementation of the AGN;
- 5.2c AGN Projects and Costs – This section includes the 'Gap' projects listed in detail with appropriate actions needed to complete each priority corridor;
- 5.2d Funding Sources and Funding Opportunities – Both specific and general, this section lists the current funding sources for potential projects, as well as a discussion of other funding and revenue opportunities.





5.2 General Action Plan

The implementation of the AGN will happen in many ways and in many incremental phases. Current projects already planned as a part of CIP projects will move forward based on their own individual schedules of completion. Other projects already listed as a State or County project will also proceed forward on their pre-determined timelines. The Dade Boulevard Bikeway is a separate Public Works project that is currently in the design phase and will move toward completion. Projects within the RDA – including the addition of bike racks – will continue. However, a general outline of actions to taken to implement the AGN Master Plan, other than the items already discussed includes the following:

Action 1: Formally Adopt the AGN Master Plan

- 3.1 Miami Beach City Commission formally adopts the AGN Master Plan;
- 3.2 Miami Beach City Commission adopts amendments incorporating the AGN Master Plan into the City's Comprehensive Plan (see 5.2);
- 3.3 Miami-Dade MPO incorporates selected projects into the Long Range Transportation Plan (see 5.2);

Action 2: Adopt the Miami Beach Bicycle Facility Design Standards Manual for implementation into City projects;

- 2.1 Standards should include uniform signage and design standards for minimum greenway amenities;
- 2.2 Standards should include recommendations for the modification of City engineering standards, including curb & gutter widths optimized for bicycle use, curb cuts that are non-obtrusive to bicycles, etc.;

Action 3: Adjust CIP/GO Bond project implementation where possible within existing budgets to include the AGN Master Plan (see 5.3);

- 3.1 Review proposed traffic-calming features to account for bicycle/pedestrian safety;
- 3.2 Evaluate all proposed improvements for the possible effect of bicycle and pedestrian safety;

Action 4: Secure funding sources for future projects not currently funded within the existing CIP/GO Bond projects;

Action 5: Establish funding sources for unfunded projects listed in the AGN;

5.1 Secure impact fees as described in the City's Comprehensive Plan for the completion of the AGN;

5.2 Establish projects within the upcoming CIP update to include unfunded AGN projects

5.3 Aggressively pursue grants and other funding sources currently not utilized (see 5.4)

Action 6: Promote the AGN Master Plan within the City

6.1 Continue the mission of the Mayor's Blue Ribbon Bicycle Committee to oversee the implementation of the AGN

6.2 Build political and community support with distribution of the AGN Master Plan, presentations of the Master Plan and tours of the potential corridors to school groups, bicycle clubs and other organizations

6.3 Continue to promote bicycle ride-to-work programs and consider incentives for regular use for City of Miami Beach employees;

6.4 Distribute AGN Maps to bicycle shops and clubs throughout the City of Miami Beach;

6.5 Create an outreach program to the schools within the City for improvement of bicycle routes and facilities both on school grounds as well as surrounding neighborhood streets

Action 7: Establish policies/guidelines for Greenway operations, maintenance and management, including:

7.1 Expand police/ranger patrols for off-road bicycle paths, specifically along the beach paths;

7.2 The City's maintenance program should include prioritized sweeping and blowing of debris from paved surfaces on bicycle routes and lanes, with special attention paid to right-hand portion of the roadway;

7.3 Create a program for the minor repairs to facilities, including an annual survey of bicycle facilities and assessment of existing conditions, such as pot-holes, worn pavement, worn striping, missing signs, etc.;

7.4 Create and implement a formal spot-repair reporting mechanism for bicycle facility users to report maintenance issues to the City;

- 7.5 Vegetation adjacent to bicycle facilities should be trimmed to not interfere with the safety of riders, including clearing of obstructions and enhancement of clear sight lines where possible;
- 7.6 Adjust signal timing where applicable to accommodate bicycle riders and pedestrians if not currently taken into account on Miami Beach signals

Action 8: Construct portions of the AGN already under design;

- 8.1 Continue to monitor CIP projects for adherence to the AGN;
- 8.2 Continue to coordinate with the county and state bicycle related facility design on those projects listed within the AGN;

Action 9: Establish policies regarding risk management and user education, including:

- 9.1 Preparation of a AGN safety manual for City residents and visitors;
- 9.2 Establishment of user rules and regulations to be adopted Citywide
- 9.3 Development of AGN emergency procedures. These policies should be written in conjunction with the City of Miami Beach Police and Emergency Services;
- 9.4 Preparation of a safety checklist for off-street paths. This checklist can also be used in coordination with management and maintenance of the City's paths;
- 9.5 A system of accident reporting and analysis;
- 9.6 Regular maintenance and inspection program (see 7.3- 7.5 above);
- 9.7 Site and facility development and review for all new and existing facilities. City plan reviewers should have access to the minimum design requirements for the City's AGN facilities and should conduct field reviews during and after construction to ensure compliance with the design standards;
- 9.8 Employee training program for safety and emergency response;
- 9.9 Consider the use of bicycle safety awareness and training for students and adults;

Action 10: Actively plan to celebrate and publicize AGN implementation progress and corridor 'openings'

5.3 Policy Adjustments

Recommendation 1:

Update the Miami Beach Comprehensive Plan

The following updates are recommended for the City of Miami Beach Comprehensive Plan:

Traffic Circulation Element:

- Objective 3: Incorporate the implementation of the AGN into Objective 3 of the element.
- Objective 5, Policy 5.2: Amend to include the consideration of bicycle and pedestrian facilities;
- Objective 6, Policy 6.2: Amend to include the consideration of dedicated bicycle facilities;
- Objective 6, Policy 6.4: Ensure that these impact fees are being collected and applied to bicycle/pedestrian projects;
- Objective 7, Policy 6.7(b): Amend to include language referring to the established corridors as approved within the AGN;

Mass Transit Element:

- Objective 3, Policy 3.3: Incorporate the AGN into the element by adding references to transit/multimodal connections to transit stops into future designs;

Conservation / Coastal Zone Management:

- Objective 10, Policy 10.2: Incorporate references to the implementation of the AGN into future projects;

Recreation and Open Space Element:

- Objective 5, Policy 5.1: Amend to make reference to the adopted AGN Master Plan

Recommendation 2:

Update the Miami Beach Land Development Regulations

The following updates are recommended for the City's Land Development Regulations:

- Adopt and incorporate the AGN Design standards into the City's LDRs, including streetscaping

Recommendation 3:

Update Miami Beach Redevelopment Area Guidelines and Standards

The AGN should be incorporated into the Master Plans of the Miami Beach RDA. As individual parcels or blocks redevelop, special attention should be given to the proposed bicycle and pedestrian facilities envisioned in the AGN. These improvements should be integrated into the redevelopment plans and implemented as part of private investment, or public/private partnerships.

Recommendation 4:

Coordination of CIP and GO Bond Projects

Close intra-governmental coordination should continue between the Miami Beach Public Works Department, Miami Beach CIP, Miami Beach Planning, and Miami-Dade County for the implementation of the AGN through new and on-going CIP and GO Bond projects. All projects should be evaluated for compliance with the AGN Master Plan, and adjustments in projects should be made to include the implementation of the AGN. (See Appendix for current list of CIP projects).

Recommendation 5:

Inclusion of the AGN into the MPO

The AGN should be incorporated into the Miami-Dade MPO's long range plans. Continued coordination with that entity is required for the implementation of the AGN.

Recommendation 6:

Increase Budgets for Management and Maintenance of the System as Needed

A phased budget for Operating and Maintenance costs attempts to anticipate funding for staff and operations budget increases as the AGN projects come to fruition. Specifically, as multipurpose dedicated paths are created, maintenance of these facilities must be included in an expanded maintenance budget by the City. Those paths that fall within parks may need to be maintained as a park amenity, while paths within road right of ways could be maintained by roadway crews. Regardless, as more paths come online, the maintenance budgets and outlines responsibilities should also be increased.

Recommendation 7:

Continue the Mission of the Mayor's Bicycle Advisory Committee

After the adoption of the AGN, the mission of the Bicycle Committee should include the continued coordination and monitoring of the implementation of the AGN.

5.4 AGN Projects, Costs and Implementation Schedule

The following tables summarize the actions required for the implementation of individual AGN projects:

Project Implementation - City of Miami Beach AGN

Project 1: North Beach Connector

Roadway Segment	From	To	Bikeway Type	Recommendation
Carlyle Road	71st Street	Tatum Park	Bicycle Boulevard	Restripe roadway, install new signs, remove existing signs not needed, improve crosswalks, install bicycle racks, improve Tatum Park to include bicycle and other park facilities
79th Street	Carlyle Road	Collins Ave.	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
79th Street	Collins Ave.	Beach Park	Bike Path	Design and construct bicycle path, install signs, bike racks

Project 2: 69th Street Beach Connector

Roadway Segment	From	To	Bikeway Type	Recommendation
69th Street	Indian Creek	Collins Ave.	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
69th Street	Collins Road	Beach	Bike Path	Design and construct bicycle path, install signs, bike racks
Abbott Avenue	69th Street	73rd Street	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks, make connections into North Shore Park
Indian Creek East Shore	71st Street	69th Street	Bike Path	Design and construct bicycle path, install signs, bike racks
73rd Street	Abbott Avenue	Collins Avenue	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
73rd Street	Collins Avenue	Beach	Bike Path	Design and construct bicycle path, install signs, bike racks, path can be worked into park design on the northern area of the park

Project Implementation - City of Miami Beach AGN

Project 3: Alton Road and 51st Street

Roadway Segment	From	To	Bikeway Type	Recommendation
Alton Road - West Side	N. Bay Road	51st Street	Bike Path	Widen sidewalk to accommodate bicycles, connect to mid-block crossing
Alton Road - East Side	Lakeview Road	51st Street	Bike Path	Widen sidewalk to accommodate bicycles, connect to mid-block crossing, or create new pathway through park and connect to park facilities
51st Street	Alton Road	West into n'hood	Bike Route	Install signs

Project 4: Alton Road and Arthur Godfrey Road

Roadway Segment	From	To	Bikeway Type	Recommendation
Alton Road	N Bay Road	Mount Sinai H. Rd.	Bike Route	Install signs
Alton Road	Mount Sinai H. Rd.	Godfrey Road	Bike Lanes	Restripe roadway, install new signs
Alton Road	Godfrey Road	W. 39th St.	Bike Route	Install signs
W. 39th Street	Alton Road	Meridian Ave	Bike Route	Install signs
Garden Ave	W. 39th St	W. 34th St	Bike Route	Install signs
Alton Road (northbound)	W. 34th St.	Chase Avenue	Bike Route	Install signs
Alton Road	W. 34th St.	Chase Avenue	Sidewalk Only	Install signs for southbound travel - dismount bicycles and walk to Chase Road intersection,

Project 5: Alton Road Bridge and North Bay Road

Roadway Segment	From	To	Bikeway Type	Recommendation
Alton Road	N. Bay Road	Tuttle Causeway	Bike Path	Resurface existing pathway over bridge and onto causeway, install signs, install bike racks for stopping on causeway path
Chase Ave	Alton Road	East into n'hood	Bike Path	Construct bike path along edge of golf course, install signs
Alton Road	Michigan Ave	Chase Road	Bike Path	Transition existing bike lane into bike path, add signs 'do not enter' for southbound bicycle traffic

Project Implementation - City of Miami Beach AGN

Project 6: Michigan Avenue

Roadway Segment	From	To	Bikeway Type	Recommendation
Michigan Ave	Dade Blvd	Alton Road	Bike Path	Design and construct bicycle path along edge of golf course, install signs, improve crosswalks, connect to Alton Road bike lane

Project 7: West Avenue

Roadway Segment	From	To	Bikeway Type	Recommendation
West Avenue	Lincoln Road	17th St.	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle
17th Street	West Ave	Dade Blvd	Bike Path	Design and construct bicycle path, install signs, bike racks Possible intersection realignment based on Miami-Dade County / City Research feasibility of pedestrian bridge over Dade Canal through acquisition of corner parcel

Project 8: Alton Road and 5th Street

Roadway Segment	From	To	Bikeway Type	Recommendation
6th Street	West Ave	Michigan Ave	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
Michigan Ave	6th St	5th St	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks

Project Implementation - City of Miami Beach AGN

Project 9: 5th Street

Roadway Segment	From	To	Bikeway Type	Recommendation
5th Street	Collins Ave	Ocean Drive	Bike Route	<p>Install new signs, remove existing signs not needed, improve crosswalks, install bicycle racks</p> <p>Alternative solution includes signs to 4th St and construction bike lanes on 4th for connection to Ocean. May construct both alternatives to provide options to different levels of riders.</p> <p>Long-term solution includes the reconstruction of this block to exclude free right turn movements, stripe to create pedestrian-first intersection.</p>

Project 10: 73rd Street Beach Connection

Roadway Segment	From	To	Bikeway Type	Recommendation
73rd Street	Collins Avenue	Beach	Bike Path	Design and construct bicycle path, install signs, bike racks, path can be worked into park design on the northern area of the park (project also included as part of Project 2, but may be broken out as separate project).

Project 11: Normandy Drive / 71st Street Bike Lanes

Roadway Segment	From	To	Bikeway Type	Recommendation
Normandy Drive	Bonita Court	City Limits	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
71st St	Bonita Court	City Limits	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
North Shore Drive	Normandy Drive	Fairway Park	Bike Route	Install signs - must route through guard gate
Biarritz Drive	Normandy Drive	South Shore Dr	Bike Route	Install signs

Project 12: Indian Creek Drive

Roadway Segment	From	To	Bikeway Type	Recommendation
Indian Creek Drive	71st Street	63rd St	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks - southbound lanes only

Project Implementation - City of Miami Beach AGN

Project 13: 63rd Street Bridge

Roadway Segment	From	To	Bikeway Type	Recommendation
63rd Street	LaGorce Dr	Collins Ave	Bike Route	Install signs Future long term solution includes the construction of pedestrian bridges over Indian Creek; widen existing bridge to allow for bike lanes; or complete bridge reconstruction. Bike route is not ideal solution, so alternative construction is preferred.

Project 14: Pine Tree/LaGorce Drive

Roadway Segment	From	To	Bikeway Type	Recommendation
Pine Tree Drive	63rd St	47th St.	Bike Lanes	Restripe roadway, install new signs, improve crosswalks
LaGorce Drive	63rd St	51st St	Bike Lanes	Restripe roadway, install new signs, improve crosswalks

Project 15: Indian Creek Greenway

Roadway Segment	From	To	Bikeway Type	Recommendation
Indian Creek East Shore	55th St	24th St	Bike Path	Design and construct bicycle path, install signs, bike racks
Beach View Park	Indian Creek	Beach	Bike Path	Design and construct bicycle path, install signs, bike racks, path can be worked into park design of the park - creates an east/west connection
Indian Beach Park	Indian Creek	Beach	Bike Path	Design and construct bicycle path, install signs, bike racks, path can be worked into park design of the park - creates an east/west connection
Indian Beach Park	Indian Creek	Pine Tree Park	Bike Path	Design and construct bicycle path, install signs, bike racks, path can be worked into park design of the park - construction pedestrian bridge over Indian Creek - creates an east/west connection

Project 16: 44th Street Bike Lanes

Roadway Segment	From	To	Bikeway Type	Recommendation
44th St	Pine Tree Park	Prairie Ave	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks
Prairie Ave	44th St	Arthur Godfrey Rd	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks

Project Implementation - City of Miami Beach AGN

Project 17: Arthur Godfrey Road Bike Lanes

Roadway Segment	From	To	Bikeway Type	Recommendation
Arthur Godfrey Road	Alton Road	Indian Creek Bridge	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks per FDOT conceptual design

Project 18: Pine Tree Drive

Roadway Segment	From	To	Bikeway Type	Recommendation
Pine Tree Drive	34th St	Dade Blvd	Bike Lanes	Restripe roadway, install new signs, improve crosswalks, install bicycle racks

Project 19: Alton Road

Roadway Segment	From	To	Bikeway Type	Recommendation
Alton Road	Dade Blvd.	Michigan Ave.	Bike Lanes	Restripe roadway northbound lanes only, install new signs per FDOT Conceptual Design

5.4 AGN Costs

Opinion of Probable Cost - City of Miami Beach AGN

Project 1: North Beach Connector						
Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Carlyle Road	71st Street	Tatum Park	Bicycle Boulevard	7.5	\$ 12,700.00	\$ 95,250.00
						Park Improv.
79th Street	Carlyle Road	Collins Ave.	Bike Lanes	4	\$ 12,200.00	\$ 48,800.00
79th Street	Collins Ave.	Beach Park	Bike Path	0.5	\$ 40,000.00	\$ 20,000.00
Project 1 Sub-Total				Project 1: sub-total		\$ 184,050.00

Project 2: 69th Street Beach Connector						
Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
69th Street	Indian Creek	Collins Ave.	Bike Lanes	3	\$ 12,200.00	\$ 36,600.00
69th Street	Collins Road	Beach	Bike Path	1	\$ 40,000.00	\$ 40,000.00
Abbott Avenue	69th Street	73rd Street	Bike Lanes	3.5	\$ 12,200.00	\$ 42,700.00
						Park Conn.
Indian Creek East Shore	71st Street	69th Street	Bike Path	2	\$ 40,000.00	\$ 80,000.00
73rd Street	Abbott Avenue	Collins Avenue	Bike Lanes	1	\$ 12,200.00	\$ 12,200.00
73rd Street	Collins Avenue	Beach	Bike Path	1	\$ 40,000.00	\$ 40,000.00
						Park Conn.
				Project 2: sub-total		\$ 261,500.00

Project 3: Alton Road and 51st Street						
Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Alton Road - West Side	N. Bay Road	51st Street	Bike Path	9	\$ 7,500.00	\$ 67,500.00
Alton Road - East Side	Lakeview Road	51st Street	Bike Path	1.5	\$ 7,500.00	\$ 11,250.00
						New Path
51st Street	Alton Road	West into n'hood	Bike Route	1	\$ 4,000.00	\$ 4,000.00
				Project 3: sub-total		\$ 87,750.00

Opinion of Probable Cost - City of Miami Beach AGN

Project 4: Alton Road and Arthur Godfrey Road

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Alton Road	N Bay Road	Mount Sinai H. Rd.	Bike Route	1	\$ 4,000.00	\$ 4,000.00
Alton Road	Mount Sinai H. Rd.	Godfrey Road	Bike Lanes	1.5	\$ 9,000.00	\$ 13,500.00
Alton Road	Godfrey Road	W. 39th St.	Bike Route	1	\$ 4,000.00	\$ 4,000.00
W. 39th Street	Alton Road	Meridian Ave	Bike Route	2	\$ 4,000.00	\$ 8,000.00
Garden Ave	W. 39th St	W. 34th St	Bike Route	2	\$ 4,000.00	\$ 8,000.00
Alton Road (northbound)	W. 34th St.	Chase Avenue	Bike Route	1.5	\$ 4,000.00	\$ 6,000.00
Alton Road	W. 34th St.	Chase Avenue	Sidewalk Only	1	\$ 4,000.00	\$ 4,000.00
Project 4: sub-total						\$ 47,500.00

Project 5: Alton Road Bridge and North Bay Road

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Alton Road	N. Bay Road	Tuttle Causeway	Bike Path	1.5	\$ 5,200.00	\$ 7,800.00
Chase Ave	Alton Road	East into n'hood	Bike Path	2	\$ 19,250.00	\$ 38,500.00
Alton Road	Michigan Ave	Chase Road	Bike Path	7.5	\$ 4,000.00	\$ 30,000.00
			Path Trans.			\$ 5,000.00
Project 5: sub-total						\$ 76,300.00

Project 6: Michigan Avenue

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Michigan Ave	Dade Blvd	Alton Road	Bike Path	1.5	\$ 40,000.00	\$ 60,000.00
			Path Conn.			\$ 5,000.00
Project 6: sub-total						\$ 65,000.00

Project 7: West Avenue

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
West Avenue	Lincoln Road	17th St.	Bike Lanes	1	\$ 12,200.00	\$ 12,200.00
17th Street	West Ave	Dade Blvd	Bike Path	1	\$ 170,450.00	\$ 170,450.00
Project 7: sub-total						\$ 182,650.00

Opinion of Probable Cost - City of Miami Beach AGN

Project 8: Alton Road and 5th Street

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
6th Street	West Ave	Michagan Ave	Bike Lanes	3	\$ 12,200.00	\$ 36,600.00
Michigan Ave	6th St	5th St	Bike Lanes	1	\$ 12,200.00	\$ 12,200.00
Project 8: sub-total						\$ 48,800.00

Project 9: 5th Street

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
5th Street	Collins Ave	Ocean Drive	Bike Route	1	\$ 7,700.00	\$ 7,700.00
				2	\$ 15,250.00	\$ 30,500.00
				1	\$ 100,000.00	\$ 100,000.00
Project 9: sub-total						\$ 130,500.00

Project 10: 73rd Street Beach Connection

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
73rd Street	Collins Avenue	Beach	Bike Path	1	\$ 40,000.00	\$ 40,000.00
						\$ 5,000.00
Project 10: sub-total						\$ 45,000.00

Project 11: Normandy Drive / 71st Street Bike Lanes

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Normandy Drive	Bonita Court	City Limits	Bike Lanes	9	\$ 12,200.00	\$ 109,800.00
71st St	Bonita Court	City Limits	Bike Lanes	10	\$ 12,200.00	\$ 122,000.00
North Shore Drive	Normandy Drive	Fairway Park	Bike Route	3	\$ 4,000.00	\$ 12,000.00
Biarritz Drive	Normandy Drive	South Shore Dr	Bike Route	1	\$ 4,000.00	\$ 4,000.00
Project 11: sub-total						\$ 247,800.00

Opinion of Probable Cost - City of Miami Beach AGN

Project 12: Indian Creek Drive

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Indian Creek Drive	71st Street	63rd St	Bike Lanes	8	\$ 12,200.00	\$ 97,600.00
Project 12: sub-total						\$ 97,600.00

Project 13: 63rd Street Bridge

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
63rd Street	LaGorce Dr	Collins Ave	Bike Route	4	\$ 4,000.00	\$ 16,000.00
				1	\$ 50,000.00	\$ 50,000.00
				1	\$ 150,000.00	\$ 150,000.00
				1	\$ 500,000.00	\$ 500,000.00
Project 13: sub-total						\$ 16,000.00

Project 14: Pine Tree/LaGorce Drive

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Pine Tree Drive	63rd St	47th St.	Bike Lanes	15	\$ 11,000.00	\$ 165,000.00
LaGorce Drive	63rd St	51st St	Bike Lanes	12	\$ 11,000.00	\$ 132,000.00
Project 14: sub-total						\$ 297,000.00

Project 15: Indian Creek Greenway*

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Indian Creek East Shore	55th St	24th St	Bike Path	25	\$ 40,000.00	\$ 1,000,000.00
Beach View Park	Indian Creek	Beach	Bike Path	1	\$ 35,450.00	\$ 35,450.00
Indian Beach Park	Indian Creek	Beach	Bike Path	1	\$ 35,450.00	\$ 35,450.00
Indian Beach Park	Indian Creek	Pine Tree Park	Bike Path	3	\$ 40,000.00	\$ 120,000.00
			Park Conn.			\$ 15,000.00
			Ped Bridge			\$ 200,000.00
Project 15: sub-total						\$ 1,405,900.00

*= Does not include property acquisition costs or establishment of easement

Opinion of Probable Cost - City of Miami Beach AGN

Project 16: 44th Street Bike Lanes

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
44th St	Pine Tree Park	Prairie Ave	Bike Lanes	4	\$ 12,200.00	\$ 48,800.00
Prairie Ave	44th St	Arthur Godfrey Rd	Bike Lanes	2	\$ 12,200.00	\$ 24,400.00
Project 16: sub-total						\$ 73,200.00

Project 17: Arthur Godfrey Road Bike Lanes

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Arthur Godfrey Road	Alton Road	Indian Creek Bridge	Bike Lanes	9	\$ 12,200.00	\$ 109,800.00
Project 17: sub-total						\$ 109,800.00

Project 18: Pine Tree Drive

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Pine Tree Drive	34th St	Dade Blvd	Bike Lanes	9	\$ 12,200.00	\$ 109,800.00
Project 18: sub-total						\$ 109,800.00

Project 19: Alton Road

Roadway Segment	From	To	Bikeway Type	# Blocks	\$/Block	Total (\$)
Alton Road	Dade Blvd.	Michigan Ave.	Bike Lanes	3	\$ 6,500.00	\$ 19,500.00
Project 19: sub-total						\$ 19,500.00
Total						\$ 3,505,650.00

IBI Group, Inc. has no control over the cost of labor, materials, or equipment, the Contractor's method of determining prices or competitive bidding or market conditions. Therefore, our opinions of probable construction costs provided for herein are made on the basis of experience and represent our best judgment as being familiar with the construction industry. The firm cannot and does not guarantee that proposals, bids or the construction cost will not vary from our opinions of probable costs. If the Owner wishes greater assurances as to the construction cost, we recommend the employment of an independent cost estimator.

Cost given includes expenses that can be expected when a contractor is hired to complete a given task. They include but are not limited to bond, insurance, mobilization, permitting, sales tax, general conditions and maintenance of traffic. Costs given also include an allotment for design fees and inflation. If the project is contemplated beyond the year 2009, the costs should be revaluated at that time. Costs do not include property acquisition.

5.4 AGN Implementation Schedule

Implementation Phasing Schedule - City of Miami Beach AGN

Project 1: North Beach Connector

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Carlyle Road	71st Street	Tatum Park	Bicycle Boulevard	Near Term
79th Street	Carlyle Road	Collins Ave.	Bike Lanes	Near Term
79th Street	Collins Ave.	Beach Park	Bike Path	Near Term - Renovations of the amphitheater can incorporate this improvement

Project 2: 69th Street Beach Connector

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
69th Street	Indian Creek	Collins Ave.	Bike Lanes	Near Term
69th Street	Collins Road	Beach	Bike Path	Near Term - Improvements could be made as part of park maintenance
Abbott Avenue	69th Street	73rd Street	Bike Lanes	Near Term
Indian Creek East Shore	71st Street	69th Street	Bike Path	Near Term - Further investigation required as to feasibility
73rd Street	Abbott Avenue	Collins Avenue	Bike Lanes	Near Term
73rd Street	Collins Avenue	Beach	Bike Path	Near Term

Project 3: Alton Road and 51st Street

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Alton Road - West Side	N. Bay Road	51st Street	Bike Path	Schedule should be timed to coincide with Nautilus and LaGorce improvements
Alton Road - East Side	Lakeview Road	51st Street	Bike Path	Schedule should be timed to coincide with Nautilus and LaGorce improvements
51st Street	Alton Road	West into n'hood	Bike Route	Schedule should be timed to coincide with Nautilus and LaGorce improvements

Project 4: Alton Road and Arthur Godfrey Road

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Alton Road	N Bay Road	Mount Sinai H. Rd.	Bike Route	Near Term
Alton Road	Mount Sinai H. Rd.	Godfrey Road	Bike Lanes	Near Term
Alton Road	Godfrey Road	W. 39th St.	Bike Route	Near Term
W. 39th Street	Alton Road	Meridian Ave	Bike Route	Near Term
Garden Ave	W. 39th St	W. 34th St	Bike Route	Near Term
Alton Road (northbound)	W. 34th St.	Chase Avenue	Bike Route	Longer Term - Road recently restriped - must seek FDOT design and approval
Alton Road	W. 34th St.	Chase Avenue	Sidewalk Only	Near Term

Implementation Phasing Schedule - City of Miami Beach AGN

Project 5: Alton Road Bridge and North Bay Road

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Alton Road	N. Bay Road	Tuttle Causeway	Bike Path	Near Term
Chase Ave	Alton Road	East into n'hood	Bike Path	Near Term - work with Parks to implement design
Alton Road	Michigan Ave	Chase Road	Bike Path	Near Term - existing path needs only minor improvements and signage

Project 6: Michigan Avenue

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Michigan Ave	Dade Blvd	Alton Road	Bike Path	Impelement after construction of Dade Blvd. Bike Path

Project 7: West Avenue

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
West Avenue	Lincoln Road	17th St.	Bike Lanes	Schedule to coincide with West Avenue improvements
17th Street	West Ave	Dade Blvd	Bike Path	Long Term - investigate feasibility and funding for property acquisition for connection

Project 8: Alton Road and 5th Street

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
6th Street	West Ave	Michagan Ave	Bike Lanes	Schedule should coincide with West Avenue improvements
Michigan Ave	6th St	5th St	Bike Lanes	Schedule should coincide with West Avenue improvements

Project 9: 5th Street

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
5th Street	Collins Ave	Ocean Drive	Bike Route	Schedule should conincide with 5th St. Improvements Longer term solutions should be investigated including re-design of the block for 'pedestrian first' design

Project 10: 73rd Street Beach Connection

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
73rd Street	Collins Avenue	Beach	Bike Path	Near Term - work with Parks to implement design

Implementation Phasing Schedule - City of Miami Beach AGN

Project 11: Normandy Drive / 71st Street Bike Lanes

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Normandy Drive	Bonita Court	City Limits	Bike Lanes	Long Term - must create solution for gap in FDOT feasibility study and generate consensus with property owners
71st St	Bonita Court	City Limits	Bike Lanes	Short Term - Use FDOT feasibility study as guide for improvements
North Shore Drive	Normandy Drive	Fairway Park	Bike Route	Schedule should coincide with Normandy Isles / Biscayne Point Improvements
Biarritz Drive	Normandy Drive	South Shore Dr	Bike Route	Schedule should coincide with Normandy Isles / Biscayne Point Improvements

Project 12: Indian Creek Drive

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Indian Creek Drive	71st Street	63rd St	Bike Lanes	Long Term - feasibility of project and design must be undertaken

Project 13: 63rd Street Bridge

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
63rd Street	LaGorce Dr	Collins Ave	Bike Route	Near Term - sign as bike crossing Long Term - investigate the replacement of the bridge to allow for pedestrian/bicycle facilities for safe crossing

Project 14: Pine Tree/LaGorce Drive

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Pine Tree Drive	63rd St	47th St.	Bike Lanes	Long Term - work with the County for implementation of concept - will need to procure design contract
LaGorce Drive	63rd St	51st St	Bike Lanes	Long Term - work with the County for implementation of concept - will need to procure design contract

Project 15: Indian Creek Greenway

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Indian Creek East Shore	55th St	24th St	Bike Path	Long Term - Begin researching feasibility to assemble properties and easements
Beach View Park	Indian Creek	Beach	Bike Path	Timing to coincide with main greenway trail construction
Indian Beach Park	Indian Creek	Beach	Bike Path	Timing to coincide with main greenway trail construction
Indian Beach Park	Indian Creek	Pine Tree Park	Bike Path	Timing to coincide with main greenway trail construction Bridge design long-term solution

Implementation Phasing Schedule - City of Miami Beach AGN

Project 16: 44th Street Bike Lanes

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
44th St	Pine Tree Park	Prairie Ave	Bike Lanes	Near Term
Prairie Ave	44th St	Arthur Godfrey Rd	Bike Lanes	Near Term

Project 17: Arthur Godfrey Road Bike Lanes

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Arthur Godfrey Road	Alton Road	Indian Creek Bridge	Bike Lanes	Long Term - must work with FDOT to implemen

Project 18: Pine Tree Drive

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Pine Tree Drive	34th St	Dade Blvd	Bike Lanes	Schedule to coincide with Bayshore improvements

Project 19: Alton Road

Roadway Segment	From	To	Bikeway Type	Phasing / Schedule
Alton Road	Dade Blvd.	Michigan Ave.	Bike Lanes	Schedule should coincide with Dade Blvd Bike Path construction

5.5 Funding Sources for Projects

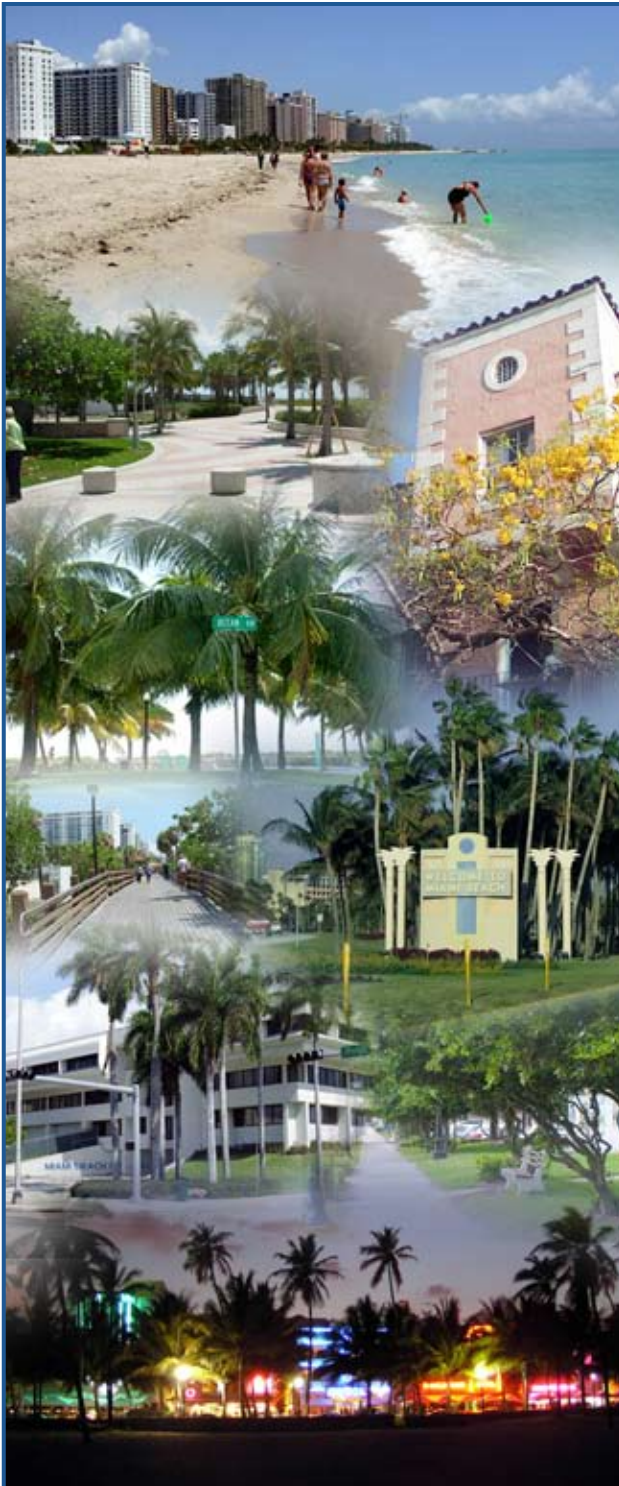
Funding for the various AGN projects comes from a variety of sources and at a wide range of funding levels (current \$):

- Implementation from the City's General Obligation Bond
- CIP funds already allocated in out years (a list of applicable projects and budgets is listed in Section 6 - Appendix)
- Transportation Enhancement Program Funds (TEP) - approximately \$6 Million
- People's Transportation Plan Funds (PTP) – approximately \$3 Million
- Federal High Priority Project Funds (FHPP) – approximately \$1.8 Million (\$500,000 pending)
- RDA and Parking Funds – currently approximately \$162,000
- Impact Fees
- Potential grants
- County and FDOT Projects - funded through State and Federal sources

Potential Revenue Generation Opportunities

Greenway development does not have to be funded only by public agencies. Many communities have explored other methods of boosting funding levels for capital expenditures, operations and maintenance in many other ways. Some of these methods include:

- **Special Fund-Raisers** - Many agencies have special fund-raisers on an annual basis to help cover the costs of specific programs and/or capital projects.
- **Utility Round-Up Programs** - Some City agencies - such as the Parks Department - have worked with the local utilities on a round-up program whereby a consumer can pay the difference between their bill up to the even dollar amount and they then pay the department the difference.
- **Corporate Sponsorships** - This revenue-funding source allows corporations to invest in the development or enhancement of additional greenways. This could be particularly enticing to hotels or resorts within Miami Beach.
- **Foundations** - These dollars are raised from tax-exempt, non-profit organizations established with private donations in promotion of specific causes, activities or issues.
- **Advertising** - This revenue source is for the sale of tasteful and appropriate advertising on greenway related items such as a greenway trail guide, benches or other products or facilities that are visible permanently or that expose the product or service to many people.
- **Adopt-A-Greenway Program** - The development of a formal Adopt-A-Greenway program would establish rules and guidelines of responsibilities for the adoptee. It would be recommended that the adopters be a formal organization such as a neighborhood organization, homeowners association, business, civic group, etc. The group would commit to upkeep of an assigned area on a regular basis for a specified period of time, thereby relieving some of the responsibility of the City's maintenance staff.



5.6 Conclusion

As a built-out urban area, the City of Miami Beach faces challenges in providing a sufficient and safe greenway network for its residents. This AGN Master Plan will be a valuable resource to City leaders and staff as they strive to provide a multi-modal infrastructure for their population.

The plan is intended for immediate action: rectifying current deficiencies and addressing the needs of the future. The implementation section describes an approach for the future involving infrastructure improvements. As projects are completed, the system will be reassessed and the plan will be adjusted accordingly.

Other Potential Funding Opportunities

Funding for capital improvements can come from a variety of sources, including grants from State and Federal programs. The table on the following page summarizes some of the grants available to the City of Miami Beach for implementation the AGN Master Plan:

AGENCY	DUE	TYPE	AMOUNT	REQUIRE MATCH	CONTACT
Florida Recreation Development and Assistance Program (FRDAP)	September 1-15	Land Acquisition, Development Renovation for Public Outdoor Recreation & Trails	\$200,000 Maximum	0% – 100%	Florida DEP – Bureau of Design & Recreational Services www.dep.state.fl.us/parks/OIRS/ (850) 245-2501
Greenways and Trails Acquisition Program	October – December	Land Acquisition	Varies	No Minimum, but Required	Florida DEP, Office of Greenways and Trails www.dep.state.fl.us/gwt/acq/ (850) 245-2052
Recreational Trails Program	January	Development of Trails, Trailheads, Trailside Facilities	Up to \$437,000	20% – 50%	Florida DEP www.dep.state.fl.us/gwt/grants (850) 245-2052
Urban and Community Forestry Assistance Program	April	Urban Forestry Programs	Up to \$25,000	50%	Florida Department of Agriculture/Division of Forestry www.fl-dof.com/forest_management/cfa_urban_grants.html Charlie Marcus (850) 921-0300

Miami Beach History

Sources used for historical information include:
The Miami Beach official web site miamibeachfl.gov
Historical photos courtesy miamibeach411.com

The first South Floridians were the Tequesta Indians, who discovered the area more than 10,000 years ago and had it all to themselves until the Spanish claimed it in the 16th Century. In 1821, the Spanish flag was lowered and the Stars and Stripes were raised over Florida. Enterprising shipwreck salvagers from the Bahamas came to South Florida and the Keys in the early 19th Century to hunt for the remains of an international array of ill-fated ships that crashed onto the treacherous Great Florida reef.



Miami Beach looking south
circa 1916

In the late 19th century, South Florida was sparsely populated frontier territory, and Miami was little more than a settlement and a few plantations. At about the same time, the Seminole Indians arrived along with a group of runaway slaves. They fought to stay in Florida, and the area became a war zone from 1836 until 1857, with most non-Indian residents being soldiers stationed at Fort Dallas on the Miami River. Some of these soldiers and a few other adventurous frontier settlers gave Miami yet another new, foreign-born population. At war's end, many of the Indians remained in the Everglades. The Bahamians who stayed became Miami's first permanent residents and helped found South Florida's first real community, Coconut Grove.

Among the first to recognize the area's commercial potential and correctly predict that it would become one of the world's busiest seaports was a widow named Julia Tuttle who owned a large tract of land on the north bank of the Miami River. In 1895, in exchange for land, she persuaded industrialist Henry Flagler to extend his railroad south from West Palm Beach to Miami. The railroad arrived in 1896, and the city was incorporated that same year launched on a path of rapid growth.

Masses of people converged on the new city, which was never an ordinary Southern town. Miami's first mayor was an Irish Catholic, while the early merchants were mostly Jewish. African Americans and Black Bahamians made up one-third of the city's incorporators.



Collins bridge circa 1913

One of the many Northerners who arrived in the area during this period was a Quaker farmer from New Jersey named John Collins who purchased property on one of Miami's barrier islands and began developing the northern end. In 1913, Collins, with help from entrepreneur Carl Fisher, who had made a fortune from the sale of his Prest-O-Lite automobile headlamp business, had a bridge constructed that connected the island to the mainland that is now known as The Venetian Causeway. This connection allowed for many local visitors for recreational purposes on a yet undeveloped landscape. Many of those visitors arrived by bicycle.



Carl Fisher estate

Fisher also loaned money to the Lummus Brothers. They wanted to carry out improvements on the southern end of the island such as draining the swamps and dredging the bay. Fisher established a third real estate company on the Beach, the Alton Beach Realty Company, and acquired the land between 14th and 19th Streets. This resulted in linking the Lummus' to the south and Collins to the north. Fisher also had a vision for the island – to create a city existing in and of itself – not as an adjunct to the established city of Miami across the bay. Immediately, he drew up the plans to build a luxury outdoor commercial center (Lincoln Mall) and large residential homesites to lure the wealthier residents to the island. Fisher and Collins were shrewd businessmen designing and constructing purely for profit. In contrast, the Lummus brothers had the foresight to set aside land for public open space. (World famous Lummus Park is their legacy.)



*Land being cleared for
Lincoln Road*

Biscayne Bay was dredged to create more waterfront property, and on March 26, 1915, the leaders of the three land sales companies consolidated their efforts and incorporated the young community into the Town of Miami Beach. The following year, the name was changed to Miami Beach.

At this time 80% of the population lived at the southern end of the island in the Lummus tracts and there were only thirty-three registered voters in the community. J.N. Lummus was elected Mayor and plans were made to supply electricity, telephone, sewage and water, which at the time was supplied by windmill powered underground wells. In 1916 the sale of the land was sluggish. Both Lummus and Fisher had invested large sums of money in improvements, but the land sales did not meet their expectations and they were compelled to create further incentives. Lummus offered free lots to anyone who promised to build homes on his land.



Lincoln Road

Many flamboyant hotels and elegant estates were built on the island during the 1920s and 1930s and during the Depression, another new influx of people, predominantly Jewish, came to Miami Beach. They were treated with prejudice by the wealthy vacationers but their population eventually grew to comprise 80% of the year-round residents of Miami Beach. They added large numbers of small hotels with stark modern lines along lower Collins Avenue and Ocean Drive. This building boom helped bring the area out of the Depression and forty years later would become the world-famous Art Deco District.

World War II brought another 100,000 people to the Greater Miami area and the Beaches, when the Army Air Corps and the Navy established major training centers there. After their war-duties were finished, many servicemen returned to settle there with their families and by the end of the 1950s, South Florida had doubled its pre-war population.

The following decades presented many challenges to the area. By the 1970s, Miami Beach was losing business to newer resorts and many of the magnificent hotels fell prey to urban decay. The inpouring of refugees from troubled Caribbean and Latin American countries, including more than half a million Cuban exiles who fled to Miami after Fidel Castro took over Cuba in 1959, placed tremendous burdens on the city's resources. The area weathered these crises, and in the 1980s and early 1990s Miami Beach experienced a renaissance.

Present Day Miami Beach



Blue and Green Diamond on Collins Ave.

Oddly enough, the City rebounded thanks to the exposure from the television show “Miami Vice”. A multi-billion dollar infusion of investment capital produced a beautiful new Downtown Miami skyline, and a resulting revitalized Miami Beach has experienced a multi-billion dollar building boom, once again becoming a popular tourist destination. Greater Miami and the City of Miami Beach continue to be an international mecca for travel, and business. Miami Beach has recognized these changes in their city and is taking steps to invigorate and protect the community's resident's demand for more attention.



Typical Miami Beach mansion

The creation of the Miami Beach Community Redevelopment Agency (CRA) highlighted the city's determination to improve their community. The CRA will implement a Redevelopment Plan which addresses ways Miami Beach can achieve the goals identified for the community. This Plan identifies the importance of open space and parks in a sustainable community. In anticipation of implementing this focus, the City is taking a proactive step of developing the Atlantic Greenway Network Master Plan.

Bid Packages

Bid Package 1: Biscayne Pointe

Current status: Design & Permitting

Anticipated Construction: to begin January 2008

Anticipated Completion: June 2010

Total Funding for Streetscape Improvements: \$3,600,000

Bid Package 2: North Shore

Current status: Design & Permitting

Anticipated Construction: to begin January 2008

Anticipated Completion: August 2010

Total Funding for Streetscape Improvements: \$3,896,109

Summary of Streetscape Projects:

Bid Package 3: Normandy Shores

Current status: Under Construction beginning January 2007

Anticipated Completion: September 2008

Total Funding for Streetscape Improvements: \$3,393,000

Summary of Streetscape Projects:

- Biarritz Drive: Redesign of blind corner, street trees, traffic calming, new sidewalk
- Biarritz Drive at South Shore Drive: entry feature
- Multi-family area at intersection of North Shore Drive and South Shore Drive: landscaping, entry feature, parking redesign

Bid Package 4: Normandy Isle

Current status: Design & Permitting

Anticipated Construction: to begin June 2007

Anticipated Completion: May 2009

Total Funding for Streetscape Improvements: \$4,077,055

Bid Package 5: La Gorce

Current status: Design & Permitting

Anticipated Construction: to begin June 2007

Anticipated Completion: October 2008

Total Funding for Streetscape Improvements: \$245,000

Bid Package 6: Oceanfront

Current status: Under Construction beginning November 2006

Anticipated Completion: November 2008

Total Funding for Streetscape Improvements: \$4,761,860

Bid Package 7: Nautilus

Current status: Design/Construction beginning January 2007

Anticipated Completion: June 2010

Total Funding for Streetscape Improvements: \$4,853,840

Bid Package 8: Bayshore

Bayshore is split into several smaller bid packages:

8a. Central Bayshore

Current status: Design & Permitting

Anticipated Construction: to begin November 2007

Anticipated Completion: October 2010

Total Funding for Streetscape Improvements: \$3,287,380

8b. Lower Bay Road

Current status: Design & Permitting

Anticipated Construction: to begin June 2007

Anticipated Completion: March 2008

Total Funding for Streetscape Improvements: \$500,000

8c. Lake Pancoast Right-of-Way

Current status: Design & Permitting

Anticipated Construction: to begin June 2007

Anticipated Completion: February 2008

Total Funding for Streetscape Improvements: \$896,460

8d. Sunset Islands 3 & 4

Current status: On Hold pending undergrounding of utilities

Bid Package 9: City Center

9a. City Center Historic

Current status: Design & Permitting

Anticipated Construction: to begin July 2007

Anticipated Completion: June 2009

Total Funding for Streetscape Improvements: \$13,180,977

* Funding for City Center projects is provided by the City Center RDA

9b. City Center Commercial

Current status: Design & Permitting

Anticipated Construction:

Anticipated Completion:

Total Funding for Streetscape Improvements: \$9,328,261 (estimated)

* Funding for City Center projects is provided by the City Center RDA

Bid Package 10: Flamingo-Lummus

10a. Flamingo South Right-of-Way

Current status: Conversion to Design-Build

Anticipated Construction: October 2008

Anticipated Completion: September 2012

Total Funding for Streetscape Improvements: \$88,123

10b. Lummus Streetscape

Current status: Construction

Anticipated Construction: beginning January 2007

Anticipated Completion: April 2008

Total Funding for Streetscape Improvements: \$4,146,310

10c. Flamingo North/East/West Right-of-Way

Current status: Conversion to Design-Build

Anticipated Construction: October 2008

Anticipated Completion: September 2012

Total Funding for Streetscape Improvements: \$2,270,506

10d. Washington Avenue Right-of-Way

Current status: Under Construction beginning May 2006

Anticipated Completion: February 2008

Total Funding for Streetscape Improvements: \$5,569,449 (from GO fund, City Center RDA and South Pointe RDA)

Bid Package 11: West Avenue

11a. Bay Road

Current status: Complete

11b. West Avenue

Current status: Final Planning

Anticipated Construction: TBA

Anticipated Completion: TBA

Total Funding for Streetscape Improvements: \$1,755,050

Bid Package 12: South Pointe

12a/b. South Pointe Phase I

Current status: Complete

12c. South Pointe Phase II

Current status: Design & Permitting

Anticipated Construction: July 2007

Anticipated Completion: June 2009

Total Funding for Streetscape Improvements: \$14,229,285

12d/e. South Pointe Phase III/IV/V

Current status: Design & Permitting

Anticipated Construction: November 2007

Anticipated Completion: October 2011

Total Funding for Streetscape Improvements: \$23,443,133

Bid Package 13a: Star, Palm and Hibiscus Islands

Current status: On Hold pending undergrounding of utilities

Total Funding for Streetscape Improvements: \$540,000

Bid Package 13b: Venetian Islands - Belle Isle

Current status: Under Construction beginning April 2006

Anticipated Completion: June 2007

Total Funding for Streetscape Improvements: \$2,547,322

Bid Package 13c: Venetian Islands – Rivo Alto, DiLido and San Marino

Current status: On Hold

Total Funding for Streetscape Improvements: \$1,734,141



MIAMI BEACH

City of Miami Beach, 1700 Convention Center Drive, Miami Beach, Florida 33139, www.miamibeachfl.gov

TRANSPORTATION DIVISION
Tel: 305-673-7080, Fax: 305-673-7028

Meeting Agenda

Project: Atlantic Greenway Network
Master Plan and Dade Boulevard Bike Path
Date: June 27, 2007

Discussion Items:

1. Introduction
2. Discussion of Existing Inventory
3. Preliminary Analysis
4. Discussion
5. Next Steps

AGENDA

MAYOR'S BLUE RIBBON BIKEWAYS ADVISORY COMMITTEE

June 27, 2007 2:00PM

MIAMI BEACH CITY HALL

MAYOR'S CONFERENCE ROOM

1. Call to Order
2. Approval of Minutes of May meeting
3. Introduction of Guests: Local bicycle shop owners
4. Update on Atlantic Greenway Network Master Plan
5. Update on Dade Blvd Bike Path
6. Update on Collins Park project
7. Update on 51st Street project
8. Update on Bayshore ROW project
9. Update on Miami Beach Public Bike Racks
10. Update on 16th Street *← STRIPPED
END OF JULY*
11. Update on Interim Striping of Prairie Ave. *← STRIPPED
END OF JULY*
12. New business:
 - a.
13. Adjournment to date certain

MIAMI BEACH BIKEWAYS COMMITTEE
Wednesday, June 27, 2007

Definitions:

- Bike Lane a striped lane for bicyclists in a roadway
- Bike path has a physical barrier between cyclist and motorist (like a line of trees or a swale)
- Wide Curb Lane is a motorist lane wider than the standard, which permits for cyclists to share the same lane

Members Present:

Gabrielle Redfern
Fred Sake
Jack Ruiz
Emily Rosenstein

Staff Present:

Christine Leduc, Transportation
Keith Mizell, CIP
Gerard Osborne, Transportation

Call to Order

2:07 pm: Meeting called to order

Approval of Minutes, January Meeting

Skipped over as no copies were submitted.

Introduction of Guests

Ray Breslin, Collins Park HOA
Anna Sandoval, FDOT
Rick Durr, Jr., IBI Group (RMPK)
David Henderson, Miami Dade County Bike-Pedestrian Coordinator
Jeff Cohen, Public Works, Miami Dade County
Danny Rickar, Miami Herald

Collins Park

Keith Mizell reported that the drawings are at 90% and are in CIP for review. He will bring them to the next meeting. The project is primarily on target. An additional two to four weeks were added to the completion date due to minor revisions.

51 Street Project

Keith Mizell advised that he is unsure as to when construction will commence, primarily because of budget constraints. The 1999 GO Bond funded the project, but the entire program is experiencing monetary shortfalls. The Commission is considering additional bonds to make up for all the reconciled projects. Currently, CIP has a \$130 million shortfall for all the GO Bond work promised. The original GO Bond was for \$90 million. The City is planning on completing all the projects, but at question is the date of construction. Additional funding sources are being contemplated. Keith Mizell suggested that the majority of the shortfall was due to the passage of time with regards to increases in the prices of construction.

Bayshore ROW Project

Keith Mizell advised that Lake Pancoast (*as reported in the March, 2007 meeting*) and Central Bayshore are now at 90% design phase completion. That is two out of the four bid packs that make up the project. When the documents reach 100% completion, he anticipates putting both out as a single bid package. He hopes this to be sometime this fall.

Update on 16th Street & Prairie Avenue

Christine Leduc reported that the striping should be completed by the end of July.

Bike Racks

The field work is almost complete, identifying locations for bike racks, for the 5th Street to Dade Boulevard area. There are approximately 12 racks already installed South of 5th Street.

Atlantic Greenway Master Plan & Dade Boulevard

Rick Durr, Jr. had a presentation advising what RMPK/IBI Group plans. In the presentation he said that his company was hired to determine the best, safest routes for bicycles, evaluating existing gaps in the Bikeways Master Plan, upgrading existing bicycle programs, and evaluating County, City, and Federal bike programs which will affect the City of Miami Beach. He said that the company is starting with the existing Bikeways Master Plan and evaluating what work was already completed. Then the company plans on meeting with various groups and holding public workshops, commencing with one after school commences, before Labor Day. They evaluate every City street, sidewalk, route, street, where people congregate, and how they travel, including traffic patterns, arterials and zoning. He acknowledges that the Bikeways Master Plan seems to be correct in that alternates must be found if main arterials are not usable for bicycle traffic.

They are supposed to evaluate the connectivity of paths, lanes, routes, and share the roads, identify gaps in the system, and suggest solutions to create a contiguous system.

Durr advised that one of the ways that the company evaluates the conditions is through the use of their employees who bike-ride the streets in the City.

There was discussion, commenced by Fred Sake, that Durr should evaluate 51 Street, South, on Pine Tree Drive.

Fred Sake also led discussion that bicycles do not belong on sidewalks, and that due to safety concerns for both cyclists and pedestrians, as well as various Federal regulations, Durr's company should not consider sidewalks as a part of any bicycle system.

Additional discussion, introduced by Fred Sake, centered on what IBIS would do as far as Vehicular Drivers Education, and share-the-road education. Jeff Cohen advised that there is already discussion between the City and the County on this issue.

Gabrielle Redfern asked Rich Durr about the details for community involvement. There was also discussion about the date, after school commences, before Labor Day. David Henderson suggested asking one of the Commissioners or the Mayor to put in an appearance at the meetings, and the turn out will be larger. Gabrielle suggested that since this was a Mayor's Blue

Ribbon Committee, Mayor Dermer should be asked to attend. Fred Sake said he would ask the Mayor.

Dade Boulevard Bike Paths

Durr led this discussion by advising that surveyors are currently in the process of taking an inventory of all the existing utilities in the area, including light poles, water accesses, and the sea wall. A Seawall rehab project is also being considered. With this information they will be able to determine what their available clear footage is, and suggest where the placement of the guardrails will go. Estimated date of completion: March, 2009

Christine Leduc said that both the bike path and the sea wall were already fully funded, albeit in different areas of Public Works.

New Business

a. 23rd Street Bridge

Ray Breslin announced that he has placed this agenda item on the July 11, 2007 Commission Meeting, with hopes to "kill the project."

b. Striping of Washington Avenue

Gabrielle Redfern confirmed with Christine Leduc that Washington Avenue will not be striped.

c. 5th Street Corridor striping

Gabrielle Redfern asked Christine Leduc when the 5th Street striping was going to be done, and if there would be a delay due to the closure of South Point Park for 18 months. There was no definitive answer.

Meeting concluded 3:25 pm.

Adjournment to date certain: July 25, 2007 at 2:00 p.m.

Miami Beach Greenways

STAKEHOLDERS LIST

File As	Job Title	Company	Business Phone	E-mail	Mailing Address
Categories: MiamiBeachBikeways (19 items)					
✓ Ledus, Christine	Bicycle Program Coordinator	City of Miami Beach	(305) 673-7080	clerus@miamibeachfl.gov	Miami Beach City Hall, 1700 Convention Center Dr, ...
✓ Osborne, Gerard	Transportation Manager	City of Miami Beach		gosborne@mtombeachfl.gov	
✓ Domeshtyn, Bert	GIS Manager	City of Miami Beach	(305) 673-7000 ex6347	berndomeshtyn@miamibeachfl.gov	
✓ Gomez, Jorge	Director of Planning & Zoning	City of Miami Beach	(305) 673-7550	jgomez@miamibeachfl.gov	City Hall, 1700 Convention Center Drive, Miami Beach...
✓ Beckmann, Fred	Director of Public Works	City of Miami Beach	(305) 673-7080	fredbeckmann@miamibeachfl.gov	City Hall, 1700 Convention Center Drive, Miami Beach...
✓ Johnson-Wright, Heidi	ADA Coordinator	City of Miami Beach	(305) 673-7080	hjohnson-wright@miamibeachfl.gov	777 17th Street, Miami Beach, FL 33139
✓ Johnson-Wright, Heidi	Acting Director, Capital Improvement...	City of Miami Beach	(305) 673-7071	jchartrand@miamibeachfl.gov	City Hall, 1700 Convention Center Drive, Miami Beach...
✓ Guzman, Vivian P.	Director of Neighborhood Services	City of Miami Beach	(305) 673-7000 ex6749	wianguzman@miamibeachfl.gov	
✓ Baby, Margie	Interim Head of P, D & E	FDOT District 6		marjorie.baby@dot.state.fl.us	
✓ Long, Jack	District Head	Florida Dept. of Environ...	(561) 681-6600	stephen.s.webster@dep.state.fl.us	400 N. Congress Avenue, Ste. 200, West Palm Beach...
✓ Fritz's Skate Shop		Fritz's Skate Shop	(305) 532-1954		730 Lincoln Road, Miami Beach, FL 33139
✓ J B Bike Shop		J B Bike Shop	(305) 866-3622		7316 Collins Ave., Miami Beach, FL 33141
✓ Miami Beach Bicycle Center		Miami Beach Bicycle Ce...	(305) 674-0150		601 5th Street, Miami Beach, FL 33139
✓ Florida Department of Transportation	Director, DERM	Miami-Dade County	(305) 372-6795	EspinC@miamidade.gov	701 NW 1st Court, Miami, FL 33136
✓ Florida Department of Transportation	Director, Building Dept.	Miami-Dade County	(786) 315-2332	CDP@miamidade.gov	11805 SW 26th Street, Miami, FL 33175
✓ Esther L. Calas, P. E.	Director of Public Works	Miami-Dade County	(305) 375-2694	ecalas@miamidade.gov	111 NW 1st Street, #1610, Miami, FL 33128
✓ Henderson, David	Bicycle Pedestrian Program	Miami-Dade County MPO	(305) 375-1735	davidh@miamidade.gov	Stephen P. Clark Government Center, 111 NW 1st Str...
✓ Kay, Maria	Dst. 3 Board Member, Vice-Chair	Miami-Dade Public Scho...	(305) 995-1334	marinkarp@dadeschools.net	1450 NE Second Avenue, Miami, FL 33132
✓ Rubio Bike Shop		Rubio Bike Shop	(305) 673-4377		233 14th Street, Miami Beach, FL 33139

Bikeway Meeting
 Scheduled meeting (1 meeting with all highlighted invited)
 Phone Call

NOTE: H. Johnson-Wright is no longer with the City. She has not yet been replaced. Public Works will send someone to conduct on ABA issues. I'll coordinate their involvement.

Public Workshop Sign-In Sheet - August 30, 2007

Miami Beach AGN Greenways

Name	Affiliation	Phone #	Email
Aaura Jameson	MRS Garden	305-673-7256	lajamxena@aol.com
John Corey		617-590-0886	johncorey@comcast.net
Josh Squire	JCDRCaux	773-251-9757	Josh.Squire@jcdrcauxna.com
Marc Gellman	Resident	305-525-5678	Mgellman@ppia.mio.edu
JAMES CURRY	RESIDENT	305-672-7439	CURRYCAPITAL@BELLSOUTH.NET
Joyce Meyers	CMB Planning	305-673-7550	Jmeyers@miamibeachfl.gov
KEITH MIZELL	CIP OFFICE		
Eric Zahn	KHA	954-835-5163	eric.zahn@kimley-horn.com
Ben Chen	resident	786-251-8679	benchen@chenandassociates.com
FREDERICK C. SAKE	RESIDENT	305-673-5700	LAWMIAMI@AOL.COM
NICOLE KLEINHAU	"	305-868-9941	
JULIO BOUCK	URS/KDOT	305-262-7466	JULIO-BOUCK@URSCORP.COM
Jerry Libbin	CMB	(305) 673-7106	JERRY@N.A.M.01A16.FL.GOV
LANA MOOREY	MIAMI DADE PWD	305-375-2863	LANA@MIAMIDADE.GOV
V. Schweiker for CANDIDATE MAYOR William Smatt	Candidate for MAYOR	305-531-0577	wcsmatt@yahoo.com
JEFF COHEN	MDPWD	305-375-2030	jcope@miamidade.gov
Carolyn Flepser	Collins Park NA	305-538-4984	
Ray Brylly	C.P.N.A	305-772-5661	BRIDAND@aol.com
Ronnylyn	Resident		svlyn1948@no-mail.com
Emilia Peltz-Rascay		305-267-3464	
JOHAN LIND		305-861-6100	flacq28@aol.com
GABRIELLE		305-790-5461	GABRIELLE
			THECONOSOLUNA.COM
MARGARET GRIFFIS	RESIDENT		margaret.griffis@gmail.com
Christine Leduc	CMB		cleauc@miamibeachfl.gov
Commissioner Libbin	CMB	305-673-2000	
CERARD OSBORNE	CMB		goshorne@miamibeachfl.gov
Roger Moraitis	CMB	305-673-7000	rmoraitis@miamibeachfl.gov

CITY OF
MIAMIBEACH
Stakeholders Meeting
 June 27, 2007
 Presented by
IBI GROUP

Miami Beach
 ATLANTIC GREENWAY NETWORK

AGENDA

- Project Approach
- Project Overview
- Base Maps / Data Collected
- Analysis
- Next Steps
- Your Comments

Miami Beach
 ATLANTIC GREENWAY NETWORK

Project Approach


Miami Beach
 ATLANTIC GREENWAY NETWORK

Project Scope Objectives

1. Determination of the best routes for bicycle facilities;
2. Determine the safest alternative to fill in gaps in the existing network;
3. Determine where and how to upgrade proposed bicycle and pedestrian facilities in the proposed City CIP Projects, the County's plans, and State proposed projects;
4. Formulation of an action plan designed to provide steps toward implementation of the system.

Miami Beach ATLANTIC GREENWAY NETWORK


Project Scope
Objectives



1. Overall City-Wide Master Plan
2. Dade Boulevard Bike Path Design

Miami Beach ATLANTIC GREENWAY NETWORK

Project Approach
Start With Existing Information



Miami Beach ATLANTIC GREENWAY NETWORK

Project Approach
Think Big Picture

 Neighborhoods	 Commercial Areas
 Parks and Open Space	 Transportation Corridors
 Civic Buildings	 Natural Lands

Miami Beach ATLANTIC GREENWAY NETWORK

Project Approach
Build Consensus




Stakeholder Meetings:

- Miami-Dade MPO, Bicycle Coordinator's Office
- Miami-Dade Public Works Department
- Florida Department of Transportation
- City of Miami Beach Planning and Zoning Department
- City of Miami Beach Public Works Department
- City of Miami Beach Parks Department
- Capital Improvement Projects Department
- Bikeways Committee
- Schools

Maricopa Beach ATLANTIC GREENWAY NETWORK

Project Approach
Build Consensus




Public Workshop(s):

- Project Overview
- Presentation of Issues
- Presentation of Concept(s)
- Group Sessions – Plan Suggestions

Maricopa Beach ATLANTIC GREENWAY NETWORK

Project Approach
Focus on Implementation

"Plans are only good intentions unless they immediately degenerate into hard work"
Peter F. Drucker




Maricopa Beach ATLANTIC GREENWAY NETWORK

Project Overview

Maricopa Beach ATLANTIC GREENWAY NETWORK

Project Overview
Conceptual Greenways System Map




DRAFT BIKE MASTER PLAN
SOUTH BEACH

- Kickoff Meeting
- Data Collection and Inventory
- Analyze Existing Conditions
- Meet with Stakeholders
- Draft Conceptual Map
- Presentations
- Public Workshop

Wash. Blvd.
ATLANTIC GREENWAY NETWORK

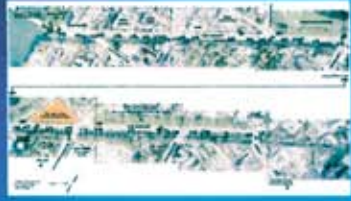
Project Overview
Greenways Master Plan



- Executive Summary
- Final Map
- Implementation Plan
- Final Report -
Compilation of Plan
Development Process

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ATLANTIC GREENWAY NETWORK

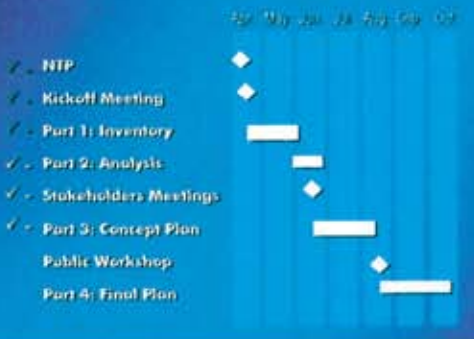
Project Overview
Dade Boulevard Bike Path



- Kickoff Meeting
- Base Maps / Inventory
- Analysis
- Concept Plan
- Public Workshop
- Design Development /
Construction Documents
- Permitting
- Bid and Award
- Construction

Wash. Blvd.
ATLANTIC GREENWAY NETWORK


Schedule
AGN Master Plan



- ✓ - NTP
- ✓ - Kickoff Meeting
- ✓ - Part 1: Inventory
- ✓ - Part 2: Analysis
- ✓ - Stakeholders Meetings
- ✓ - Part 3: Concept Plan
- Public Workshop
- Part 4: Final Plan

Wash. Blvd.
ATLANTIC GREENWAY NETWORK

Schedule
Dade Blvd. Bike Path



- ✓ - NTP
- ✓ - Kickoff Meeting
- ✓ - Part 1: Concept Plan
- Public Workshop
- Part 2: Design Development
- Part 3: Construction Documents
- Part 4: Permitting
- Part 5: Bid and Award
- Part 6: Construction
- Est. Comp. March 2009

Miami Beach
ATLANTIC GREENWAY NETWORK

Data Collection

Miami Beach
ATLANTIC GREENWAY NETWORK

Inventory
Corridors: Multi-Use Paths

Miami Beach
ATLANTIC GREENWAY NETWORK

Inventory
Corridors: Bike Lanes

Miami Beach
ATLANTIC GREENWAY NETWORK

Inventory
Corridors: Unmarked Shared Facilities

Miami Beach
ATLANTIC GREENWAY NETWORK

Inventory
Corridors: Sidewalks

SIDEWALK

Miami Beach
ATLANTIC GREENWAY NETWORK

Inventory
Corridors and Nodes

- A. Corridors:**
 - Arterial highways
 - Neighborhood streets
 - Utility corridors and easements
 - Drainage canals
 - Vacant properties
 - Waterfronts
 - Existing pedestrian sidewalks
 - Existing trail systems
 - Existing trail networks, regional trail networks
- B. Nodes:**
 - Schools
 - Parks
 - Civic centers
 - Libraries
 - Transit hubs
 - Shopping centers
 - Employment centers
 - Future nodes and development/redevelopment

Miami Beach
ATLANTIC GREENWAY NETWORK

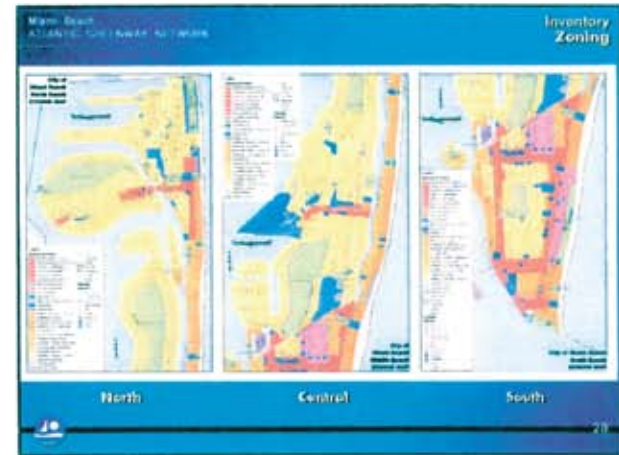
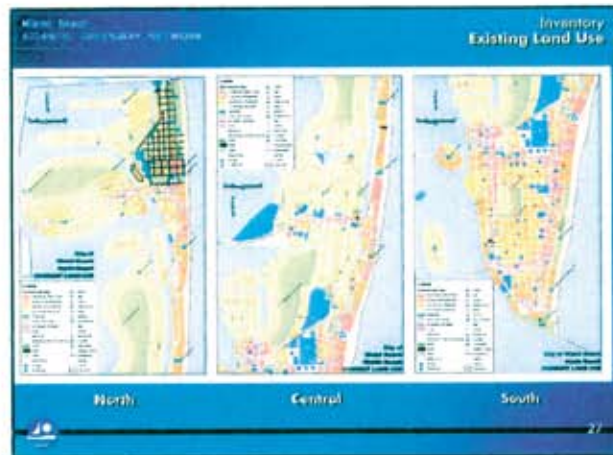
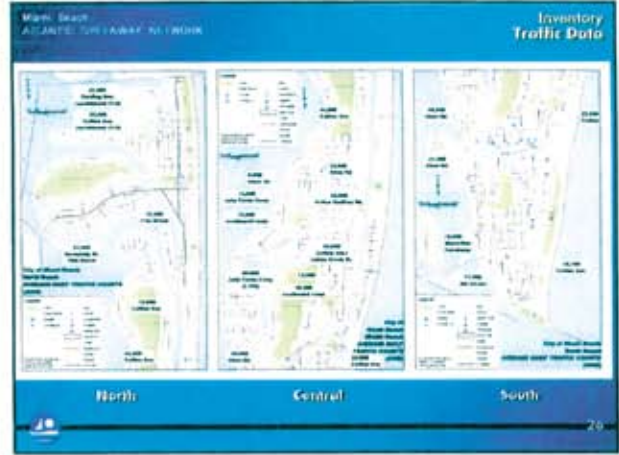
Inventory
Aerial Photography

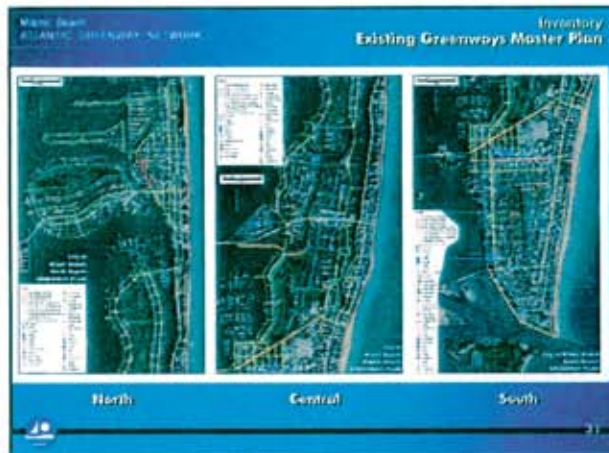
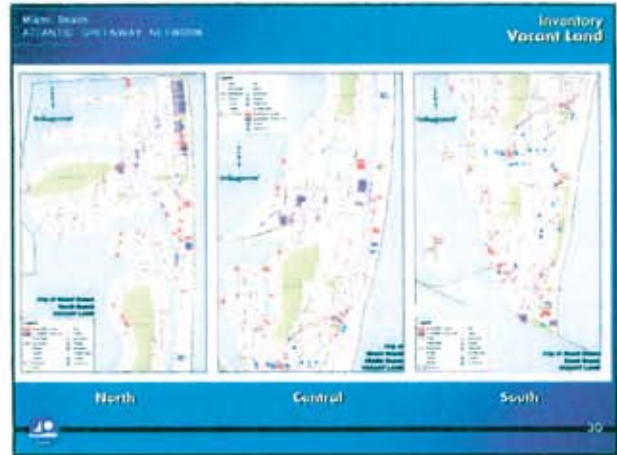
North Central South

Miami Beach
ATLANTIC GREENWAY NETWORK

Inventory
Infrastructure

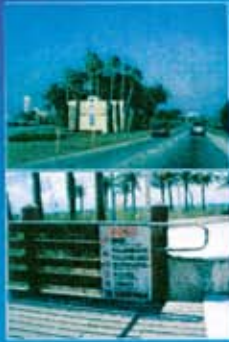
North Central South





Miami Beach ATLANTIC GREENWAY NETWORK

Scope
Part 2: Analysis



A. Opportunities

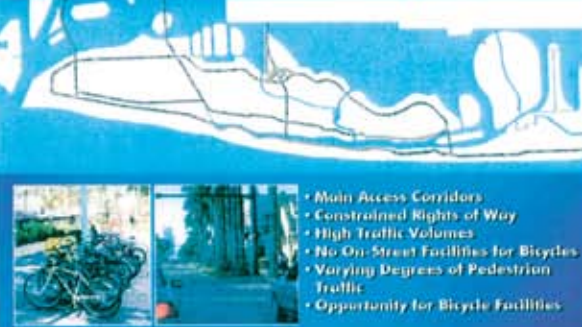
- Properties in governmental ownership
- Continuity of available lands
- Access to important nodes
- Access to high visual quality
- Access to high origin / destination demand and routes

B. Constraints

- Continuity blocks, such as gaps
- Constraints of existing corridors
- Safety issues

Miami Beach ATLANTIC GREENWAY NETWORK

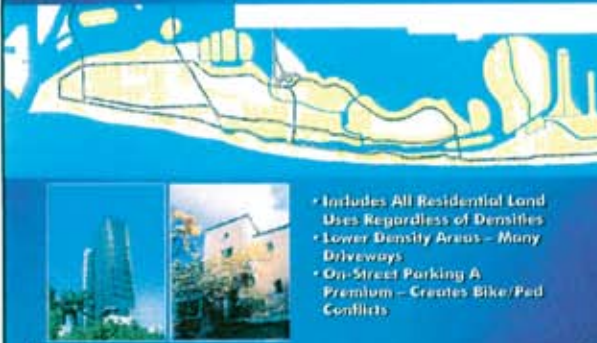
Analysis
Arterial Roadways



- Main Access Corridors
- Constrained Rights of Way
- High Traffic Volumes
- No On-Street Facilities for Bicycles
- Varying Degrees of Pedestrian Traffic
- Opportunity for Bicycle Facilities

Miami Beach ATLANTIC GREENWAY NETWORK


Analysis
Origins



- Includes All Residential Land Uses Regardless of Densities
- Lower Density Areas – Many Driveways
- On-Street Parking A Premium – Creates Bike/Ped Conflicts


Miami Beach ATLANTIC GREENWAY NETWORK

Analysis
Destinations: Parks




- Open Spaces and Parks Very Popular Destinations
- Perimeter of Golf Courses Provide Opportunity for Uninterrupted Bicycle Travel
- Good Distribution City-wide – Provides Ideal 'Stops'

Miami Beach
ATLANTIC COASTLINE NETWORK
Analysis
Destinations: Land Uses





- Includes All Commercial, Industrial Land Uses and Supporting Uses
- Land Uses Primarily Distributed Along Arterial Roadways





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Miami Beach
ATLANTIC COASTLINE NETWORK
Analysis
Existing Road Network



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Miami Beach
ATLANTIC COASTLINE NETWORK
Analysis
Existing Bicycle Facilities

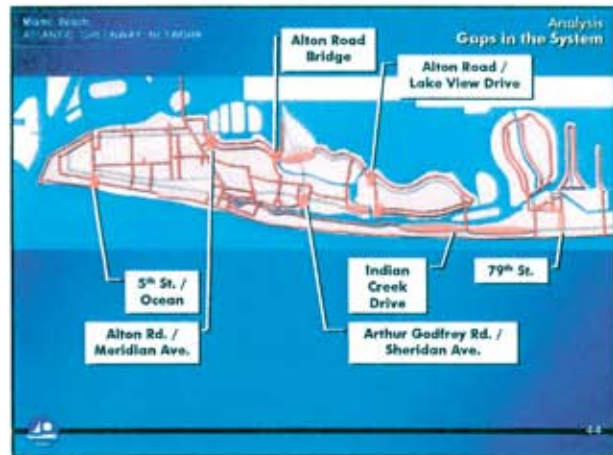
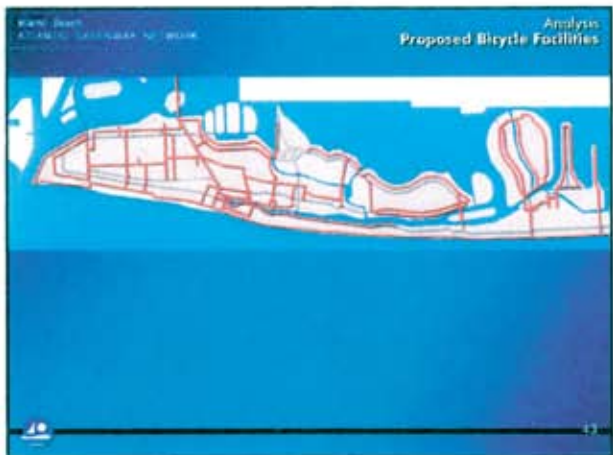
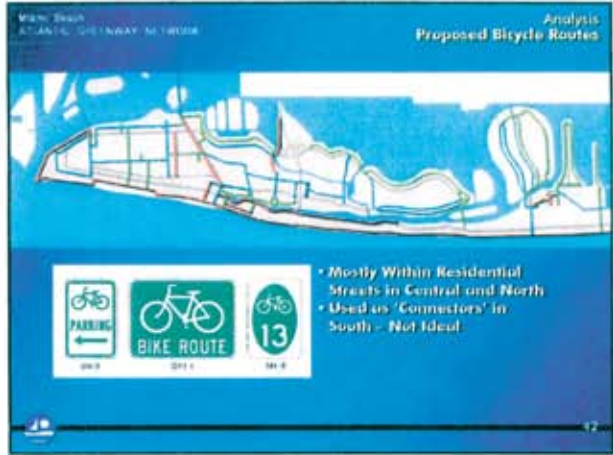
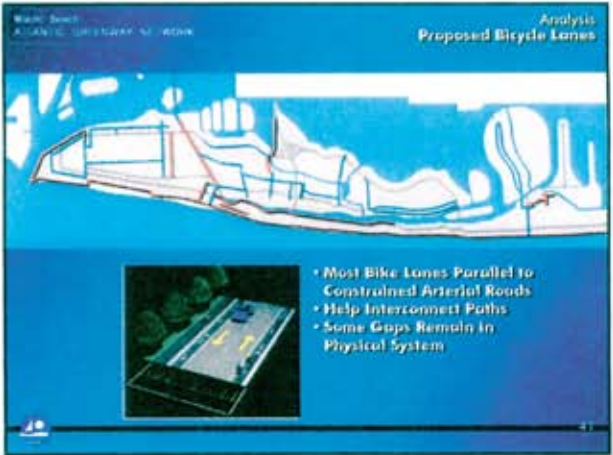
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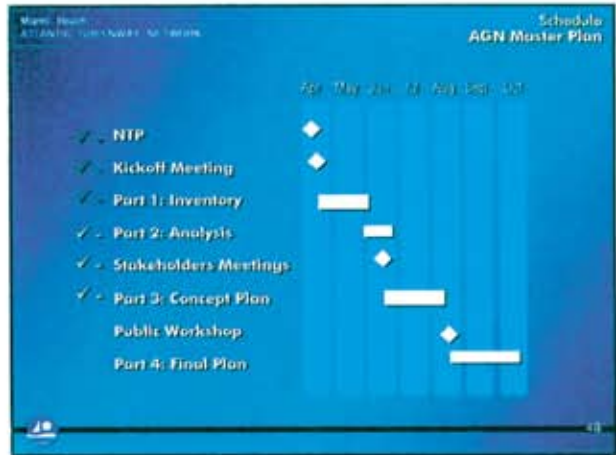
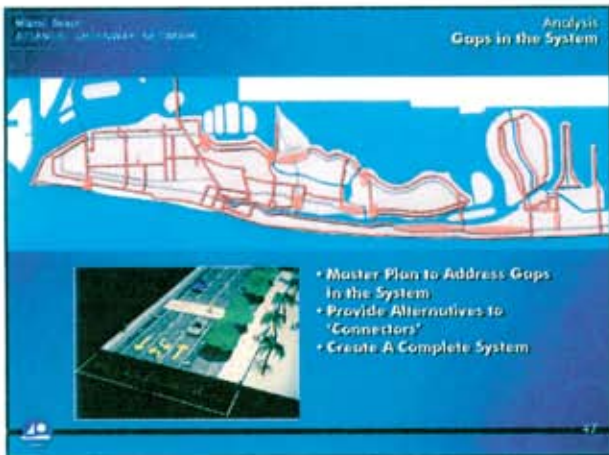
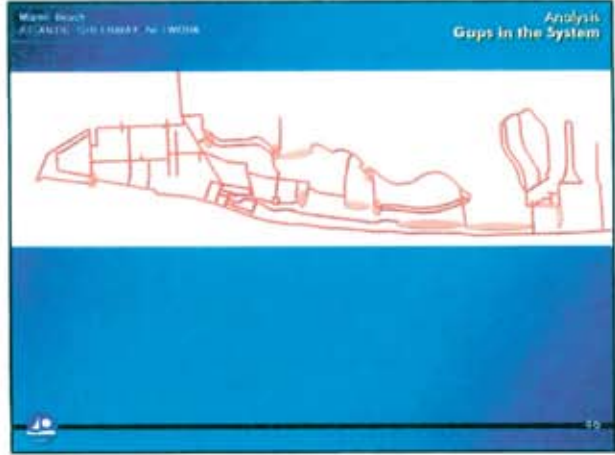
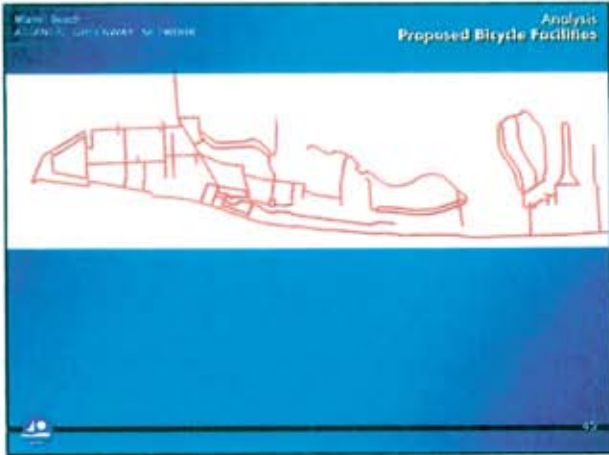
Miami Beach
ATLANTIC COASTLINE NETWORK
Analysis
Proposed Paths

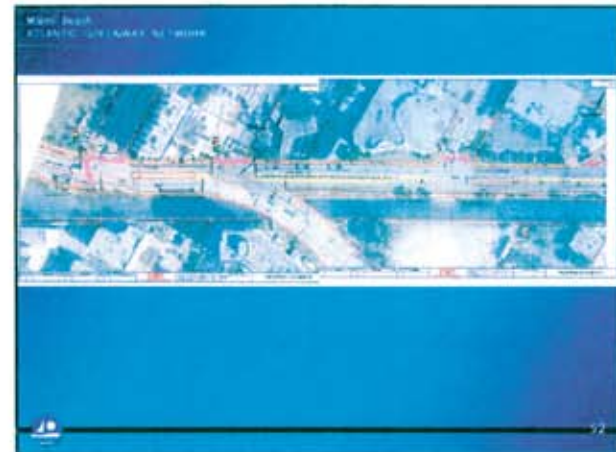
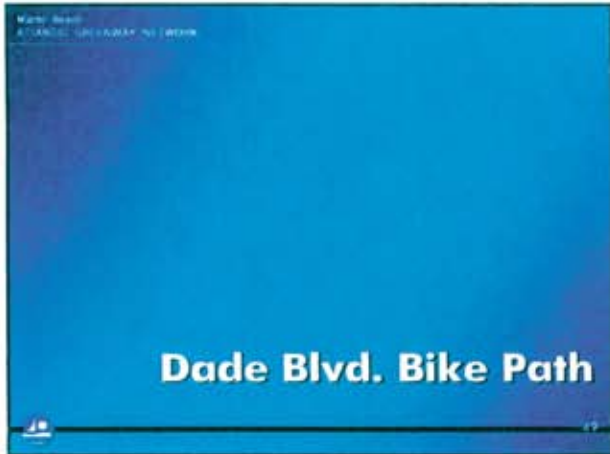



- Paths of Varying Widths
- Excluding the Beach Path, Paths Do Not Connect to Each Other

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Miami Beach
ATLANTIC SIDE PROJECT - NO WORK

Your Comments

CITY OF
MIAMIBEACH

Stakeholders Meeting

June 27, 2007

Presented by
IBI GROUP



- Public Workshop(s):**
- **Project Overview**
 - **Presentation of Issues**
 - **Presentation of Concept(s)**
 - **Group Sessions – Plan Suggestions**

