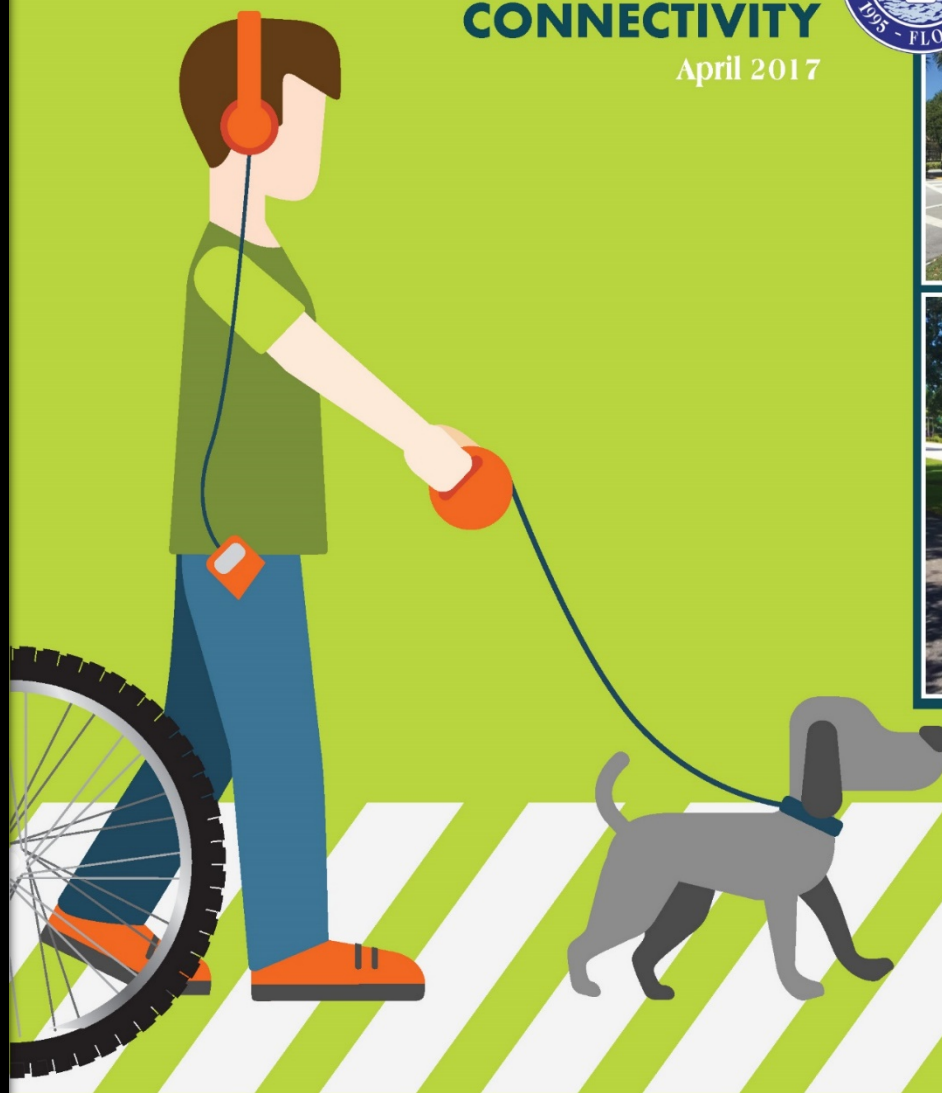


City of Aventura

UNIFIED MASTER PLAN FOR PEDESTRIAN AND BICYCLE CONNECTIVITY

April 2017



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TP 
Miami-Dade Transportation
Planning Organization



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Executive Summary

Aventura is made up of a diverse array of parks, schools and moderate to high density residential and commercial areas that need to be better linked with each other from a bicycle and pedestrian standpoint. Regional transportation facilities, waterways and large developments and recreation areas fragment the community from a mobility standpoint.



The approach in this study is to identify a coordinated project bank of improvements with a focus on pedestrian and bicycle mobility and connectivity. The recommended improvements and implementation plan will serve as a tool to guide short- and long-term intermodal transportation improvements.

Some of the key opportunities that have been identified include:

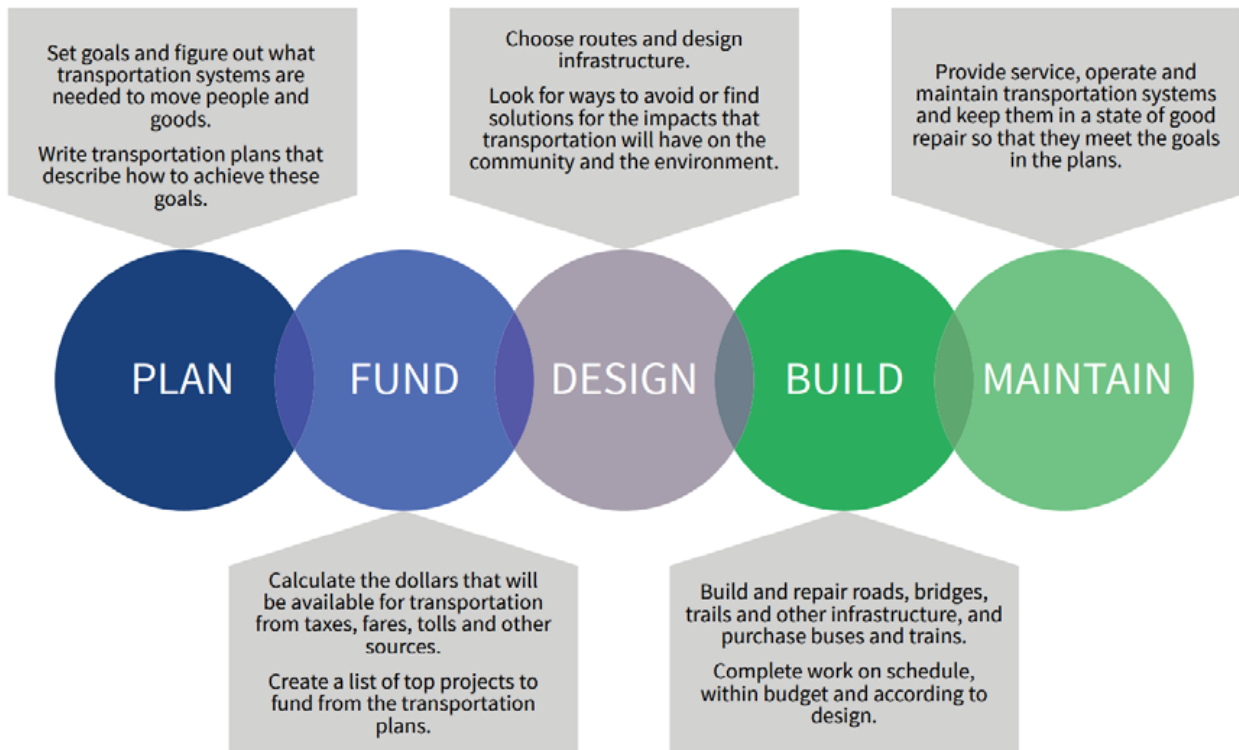
- Connecting to neighboring municipalities, as well as to the regional system of planned and existing bikeways
- Identifying pedestrian crossing strategies
- Identification of impediments in the sidewalk network.
- Distinguishing strategies to better link the golf course multi-use path with the rest of the city and beyond.
- Expanding the network of bicycle facilities including bike-share kiosks and bike lanes.
- Encourage bicycling and pedestrian safety through education and community events.



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The following is a list of tasks that were completed for this project:



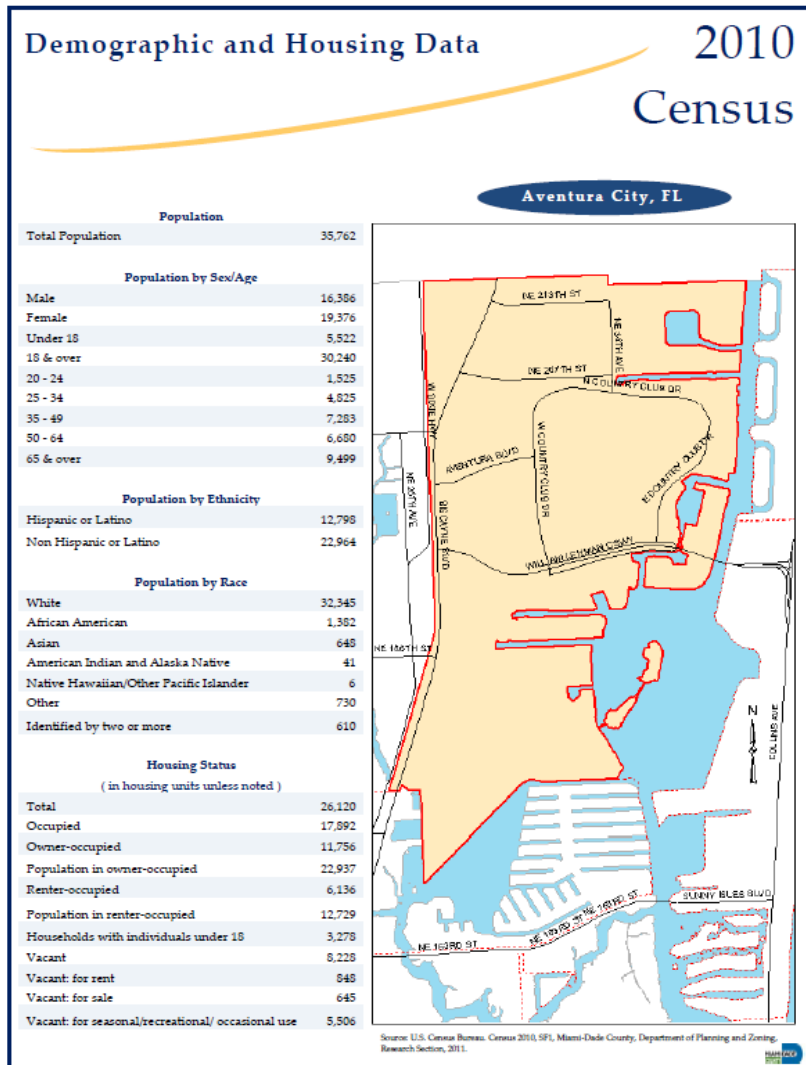
- Background Information including existing conditions and planned projects
- Public Workshop
- Goals, objectives and needs identified
- Data collection and analysis
- Project recommendations and prioritization



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Review of Background Information and Previous Studies

Population and Area

Aventura has a population of 37,649, with a land area of 2.65 square miles. There are approximately 18,100 households in Aventura with an average household size of 2.04. Families make-up 52 percent of the households, of these married-couple families are 42 percent of the overall population. Of all Aventura's jobs, approximately 21,000 of the workers employed by these positions live outside of Aventura, and of Aventura's resident workforce, almost 10,000 are employed outside of Aventura. Transportation problems exist because of an imbalance of workers living and working within the City.

Youth and elderly members of the population, as well as people without automobiles are important segments of the population to note as these individuals are more likely to require transit/bus services or ride-share.



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Comparison with Regional Demographics

Miami-Dade County is the seventh-most populous County in the U.S. Compared to Miami-Dade County, Aventura has a higher population of 18-year-olds (Aventura 82 percent vs. Miami-Dade - 78 percent), a higher percentage of the elderly (over 65) population, (Aventura 30 percent vs. Miami-Dade - 14 percent), and a lower percentage of households without automobiles (Aventura 8 percent vs. Miami-Dade - 11 percent).

Transportation Network

Roadways within the City which falls into 4 categories of responsibility.

1. State
2. County
3. City
4. Private

Each jurisdiction provides routine maintenance on the roadways, and all roadway traffic controls, such as speed limits signs, stop signs and traffic signals falls under the jurisdiction of and are maintained by Miami-Dade County. Aventura must work across multiple jurisdictions to effect systematic changes affecting vehicular, bicycle, and pedestrian traffic.

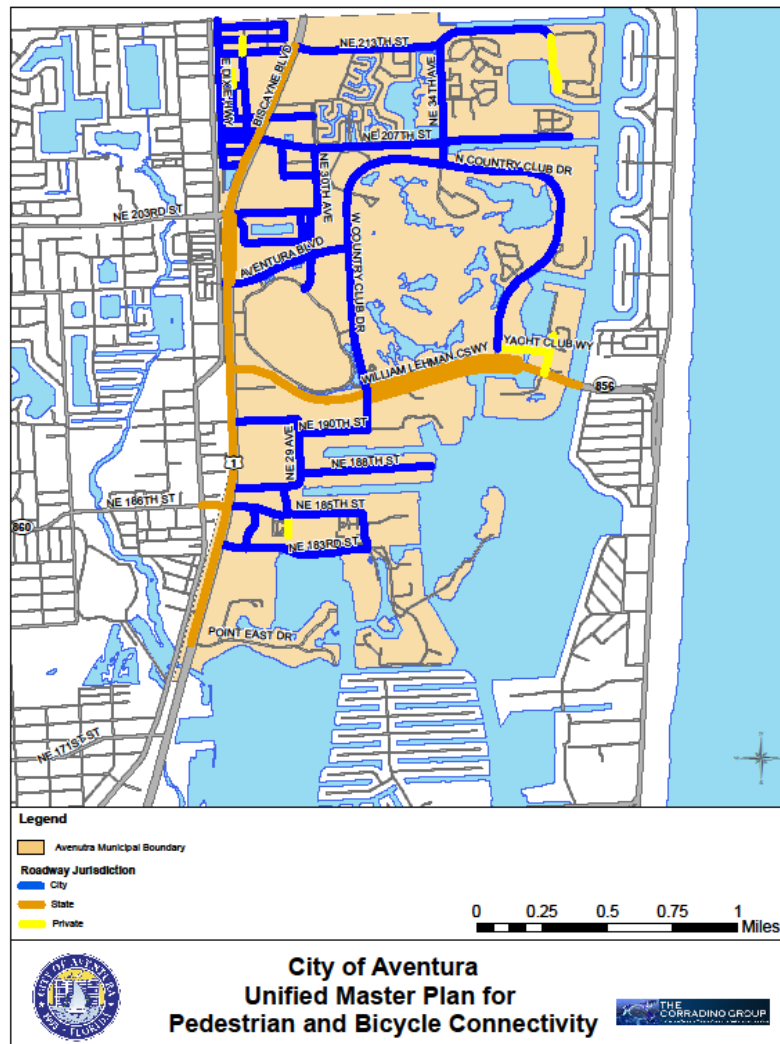
Aventura's maintenance responsibility of roads includes: policing, paving, sidewalk maintenance and cleaning. Over the years, the City has taken jurisdiction of most of the neighborhood streets through agreements with the County. Private roads compose the largest component of Aventura's road infrastructure



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Bike facilities currently exist, but in limited areas of the City. The only off-road bicycling facility in the City is the multi-use shared pathway circling the perimeter of the Turnberry Resort Golf Course located in the center of the City. On-road shared routes (painted sharrows with signage) exist on the adjacent roadway, Country Club Drive, and NE 207th Street. On-road shared bike lanes exist on the north third of Biscayne Boulevard/US-1 and from the bridge section of the William Lehman Causeway east to Sunny Isles.



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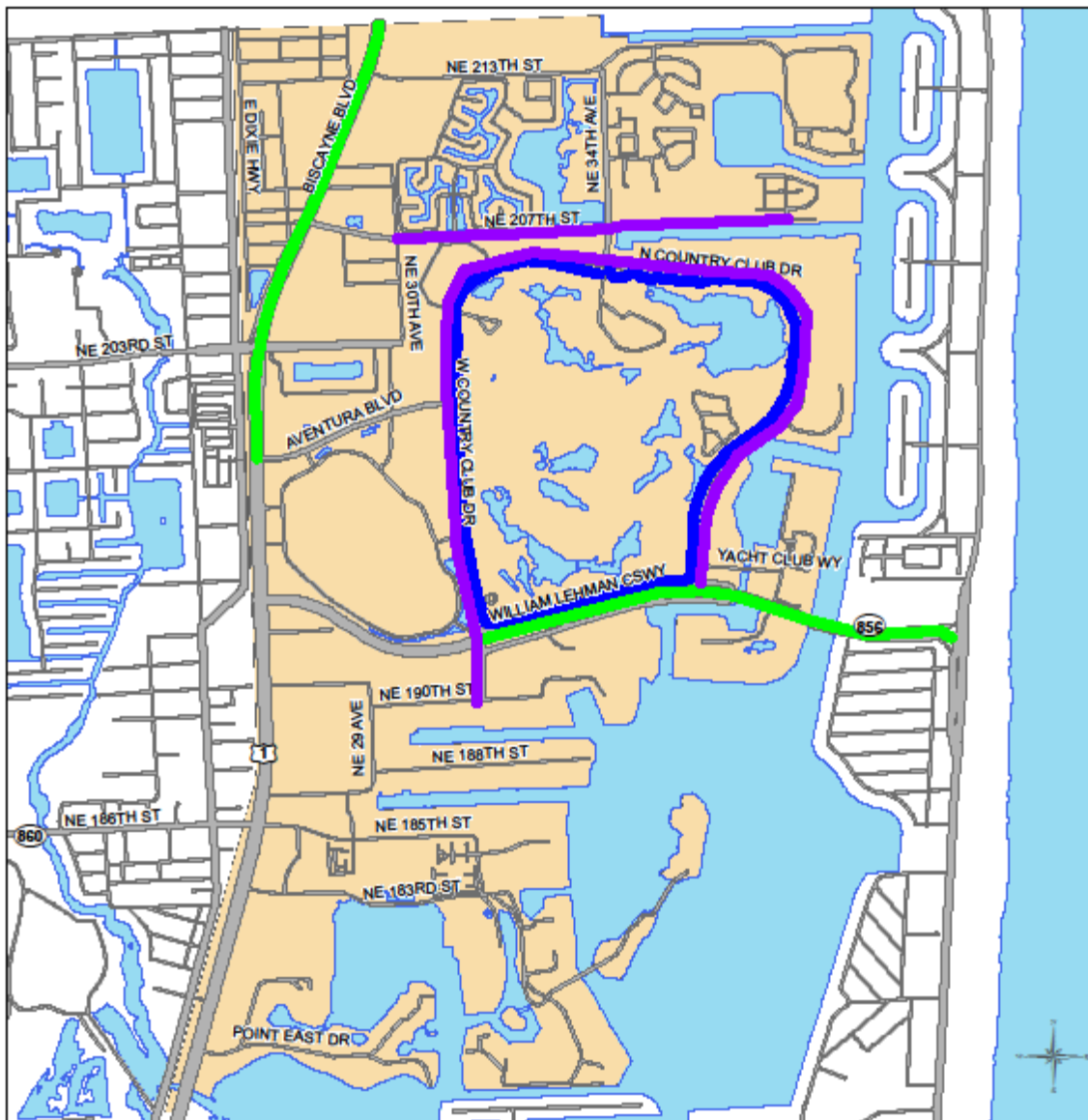
In September 2016 the City launched a new bike share program “B-Cycle” with 5 rental stations throughout the City: Founders Park, Waterway Park, Aventura Mall, N Country Club Drive at NE 34th Avenue and Aventura Community Recreation Center. Riders can rent by the hour and can receive discounts on rentals by becoming members. B-Cycle offers student, seniors and military discounts.



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Legend

Aventura Municipal Boundary

Bike Facilities

Bike Lanes
 Sharrows
 Multi-use Path

0 0.2 0.4 0.6 0.8 Miles



City of Aventura Unified Master Plan for Pedestrian and Bicycle Connectivity

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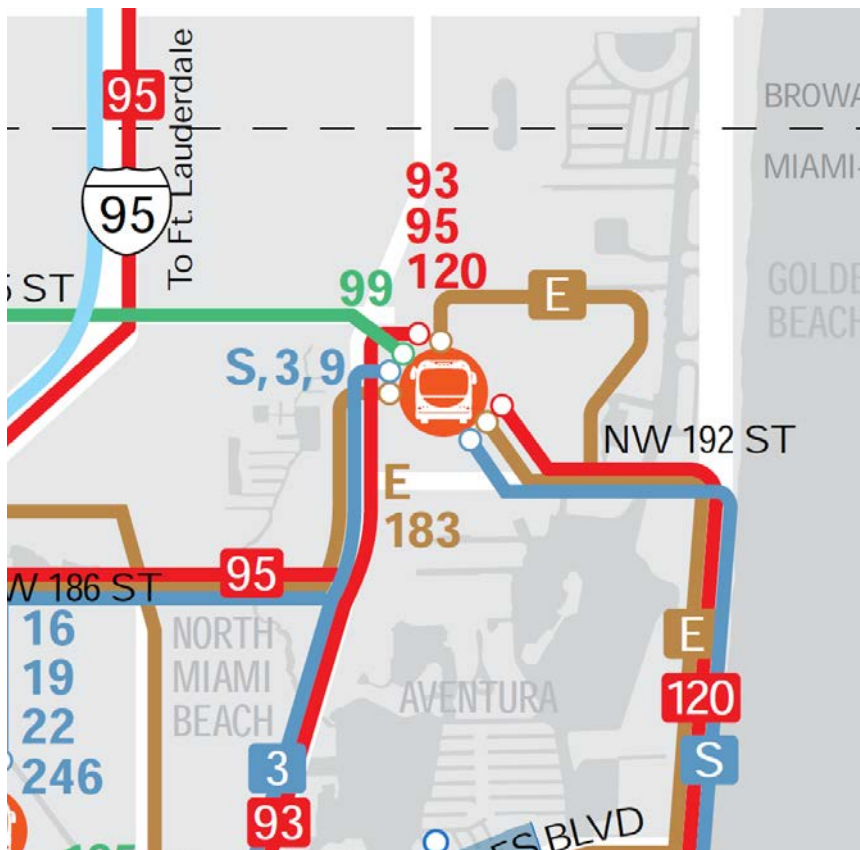


Public Transportation

Three public transit systems service Aventura locally and regionally, Miami-Dade Transit, Broward County Transit and Aventura Express.

Miami-Dade Transit

The most routes to, from and within Aventura are provided by Miami-Dade Transit (MDT) Metrobus. The system currently services Aventura via the following routes: Biscayne Max (route 93), S, 3, 9, 93, 95, 99, E (route 105), 120, and 183.



Source: Miami-Dade Transit

Broward County Transit

Aventura is connected to its northern neighboring cities and beyond by Broward County Transit routes 1, US-1 Breeze and 28. Route 1 provides a link to Ft. Lauderdale-Hollywood International Airport. The Breeze links Aventura to Downtown Ft. Lauderdale and route 28



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provides access to A1A/Collins to the east, Gulfstream to the north and ultimately to the Pembroke Pines area in the west.



Source: Broward County Transit

Aventura Express

The Aventura Express is the local circular shuttle bus that services visitors and residents within Aventura. As a result of embracing technology, the express shuttle is even easier to ride when using the free downloadable app to track and locate buses. Riders can digitally watch the bus in real-time and get approximate time of arrival to any stop along a route.

Generally, the routes cover the City as follows:

- **Blue** serves Northern Aventura
- **Green, Silver** and **Red** routes serve Central Aventura
- **Purple** and **Yellow** routes serve Southern Aventura

The Express buses are free to riders and conveniently run during the following times:

MONDAY - FRIDAY

7:45 a.m. - 6:30 p.m., blue, green, red, silver and purple routes

8:45 a.m. - 6:30 p.m., yellow route



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SATURDAY

8:45 a.m. - 9:30 p.m. all routes

Bus Terminal at Aventura Mall

All three transit systems connect riders at the large regional bus terminal located at Aventura Mall. In March 2016 the bus terminal was relocated to the ground floor of a parking structure near the Nordstrom department store (northwestern corner of the mall, adjacent to Biscayne Boulevard/US-1).

Future Transit (Coastal Link)

The Tri-Rail Coastal Link Study, formerly known as the South Florida East Coast Corridor (SFECC) Study, proposes reintroducing passenger service along an 85-mile stretch of the Florida East Coast (FEC) Railway corridor between downtown Miami and Jupiter. Such service will connect the hearts of 28 densely-populated municipalities in eastern Miami-Dade, Broward and Palm Beach Counties. FDOT has completed Phases I and II of this study which is about to enter the federal environmental process.

Tri-Rail Coastal Link Expansion Statistics		
	Tri-Rail Baseline	TRCL Service Design
Stations	18	38
Route Miles	71	164
Weekday Trains	50	122
Train Consists Required	10	23
Weekday Train Miles	3,550	7,100
Weekday Passengers (SERPM)	12,978	21,097
Transfers between Tri-Rail services	0	907
Weekday Passenger Miles	305,266	472,835
63% increase in passengers 55% increase in passenger miles		

This corridor will serve as the spine of a regional intermodal network, connecting to the existing bus systems and rail transit systems including both Tri-Rail and Metrorail. It will integrate with the various transit systems including the new City of Miami Trolley, the proposed Wave in downtown Fort Lauderdale and the proposed Central

Broward East-West Connection. It links to the three major airports, Miami International, Fort Lauderdale-Hollywood International and Palm Beach International; the four regional airports



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within the tri-county area; and to the region's seaports, PortMiami, Port Everglades and Port of Palm Beach.



What: A Plan to expand commuter passenger train service

Where: Connecting downtowns from Miami to Jupiter along 85 miles of FEC tracks.

Who: FDOT, in partnership with Tri-Rail and other agencies.

Why: Tri-Rail currently runs on CSX tracks mostly west of I-95. This proposed new service will run through the downtowns and augment existing service.

When: The NEPA (environmental) phase of this projects starts 2016.
Sign up now for meeting notices.

Guiding Policies

Fixing America's Surface Transportation (FAST) Act

On December 4, 2015, President Obama signed the Fixing America's Surface Transportation (FAST) Act (Pub. L. No. 114-94) into law—the first federal law in over a decade to provide long-term funding certainty for surface transportation infrastructure planning and investment. The FAST Act authorizes \$305 billion over fiscal years 2016 through 2020 for highway, highway and motor vehicle safety, public transportation, motor carrier safety, hazardous materials safety, rail, and research, technology, and statistics programs.

Some of Federal Highway Administration's priorities for the first year of FAST Act implementation include:



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- Developing summary materials (including fact sheets and presentations) to ensure the public and highway stakeholders have key information on the FAST Act's highway provisions;
- Getting funding in the hands of states, locals, Metropolitan Planning Organizations (MPOs), tribes, and others who can put it to use throughout the country;
- Issuing guidance to fill in the details of the new law and to answer stakeholder questions; and
- Making progress on regulations related to the FAST Act

The Department of Transportation (DOT) policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide — including health, safety, environmental, transportation, and quality of life — transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

Improving conditions and safety for bicycling and walking creates an integrated, intermodal transportation system that provides travelers with a real choice of transportation modes. New and improved transportation facilities should be planned, designed, and constructed with this in mind. Bicyclists and pedestrians have the same origins and destinations as other transportation system users, and it is important for them to have safe and convenient access to airports, ports, ferry services, transit terminals, and other intermodal facilities as well as access to jobs, education, health care, and other essential services.

Almost every transportation improvement is an opportunity to enhance the safety and convenience of walking and bicycling. Bicycle and pedestrian needs must be given "due consideration" under Federal surface transportation law (23 U.S.C. 217(g)(1)), and this should include, at a minimum, a presumption that bicyclists, pedestrians, and persons with disabilities will be accommodated in the design of new and improved transportation facilities. In the planning, design, and operation of transportation facilities, bicyclists, pedestrians, and persons with disabilities should be included as a matter of routine, and the decision to not accommodate them should be the exception rather than the rule.

At the Federal level, Federal Highways Administration (FHWA) is working with the National Highway Traffic Safety Administration (NHTSA), the Federal Transit Administration (FTA), the



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Federal Railroad Administration (FRA), and other agencies to implement the bicycle and pedestrian provisions of Federal surface transportation law. State and local agencies are expected to work together cooperatively with transportation providers, user groups, and the public to develop plans, programs, and projects that reflect this vision

Miami-Dade Transportation Planning Organization's (formerly Metropolitan Planning Organization)

Long Range Transportation Plan

State Departments of Transportation (DOTs) and Metropolitan Planning Organizations (MPOs), which lead planning for metropolitan areas, are required to produce a Long-range Transportation Plan and a Transportation Improvement Program (TIP) or Statewide Transportation Improvement Program (STIP). The Long-range Transportation Plans must address no less than a 20-year planning horizon. The MPO Long-range Transportation Plan must be regularly updated. The TIPs/STIPs program projects that cover a period of no less than four years and must be updated periodically. Every project in the TIP/STIP must be consistent with projects, programs, and/or policies contained in the long-range plan.

The Miami-Dade County Long Range Transportation Plan (LRTP) to the Year 2040 is the currently approved LRTP. This is like the Comprehensive Plan guiding transportation for the TPO, complete with goals, objectives and projects. The LRTP is a primary activity in Miami-Dade County's transportation planning process to meet federal and state requirements for an update of the Transportation Plan every five years.

The LRTP's objectives which would be of particular use to Aventura include its desires to:

- Enhance mobility for people and freight
- Reduce Congestion
- Maximize multimodal travel options and provide travel choices
- Fill transit service gaps
- Increase access to employment and sites
- Augment multimodal access to major activity centers
- Enhance the efficient movement of freight and goods
- Promote projects that support urban infill and densification



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- Promote transportation improvements that are consistent with adopted comprehensive development master plans
- Prioritize funding to favor intra-urban (within UDB) improvements
- Promote the use of alternative vehicle technologies
- Apply transportation and land use planning techniques, such as transit-oriented development, that support intermodal connections and coordination
- Improve connectivity to Strategic Intermodal System (SIS) and intermodal facilities
- Facilitate connections between transportation modes
- Improve goods movement by enhanced intermodal access and infrastructure serving major freight origins and destinations in Miami-Dade County
- Improve freight movement operations and reliability by promoting expedient and cooperative practices across all modes
- Continue to examine the provision and utilization of special-use lanes on the existing system
- Identify and implement the best available technologies and innovations to improve the reliability and efficiency of the transportation system



Federal law requires that the LRTP address a minimum 20-year planning horizon from the date of the MPO adoption. The 2035 LRTP was approved by the Metropolitan Planning Organization (MPO) Governing Board in October 2009; the 2040 LRTP was approved in October 2014.

This plan update includes in-depth consideration of intermodal improvement opportunities, freight movement, Intelligent Transportation System technologies, and Congestion Management Process (per SAFETEA-LU - Safe, Accountable, Flexible, Efficient Transportation Efficient Transportation Equity Act - A Legacy for Users Transportation, 23 CFR 450.320 and accompanying



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regulations).

One of the major emphases of this Plan Update is the inclusion of projects that improve the operation of the existing system. In light of the soaring construction costs, this emphasis on increasing the efficiency of the current infrastructure, is embodied in the Congestion Management Process. It was adopted concurrently and incorporated into the LRTP. Congestion management includes the implementation of strategies designed to reduce vehicle trips; shift trips from single-occupancy vehicles to high-occupancy vehicles; and maximize the effectiveness and efficiency of the existing transportation system.

Other emphases of this plan update involve the consideration of non-motorized modes of transportation and freight transportation improvements. The inclusion of non-motorized improvements in the plan promote quality of life issues for the County's residents and visitors and include sidewalk improvements, and pedestrian and bicycle trail improvements. The plan's dedicated section for freight transportation improvements is a critical component of the plan, providing for improvements to the County's economic engine to support the economic growth and prosperity of the County.

The plan addresses all local, state, and federal planning requirements and includes a detailed review of, and compliance with, provisions in SAFETEA-LU regulations.

There are eight goals and multiple objectives. These include:

- Goal 1:* Improve Transportation System and Travel
- Goal 2:* Increase the Safety of the Transportation System for Motorized and Non-motorized Users
- Goal 3:* Increase the Security of the Transportation System for Motorized and Non-motorized Users
- Goal 4:* Support Economic Vitality
- Goal 5:* Protect and Preserve the Environment and Quality of Life and Promote Energy Conservation
- Goal 6:* Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes, for People and Freight
- Goal 7:* Optimize Sound Investment Strategies for System Improvement and Management/Operation
- Goal 8:* Maximize and Preserve the Existing Transportation System

Relevant objectives in each goal include:



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Goal 1: Improve Transportation System and Travel

- Objective: Improve accessibility to major health care, recreation, education, employment and cultural facilities
- Objective: Enhance mobility for people and freight
- Objective: Reduce Congestion
- Objective: Maximize multimodal travel options and provide travel choices
- Objective: Fill transit service gaps
- Objective: Promote transit reliability
- Objective: Improve transportation facilities' and services' regional connectivity
- Objective: Include provisions for non-motorized modes in new projects and in reconstructions
- Objective: Promote new non-motorized (bicycle, pedestrian, greenways) projects
- Objective: Increase reverse commute opportunities for disadvantaged communities
- Objective: Promote transportation improvements that provide for the needs of the elderly and disabled
- Objective: Improve transit services that provide access to educational facilities

Goal 2: Increase the Safety of the Transportation System for Motorized and Non-motorized Users

- Objective: Improve safety on facilities and in operations
- Objective: Reduce roadway and multi-modal crashes
- Objective: Increase safety at transit stops and intermodal stations and connections
- Objective: Implement safe route to school

Goal 3: Increase the Security of the Transportation System for Motorized and Non-motorized Users

- Objective: Enhance the capacity of evacuation corridors
- Objective: Improve transportation security for facilities and in operations
- Objective: Ensure transportation options are available during emergency evacuations for the elderly and persons with disabilities
- Objective: Ensure security at ports, airports, and major intermodal centers/terminals

Goal 4: Support Economic Vitality

- Objective: Increase access to employment and sites



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- Objective: Enhance tourist travel and access opportunities
- Objective: Increase and improve passenger and good access to airports and seaports
- Objective: Augment multimodal access to major activity centers
- Objective: Enhance the efficient movement of freight and goods
- Objective: Implement projects that support economic development and redevelopment areas

Goal 5: Protect and Preserve the Environment and Quality of Life and Promote Energy Conservation

- Objective: Minimize and mitigate air and water quality impacts of transportation facilities, services, and operations
- Objective: Reduce fossil fuels use
- Objective: Promote projects that support urban infill and densification
- Objective: Minimize adverse impacts to established neighborhoods
- Objective: Promote transportation improvements that are consistent with adopted comprehensive development master plans
- Objective: Prioritize funding to favor intra-urban (within UDB) improvements
- Objective: Promote the use of alternative vehicle technologies
- Objective: Apply transportation and land use planning techniques, such as transit-oriented development, that support intermodal connections and coordination

Goal 6: Enhance the Integration and Connectivity of the Transportation System, Across and Between Modes, for People and Freight

- Objective: Improve connectivity to Strategic Intermodal System (SIS) and intermodal facilities
- Objective: Provide multi-modal options consistent with the local government comprehensive plan
- Objective: Facilitate connections between transportation modes
- Objective: Improve goods movement by enhanced intermodal access and other infrastructure that serve major freight origins and destinations in Miami-Dade County
- Objective: Improve freight movement operations and reliability by promoting expedient and cooperative practices across all modes

Goal 7: Optimize Sound Investment Strategies for System Improvement and Management/Operation



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- Objective: Optimize benefits of capital expenditures
- Objective: Optimize operations and maintenance expenses
- Objective: Optimize applications of People's Transportation Plan funding
- Objective: Maximize use of private sector funding sources
- Objective: Maximize use of State and Federal funding sources
- Objective: Promote local improvement projects within the systems improvement context

Goal 8: Maximize and Preserve the Existing Transportation System

- Objective: Continue to examine the provision and utilization of special-use lanes on the existing system
- Objective: Identify and implement the best available technologies and innovations to improve the reliability and efficiency of the transportation system
- Objective: Identify and reserve corridors and right-of-way (on roadways, railways, and waterways) for future transportation facilities and services
- Objective: Expand the use of Transportation Demand Management (TDM) strategies



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Miami-Dade 2040 LRTP Regional Improvements

Project #	Location	Limits	Description	Status/Priorities	Type
DT4335111	NE 203 St	US-1 to W. Dixie Hwy	Intersection Improvements, passing track/siding	Priority 1 (2015-2020)	Roadway
DT4335111	NE 215 St	US-1 to W. Dixie Hwy	Intersection Improvements, passing track/siding	Priority 1 (2015-2020)	Roadway
NM69	Lehman Causeway	US-1 to A1A	Pedestrian Facility Improvements	Priority 2 (2021-2025)	Non-Motorized
NM1*	W. Dixie Hwy	Miami Gardens Dr to Ives Dairy Rd	Bicycle Facility Improvements	Priority 1 (2015-2020)	Non-Motorized
NM66	Biscayne Blvd	NE 191 St to Aventura Blvd	Pedestrian Facility Improvements	Priority 2 (2021-2025)	Non-Motorized
NM151*	Atlantic Trail (A1A North)	Haulover to Broward County Line	Trail Improvements	Priority 4 (2031-2040)	Non-Motorized
CMP16*	Ives Dairy Rd	At Highland Lakes Blvd	Signal Detector Improvement (Pilot)	Priority 1 (2015-2020)	Congestion Management

*Note: Outside of City Limits

Source: Miami-Dade Metropolitan Planning Organization

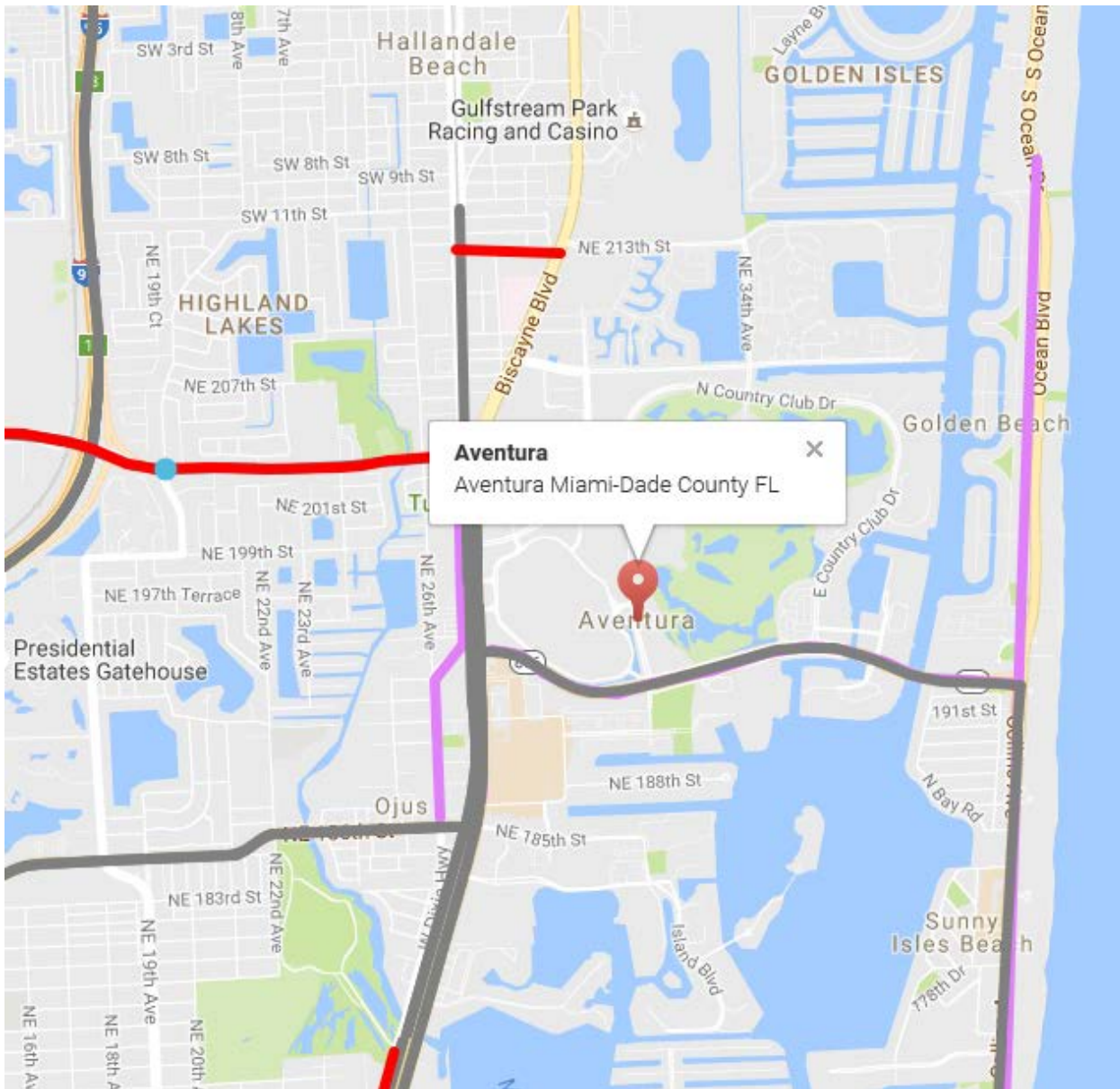
Miami-Dade 2040 LRTP Regional Improvements



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Transportation Improvement Program (TIP)

The Transportation Improvement Program (TIP) is the County's Transportation Capital Improvement Plan. The document is the short-range element of the Long Range Transportation Plan (LRTP). This plan element consists of a five-year program of projects, of which one year is current (the annual element) and four are proposed. Each year, the TIP is modified by adding a new fifth year and advancing the first of its future years to current status. The improvements identified in the TIP are carried out through orders of priority expressed through technical analyses conducted for the preparation of the Transportation Plan.

The first year of the TIP is funded (the funded annual element); the remaining four are future projected projects, of which the capital funding outlay must be considered for the first two of these four years. Each year adds a new fifth year and advances a new annual period to current funded status. The TIP Identifies funding levels, by source and type, and whether funds are to be used for: road capacity, preservation, bridges, transit capital, safety, non-motorized, right-of-way, study or other. Finally, improvements in the TIP are based on TPO-established priorities from LRTP, and the TIP is consistent with the adopted 2040 Long Range Transportation Plan.

Miami-Dade TIP Regional Improvements

Project #	Location	Limits	Description	Fiscal Year	Funding
DT4307681	Biscayne Blvd.	Multiple Intersections	Intersection Improvements	2017/2018	\$2,087,000 (Const.)
DT4366251	Country Club Dr.	Multiple Locations	Pedestrian Safety Improvements	2019/2020	\$495,000 (Const.)
TR4335113	NE 215 S.t	US-1 to W. Dixie Hwy	Intersection Improvements (Rail Capacity)	2017/2018	\$3,730,000 (P&D)
TR4335111	NE 203 St.	US-1 to W. Dixie Hwy	Intersection Improvements (Rail Capacity)	See Above (funding is combined)	See Above (funding is combined)
DT4146243	Biscayne Blvd.	NE 196 St to NE 213 St	Resurfacing	2017/2018	\$2,333,000 (Const.)
DT4308082*	Miami Gardens Dr.	Biscayne Blvd & W. Dixie Hwy	Intersection Improvements	2016/2019	\$594,000 (R.O.W.) \$1,037,000 (Const.)



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					\$356,000 (RR & Util.)
DT4309491*	A1A/Collins Ave.	Bayview Dr to NE 192 St	Resurfacing	2017/2018	\$5,630,000
DT4348452*	Biscayne Blvd.	SE 8 St to NE 215 St	PD&E/EMO Study	2019/2020	\$600,000 (P&D)
DT4324091*	Miami Gardens Dr.	NE 11 Ave to NE 19 Ave	Bike Path/Trail	2017/2018	\$323,000 (Const.)

*Note: Outside of City Limits

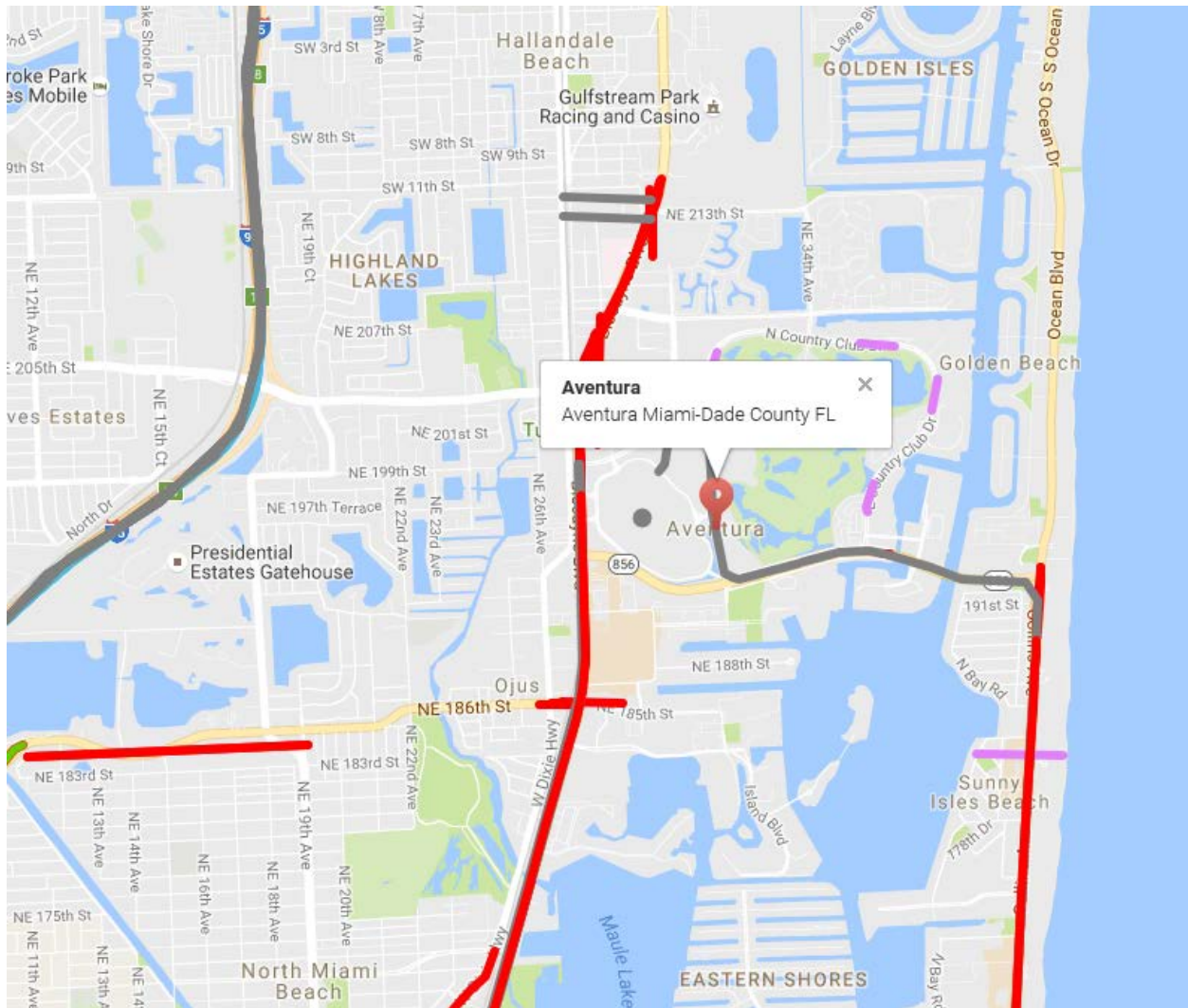
Source: Miami-Dade Transportation Planning Organization



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Source: Miami-Dade Transportation Planning Organization Mapping Tool

Aventura Capital Improvement Projects

The current Aventura Capital Improvement Program 2016 to 2021 has transportation, drainage and infrastructure projects totaling \$6.47 million, which is 24% of the City's total capital budget.

includes improvements to the City's transportation system, roadways, drainage system, sidewalks, pedestrian pathways, street lighting, transit and other infrastructure improvements. There are three (3) improvement projects in the Capital Improvement Program, which total



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\$6,468,500. Special emphasis was given to seawall maintenance, street lighting, correcting drainage deficiencies, road resurfacing and addressing maintenance considerations.

Policies

The City's investment in improvements to its transportation system, roads, sidewalks, street lighting and drainage system is based on the following policies:

Goal: Utilize the Stormwater Utility Fund to provide revenue sources to fund drainage improvements contained in the CIP.

- Coordinate area-wide storm water developments with major street improvements.
- Provide adequate storm drainage as defined by present standards for different types of areas of the City.
- Upgrade areas of the City to conform to present drainage standards to eliminate flood prone areas.
- Implement projects that address the long-term problems of the rising sea levels.

Goal: Improve local roads to meet road safety requirements and serve the transportation needs of the City.

- Systematically provide local street improvements throughout the City based upon the existing condition and age of the street and the cost of maintenance of the street.
- Implement improvements to meet safety standards.
- Improve safety by installing street lighting on all appropriate public roadways.
- Provide walkways and sidewalks to improve the safety of residents traveling throughout the City.

The proposed projects over the next 5-Year CIP period are divided into three categories, Storm Drainage Improvements, Road Resurfacing Program, and Streetlight Improvements. Storm drainage improvement Projects include drainage improvements in areas prone to flooding and addressing the long-term impacts of the rising sea levels by installing check valves in the various drainage outflows throughout the City. Road resurfacing projects consist of resurfacing roadways as determined by the City's maintenance standards and the Public Works/Transportation Department.

Streetlight improvements includes retrofitting streetlights with LED fixtures throughout the City.



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Aventura Comprehensive Plan Transportation Element

The Aventura Transportation Element emphasizes the use of the local roadway and pedestrian network for movement internal to the city. In addition, opportunities to promote use of the local network while minimizing reliance on the regional network are identified.

Public transportation within the City of Aventura is currently accomplished via fixed-route service provided by the Miami-Dade Transit Agency, Broward County Transit, and a local city operated shuttle bus system. As of 2014, the City's shuttle bus system boasts an average monthly ridership of 25,000 and has had a total ridership of 2,916,150 since its inception in 1999. The inter-county fixed-route Tri-Rail commuter service is accessible to the residents of Aventura through use of the Golden Glades station. Public transportation needs are also addressed through the use of paratransit services. The Florida East Coast (FEC) Railroad runs along the western border of the City and may provide future passenger rail service.

TRANSPORTATION GOAL

To provide a safe and efficient multimodal transportation system appropriate to serve the needs of the city; to promote the use of alternative transportation methods encouraging scaled pedestrian and bicycle facilities, public transit, adequate parking facilities, paratransit, and other modes of transportation; to coordinate the transportation system with the land use plan, and other appropriate agencies; and to protect rights-of-way.

OBJECTIVE 1

Provide the framework for a safe, convenient, and energy efficient multi-modal transportation system through implementation of the programs outlined in this element, and the concurrency and access management systems contained in the City's land development regulations.

Measure: Maintenance of adopted Level of Service Standards.

Policy 1.1



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The City of Aventura adopts the level of service standard as described in the Miami-Dade County Comprehensive Development Master Plan, described as follows:

The minimum acceptable peak-period LOS for all State roads and on all City roads shall be the following:

- a) Where no public mass transit service exists, roadways shall operate at or above LOS E;
- b) Where mass transit service having headways of 20 minutes or less is provided within ½ mile distance, roadways shall operate at no greater than 120 percent of their capacity;
- c) Where extraordinary transit service such as commuter rail or express bus service exists parallel roadways within ½ mile shall operate at no greater than 150 percent of their capacity.

Policy 1.5

The City will develop transportation management strategies, such as but not limited to, traffic calming techniques and traditional neighborhood design concepts, to improve efficiency, and enhance the safety of the pedestrian, bicycles, and transit riders within the context of an integrated multi-modal transportation system.

Policy 1.8

The City of Aventura shall continue to identify projects to support and fund mobility, enhance alternative modes of transportation, and ensure connectivity in its Capital Improvements Program in accordance with Section 163.3180, F.S.

Policy 2.1

Parking strategies will be developed that encourage a multi-modal transportation system including scaled pedestrian and bicycle facilities, public transit, paratransit, and other modes of transportation.

Policy 2.2



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Through implementation of the Future Land Use Plan and Land Development Regulations, the use of bicycles and pedestrian activities will be promoted and encouraged with particular emphasis given to the Town Center.

Policy 2.3

Through the implementation of the multi-modal transportation strategies, demand management programs will be established to modify peak hour travel demands, and reduce the number of vehicle miles traveled.

OBJECTIVE 3

As part of the implementation of the programs outlined in this element coordination of the transportation system with the Miami-Dade Metropolitan Planning Organization, Florida Transportation Plan, and the Florida Department of Transportation Adopted Work Program will be evaluated annually as part of the annual update of the concurrency management system.

Measure: Annual review of Miami-Dade Metropolitan Planning Organization and FDOT adopted 5-year work program. Number of capital improvements that support the development and enhancement of intermodal terminals.

Policy 3.1

Through the annual evaluation of the plans and programs of the other applicable agencies applicable roadway and transit service improvements for future multi-modal needs will be identified and addressed.

OBJECTIVE 4

Through coordination of the City's multi-modal transportation plan with the applicable public transit service and the Miami-Dade Metropolitan Planning Organization, efficient public transit service will be determined by the ridership.

Measure: Increased public transit ridership.

Policy 4.6



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Sidewalks shall link residential development to transit stops and shelters

Future Land Use Element

Policy 1.6

The City shall encourage pedestrian friendly design and walkable neighborhoods through its development review processes, design guidelines, and targeted redevelopment efforts.

Policy 3.5

Public facility and service provided shall give priority to eliminating any infrastructure deficiencies to facilitate rehabilitation or renewal of areas.

Data Collection and Analysis

Task 4 of the Unified Master Plan for Pedestrian and Bicycle Connectivity consisted of data collection analysis including the review of existing information and collection of new data for the calculation of bicycle and pedestrian levels of service. Information was analyzed to identify transportation system enhancements to be achieved through capital projects and policy changes to achieve connectivity between the bicycle and pedestrian networks. Data was collected on four elements of the transportation system:

1. Land Use
2. Transit
3. Bicycle Facilities
4. Pedestrian Facilities



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Land Use and Development Patterns

Aventura was originally developed as a satellite downtown of Miami, and the existing land use reflects this with overall high density, a wide variety of shopping and dining opportunities as well as office and medical uses. In recent years Aventura has increased density and added more mixed use development, both are critical in creating a more efficient multi-modal transportation system.

The existing built environment in Aventura consists of predominantly commercial and office in the west Biscayne Boulevard corridor with residential dominating the eastern neighborhoods. A large golf course occupies the center of the City, the roadway circling around the perimeter, interrupting the grid pattern. The Aventura mall also occupies the center of the City. Together, these two land uses create a challenge and an opportunity for creating connectivity because there are few east/west links in the middle, high density area of the City.



Like many communities in South Florida, the City relies primarily on a vehicular roadway network for its transportation needs. Most roadways have been widened or expanded to the physical right-of-way limits, and the ability to accommodate additional vehicular traffic is limited. While existing vehicular levels of service meet adopted standards, alternative transportation options are limited due to high roadway congestion on weekdays when the population doubles from commuting employees. The primary means of

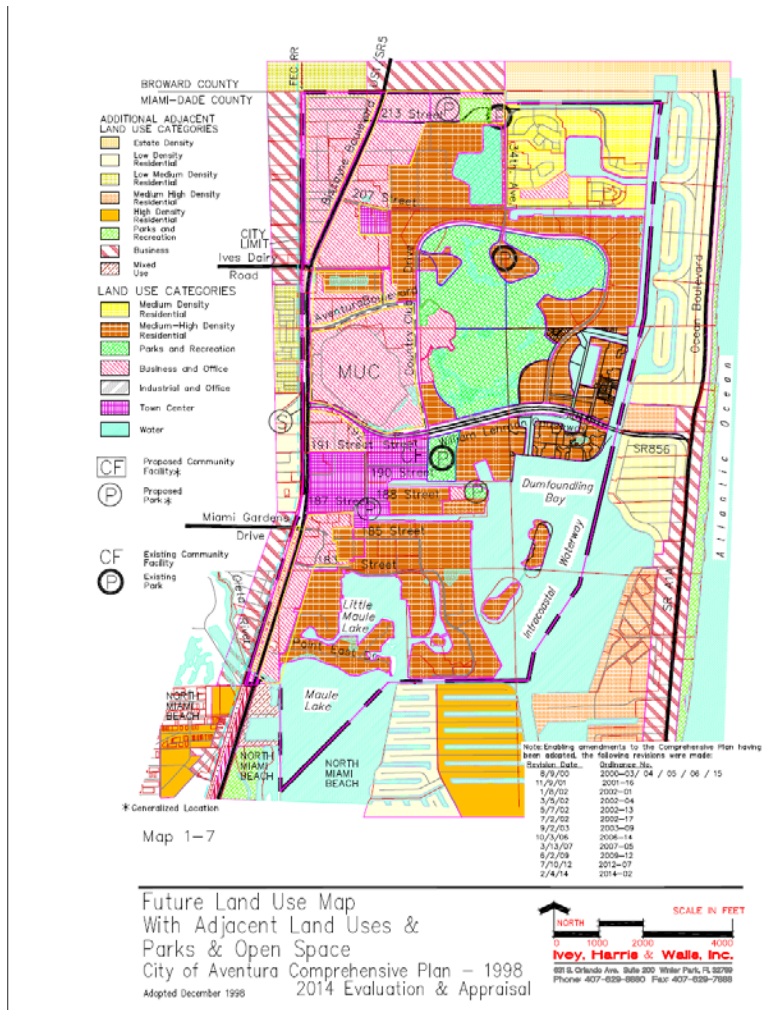
relieving this vehicular congestion is to provide means other than driving for people to reach destinations. Therefore, the City should develop and enhance alternative modes of transport including pedestrian, bicycle, and transit, to ensure a successful transportation network and continued future economic development. These alternative transportation modes also conserve energy, encourage healthy exercise, and reduce pollution and carbon emissions.



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The future land use of the City called for in its Future Land Use Map retains primarily business and office uses in the west and residential in the east, as well as the recreational golf course uses in the center. However, it includes a major Town Center Use district that will create levels of density required for transit to be more effective. Additionally, the current dispersal of residential and commercial areas are not expected to change, with the exception of mixed-use in newer developments; thus, transit generators within Aventura will continue to be diversely dispersed throughout the City.

Traffic generators are physical destinations based on land use designations which generate a

significant number of trips and include schools, shopping centers like the Aventura Mall, employment centers like major office buildings and the hospital, and civic facilities such as City Hall and parks. Major generators are shown below.

The project-development portion of the study utilized patterns of land development (e.g., residential, commercial, medical, etc.) as a means to hone in on specific areas where improvements could have the most immediate impact. Such patterns can serve as catalysts for a multi-modal shift in habitual mobility behavior. This portion of the project-prioritization assessment was then further augmented through an analysis of the land uses in each node and corridor area.



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Transit Supportiveness:

Population Density

Population density is utilized as a key predictor of potential need and support for transit service operations. In considering land use, an evaluation of the residential density was undertaken to determine general transit supportiveness. Transit supportiveness based on population can be based on the following population thresholds:

- **Low** (15–30 persons per acre) – At this density, basic bus service with 15-30 minute headways can be supported.
- **Medium** (31–45 persons per acre) – At this density, high frequency bus service, with 10 minute headways, and bus rapid transit (BRT) service can be supported.
- **High** (> 45 persons per acre): At this density enhanced transit modes including BRT and light rail can be supported in adjacent areas.

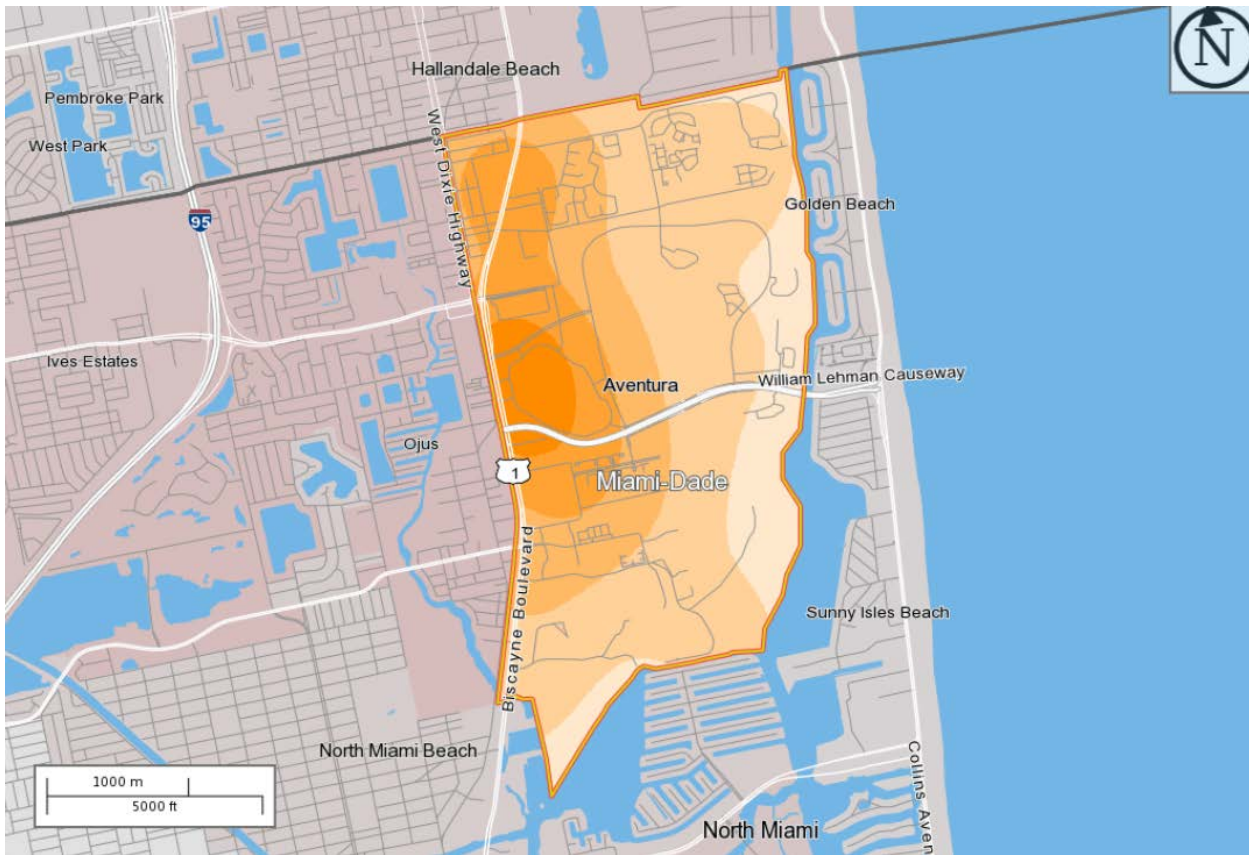
Aventura's 2010 population estimate is 35,762, the City is 2,048 acres (3.2 square miles), the population density is 17.5 persons per acre.



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Employment Density

Employment densities also provide a basis for transit supportiveness given the influx and outflow of temporary populations:

Source: American Community Survey – US Census



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Transportation Rights of Way

Like most cities, multiple-lane roadways are the City's primary current transportation mode. These roadways, along with adjacent land parcels, shape the urban design of Aventura. They primarily form a grid layout at the level of the section. A rectangular grid layout facilitates traffic flow because it distributes vehicles along parallel roads. However, to be effective the grid system must go beyond the section level to provide connectivity within sections. In Aventura, grid layouts within sections are blocked in many areas by the Lehman Causeway and curvilinear roads and by a central golf course. The lack of a more developed grid within sections concentrates traffic on a limited number of roads and creates congestion.

While roadways were built primarily to accommodate cars, the roadway right of way (ROW) is the City owned land that must also accommodate other forms of transportation including pedestrians, bicycles, and transit. Sidewalks, bike lanes, transit lanes and other multi-modal elements must fit within this City-owned ROW.

In many cases, roadway ROW widths have been completely utilized by widened roads with multiple lanes and ideally a sidewalk. As the City moves forward, consideration should be given to reserving remaining unused ROW width for widened sidewalks, bike lanes, or dedicated transit lanes. In areas where ROWs are completely built out with vehicular lanes, additional easements for sidewalks and other modes should be obtained from property owners as parcels are developed or redeveloped. In some cases, existing vehicular lanes may need to be narrowed or redesigned for use by another mode.



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Land Use Summary:

- Major commercial land uses create employment centers which result in a doubling of the City's workday population with a corresponding impact on the transportation network;
- Developments underway and Future Land Use Map designations are creating areas of higher density mixed-use required to support walking, biking, and high frequency transit;
- Transit generators are dispersed throughout the City, which results in more travel distance and route variability;
- The existing roadway grid system is limited at the local level and new developments need to incorporate a finer grid road pattern to improve connectivity;
- ROW widths have generally been fully utilized for car lanes so ROW usage may have to be shifted to other modes and additional easements will be required from developers to add wider sidewalks, bike lanes, etc.

Transit

Aventura Express Shuttle

The Aventura Express serves the community within its boundaries to major points of interest with easy transfers to Miami-Dade and Broward transit routes at the Aventura mall.

The routes cover the following areas:

- **Blue** serves Northern Aventura
- **Green, Red and Silver** serve Central Aventura
- **Purple and Yellow** serve Southern Aventura

All buses stop at the new Aventura Mall transit terminal garage by Nordstrom & JCPenney.



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Real-time Tracking: Track the Buses

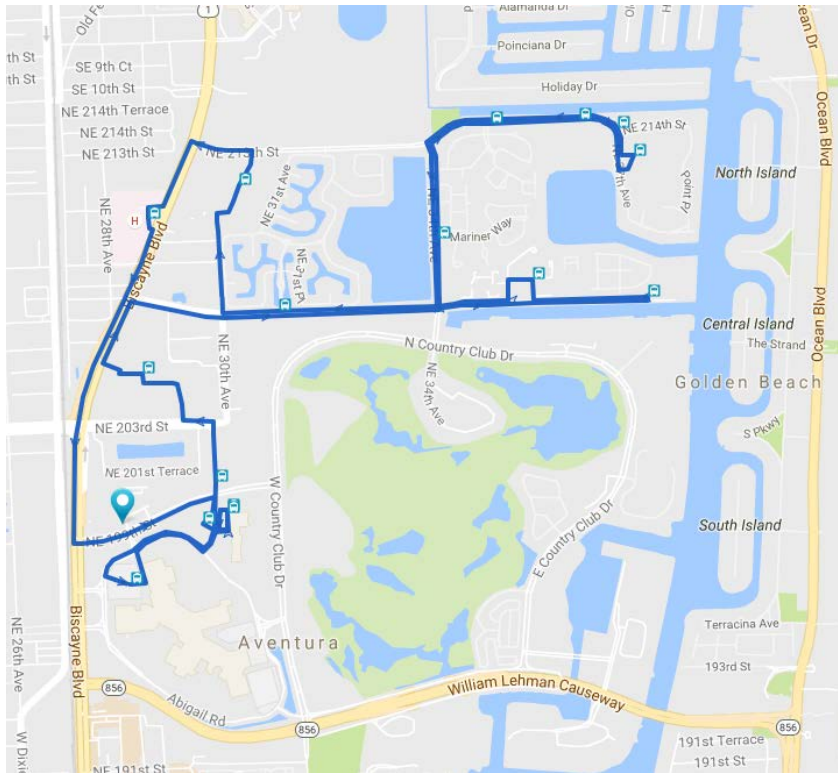
Locate buses in real-time and get approximate time of arrival to any stop along a route with the new, free, user-friendly app. The Aventura Express app is on iTunes or Google Play. The Aventura Express app can also be viewed from any device using a web browser at: <http://publictransportation.tsomobile.com/aventura.htm>



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The real time tracker app shows the entire route (shown in blue above) with a moving marker to indicate where the bus is in “real time”. Clicking on any bus stop on the route will result in a window pop-up with the estimated time of arrival of the next bus.

Aventura is also serviced by regional transit through Miami-Dade Transit, Broward County Transit as well as other local shuttles from neighboring cities in the Northeast Miami area.

Details of these transit routes is in Chapter 1 “Background Information”.

Pedestrian Networks

A pedestrian network typically consists of the basic elements of sidewalks, crosswalks, building connections, and adjacent conditions and amenities:

- **Sidewalks:** Hardscape paths of a sufficient width, unobstructed by obstacles, and well maintained to be free of cracks and weeds for use only by pedestrians.
- **Intersection Crosswalks:** Properly marked, signalized, safe pedestrian crossings of roadways.
- **Building Connections:** Designated, safe, marked pedestrian paths connecting sidewalks at the street edge through parking lots or landscaped areas to building entrances.
- **Adjacent Conditions and Amenities:** Setbacks of sidewalks from roadways (4 to 6 feet on high speed roads, up to curb on lower speed urban roads) shade trees, active



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building edges, miscellaneous sidewalks amenities like signage, trash cans, plazas, urban amenities, public art.

For walking to truly be a viable alternative to driving, the experience of walking must go beyond being possible—which requires that sidewalks, crosswalks, and connections be present and meet minimal design standards—to being appealing, which requires wider, unobstructed shaded sidewalks set back from streets and lined with active building edges rather than seemingly endless parking lots. Plazas, pocket parks, public art and similar elements can also encourage walking when it might not otherwise take place.

As would be expected from a historically car-oriented community, Aventura’s pedestrian network is somewhat limited although major improvements have been made in recent years. The network follows the roadway system and is subject to the same connectivity issues noted in Section 1. Land Use. Pedestrian traffic within Aventura varies widely by area and is related to land use within residential, commercial and recreational areas.

The pedestrian network exhibits some of the following deficiencies and issues:

Sidewalks: Missing segments, too narrow, obstructed in some locations;

Intersection Crosswalks: Not properly marked, lacking signalization, inadequately spaced, lacking pedestrian refuge median, and in need of repainting;

Building Connections: Lacking in most locations or only partially complete;

[Pedestrian Level of Service](#)

Level of Service (LOS) standards are heavily used to evaluate roadway conditions for traffic flow. Similar Pedestrian LOS standards are much less common, but for this study the following standards—based on sidewalk conditions, supporting amenities, and the overall pedestrian environment quality—were developed:

LOS A: Highly pedestrian oriented and attractive for pedestrian trips, with sidewalks, pedestrian friendly intersection design, low-vehicular traffic volume, and ample pedestrian amenities.



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LOS B: Similar to A, but with fewer amenities and low to moderate level of interaction with motor vehicles.

LOS C: Adequate for pedestrians, some deficiencies in intersection design, moderate interactions with motor vehicles.

LOS D: Adequate for pedestrians but with deficiencies in intersection design and pedestrian safety and comfort features, may be some gaps in the sidewalk system, moderate to high interactions with motor vehicles.

LOS E: Inadequate for pedestrian use, deficient pedestrian facilities, high interactions with motor vehicles.

LOS F: Inadequate for pedestrian use, no pedestrian facilities, high interactions with motor vehicles.

The following chart of Aventura Pedestrian LOS Grades provides a ranking of all segments of the Pedestrian Network for the whole City of Aventura. More specific observations were also made about the specific elements of the Pedestrian Network.



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N	Roadway	Segment	Ped. LQ Mode
1	NE 183rd St	Biscayne Blvd to NE 27th Ave	D
2		NE 27th Ave to NE 31st Ave	D
3	SR-860/Miami Gardens Dr./NE 186 St	West of Biscayne Blvd	D
4	NE 185th St	Biscayne Blvd to NE 28th Ct	C
5		NE 28th Ct to NE 31st Ave	C
6	NE 187th St	Biscayne Blvd to NE 29th Ave	C
7	NE 188th St	NE 29th Ave to End	C
8	NE 190th St	NE 29th Ave to End	C
9	NE 191st St	Biscayne Blvd to NE 29th Ave	C
10	SR 856/Lehman Cswy	Biscayne Blvd to A1A	F
11	Lehman Cswy Access Rd North	Yacht Club Way to Mall Entrance	C
12	SR 856/Lehman Cswy	On Ramp North	F
13	SR 856/Lehman Cswy	Off Ramp North	F
14	Lehman Cswy Access Rd South	Country Club Dr to Cswy Loop	E

N	Roadway	Segment	Ped. LQ Mode
15	SR 856/Lehman Cswy	On Ramp South	F
16	SR 856/Lehman Cswy	Off Ramp South	F
17	SR 856/Lehman Cswy	On Ramp from Collins (North Bound)	F
18	Yacht Club Way	Country Club Dr to Bridge	D
19		Bridge to Mystic Pointe Dr	C
20	Aventura Blvd/NE 199th St	Biscayne Blvd to NE 29th Pl	C
21		NE 29th Pl to W Country Club Dr	C
22	Country Club Dr	NE 190th St to Lehman Cswy	C
23		Lehman Cswy to Aventura Blvd	C
24		Aventura Blvd to NE 34th Ave	C
25		NE 34th Ave to NE 37th Ave	C



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N	Roadway	Segment	Ped. LC Mode
26		NE 37th Ave to Yacht Club Way	C
27	NE 201st Ter	NE 27th Ct to NE 29th Ct	F
28	Ives Dairy Rd / NE 203rd St	Ramp from Biscayne Blvd to NE 29th Ct	D
29		NE 29th Ct to NE 30th Ave	C
30	NE 205th St	NE 29th Ave to End	C
31	NE 206th St	E Dixie Hwy to Biscayne Blvd	E
32	NE 207th St	E Dixie Hwy to NE 28th Ave	D
33		Biscayne Blvd to NE 30th Ave	C
34		NE 30th Ave to NE 34th Ave	D
35		NE 34th Ave to Waterways	D
36	NE 208th St	E Dixie Hwy to Biscayne Blvd	F
37	NE 208th Ter	E Dixie Hwy to Biscayne Blvd	F
38	NE 209th St	E Dixie Hwy to Biscayne Blvd	D
39		Biscayne Blvd to NE 30th Ave	F
40	NE 211th St	E Dixie Hwy to NE 28th Ave	F
41	NE 213th St	E Dixie Hwy to NE 28th Ave	C
42		NE 28th Ave to NE 29th Ave	F
43		Biscayne Blvd to NE 34th Ave	C
44		NE 34th Ave to NE 37th Ave	C
45	NE 214th St	E Dixie Hwy to NE 29th Ave	F
46	NE 214th Ter	E Dixie Hwy to NE 29th Ave	F
47	E Dixie Hwy	NE 206th St to NE 209th St	E
48		NE 209th St to NE 211th St	D
49		NE 211th St to NE 212th St	F
50		NE 212th St to NE 214th St	D
51		NE 214th St to NE 215th St	D

N	Roadway	Segment	Ped. LC Mode
52	NE 27th Ave	NE 183rd St to NE 185th St	D
53	NE 27th Ct	NE 201st Ter to NE 203rd St	F
54		NE 209 St to NE 211 St	D
55		NE 211th St to End	F
56	NE 28th Ave	NE 207th St to NE 208th St	D
57		NE 208th St to NE 209th St	E
58		NE 209th St to NE 213th St	C
59		NE 213th St to NE 214th Ter	
60	US-1/Biscayne Blvd	Point East Dr to NE 183rd St	C
61		NE 183rd St to Miami Gardens Dr	C
62		Miami Gardens Dr to NE 187th St	D
63		NE 187th St to NE 191st St	D
64		NE 191st St to Lehman Cswy	D
65		Lehman Cswy to Aventura Blvd	D
66		Aventura Blvd to NE 203rd St	F
67		Ramp from Biscayne to NE 203rd	C
68		NE 203rd St to NE 207th St	D
69		NE 207th St to NE 209th St	C
70		NE 209th St to NE 213th St	C
71	NE 28th Ct	NE 184th (approx.) to NE 185th St	C
72		NE 185th St to NE 187th St	C



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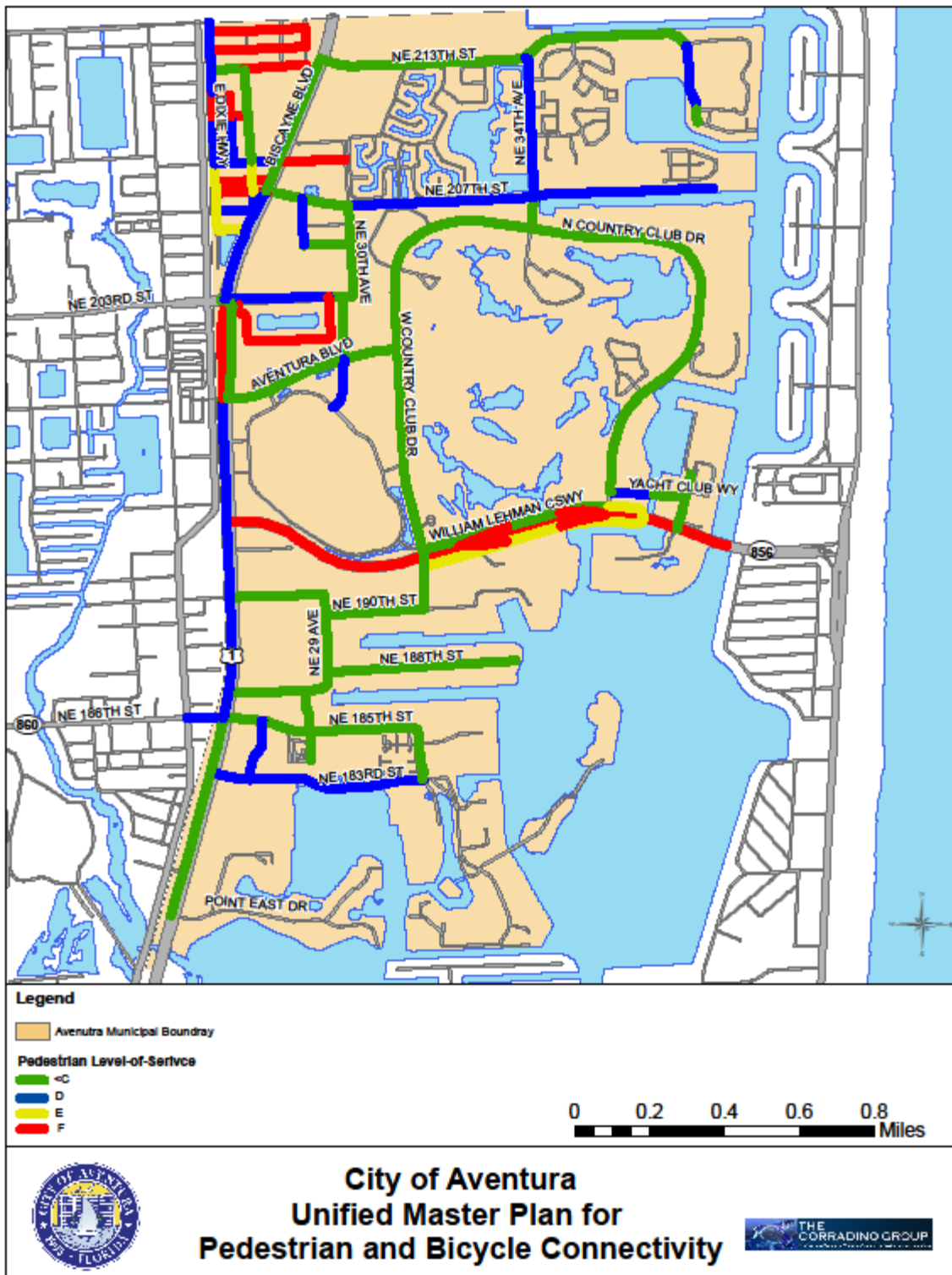
N	Roadway	Segment	Ped. LO Mode
73	NE 29th Ave	NE 188th St to NE 191st St	C
74		NE 205th St to NE 207th St	D
75	NE 29th Ct	NE 201st Ter to NE 203rd St	F
76		NE 214th Ter to NE 214th St	F
77	NE 29th Pl	Abigail Rd to Aventura Blvd	D
78		Aventura Blvd to NE 203rd St	C
79	NE 30th Ave	NE 203rd St to NE 207th St	C
80	NE 31st Ave	NE 183rd St to NE 185th St	C
81	NE 34th Ave	Country Club Dr to NE 207th St	C
82		NE 207th St to NE 213th St	D
83	NE 36th Ct	Lehman Cswy to Turnberry Way	C
84	NE 37th Ave	NE 209th Ter to NE 210th St	D
85		NE 210th St to NE 214th St	C



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Missing Sidewalk Segments

Some areas of the City are missing sidewalk segments. Sidewalks are generally necessary for residential and commercial areas related to retail and services. However, sidewalks in mixed-use, commercial, and higher-density areas are a requirement. The majority of the streets missing sidewalks on both sides occurs within the Hospital District Redevelopment area. Other areas of the City where sidewalk coverage is lacking, it is primarily on one side of the street. Sidewalks on both sides of the street provides the highest level of service and is the most desirable to complete the street in terms of full accessibility. In some instances, due to right of way constraints, sidewalk coverage on one side only is acceptable. In these cases, a high level of pedestrian infrastructure such as wayfinding signage and conveniently located and highly visible crosswalks to complete the network. There is a significant length of missing sidewalk along Biscayne Blvd. on the west side from Miami Gardens Dr. to NE 203rd St. (approximately one mile). This segment of Biscayne Blvd. is pedestrian LOS grade “D” and “F”.

Sidewalk conditions, such as cracks, uneven segments, and similar issues, vary throughout the City and may be related to jurisdiction. In areas primarily under City jurisdiction, the sidewalks are generally well maintained. However, along NE 29th Avenue, and County-built roads, cracked and uneven sidewalks pose serious issues which hinder multi-modal development and potentially expose the City to litigation. Some sidewalks were observed to be blocked or affected by adjacent construction or utilities work. Entrances to an active construction site on NE 207th Street were observed to create pedestrian/vehicle conflicts. Pedestrian and bicycle access should be accounted for during Maintenance of Traffic planning for active construction site.

Average sidewalk width within Aventura ranges between 5’ and 7’ which is an acceptable width that allows for either bi-directional traffic or for two pedestrians to walk side by side. However, this minimum width is constrained in some locations by signs and other obstacles which requires pedestrians to walk in a somewhat zigzag pattern and is a potential problem for disabled pedestrians and a potential liability for the City.

Sidewalk Obstructions

While the City has made many improvements since incorporation to retrofit around sidewalk obstructions, some instances still exist. These include fire hydrants, benches, traffic signs, power poles, utility cabinets and similar obstructions exist, particularly along older streets such as around Loehman’s Plaza and other County-built roads. While these items are often placed in technical compliance with the minimum 32” - 36” ADA clearance requirements, the visual and



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physical interference are a major impediment to sidewalk use and present issues for pedestrians. Where it is feasible to retrofit the sidewalk, moving or removing the obstructions, it should be included when any redevelopment occurs within the City. The additional cost to move these obstructions off the sidewalk is negligible compared to the negative impact on sidewalk use.



Intersection Crosswalks

Since pedestrians must cross streets to reach their destinations, intersection crosswalks are a critical part of the Pedestrian Network. Intersections should be adequately striped with on-demand pedestrian signalization. Some of Aventura's key intersections are lacking proper markings and signalization, which is a major disincentive to walking and a potential safety issue.

Crosswalk lines generally need to be repainted and defined with more visible markings. Two parallel lines are not sufficient; there need to be numerous solid cross bars in keeping with basic crosswalk marking designs. At many major intersections, there is a need to install crosswalk signalization. In other areas, crosswalks are non-existent and a new intersection design will have to be implemented. While areas around the golf course multi-use path have high visible crosswalks and a significant pedestrian refuge, more intersections should have a pedestrian refuge in the median to provide a safe mid-point.



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In order for a Pedestrian Network to be minimally responsive, crosswalks need to be close enough so that people can get to a destination across the street without having to walk too far to an intersection crosswalk and back on the other side. In some areas in Aventura crosswalks are spaced too far apart, only at the intersection, which can too long a distance to expect a pedestrian to walk. This distance should be at most 0.5 miles (and optimally, 0.25 miles or less) from significant points of entry onto that segment of the sidewalk system such as schools, parks, bus stops, minor intersections, and commercial centers. This lack of adequately-spaced crosswalks is a major cause of jaywalking, which is a pervasive problem in the City. Mid-block crossings spaced between intersection crossings are recommended.

Crosswalk designs may even have a decorative element which enhances the identity and urban design of the City. Crosswalks can be an enhancement to the environment, they can be “Public Art”, they don’t all have to look the same. Some examples are below:



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Crash Data

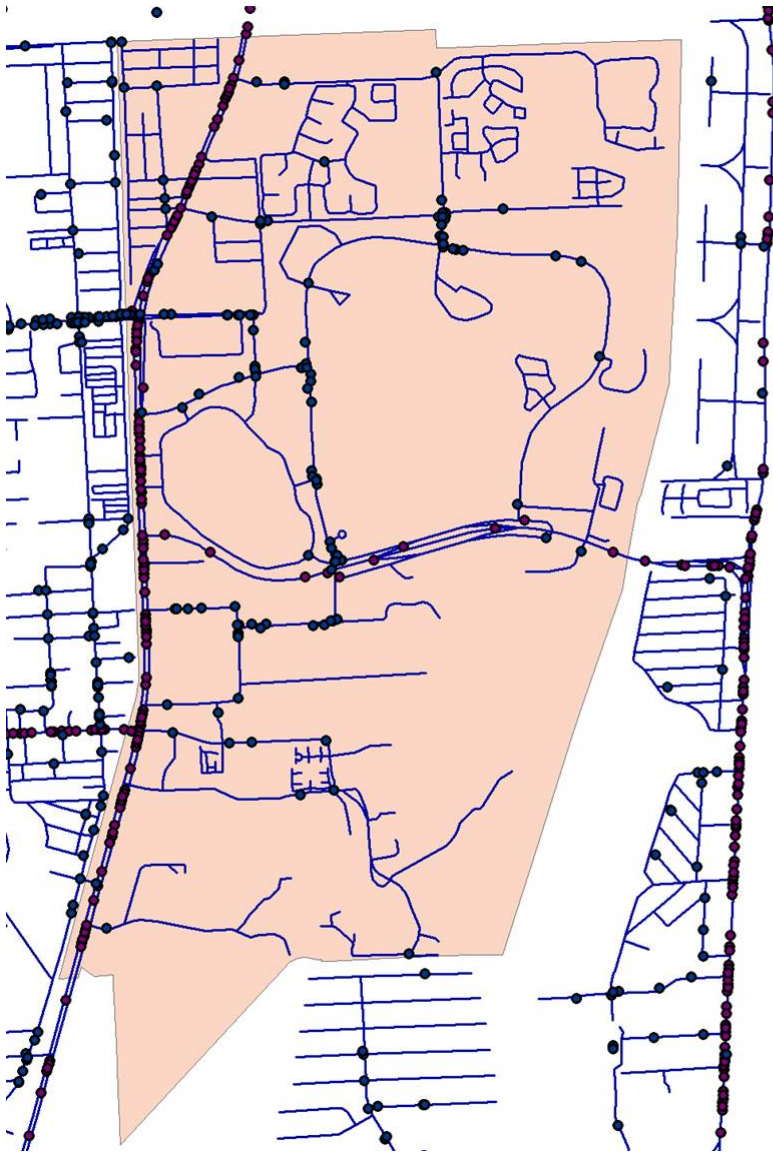
The Aventura pedestrian and bicycle crash data for the last 5-year period (2010 – 2015) was mapped to identify crash patterns and high crash locations. The graphic below shows the total crashes, the majority are, not surprisingly, concentrated along the major roadways: Biscayne Blvd, Ives Dairy Rd and Miami Gardens Dr. On internal roads, the segment of NE 34th Ave between N Country Club Dr and NE 207th St saw the highest rate of overall crashes.



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Crash Data 2010-2015

Of the total crashes within the period, there were 5 pedestrian fatalities and one bicycle fatality. See the mapped locations of the fatalities below. According to incident reports, weather played a part in one of the fatality crashes, however lighting was poor and may have contributed in 4 of



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the 6 crashes. In all of the crashes, either the pedestrian or the driver were over 50 years old, while two of the pedestrians were over 80 years old and one of the drivers was over 80 years old.



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Building Connections

Connections to building entrances from the sidewalks along the street are another important Pedestrian Network element. Most buildings along Biscayne Blvd are separated from the sidewalk at the street by a large parking lot and landscaped area. Traveling into and across these parking lots and landscape areas requires following an indirect unmarked route that poses safety conflicts with vehicles. Some newer developments have incorporated marked, dedicated pedestrian connections directly across parking lots to building entrances. Some of the developments on Biscayne Blvd have incorporated striping and/or additional sidewalks from the road to the entrance of the establishment. While pedestrian injuries from vehicular conflicts in parking lots are less problematic than those on high-speed streets, it is still critical that these connections be provided to create an environment that not just allows, but encourages, walking. It is recommended that the City create a policy that creates connections when properties redevelop.

Bicycling Network

While bicycling in Aventura is utilized for transit and recreational purposes, the existing bicycle network is more oriented toward recreation than transportation. Recreational bicycling is particularly prevalent in the primarily residential central area on the multi-use path surrounding the golf course and on the marked bike paths. While a good recreational biking network is desirable for a city, it does not significantly advance multi-modal transportation goals which require a bike network in the high traffic areas of the City.



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Bicycle facility planning must take into account varying levels of skills, experience, and age. The City has highly skilled bikers riding in pelotons around the golf course, an observable fact on the weekends in the morning. At the same time, as a diverse community with a higher percentage of elderly, who may ride recreationally for health purposes, and families with children, Aventura must also account for differences in perception of safety and the ability to navigate more difficult travel circumstances which naturally occur on roadways with higher levels of vehicular traffic.

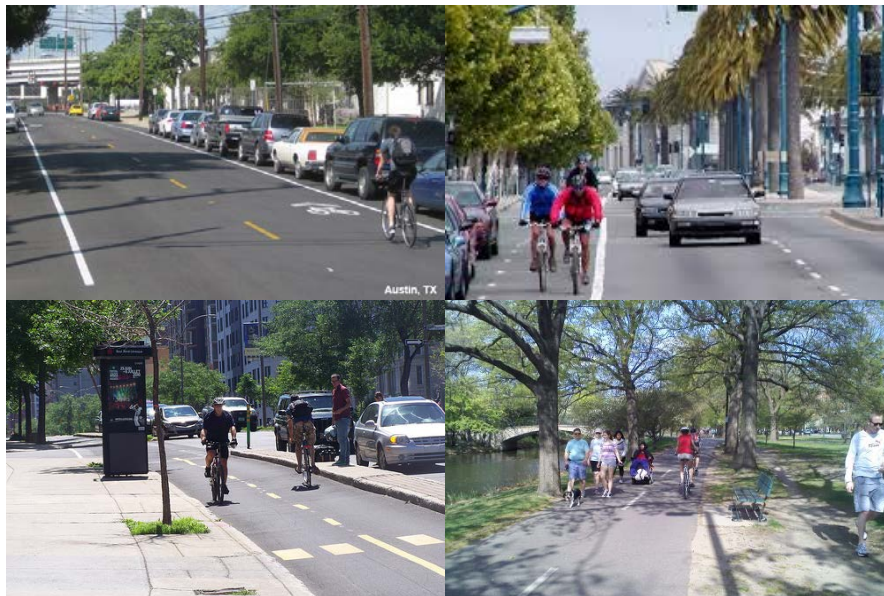
Bicycling facilities vary in the level of access and separation from traffic, and allow for different facilities to be developed which can accommodate the different populations in Aventura.

Shared Use Path: Off-road facilities shared with pedestrians. Generally, pathways are a minimum of 5 feet in width for each direction. Also known as Mixed-use paths.

Cycle Tracks: Bicycle facilities separated from vehicular traffic, with potential grade separation with roadway and/or sidewalks for pedestrians. Each cycle track should be approximately 5 feet in width, and are separate from sidewalks.

Bike Lanes: On-Road facilities designated for bicycles with a minimum of 4 feet in width, which may or may not have at grade separation from vehicles through buffer striping or barriers.

Sharrows: On-road bicycle facility where bicycles share designated lanes with vehicular traffic.



Different bicycle facilities require different dedications of ROW. Sharrows share the travel lane, and therefore do not need extra space, but all other forms of bicycle facilities will require at least 8' total, 4' to and 4' coming back from the destination.

Clockwise from upper left:

Sharrows, Bike Lane, Shared use path/Mixed-use path, Cycle Tracks. Sources: (TL) Nacto.org, (TR) www.pedbikeinfo.org, (BR) calmstreetsboston.blogspot.com, (BL) usa.streetblogs.org



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Each of these alternatives may be implemented based on local conditions and/or local preference. Specifically, the level of need for separation between pedestrians, bicycles, and vehicles should be considered. Generally, in high vehicular traffic areas, increased separation between bicycles and vehicles should be effected, removing sharrows, and in some cases, bicycle lanes from consideration. In planning for pathways with high pedestrian activity, there should be a higher degree of separation between bicyclists and pedestrians, deemphasizing shared use paths as a viable option. The available right of way also serves as a constraint for facility development as well, given different minimum requirements for implementation.

Bicycle Level of Service

Bicycle LOS was evaluated for specific road segments within the City. This rating took into account the location and type of bicycle path as well as vehicular traffic in cases of bicycle lanes. Sidewalks were not evaluated as appropriate for bicycling under this study due to the potential for injury from conflicts with pedestrians and with low height signs installed on the sidewalk. Bicycling LOS is inherently more qualitative than quantitative in nature because of the disproportionate effect of perceptions of safety. Bicycle LOS evaluation involves determining if there is separation of traffic, the level of traffic, the width of a bike lane or path, if there are gaps in the system and how well a bicyclist can manage these gaps, as well as intersection issues. The following definitions served as the basis for the assignment of LOS grades for the bicycle network in Aventura as shown in the following chart, Aventura Bicycle Level of Service.

LOS A: On and off street facilities, low level of interaction with motor vehicles, appropriate for all riders;

LOS B: Low level of interaction with motor vehicles, appropriate for all riders

LOS C: Appropriate for most riders, some supervision may be required, moderate interaction with motor vehicles

LOS D: Appropriate for advanced adult bicyclists, moderate to high interactions with motor vehicles

LOS E: Cautious use by advanced adult riders, high interactions with motor vehicles

LOS F: Generally not safe for bicycle use, high level of interactions with motor vehicles.

The City currently does not have a set LOS standard for bicycling.



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The bicycle LOS table below provides a ranking of all segments of the Bicycling Network for the whole City. Major and Minor corridors were inventoried and were evaluated for their quality and



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level of service. The segments were broken up at logical points usually section or half section line roads, and then analyzed for LOS score assignment.

N	Roadway	Segment	Bike LO Mode
1	NE 183rd St	Biscayne Blvd to NE 27th Ave	E
2		NE 27th Ave to NE 31st Ave	E
3	SR-860/Miami Gardens Dr./NE 186 St	West of Biscayne Blvd	E
4	NE 185th St	Biscayne Blvd to NE 28th Ct	E
5		NE 28th Ct to NE 31st Ave	E
6	NE 187th St	Biscayne Blvd to NE 29th Ave	E
7	NE 188th St	NE 29th Ave to End	E
8	NE 190th St	NE 29th Ave to End	E
9	NE 191st St	Biscayne Blvd to NE 29th Ave	E
10	SR 856/Lehman Cswy	Biscayne Blvd to A1A	C
11	Lehman Cswy Access Rd North	Yacht Club Way to Mall Entrance	C
12	SR 856/Lehman Cswy	On Ramp North	F
13	SR 856/Lehman Cswy	Off Ramp North	C
14	Lehman Cswy Access Rd South	W Country Club Dr to Cswy Loop	C

N	Roadway	Segment	Bike LO Mode
15	SR 856/Lehman Cswy	On Ramp South	C
16	SR 856/Lehman Cswy	Off Ramp South	F
17	SR 856/Lehman Cswy	On Ramp from Collins (North Bound)	C
18	Yacht Club Way	Country Club Dr to Bridge	E
19		Bridge to Mystic Pointe Dr	E
20	Aventura Blvd/NE 199th St	Biscayne Blvd to NE 29th Pl	E
21		NE 29th Pl to W Country Club Dr	E
22	Country Club Dr	NE 190th St to Lehman Cswy	D
23		Lehman Cswy to Aventura Blvd	B
24		Aventura Blvd to NE 34th Ave	B
25		NE 34th Ave to NE 37th Ave	B



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N	Roadway	Segment	Bike LC Mode
26		NE 37th Ave to Yacht Club Way	B
27	NE 201st Ter	NE 27th Ct to NE 29th Ct	F
28	Ives Dairy Rd / NE 203rd St	Ramp from Biscayne Blvd to NE 29th Ct	E
29		NE 29th Ct to NE 30th Ave	E
30	NE 205th St	NE 29th Ave to End	E
31	NE 206th St	E Dixie Hwy to Biscayne Blvd	E
32	NE 207th St	E Dixie Hwy to NE 28th Ave	E
33		Biscayne Blvd to NE 30th Ave	E
34		NE 30th Ave to NE 34th Ave	D
35		NE 34th Ave to Waterways	D
36	NE 208th St	E Dixie Hwy to Biscayne Blvd	E
37	NE 208th Ter	E Dixie Hwy to Biscayne Blvd	E
38	NE 209th St	E Dixie Hwy to Biscayne Blvd	E
39		Biscayne Blvd to NE 30th Ave	F
40	NE 211th St	E Dixie Hwy to NE 28th Ave	E
41	NE 213th St	E Dixie Hwy to NE 28th Ave	E
42		NE 28th Ave to NE 29th Ave	F
43		Biscayne Blvd to NE 34th Ave	E
44		NE 34th Ave to NE 37th Ave	E
45	NE 214th St	E Dixie Hwy to NE 29th Ave	F
46	NE 214th Ter	E Dixie Hwy to NE 29th Ave	F
47	E Dixie Hwy	NE 206th St to NE 209th St	E
48		NE 209th St to NE 211th St	E
49		NE 211th St to NE 212th St	F
50		NE 212th St to NE 214th St	E
51		NE 214th St to NE 215th St	E

N	Roadway	Segment	Bike LC Mode
52	NE 27th Ave	NE 183rd St to NE 185th St	E
53	NE 27th Ct	NE 201st Ter to NE 203rd St	F
54		NE 209 St to NE 211 St	E
55		NE 211th St to End	F
56	NE 28th Ave	NE 207th St to NE 208th St	E
57		NE 208th St to NE 209th St	E
58		NE 209th St to NE 213th St	E
59		NE 213th St to NE 214th Ter	
60	US-1/Biscayne Blvd	Point East Dr to NE 183rd St	E
61		NE 183rd St to Miami Gardens Dr	E
62		Miami Gardens Dr to NE 187th St	E
63		NE 187th St to NE 191st St	E
64		NE 191st St to Lehman Cswy	E
65		Lehman Cswy to Aventura Blvd	E
66		Aventura Blvd to NE 203rd St	C
67		Ramp from Biscayne to NE 203rd St	E
68		NE 203rd St to NE 207th St	C
69		NE 207th St to NE 209th St	C
70		NE 209th St to NE 213th St	C
71	NE 28th Ct	NE 184th (approx.) to NE 185th St	E
72		NE 185th St to NE 187th St	E



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N	Roadway	Segment	Bike LO Mode
72	NE 20th Ct	NE 185th St to NE 187th St	E
73	NE 29th Ave	NE 188th St to NE 191st St	E
74		NE 205th St to NE 207th St	E
75	NE 29th Ct	NE 201st Ter to NE 203rd St	F
76		NE 214th Ter to NE 214th St	F
77	NE 29th Pl	Abigail Rd to Aventura Blvd	E
78		Aventura Blvd to NE 203rd St	E
79	NE 30th Ave	NE 203rd St to NE 207th St	E
80	NE 31st Ave	NE 183rd St to NE 185th St	E
81	NE 34th Ave	Country Club Dr to NE 207th St	E
82		NE 207th St to NE 213th St	E
83	NE 36th Ct	Lehman Cswy to Turnberry Way	E
84	NE 37th Ave	NE 209th Ter to NE 210th St	E
85		NE 210th St to NE 214th St	E

Bicycle Network Qualitative Aspects

Overall, the City has a lack of Bicycling facilities, and bicyclists will rely on riding on roadways and in some instances, on the sidewalk. However, this does not mean that there are not areas with bicycle infrastructure. With the exception of the multi-use path around the golf course, current levels of infrastructure are viable for more advanced riders, but is not optimal for riders of all ages. For these folks, the grid is incomplete, and would likely result in them not riding or riding on the sidewalk. The level of infrastructure is reflected in averaging the LOS grade across the system, which appropriately rates around a LOS D, "Appropriate for advanced adult bicyclists, moderate to high interactions with motor vehicles."



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Bicyclist Traffic Data

While transportation planning heavily relies on vehicular traffic data, actual counts for bicyclists (and pedestrians for that matter) in the same manner as the vehicular counts noted in the prior section does not exist on a widespread level. Technology for bicycle counts is being tested, and should be a consideration for the City to incorporate into its planning processes as they become available.

How, then, do we account for where bicyclists ride in order to determine the infrastructure necessary based on utility? In

the meantime, there are still self-reported data which allows for insight into patterns of behavior. One such data set being used by and available through the Florida Department of Transportation is Strava data. Strava is a fitness app available on smart phones which utilizes GPS to record exercise activity, including bicycling. Strava data for Aventura was obtained and evaluated in constructing the future plan for Aventura.



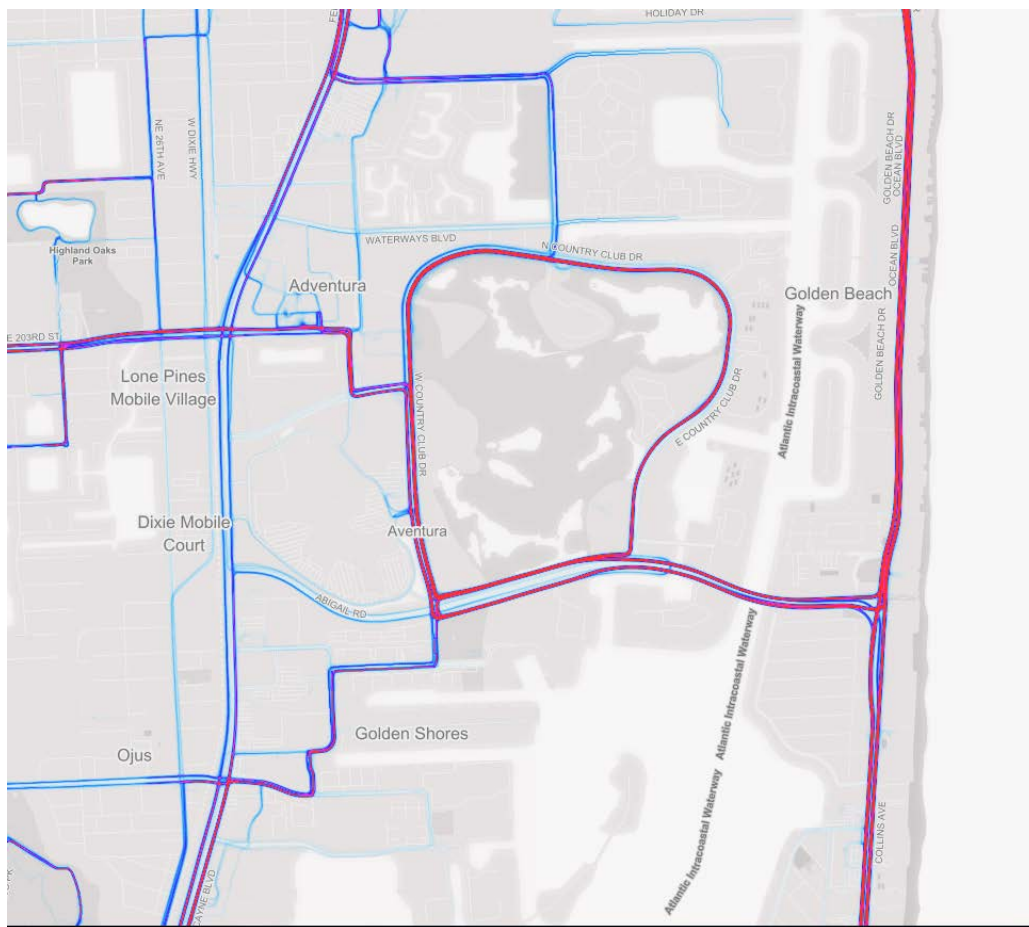
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As can be seen in the Strava map, bicyclists primarily ride throughout the City, especially along the circle around the golf course and the Lehman Causeway. These roadways should be prioritized for bicycle infrastructure development due to existing usage. In addition, review of Strava runners data (See Pedestrian section) show that the Lehman Causeway and US-1 have overlapping activity which would require larger facilities for both walkers and bicyclists. Where right-of-space is limited on these roads, combining facilities to create shared-use paths may be beneficial towards creating a multimodal system as it will provide more space overall for bicyclists and runners.



Strava Data – Bicycling Routes in Aventura



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Origins-Destinations and the Average Rider

The average bicycle rider in Aventura now and in the future may not be riding recreationally, or on the same paths as more experienced riders. In fact, they may not currently be riding at all because the existing grid is incomplete. While Sharrows on regular roadways are allowed for bicycle usage, it doesn't always translate to a comfortable path for the average rider, especially for youth and parents. Further, if the existing grid is on a roadway which they are uncomfortable on, it may be no different than a gap in the system.

Where could people ride to, then? In considering how to complete the grid, it is important to understand how people connect from an origin and destination standpoint. People may ride from residence to residence to visit neighbors and friends, but they may also ride from residence to school, to parks, to employment, to retail and restaurants, to groceries, and to transit. Of course, there is also the return trip. However, for the purposes of this exercise, we can definitively split the City's land use into two characteristic groups – base origins (where you start from at the beginning of the day – your residential areas) and destinations (commercial, schools, park, beach). Of course, destinations are origins for the trip back, or as beginning point to other destinations, but here, we are interested in where Aventura residents begin their day from.

Goals, Objectives and Needs

The goal of this plan is to develop an interconnected network of pedestrian and bicycle facilities that promote mobility alternatives and regional connectivity that:

- Provide for multiple transportation modes, including pedestrian, bicycle, transit, and automobile, and include environmentally sustainable, context-sensitive solutions;
- Integrate bicycle-pedestrian improvements as integral elements of road projects; and
- Support flexibility to accommodate future needs and allow change to occur incrementally within budgetary constraints.

The multimodal goal of this plan is supported by the City's Comprehensive Plan in the Transportation Element as follows:



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To provide a safe and efficient multimodal transportation system appropriate to serve the needs of the city; to promote the use of alternative transportation methods encouraging scaled pedestrian and bicycle facilities, public transit, adequate parking facilities, paratransit, and other modes of transportation; to coordinate the transportation system with the land use plan, and other appropriate agencies; and to protect rights-of-way.

The following objectives will drive the development of this plan as a means towards achieving the above stated goals:

The City should develop and enhance alternative modes of transport including pedestrian, bicycle, and transit, to ensure a successful transportation network and continued future economic development. Alternative transportation modes benefit the City by conserving energy, encouraging healthy exercise, and reducing pollution and carbon emissions.

Basis of Analysis

The needs assessment herein takes a multidisciplinary approach which takes into account the ideas of Complete Streets in the creation of a more “Complete System” which incorporates policy and transit by design. In evaluating the transportation system, this analysis objectively applies standards for the various components of a multimodal system, expanding to include qualities of regulations which dictate land use and the placement or design of infrastructure.

A singular, primary question arises at the core of all mobility evaluations: “Can I get from my point of origin to my intended destination?” In evaluating mobility and accessibility, connectivity is a key element within a trip, which determines the viability of transfers between modes. Beyond this, the qualities of such connections are of paramount importance, and thus provide a second main condition by which we evaluated the transportation system. Each mode of travel has innate qualities that lend to their attractiveness as a mode of transportation, and range from timeliness of transit, to the perceived and actual distance of the trip, to the amenities involved with each mode.



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Project Bank

Introduction

Based on the needs assessment candidate projects were developed. These projects focus on their ability to improve usage, facilities and safety. Each candidate project will be run through criteria and given a ranking. The projects are listed as follows in the project banks and organized geographically. The Project Bank is divided into the following categories:

- North Aventura
- South Aventura
- Hospital District
- Golf Course Multi-Use Path Connections
- Transit Hub Connections



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North Aventura Project Bank

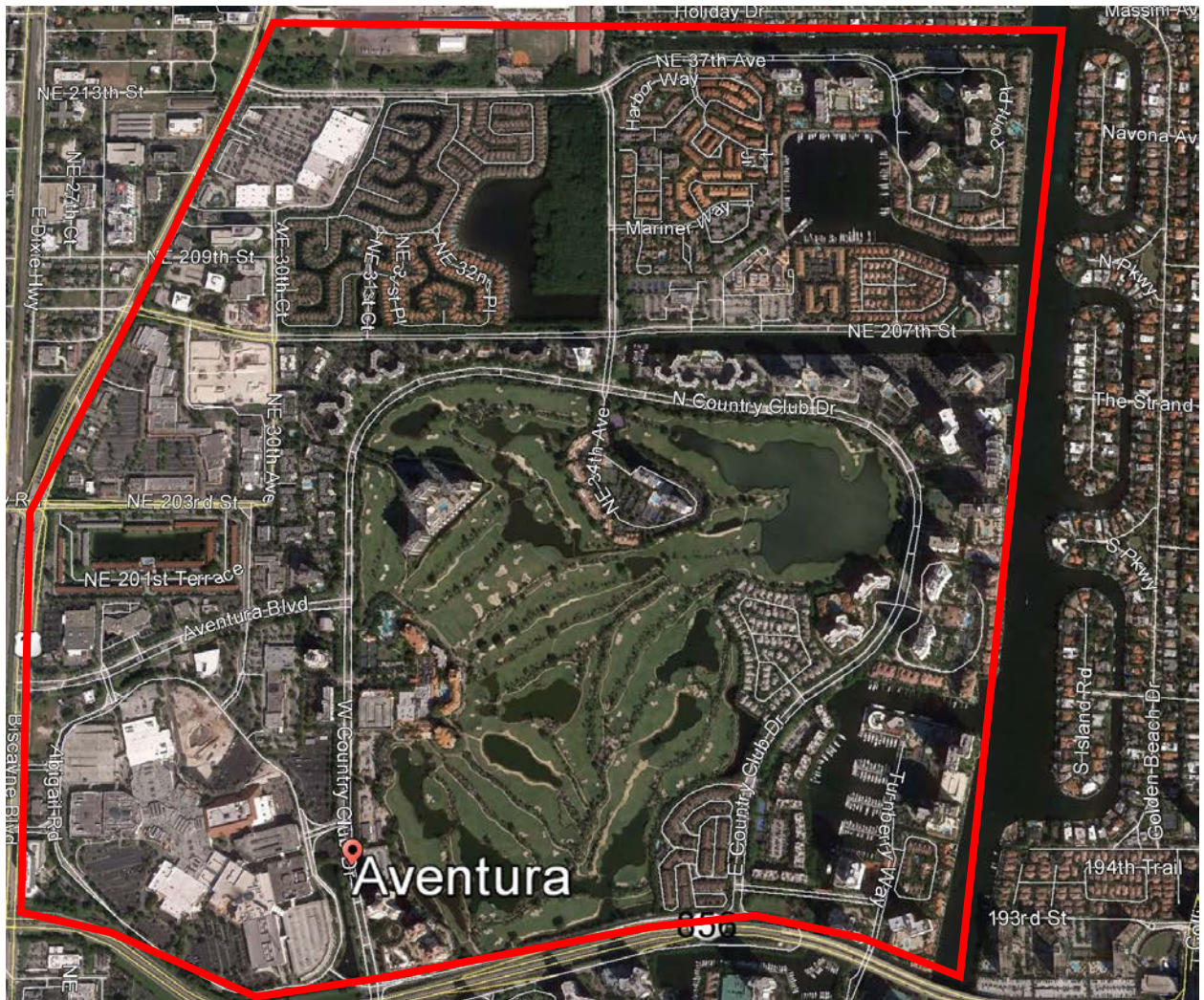
The North Aventura area is the city north of the Lehman Causeway, with the exception of the Hospital District. The major land uses in this area are the golf course and the Aventura mall. The area is decisively divided between medium to high density residential wrapping around the golf course almost completely, except for the mall on the west side. Commercial and office uses dominate along the western edge of the area. The eastern edge is bordered by the intercostal waterway.



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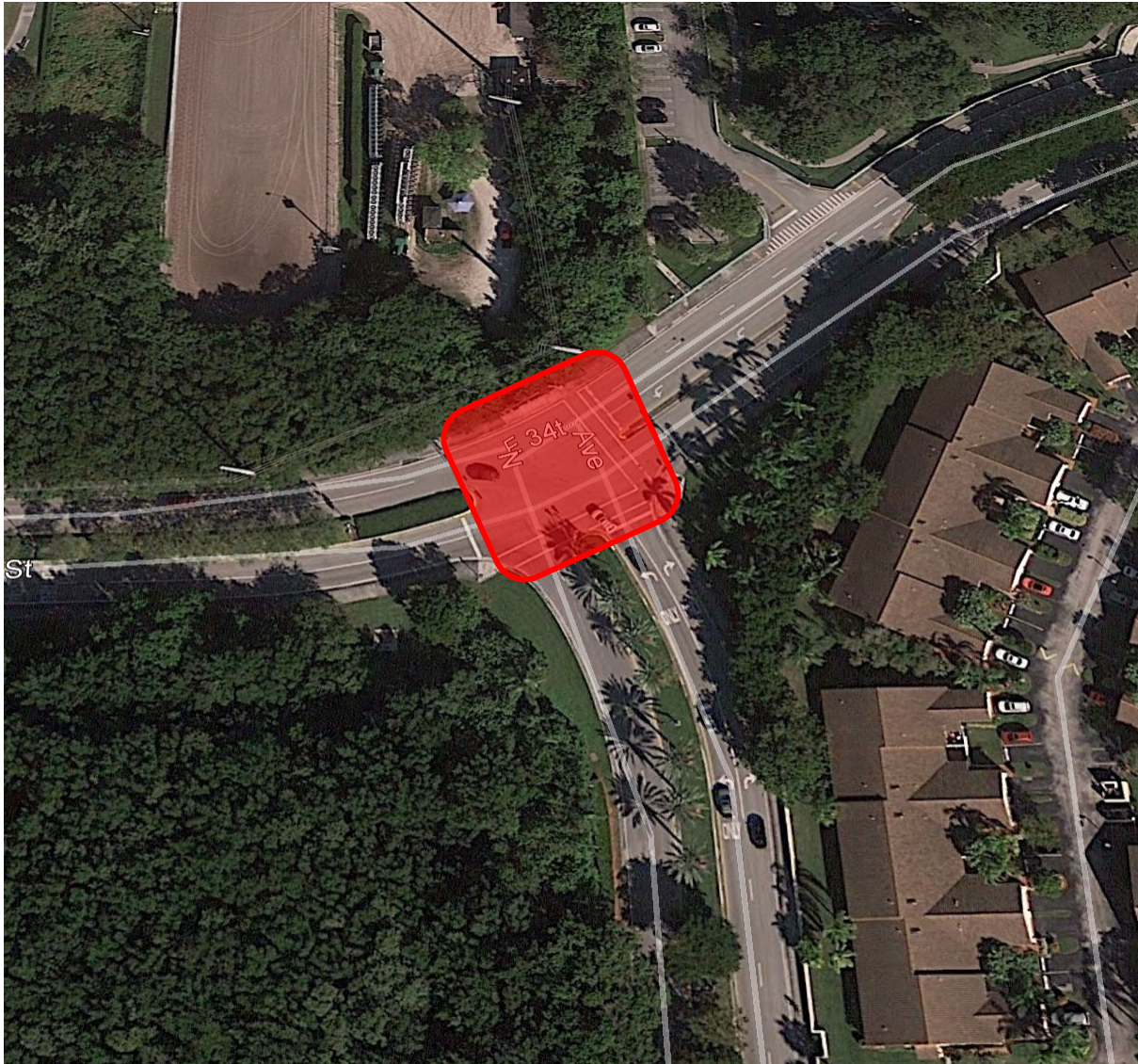
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Project Description: Enhance crosswalks at NE 213 Street and NE 34th Avenue.

Purpose and Need: Crosswalk lines need to be repainted and defined with more visible marking. Parallel lines are not sufficient, an enhanced crosswalk includes numerous solid crossbars.

Cost Estimate:

Construction: \$7,500



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Project Description: Mid-block crosswalk and pedestrian refuge island at Target north entrance on NE 213th Street.

Purpose and Need: The distance between intersections is too great along this section of NE 213th Street, there is a need for a pedestrian refuge median to provide a safe mid-point for those that can't physically make it (or choose not to).

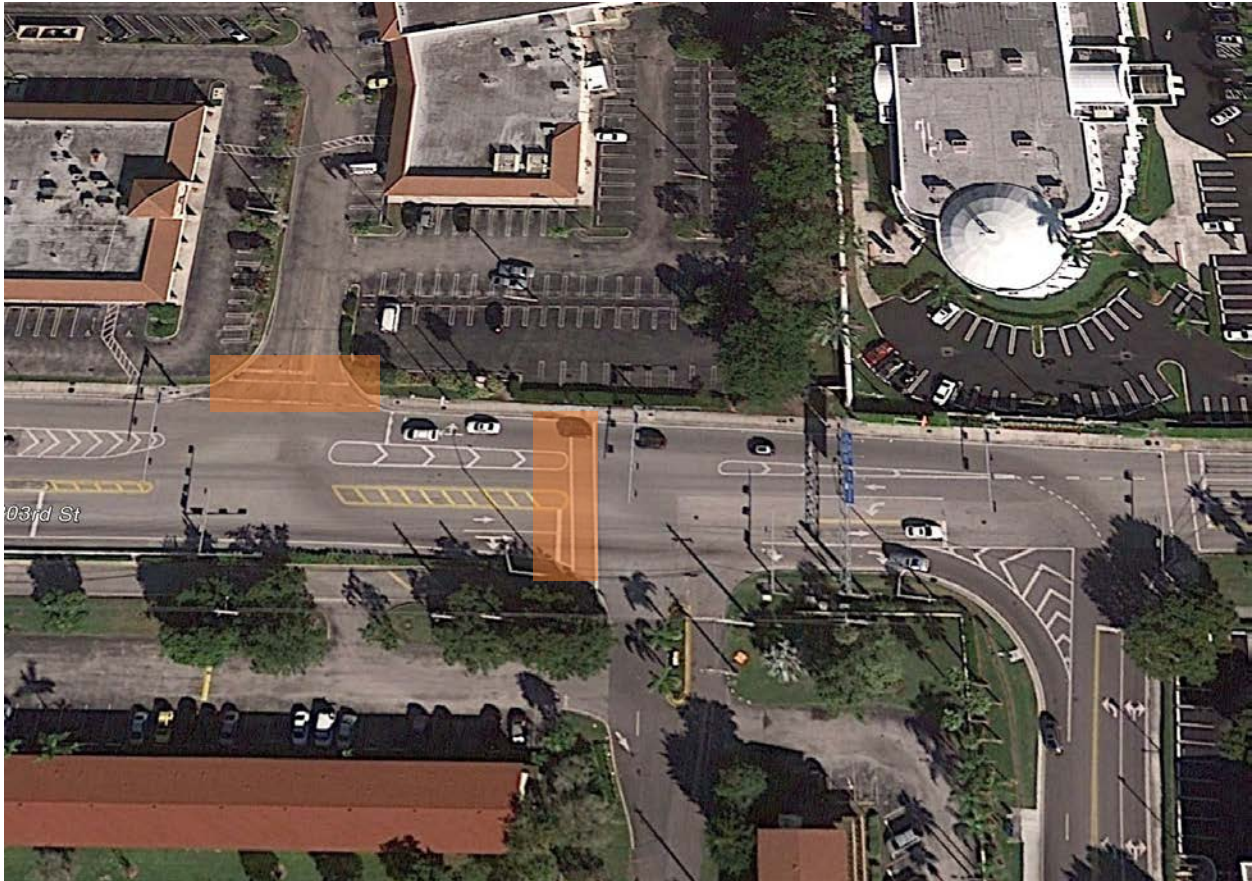
Cost Estimate: \$7,500



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Project Description: Enhanced crosswalks at Promenade Shops south entrance and residential community on NE 203rd Street.

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

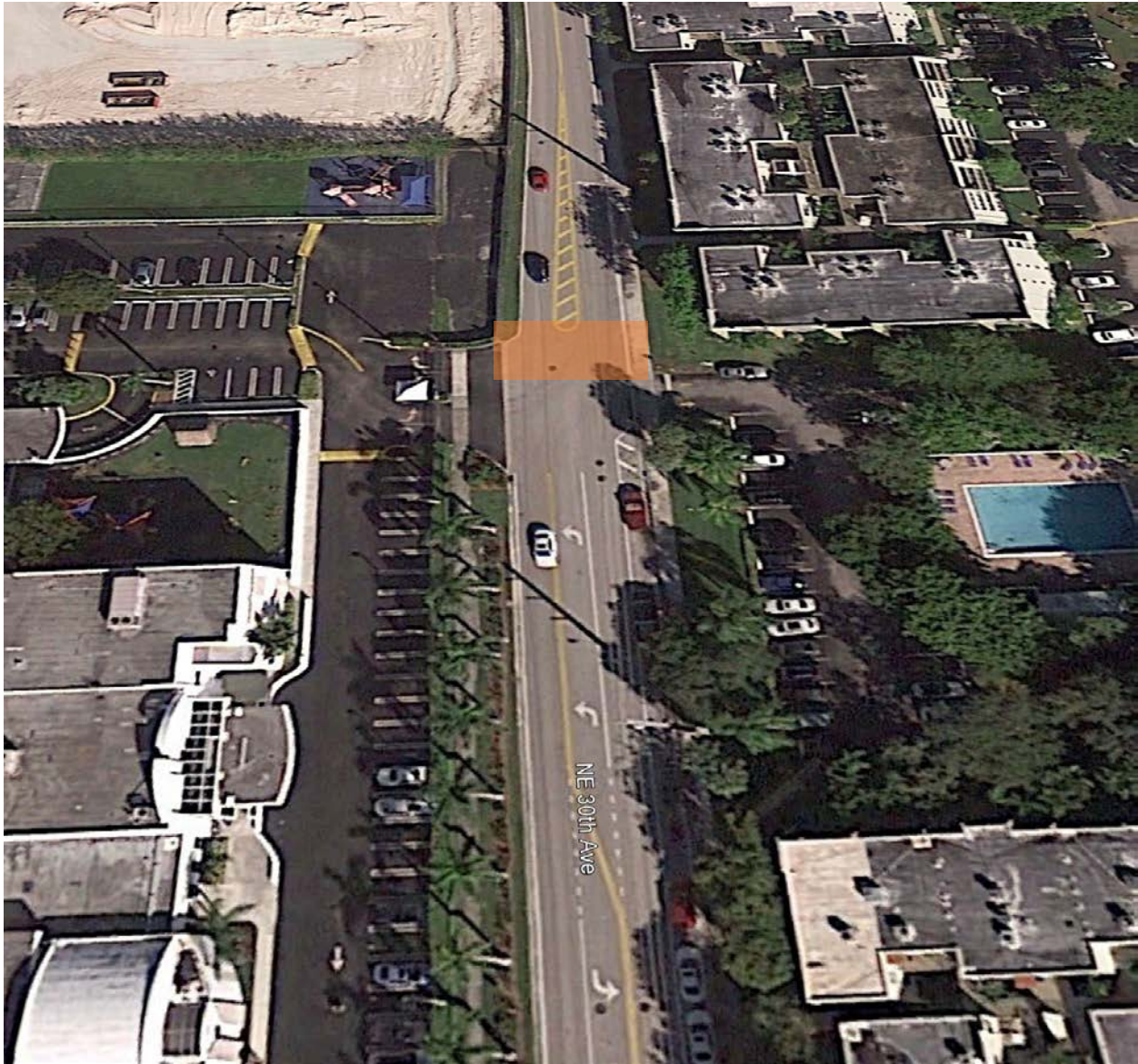
Cost Estimate: \$5,000



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Project Description: Mid-block pedestrian refuge and enhanced crosswalk on NE 30 Avenue at Synagogue east entrance.

Purpose and Need: Pedestrian activity is high in this area due to the destination, proximate intersections and crosswalks are approximately 700' in either direction.

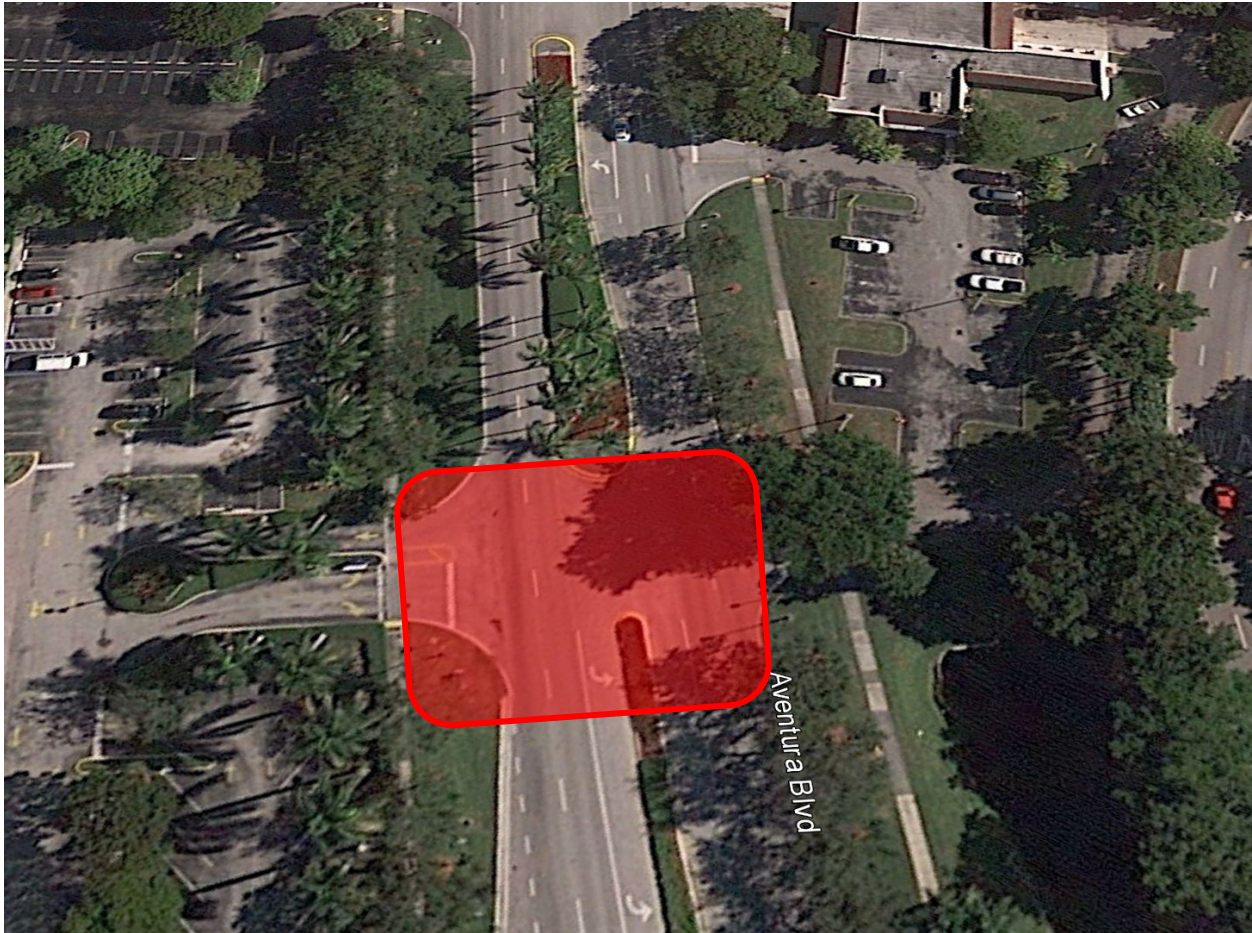
Cost Estimate: \$7,500



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Project Description: Add enhanced crosswalks and complete sidewalk gaps across Aventura Boulevard at mall north entrance.

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity. Sidewalk connectivity is needed at each side of the road to complete the connection and for ADA compliance.

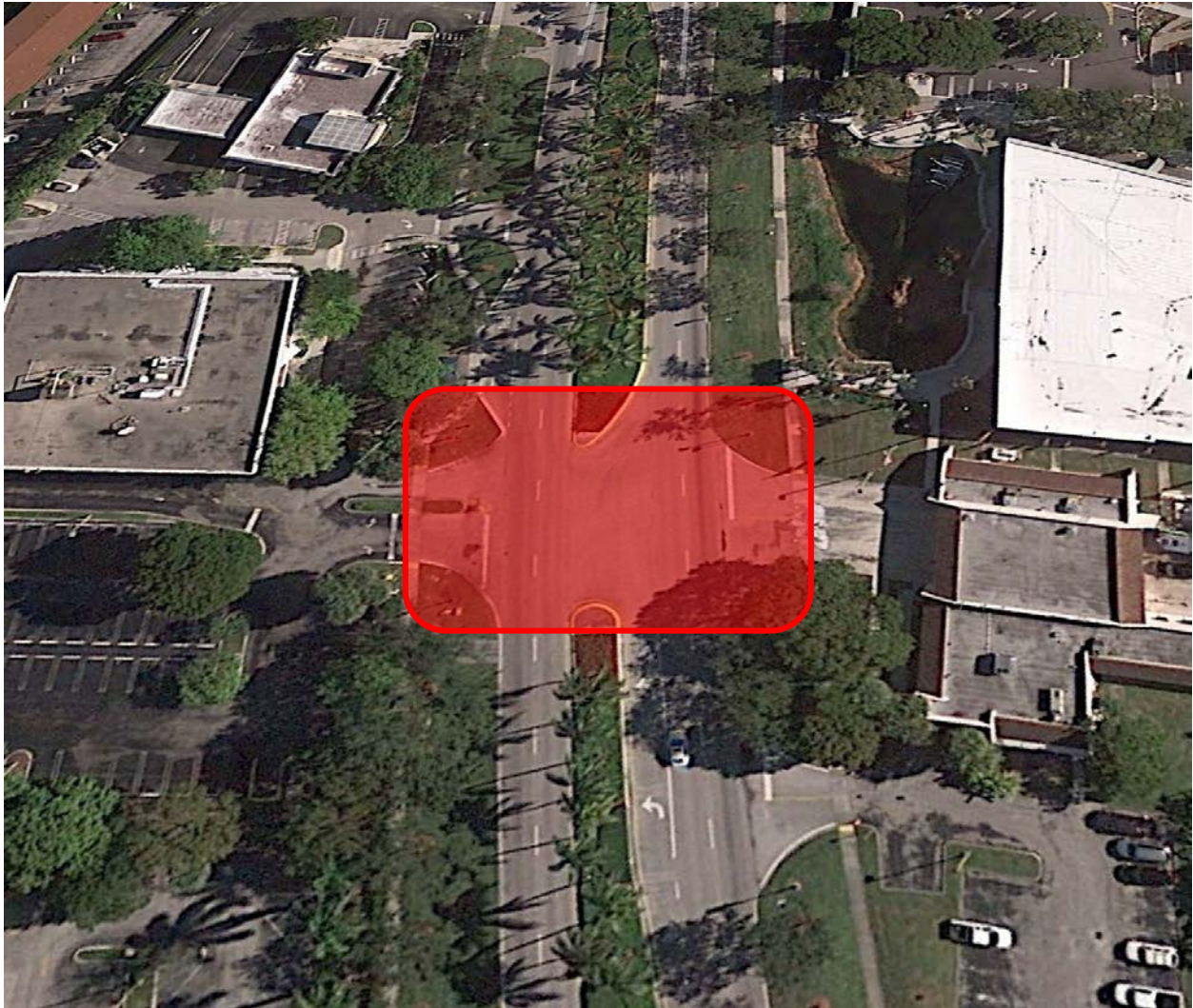
Cost Estimate: \$13,500



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Project Description: Add enhanced crosswalks and complete sidewalk gaps across Aventura Boulevard at the north entrance to the Library.

Purpose and Need: Increase pedestrian network connectivity in an area of high pedestrian activity and a local community destination.

Cost Estimate: \$13,500



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Project Description: Add new sidewalk along west side of Biscayne Boulevard and ADA facilities to bus stop.

Purpose and Need: Address ADA compliance and increase access to this transit facility. The lack of sidewalk is also an issue during storm events due to ponding and flooding at this bus stop.

Cost Estimate: \$1,000



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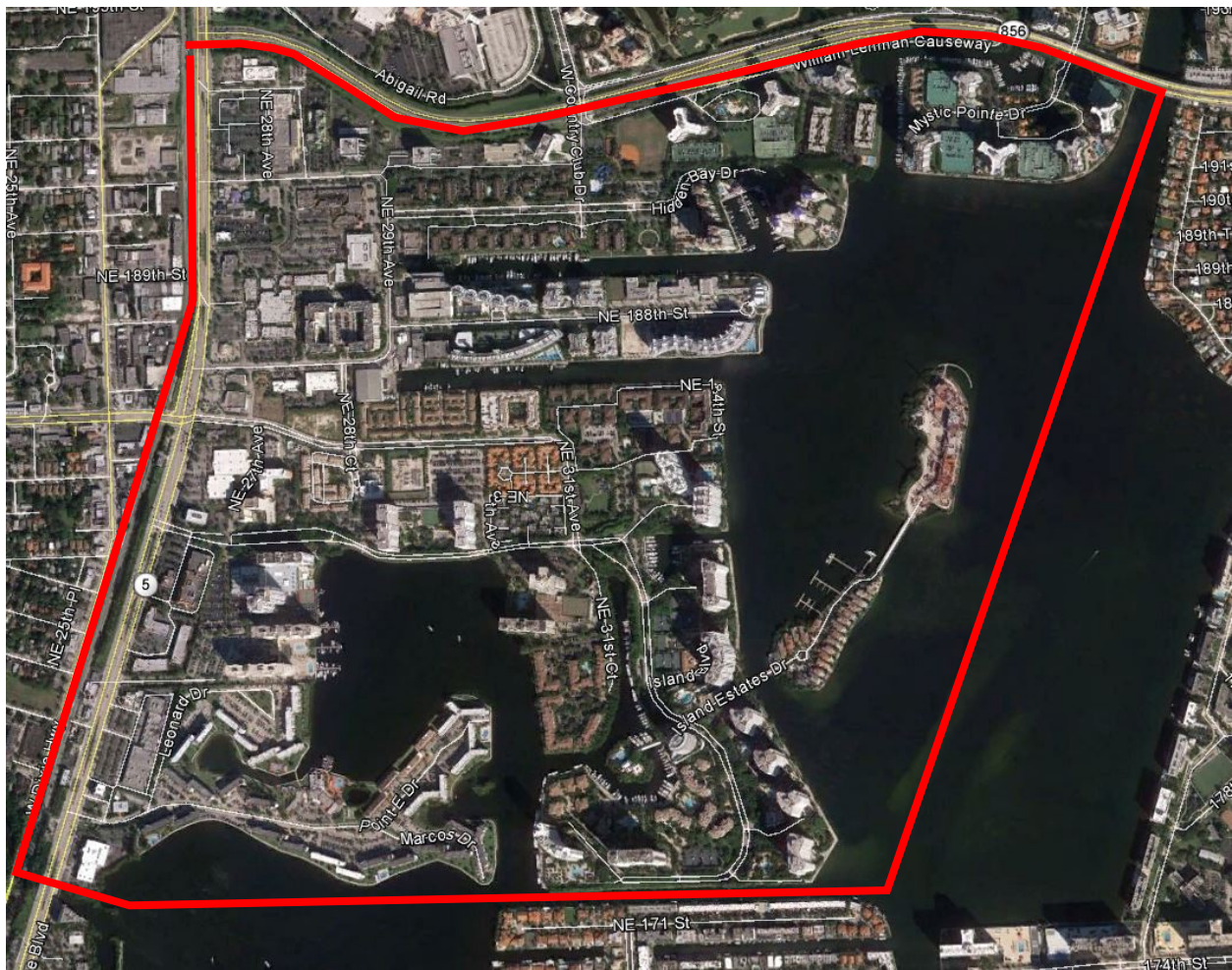


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South Aventura Project Bank

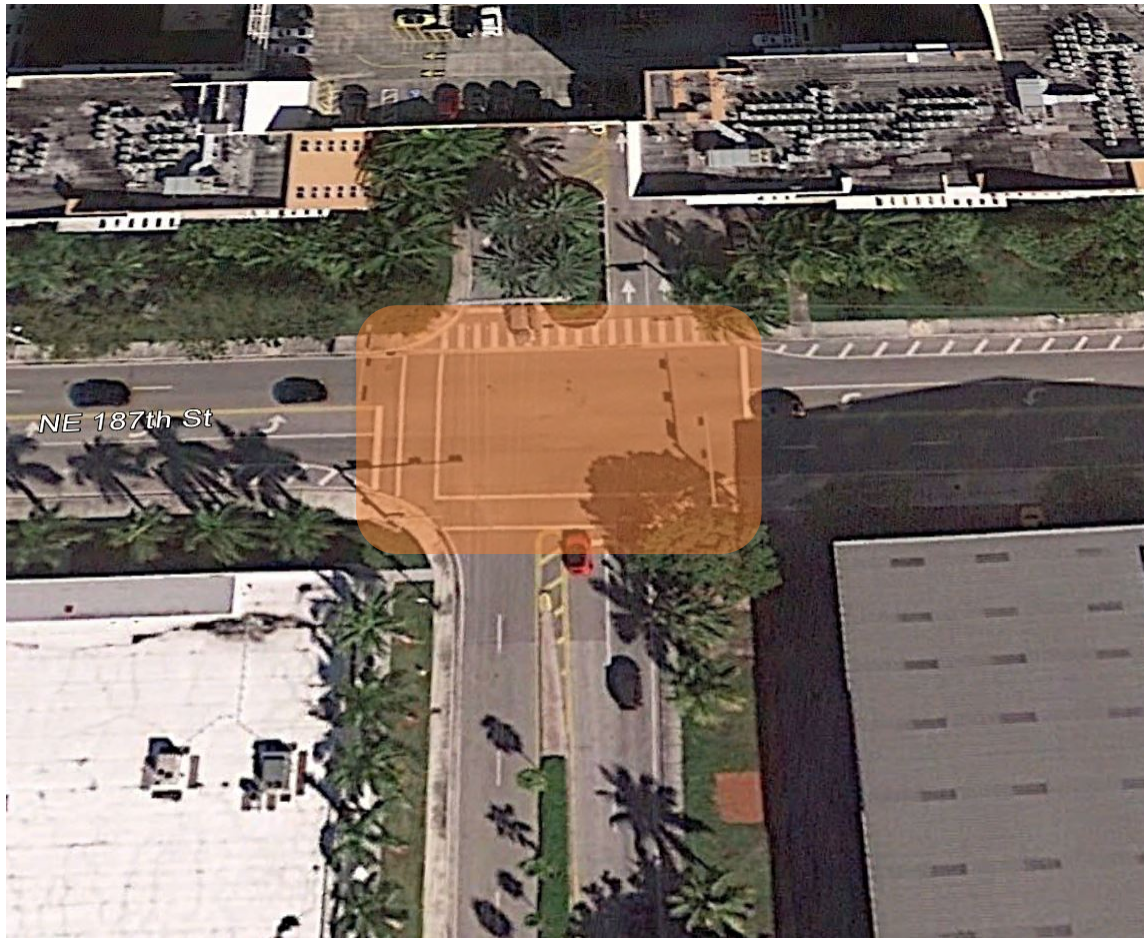
The South Aventura area is the city south of the Lehman Causeway to the southern limits of the City. The major land uses in this area are the City Hall and the Town Center. The area contains three parks and two schools and is predominantly high density residential with commercial and office uses dominating along the western edge. The eastern edge is the intercostal waterway.



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Project Description: Add enhanced crosswalks to complete intersection of NE 187th Street and NE 28th Court

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

Cost Estimate: \$7,500



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Project Description: Enhance crosswalks at intersection of NE 188th Street and NE 29th Avenue

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

Cost Estimate: \$7,500



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Project Description: Add new crosswalk at NE 31st Avenue and Veterans Park entrance

Purpose and Need: Increase pedestrian network connectivity in an area of high pedestrian activity and a local community destination.

Cost Estimate: \$2,500



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Project Description: Enhance crosswalks at intersection of NE 183rd Street and NE 31st Avenue

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

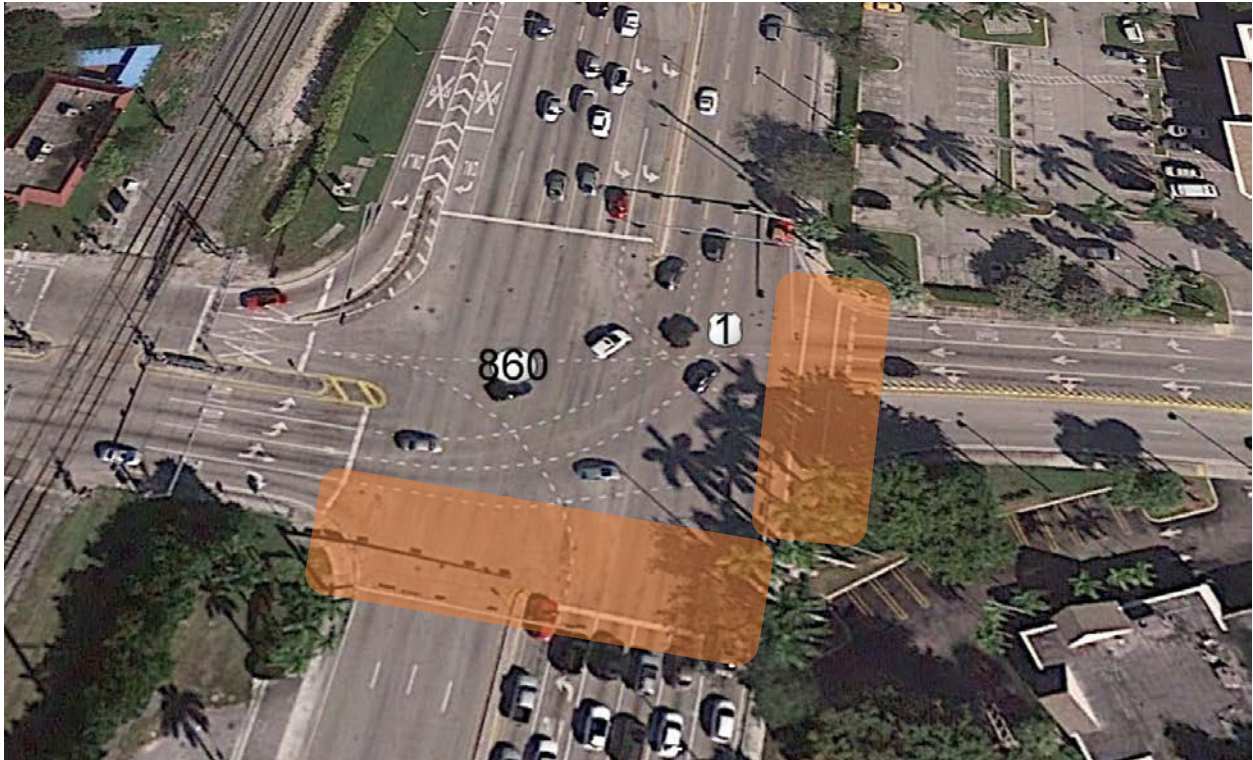
Cost Estimate: \$10,000



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Project Description: Enhance crosswalks at intersection of NE 186th Street and Biscayne Boulevard

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

Cost Estimate: \$5,000



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Project Description: Enhance crosswalk at east side of intersection of NE 187th Street and Biscayne Boulevard

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

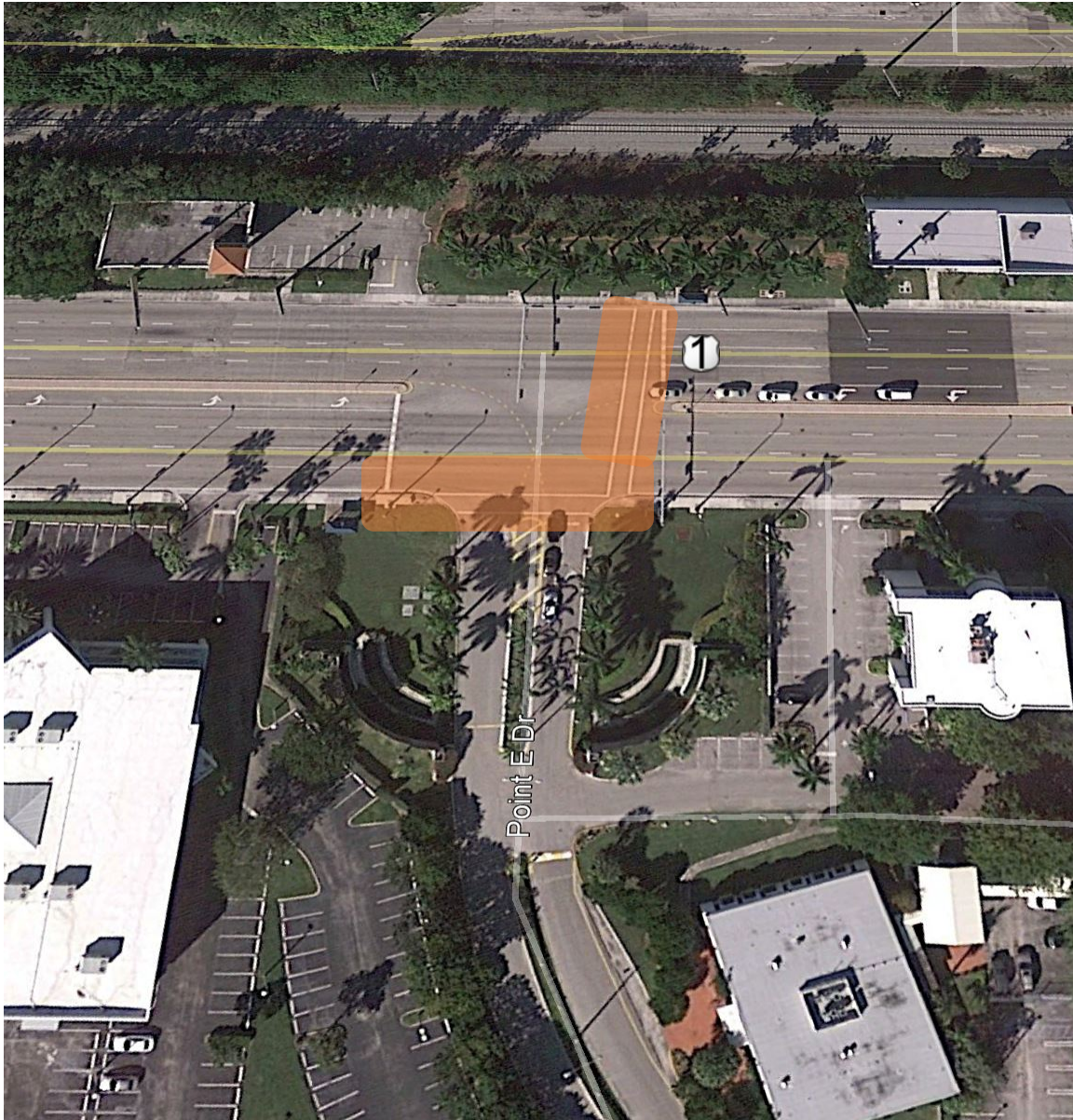
Cost Estimate: \$2,500



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Project Description: Enhance crosswalk at intersection of Biscayne Boulevard at Point East Entrance

Purpose and Need: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

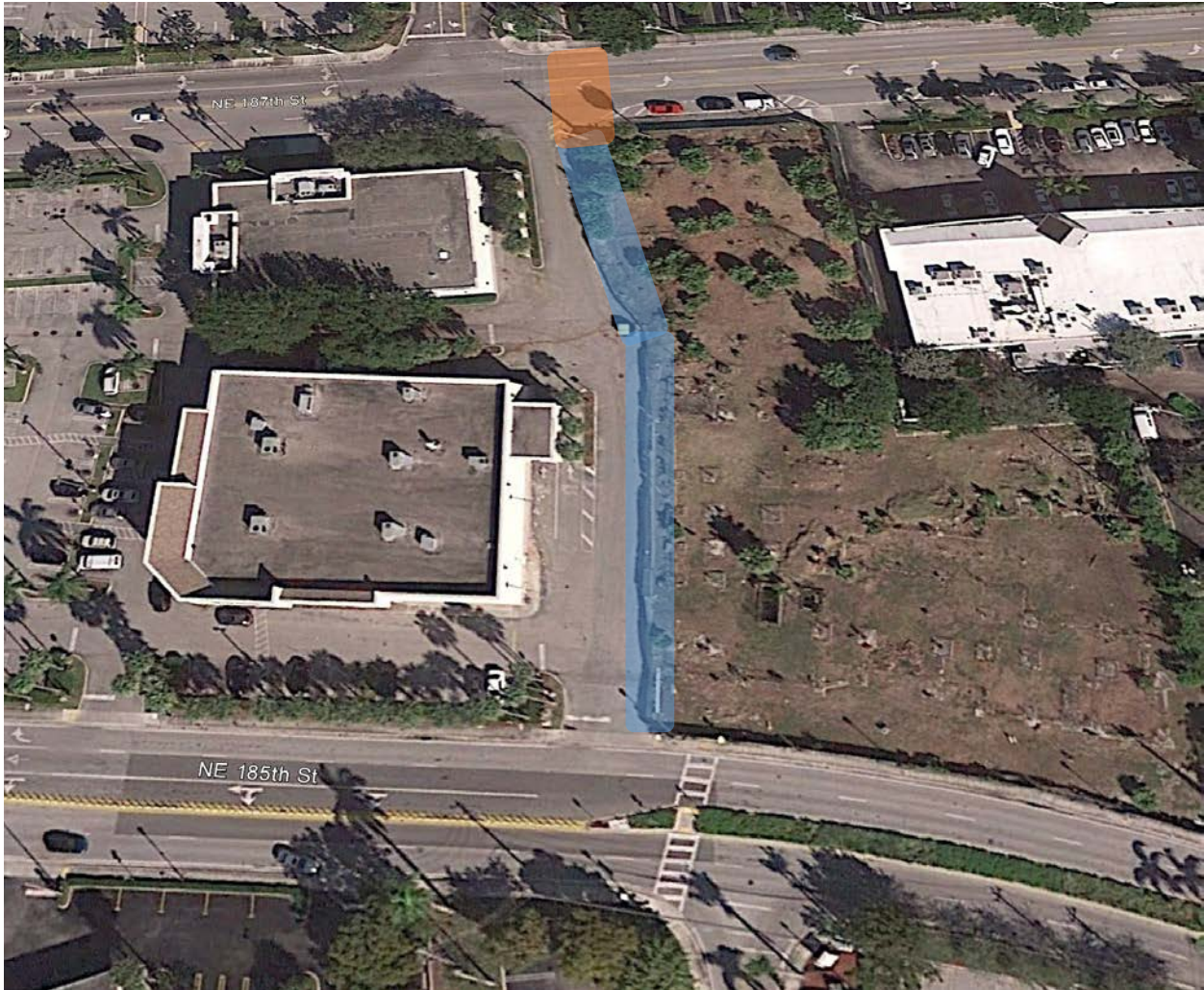
Cost Estimate: \$5,000



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Project Description: Add sidewalk and enhanced crosswalk when site vacant site is developed.

Purpose and Need: To complete the pedestrian network for future development.

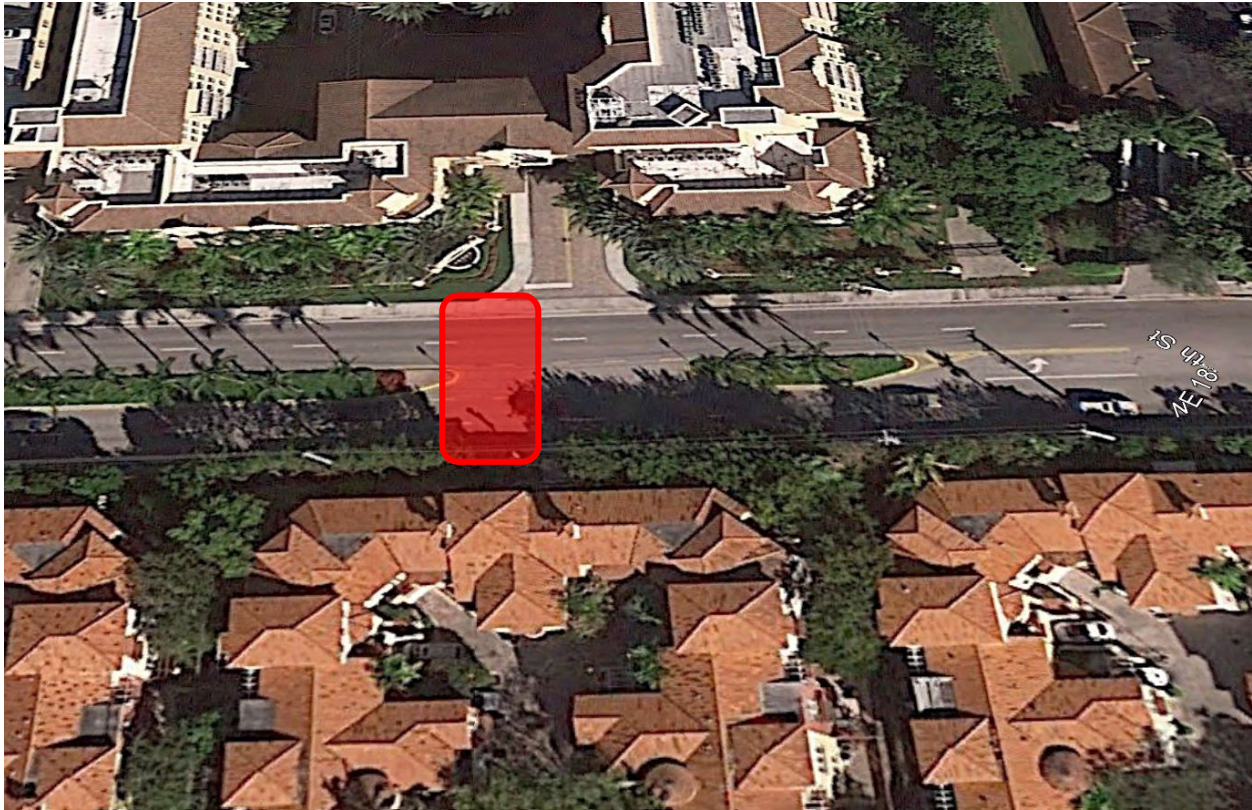
Cost Estimate: \$11,500



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Project Description: Add mid-block pedestrian island and crosswalk on NE 191st Street

Purpose and Need: Proximate intersections and crosswalks are approximately 1,000' in either direction.

Cost Estimate: \$7,500



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Hospital District Project Bank

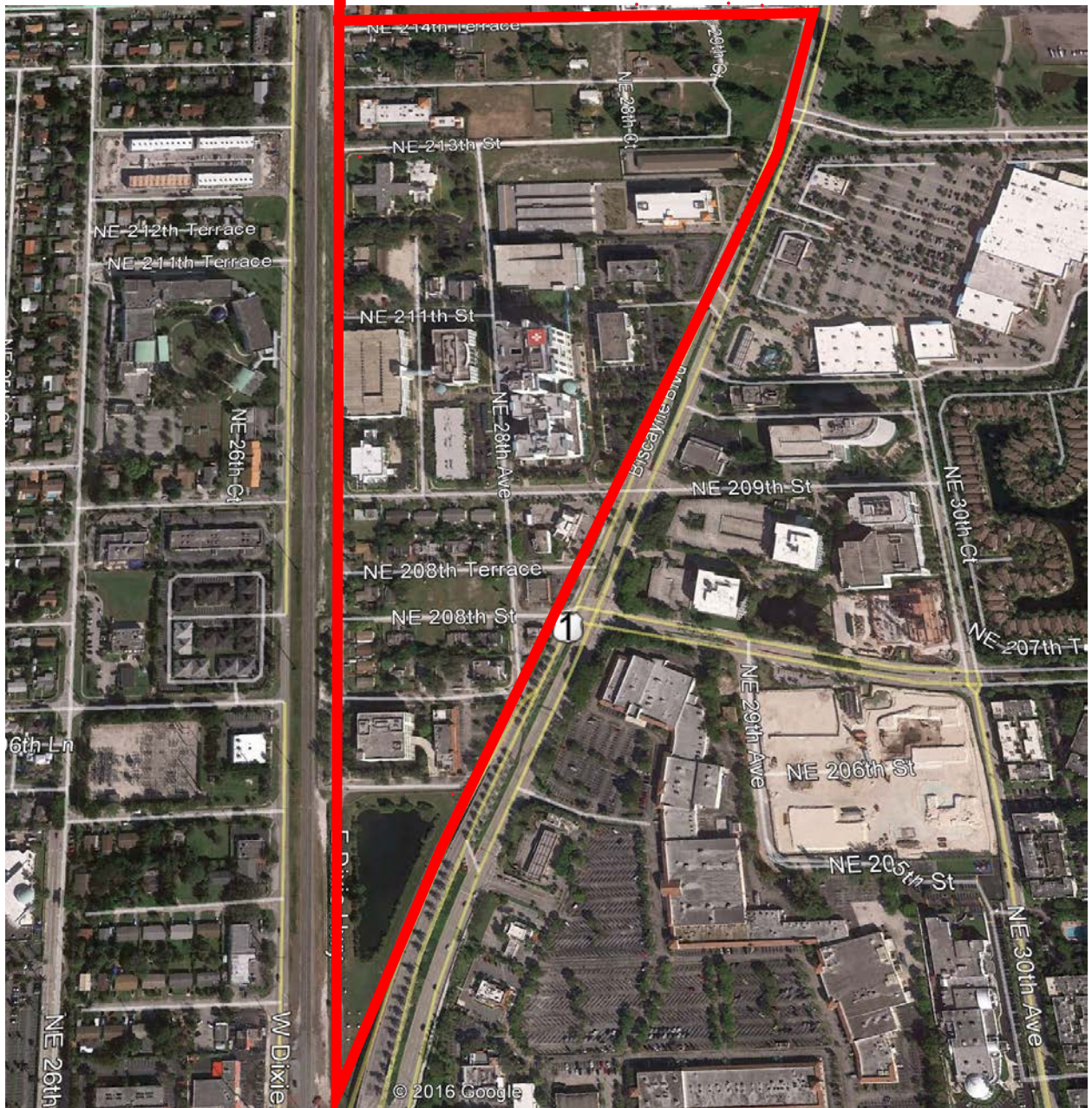
The Aventura Hospital District is bounded by E Dixie Highway, NE 214th Street and Biscayne Boulevard. The primary land use in this area is the Aventura Hospital and other medical offices. Some commercial uses exist to support the hospital as well as low density single family homes in the south and the north of the district. The primary trip destination in the area is the hospital located in the middle of the district. The street and pedestrian support network is mostly complete surrounding the hospital and medical offices. As the north and south areas develop, the sidewalk and pedestrian network will be completed.



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Project Description: Enhance crosswalks at the intersection of NE 209th Street and Biscayne Boulevard

Need and Purpose: Increase pedestrian network connectivity in an area of high pedestrian activity and a local community destination.

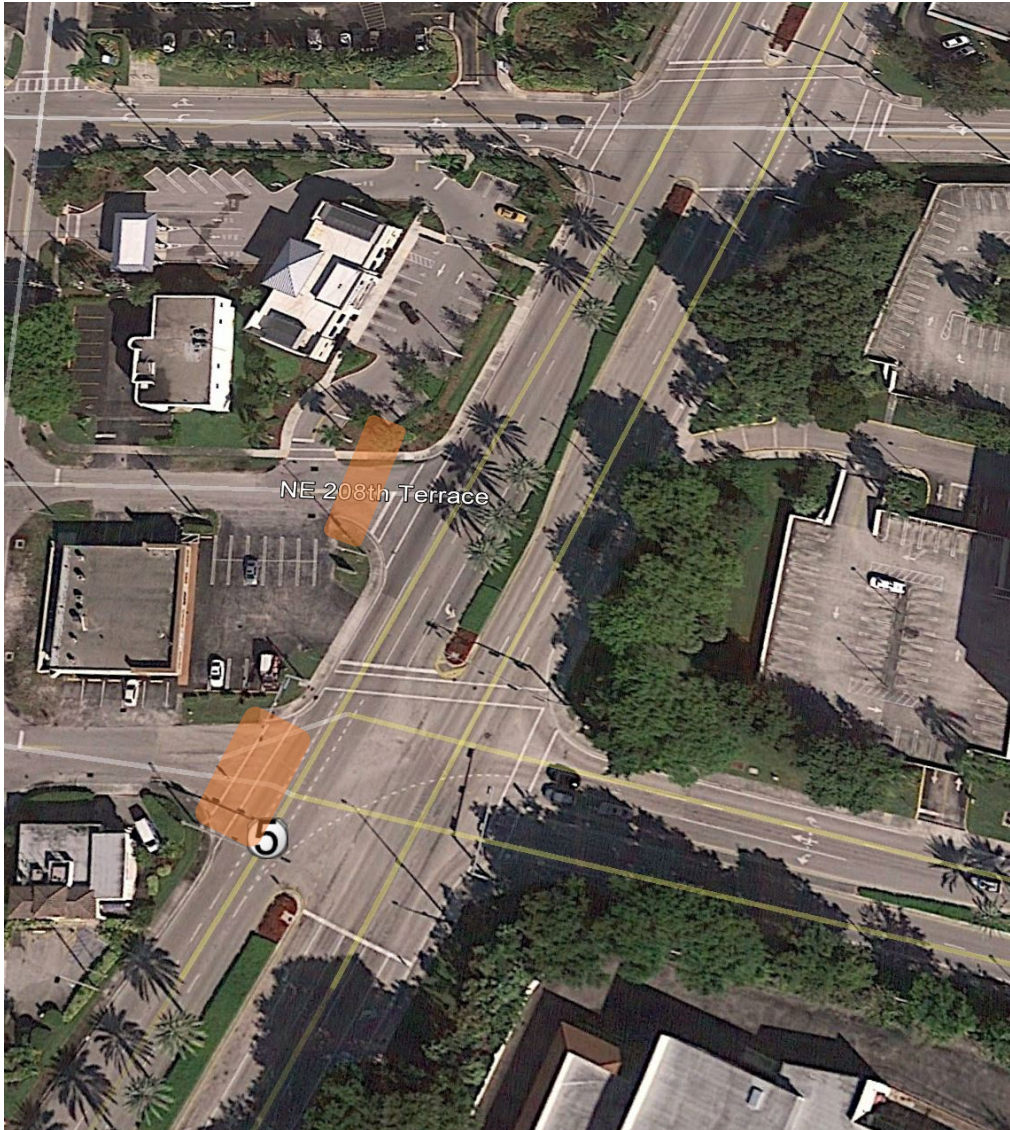
Cost Estimate: \$12,000



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Project Description: Enhanced crosswalks on the west side of Biscayne Boulevard from NE 208th Terrace to NE 207th Street.

Need and Purpose: Defined and visible crosswalks are needed at this location to enhance safety conditions in this location with high pedestrian and vehicular activity.

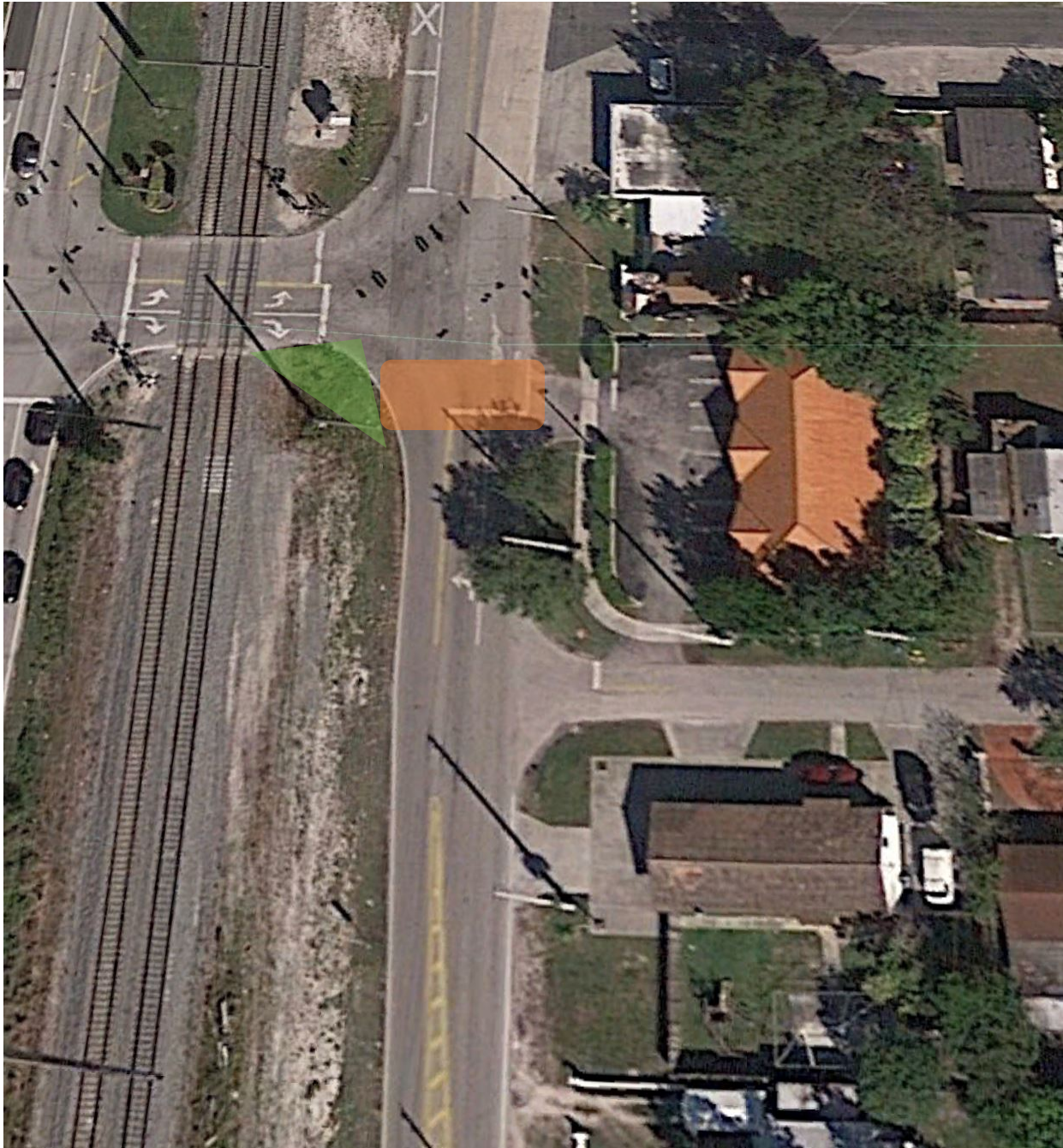
Cost Estimate: \$5,000



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Project Description: Enhance crosswalk at the intersection of E Dixie Highway and NE 214th Street. Complete curb ramp and sidewalk connection up to railroad.



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Need and Purpose: To complete the regional pedestrian grid.

Cost Estimate: \$4,500

Golf Course Multi-Use Pathway Connections Project Bank

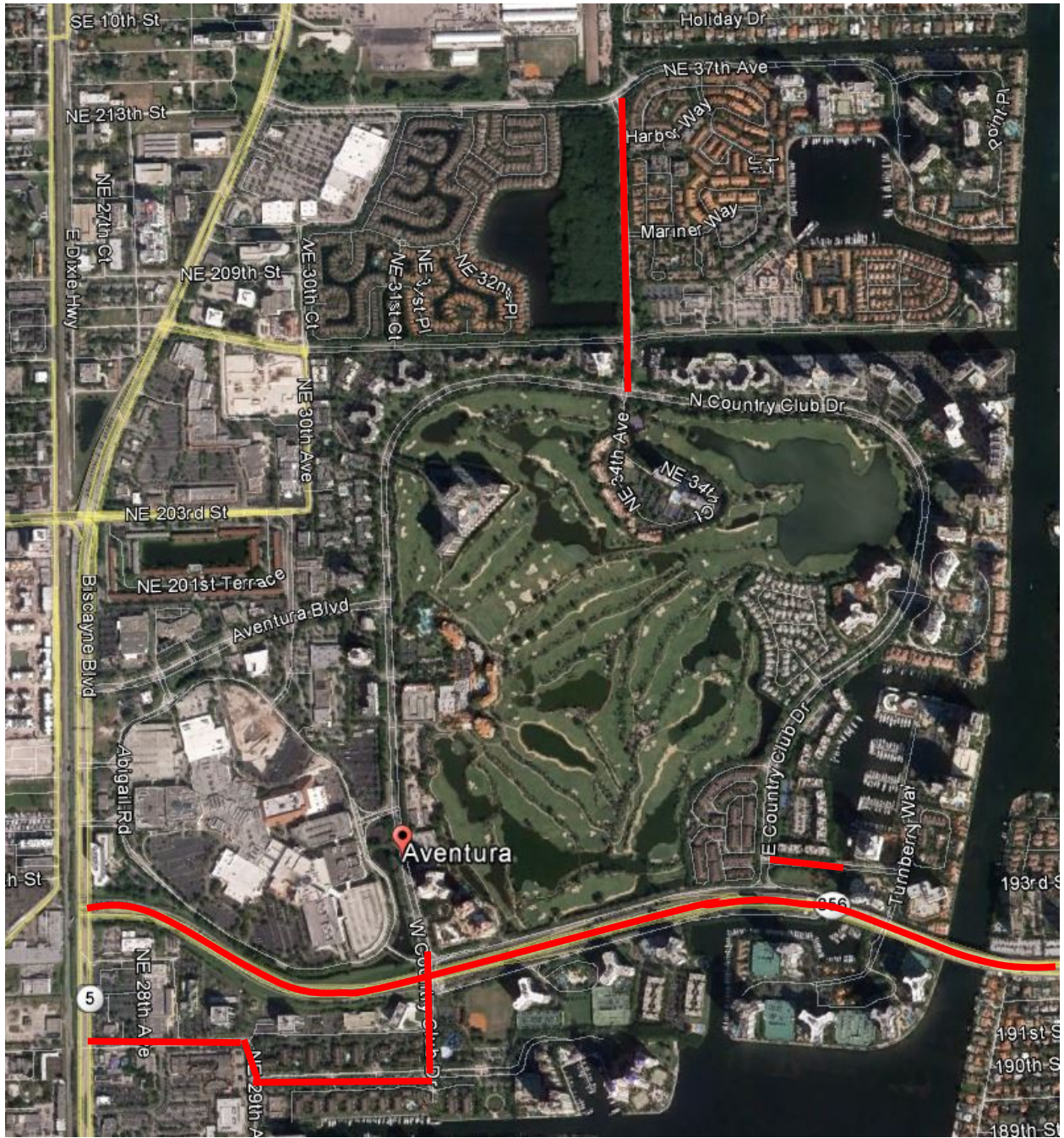
Aventura's "Central Park" consists of the Turnberry Golf Course which is surrounded by a very successful multi-use path that is used and enjoyed by visitors, residents and even people from surrounding communities. The area just outside of the immediate circle is the focus of this project bank. Major infrastructure in this area includes the Lehman Causeway which is already being heavily used by pedestrians and bicyclists alike, although the side of the road is not currently designed for this type of use. Other areas that could benefit from greater connectivity include adding sharrows on NE 34th Avenue to the north, connecting two other east/west sharrow facilities (NE 207th Street and NE 213th Street). Another connection to note is the missing link between the southeast corner of the circle to Biscayne Boulevard. This connection would also link the Town Center, Veterans Park and City Hall along this path.



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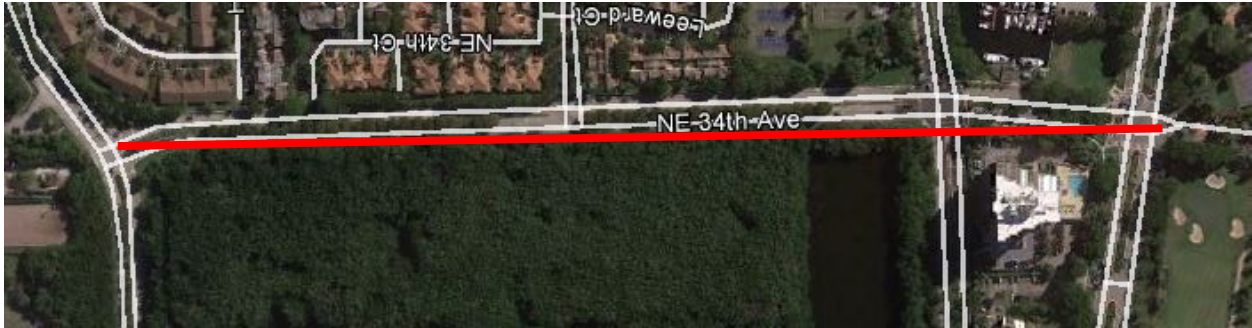
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Project Description: Add sharrow lane (shared bike lane) signage and painted symbols on NE 34th Avenue from N Country Club Drive to NE 213th Street

Purpose and Need: To complete the bikeway network.

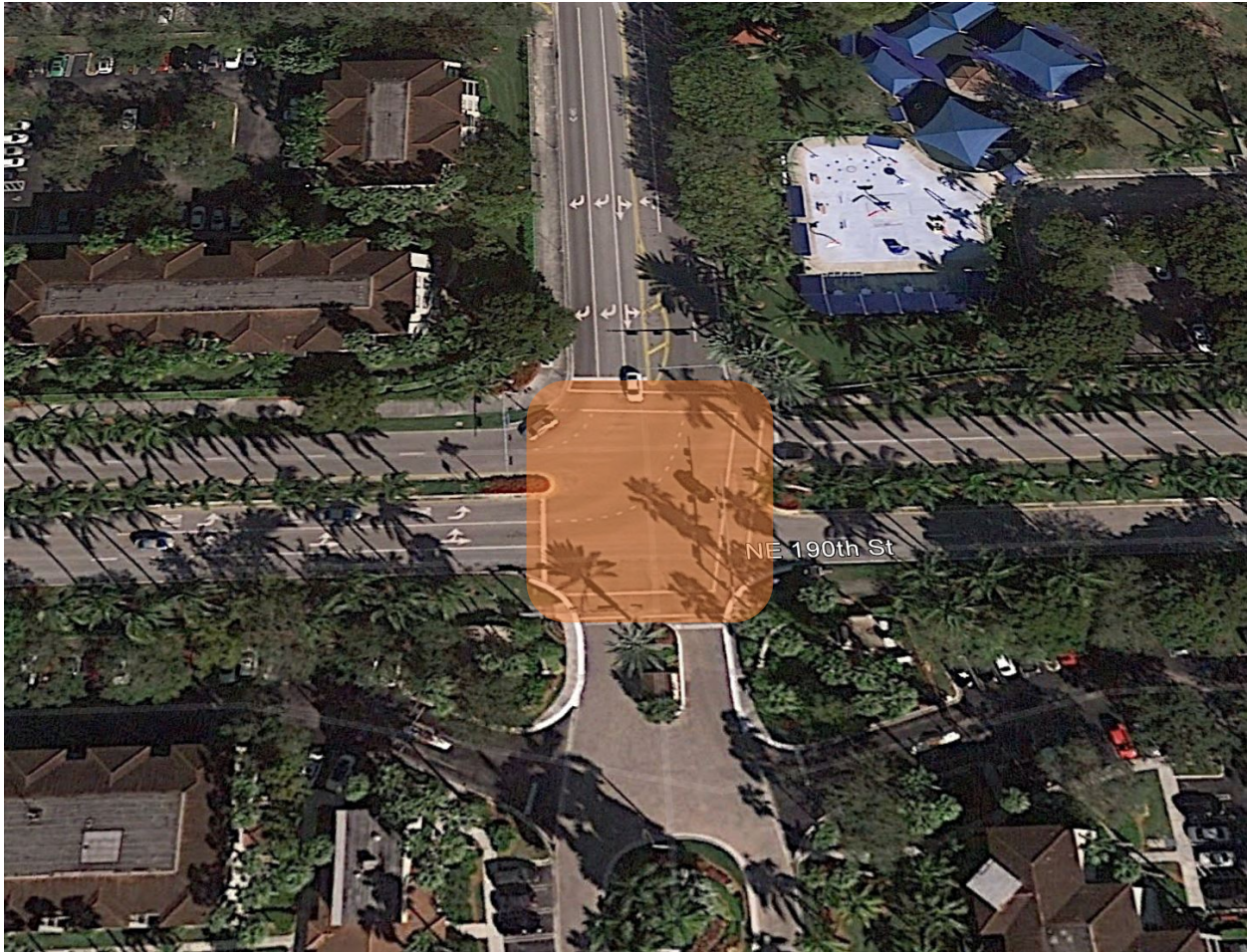
Cost Estimate: \$2,000



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Project Description: Enhanced crosswalks at intersection of NE 190th Street and W Country Club Drive

Purpose and Need: To increase safety at intersection and improve neighborhood connectivity to and from Founders Park and City Hall and complete regional access to and from the golf course multi-use pathway.

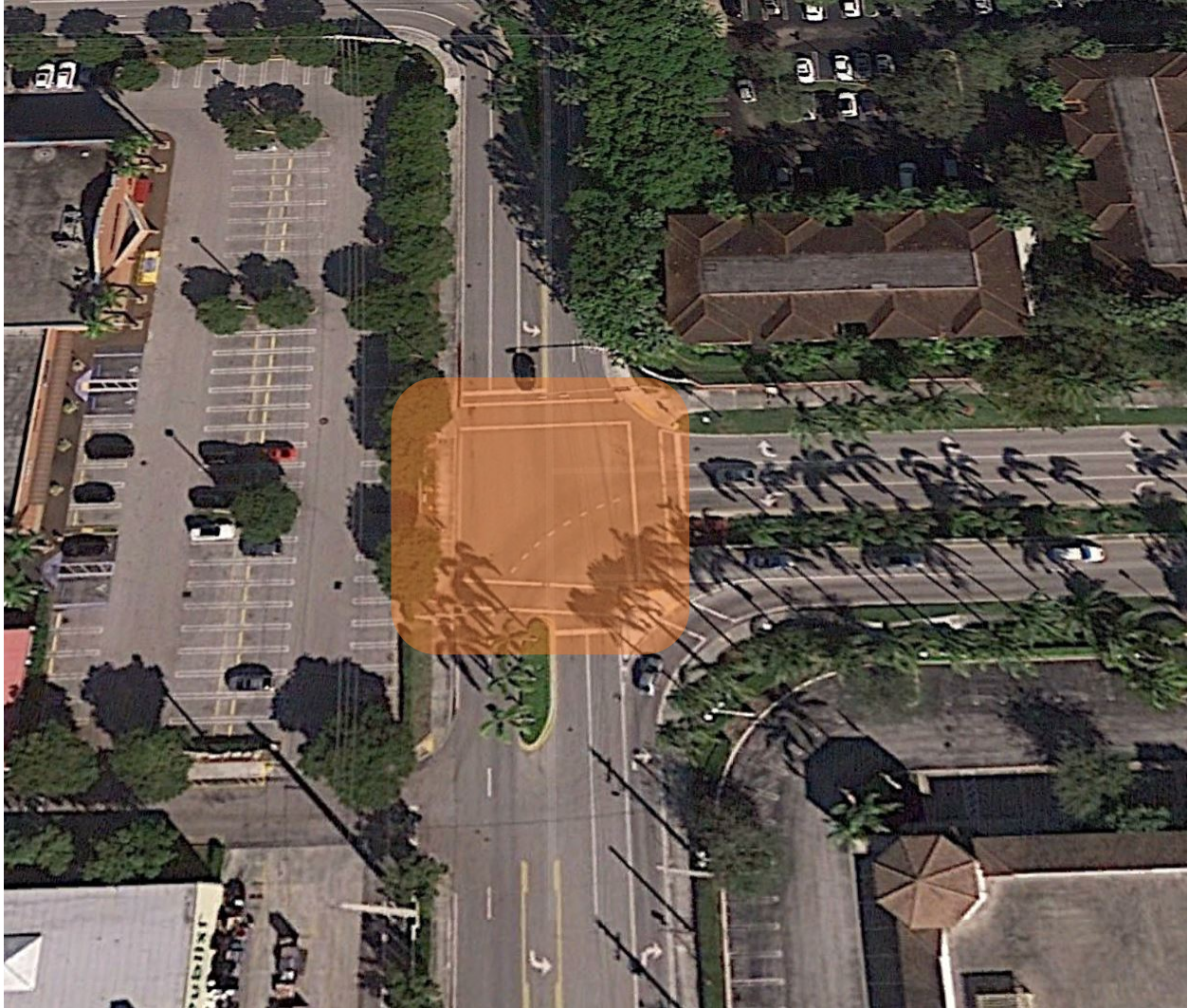
Cost Estimate: \$10,000



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Project Description: Enhance crosswalks at intersection of NE 190th Street and NE 29 Avenue.

Purpose and Need: To increase safety at intersection and improve neighborhood connectivity to complete regional access to and from the golf course multi-use pathway.

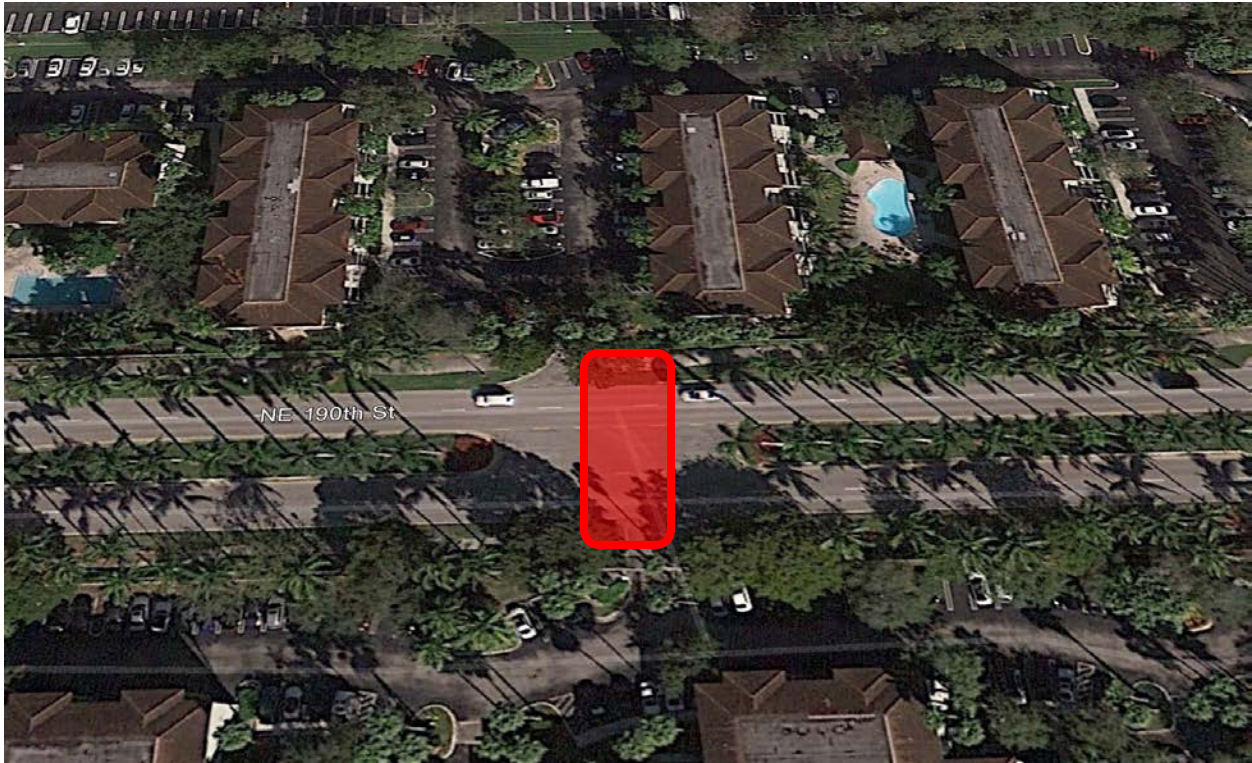
Cost Estimate: \$7,500



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Project Description: Add pedestrian island and crosswalks to create a mid-block crossing at NE 190th mid-way between W Country Club Drive and NE 29th Avenue.

Purpose and Need: Proximate intersections are approximately 700' in each direction.

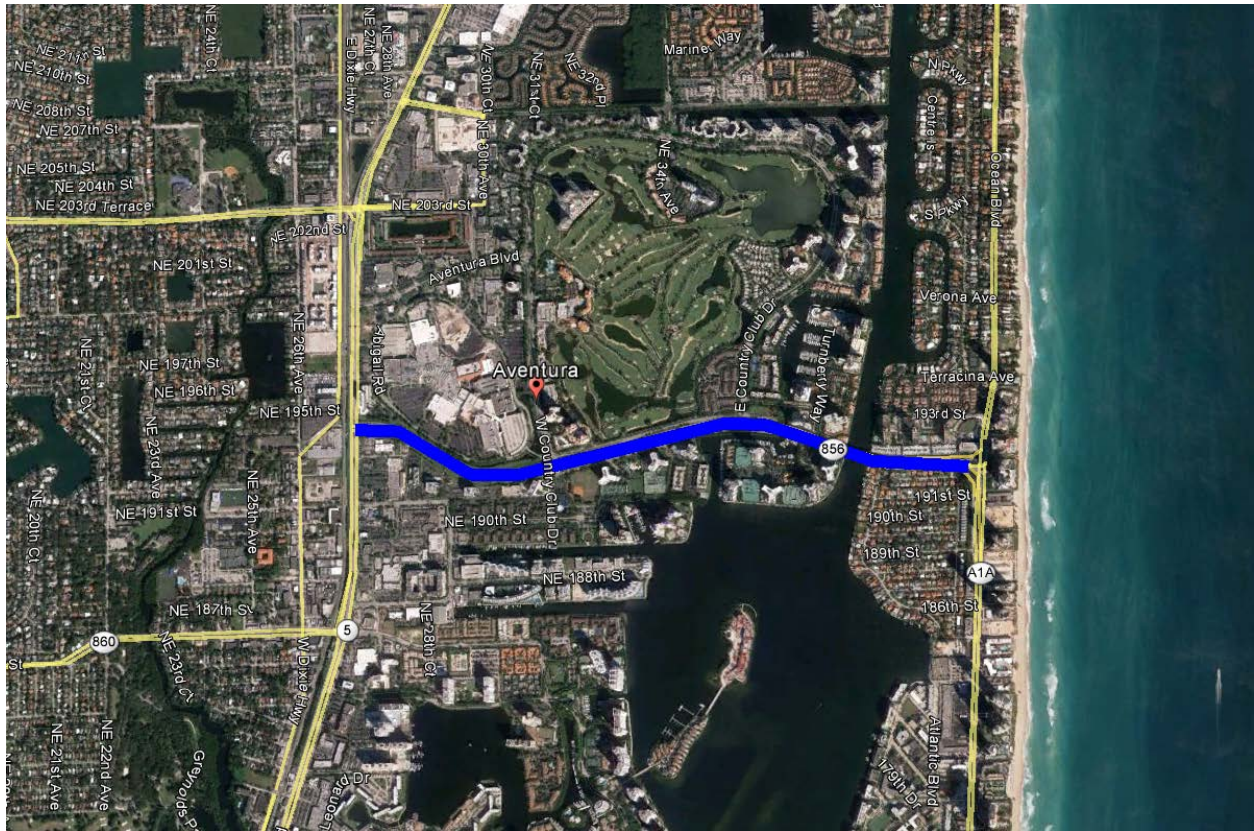
Cost Estimate: \$7,500



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Project Description: Conceptual alternative plan to address existing need for a pedestrian/bicycle multi-use pathway on the Lehman Causeway.

Purpose and Need: The current high volume of pedestrian and bike use on the causeway is a concern due to the speed, proximity and volume of traffic along this road. There is a need for a multi-use pathway designed to safely accommodate all users.

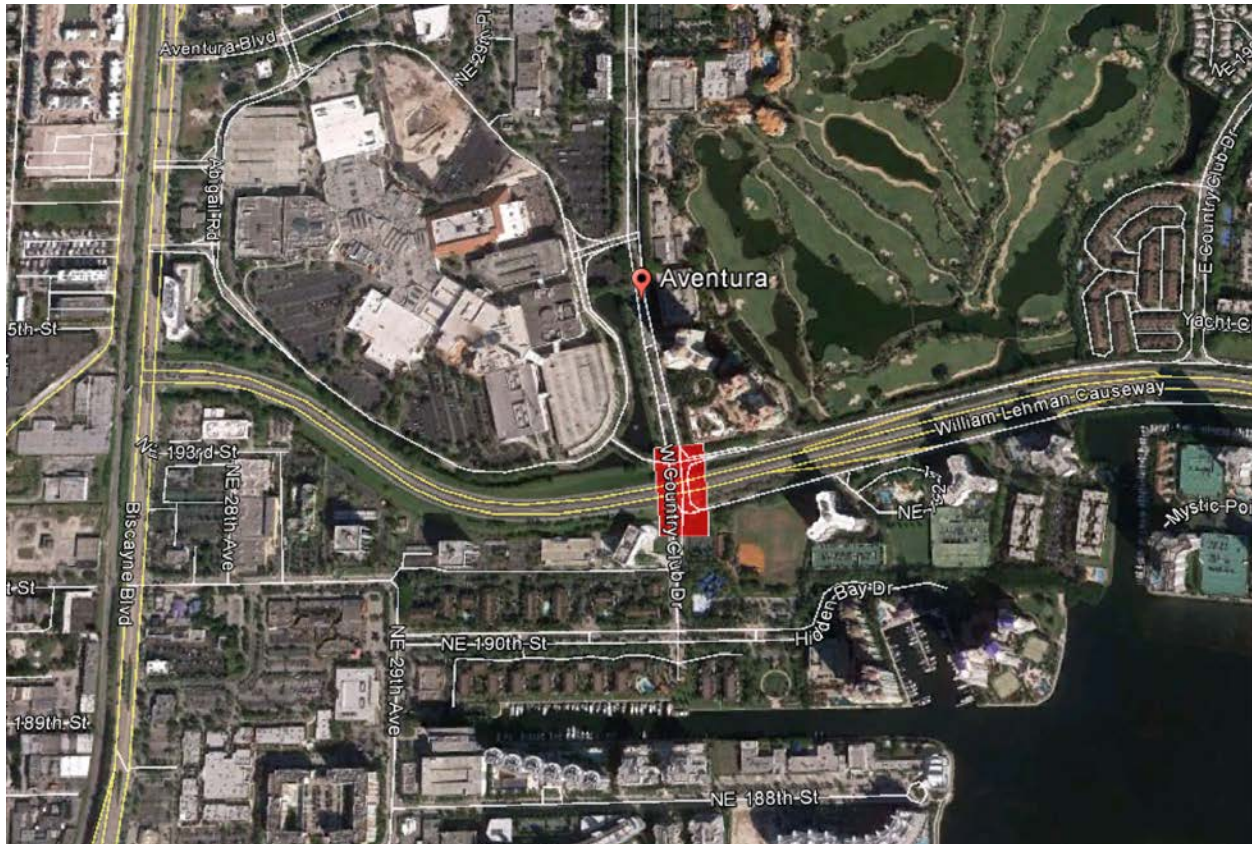
Cost Estimate: \$50,000



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Project Description: Redesign and construction of the intersection of W Country Club Drive at the eastbound ramp of Lehman Causeway to account for safe pedestrian crossing, vehicles and bicycle access.

Purpose and Need: The current high volume of pedestrian and bike use passing under the causeway is a concern due to the speed, proximity and volume of traffic at this intersection. There is a need for the intersection to be redesigned to safely accommodate all users.

Cost Estimate: \$2,000,000



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Aventura Transit Hub Connections Project Bank

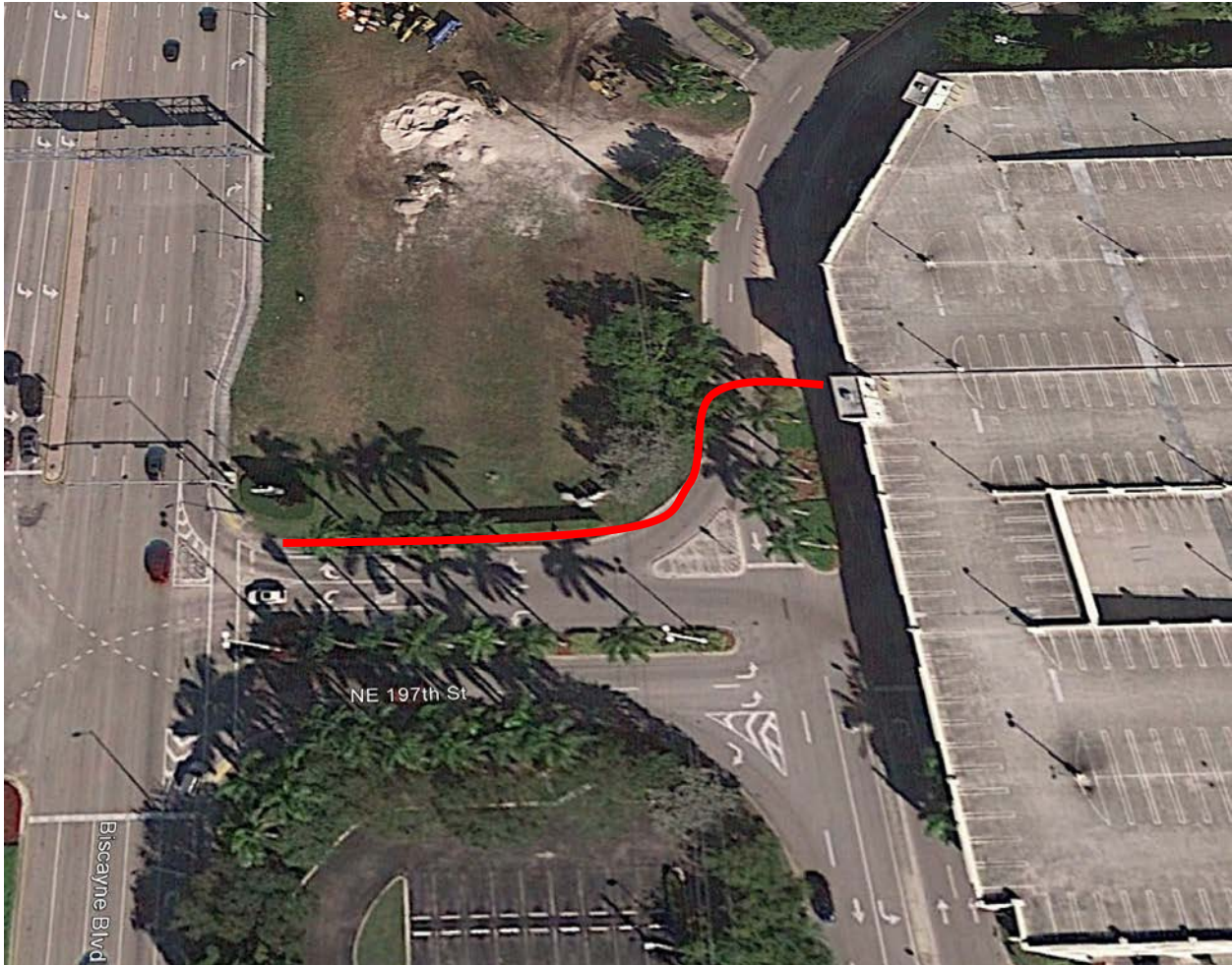
The Aventura transit hub is located in the ground floor of the Northwest parking garage of the Aventura Mall. This hub serves as a transfer station between the Miami-Dade Transit, Broward County Transit and Aventura shuttle buses. The hub is one of five kiosk locations for the Aventura bike sharing system “B-Cycle”. In addition to providing transit access to and from the mall and transfer between buses, the hub is located within walking and biking distance many businesses and commercial uses to the north and south along Biscayne Boulevard. Transit connecting projects are proposed for the purpose of connecting the “first and last mile” of the trip between areas within Aventura and the transit hub.



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Project Description: Add a sidewalk and crosswalk from the west pedestrian entrance of the transit hub connecting to Biscayne Boulevard at the mall entrance. This project would be completed when the vacant lot is developed in the future.

Purpose and Need: Due to the high volume of pedestrian traffic to and from this regional transit facility, there is a need for a safe, protected pedestrian facilities at this location.

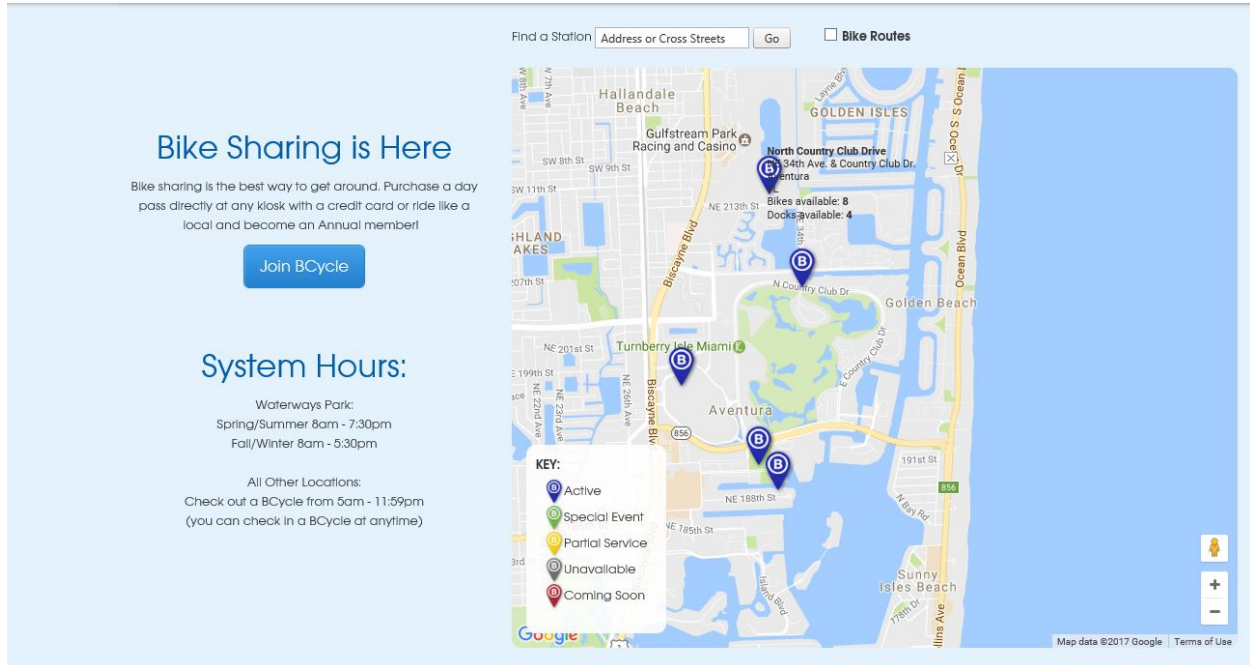
Cost Estimate: \$9,000



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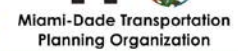
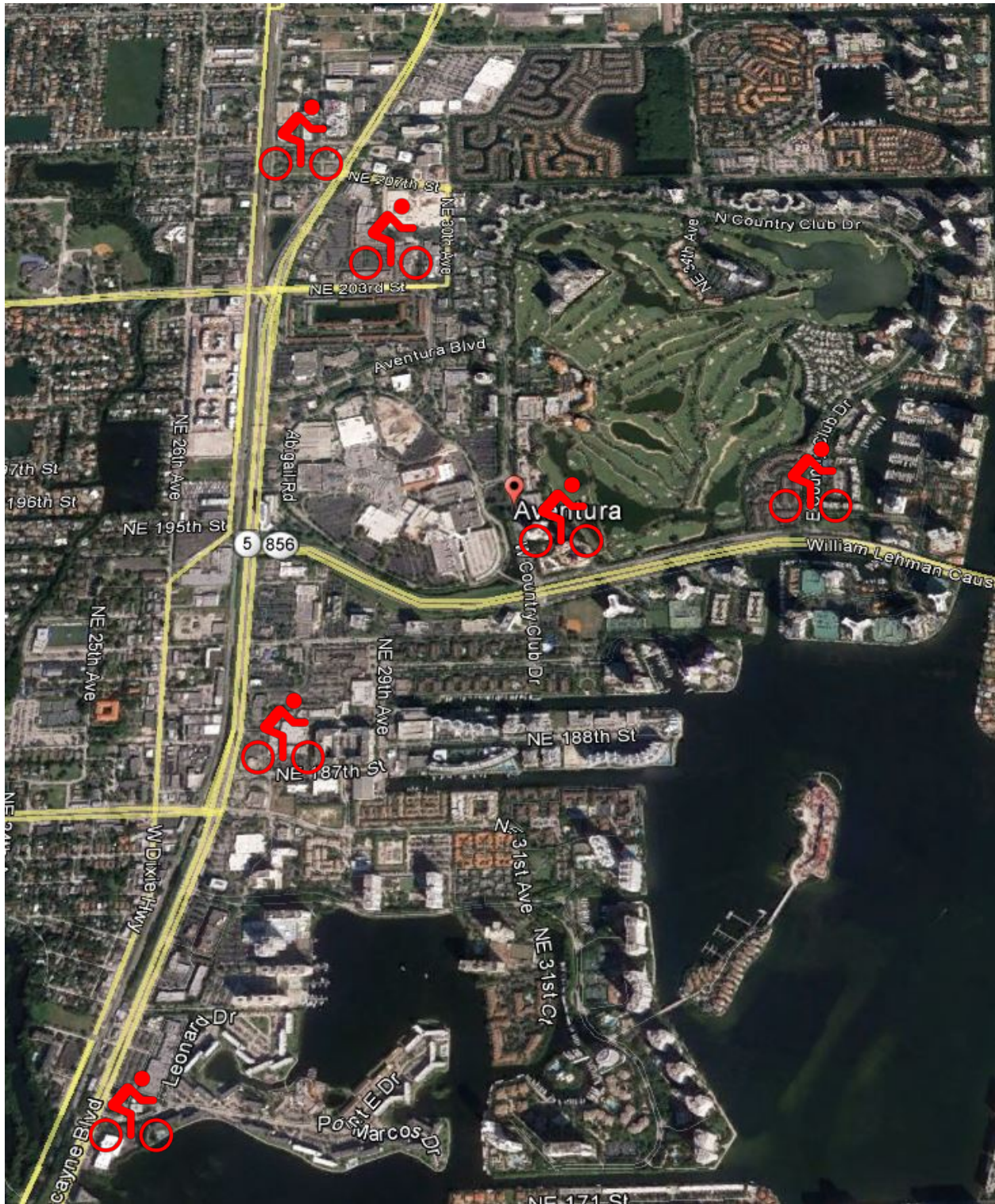
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Project Description: Expand the B-Cycle network by adding 3 to 5 new B-Cycle kiosk locations and bikes within the City. The current system includes 5 kiosk locations. Potential new locations are shown on the map below. Easement agreements would need to be negotiated with private property owners for locations not owned by the City.

Purpose and Need: An ideal distance between kiosks is a 20 minute bike ride. The bike share system has been running for less than a year and is well used by the community. Three to 5 additional kiosks would fill in the areas around the golf course, and add to the network along Biscayne Boulevard where many of the commercial and business uses are located.

Cost Estimate: \$36,000 - \$60,000





Funding and Prioritization of Improvements

			Connecting Generators	Reduces Congestion	Improves Safety	School/ Park Access	Cost: High, Med, Low	Score*
North Aventura Project Bank								
Project	Location							
Enhanced crosswalks	NE 213th Street	at NE 34th Avenue	No	Yes	Yes	No	Low	5
Mid-Block Pedestrian Island	NE 213th Street	at Target north entrance	Yes	Yes	Yes	No	Med	5
Enhanced crosswalks	NE 203rd Street	at Premenade Shops south entrance	Yes	Yes	Yes	No	Low	6
Mid-Block Pedestrian Island	NE 30 Avenue	at Synagogue east entrance	Yes	Yes	Yes	No	Med	5
Enhanced crosswalks	Aventura Boulevard	at Aventura Mall north entrance	Yes	Yes	Yes	No	Low	6
Enhanced crosswalks	Aventura Boulevard	at the north entrance to the library	Yes	Yes	Yes	No	Low	6
Install Sidewalk at bus stop	Biscayne Boulevard	north of NE 187th Street on the west side	No	Yes	Yes	No	Med	4
South Aventura Project Bank								
Project	Location							
Enhanced crosswalks	at NE 187th Street	NE 28th Court	No	Yes	Yes	No	Low	5
Enhanced crosswalks	NE 188th Street	NE 29th Avenue	No	Yes	Yes	Yes	Low	6
Add new crosswalk	NE 31st Avenue	at Veterans Park entrance	Yes	Yes	Yes	Yes	Low	7
Enhanced crosswalks	NE 183rd Street	NE 31st Avenue	No	Yes	Yes	No	Low	4
Enhanced crosswalks	NE 186th Street	Biscayne Boulevard	No	Yes	Yes	No	Low	4
Enhanced crosswalks	NE 187th Street	Biscayne Boulevard	No	Yes	Yes	No	Low	4
Enhanced crosswalks	Biscayne Boulevard	Point East Drive	No	Yes	Yes	No	Low	4
Add Sidewalk	Vacant Lot	Between NE 185th Street & NE 187th Street	No	Yes	Yes	No	N/A	2
Enhanced crosswalk	NE 187th Street	Vacant lot to Town Center south entrance	Yes	Yes	Yes	No	Low	6
Mid-Block Pedestrian Island	NE 191st Street	Residential entrance	No	Yes	Yes	No	Med	4
Hospital District Project Bank								
Project	Location							
Enhanced crosswalks	NE 209th Street	Biscayne Boulevard	Yes	Yes	Yes	No	Low	6
Enhanced crosswalks	Biscayne Boulevard	NE 207th Street and NE 208th Terrace	Yes	Yes	Yes	No	Low	6
Enhanced crosswalk and add curb	E Dixie Highway	NE 214th Street	Yes	Yes	Yes	No	Med	5
Golf Course Multi-Use Pathway Connections Project Bank								
Project	Location							
Add sharrow lane	NE 34th Avenue	N Country Club Drive to NE 213th Street	Yes	No	No	Yes	Low	5
Enhanced crosswalks	NE 190th Street	W Country Club Drive	Yes	Yes	Yes	Yes	Low	7
Enhanced crosswalks	NE 190th Street	NE 29th Avenue	Yes	Yes	Yes	Yes	Low	7
Mid-Block Pedestrian Island	NE 190th Street	Mid-way between W Country Club Dr and NE 29th Avenue	Yes	Yes	Yes	Yes	Med	6
Conceptual Plan for bike/ped path	Lehman Causeway	From Biscayne Boulevard to Sunny Isles	Yes	Yes	Yes	Yes	Low	7
Redesign Intersection for safety	W Country Club Drive	at eastbound ramp of Lehman Causeway	Yes	Yes	Yes	Yes	High	5
Aventura Transit Hub Connections Project Bank								
Project	Location							
Add Sidewalk	From west entrance of transit hub	to Biscayne Boulevard	Yes	Yes	Yes	No	N/A	3
Expand the bike share facilities	3 to 5 new kiosks	Various Locations	Yes	Yes	No	No	Med	4

* Yes = 1; No = 0; High = 1; Med = 2; Low = 3



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Funding Sources

Funding for transportation projects comes from three primary sources: Local, State and Federal. Each year funding is more difficult to come by. Cities and counties, face the dilemma of rising costs of transportation projects, increasing traffic volumes and limitations on the ability to generate revenue.

Faced with rapidly increasing construction costs and traffic volumes local governments are finding new funding and financing solutions for transportation. Often, these solutions involve partnerships with other jurisdictions, the private sector and, most of all, county residents. Most monies for large projects are collected locally, provided to the Federal Government, and then reallocated to the states to be administered to agencies, like FDOT. The next pages contain a description of relevant funding opportunities at all levels.

The Municipal Grant Program (MGP) was developed to allow municipalities within Miami-Dade County to submit transportation planning proposals to the Transportation Planning Organization (TPO) to receive funding on a competitive basis. Participation in the program requires a minimum 20% funding commitment from the municipality. The latest grants, which run on a biennial basis, were awarded in 2016, with the next funding cycle to occur in 2018.

Selection criteria include:

- Level of Service (LOS) benefits of the proposed project
- Impact of mobility/traffic circulation gains
- Intermodal nature of proposal
- Support of the approved countywide activities of the Unified Planning Work Program
- Consistency with the applicant's local comprehensive plans

The State of Florida has several funding sources that primarily come from FDOT.

The Governor's newly proposed FY 2016/2017 transportation budget makes the following investments:

- \$3.3 billion for construction of highway projects to keep Florida's transportation infrastructure among the best in the country.
- \$153.9 million in seaport infrastructure improvements to keep Florida first in the world for ocean cruise passengers and a major U.S. cargo gateway.
- \$237.6 million for aviation improvements to keep Florida first in airport



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infrastructure investments.

- \$731.9 million for scheduled repair of 48 bridges and replacement of 21 bridges to keep Florida's bridges among the best structures in the country.
- \$963.4 million for maintenance and operation to keep Florida's infrastructure among the best maintained in the country.
- \$574 million for public transit development grants to keep Florida's growth in transit ridership over the last five years among the best in the country.
- \$159 million for safety initiatives to continue to improve the safety of families and visitors on our roads.
- \$46.6 million for bike and pedestrian trails to keep Florida's trail development among the best in the country.

The Florida Department of Transportation Safety Office (FDOT) funds subgrants that address traffic safety priority areas including:

- Aging Road Users
- Community Traffic Safety
- Impaired Driving
- Motorcycle Safety
- Occupant Protection and Child Passenger Safety
- Pedestrian and Bicycle Safety
- Police Traffic Services
- Speed and Aggressive Driving
- Teen Driver Safety
- Traffic Records
- Traffic Record Coordinating Committee (TRCC)

Awards to state and local safety-related agencies are used as "seed" money to assist in developing and implementing programs that address traffic safety deficiencies or expand ongoing safety programs activities. Funding for these grants are apportioned to states annually from the National Highway Traffic Safety Administration (NHTSA) according to a formula based on population and road mileage. Funding may be available for projects in other program areas if there is documented evidence of need.

Through public rule making processes conducted in 1982, 1988, 1995 and 1998, it has been determined that certain highway safety program areas have proven to be more effective than others in reducing traffic crashes, injuries, and fatalities. These programs, designated



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as National Priority Program Areas are: Impaired Driving, Police Traffic Services, Speed Control, Occupant Protection/Child Passenger Safety, Pedestrian and Bicycle Safety, Motorcycle Safety, Traffic Records, and Community Traffic Safety.

It is expected that programs funded through these grants will become self-sufficient and continue when grant funding terminates. To promote self-sufficiency, agencies are expected to provide a local funding match when personnel costs are included in second and third year projects. The local match is normally 25% of eligible costs for second year projects and 50% for third year projects.

Government agencies, political "subdivisions" of the state, local city and county government agencies, state colleges, universities, school districts, fire departments, public emergency services providers, and certain qualified non-profit organizations are eligible to receive traffic safety grant funding.

These grants are awarded on a Federal fiscal year basis, and can be funded for a maximum of three consecutive years in a given priority area.

The TRIP fund was created as part of major Growth Management legislation enacted in 2005 (SB 360). The purpose of the program is to encourage regional planning by providing state matching funds for improvements to regionally-significant transportation facilities identified and prioritized by regional partners. Eligible partners are shown in the chart on the right. These partners must form a regional transportation area, pursuant to an interlocal agreement, and develop a regional transportation plan that identifies and prioritizes regionally significant facilities. To qualify, partners must sign an interlocal agreement that:

- Includes development of the regional transportation plan.
- Delineates the boundaries of the regional transportation area.
- Provides the duration of the agreement and how it may be changed.
- Describes the planning process, and defines a dispute resolution process.

TRIP funds are to be used to match local or regional funds up to 50% of the total project costs for public transportation projects. In-kind matches such as right-of-way donations and private funds made available to the regional partners are also allowed. Federal funds attributable to urbanized areas over 200,000 in population may also be used for the local/regional match.



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Federal programs make up the bulk of the funding for large projects. Florida is a “donor” state, which means it receives less than it contributes to Federal transportation programs each year. The US Department of Transportation helps communities fund transportation projects by issuing grants to eligible recipients for planning, vehicle purchases, facility construction, operations, and other purposes. The USDOT administers this financial assistance according to federal transportation authorization, Fixing America’s Surface Transportation (FAST) Act. The Transportation Alternatives Program is administered under the FAST Act.



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