

Health District Bicycle and Pedestrian Mobility Plan



HNTB

January 2012

HEALTH DISTRICT BICYCLE AND PEDESTRIAN MOBILITY PLAN

Partnership between:



City of Miami
444 SW 2 Avenue
Miami, Florida 33130



Miami-Dade Metropolitan Planning Organization
111 NW 1 Street, Suite 910
Miami, Florida 33128

Prepared by:



HNTB Corporation
8700 West Flagler Street
Miami, FL 33174

January 2012

The preparation of this report has been financed in part from the U.S. Department of Transportation (USDOT) through the Federal Highway Administration (FHWA) and/or the Federal Transit Administration (FTA), the State Planning and Research Program (Section 505 of Title 23, U.S. Code) and Miami-Dade County, Florida. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

TABLE OF CONTENTS

1.0	EXECUTIVE SUMMARY.....	1
2.0	INTRODUCTION.....	4
	Study Objective.....	5
3.0	BACKGROUND/LITERATURE REVIEW	7
	Health District Basis of Design Report (BODR)	8
	Health District Trolley and the Miami Trolley System	11
	Health District Traffic Study	12
	Miami Bicycle Master Plan.....	13
	Miami River Multimodal Transportation Plan	13
	NW 7 Avenue Traffic and Pedestrian Study	16
	Miami-Dade MPO 2011 Transportation Improvement Program (TIP)	16
	Miami-Dade 2035 Long Range Transportation Plan (LRTP)	17
	City of Miami Capital Improvements Program (CIP) Projects	17
	Complete Streets Policies	18
	University of Miami Walksafe and Bikesafe Programs	19
	University of Miami Miller School of Medicine – Creating a World Class Campus.....	19
	Masterplans and Developments	20
4.0	PUBLIC OUTREACH	21
	Project Stakeholders.....	21
	Online Surveys	25
5.0	EXISTING CONDITIONS	27
	Field Observations	27
	Journey to Work Data	30
	Transit Data.....	30
	Pedestrian and Bicyclist Counts	32
6.0	ESTABLISHING GOALS AND OBJECTIVES.....	36
7.0	RECOMMENDATIONS.....	37
	Non-Engineering Improvements.....	37
	Engineering Projects	44
	Potential Funding Sources	74

LIST OF FIGURES

Figure 1 – Typical Crosswalk	4
Figure 2 – Health District Study Area	6
Figure 3 – Health District BODR Network	8
Figure 4 – Example of Proposed Typical Section in Health District BODR	9
Figure 5 – Healthwalk	9
Figure 6 – Healthwalk	10
Figure 7 – Miami Trolley Route Alignments.....	12
Figure 8 – Locations with Issues Based on Stakeholder Input	24
Figure 9 – Diversity of Online Survey Respondents	25
Figure 10 – Travel Characteristics of Survey Respondents	26
Figure 11 –Most Concerning Issues by Survey Respondents (Occurrence of #1 Ranking)	26
Figure 12 – Poor Sidewalk Condition	27
Figure 13 – Major Roadways with Bicycle and Pedestrian Issues.....	29
Figure 14 –Pedestrian and Bicyclist Count Locations	33
Figure 15 –Pedestrian Counts by Location during Two-Hour Peak	34
Figure 16 –Bicyclist Counts by Location during Two-Hour Peak.....	35
Figure 17 –Public Artwork on Utilities in Pasadena, California and Bike Miami Days	41
Figure 18 –NW 12 Avenue at NW 16 Street and NW 1500 Block.....	47
Figure 19 –ADA Non-Compliant Bus Stops	48
Figure 20 –ADA Non-Accessible Bus Stops	49
Figure 21 – Bus Stops Without Seating.....	50
Figure 22 – Bus Stops Without Shelters.....	51
Figure 23 –Pedestrian Signal and Crosswalks	52
Figure 24 – Potential Locations for the Adding New Pedestrian Signals, Audible Tones	53
Figure 25 –Locations for Recommended Signal Timing Modification	55
Figure 26 – Potential Locations for Crosswalk Restriping.....	57
Figure 27 Potential Pedestrian Crossing Signs.....	58
Figure 28 – NW 14 Street Improvements	60
Figure 29 – Healthwalk with Potential E/W Connector	62
Figure 30 – Traffic Calming	64
Figure 31 –Long-Term Bicycle Parking (Bicycle Lockers and Stations)	65
Figure 32 – Potential Long-Term Bicycle Parking Locations	66
Figure 33 –Short-Term Bicycle Parking	67
Figure 34 – Potential Short-Term Bicycle Parking Locations	68
Figure 35 – Potential Miami River Greenway Connection.....	70
Figure 36 – Miami Bicycle Master Plan Network in Health District Area	73

LIST OF TABLES

Table 1 – Miami River Multimodal Recommended Transportation Improvements.....	14
Table 2 – Miami-Dade MPO 2011 TIP List of Projects in Health District Area	16
Table 3 – Miami-Dade 2035 LRTP List of Projects in Health District Area	17
Table 4 – City of Miami CIP Projects in Health District Area	17
Table 5 – Pedestrian and Bicycle Characteristics/Issues by Major Roadways.....	28

Table 6 – Journey to Work Data Comparison	30
Table 7 –Total Monthly Boardings for June 2011 at Metrorail Stations.....	31
Table 8 – Established Goals and Objectives.....	36
Table 9 –Policies.....	38
Table 10 –Education.....	39
Table 11 –Encouragement	40
Table 12 –Enforcement.....	42
Table 13 –Evaluation and Monitoring.....	43
Table 14 –List of Engineering Projects	44
Table 15 –Project 1: Multimodal Connections.....	46
Table 16 –Project 2: Multimodal ADA Compliance.....	47
Table 17 –Project 3: Adding New Pedestrian Signals, Audible Tones, and/or Crosswalks.....	52
Table 18 –Project 4: Modification of Signal Timing or Replacement of Signals	54
Table 19 –Project 5: Restriping Crosswalks	56
Table 20 –Project 6: Adding Pedestrian Crossing Signs/Beacons	58
Table 21 –Project 7: NW 14 Street Improvements.....	59
Table 22 –Project 8: Healthwalk	61
Table 23 –Project 9: Traffic Calming	63
Table 24 –Project 10: Long-Term Bicycle Parking	65
Table 25 –Project 11: Short-Term Bicycle Parking.....	67
Table 26 –Project 12: Miami River Greenway Connection	69
Table 27 –Project 13: Adding Signalized Mid-Block Crosswalk.....	71
Table 28 –Project 14: Traffic Flow Modifications	71
Table 29 –Project 15: Bicycle Corridors	72

APPENDICES

- Appendix A: Online Survey Results
- Appendix B: Field Observations
- Appendix C: Pedestrian and Bicyclist Counts

1.0 EXECUTIVE SUMMARY

The Health District, previously referred to as the Miami Civic Center, is the second largest and densest employment area in Miami-Dade County composed of hospitals, research educational institutions, social service offices, judiciary offices, and housing. More than 39,000 people are employed in this area and its characteristics are similar to a major downtown area. The Health District's transportation network appears to be adequate for the personal automobile, however; based on previous studies and the online survey administered for this project, the general perception is that the Health District area is not conducive to an easy and convenient environment for pedestrians and bicyclists. As such, the Bicycle and Pedestrian Mobility Plan is intended to make the Health District a better place for walking and bicycling. This plan was developed utilizing previous planning efforts in the Health District area, Complete Streets principles, public outreach through online surveys, and a field review of the existing conditions of the area. Additionally, stakeholder input was provided at the beginning of the process, where specific areas were identified for improvement, as well as throughout the analysis and documentation process.

Based on the research and analysis, a set of recommendations were developed which included non-engineering improvements and engineering projects in order to make the Health District area safe, easy, attractive, and convenient for pedestrians and bicyclists. The recommended non-engineering improvements categorized into policies, education, encouragement, enforcement, and evaluation and monitoring are summarized below. The details of these recommendations are included in Section 7.0 of this report - Recommendations.

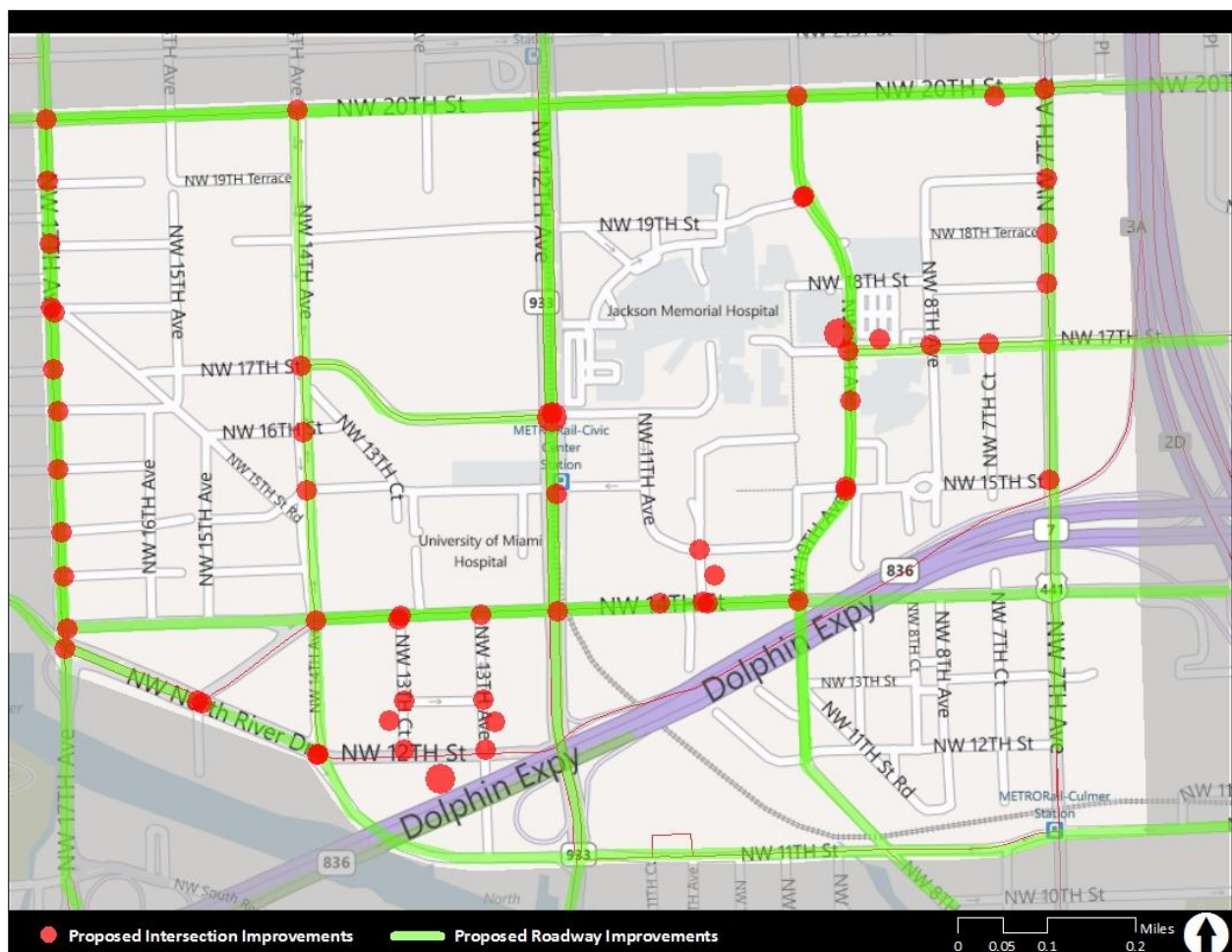
Policies
<ul style="list-style-type: none">• Modal Priority• Complete Streets• Low-Speed Roadway Design• Crime Prevention Through Environmental Design (CPTED)
Education
<ul style="list-style-type: none">• Signage Program• Email Blast• Health District Guide pamphlet• Ambassador Program• Online Support

<ul style="list-style-type: none"> • Bicycle Helmet Giveaways
Encouragement
<ul style="list-style-type: none"> • Employee Incentive Programs • Artwork in Public Spaces • Maintenance Program • Development of Long-Term Bicycle Parking Facilities • Bike Miami Days • Bike Sharing Program
Enforcement
<ul style="list-style-type: none"> • Bicycle, Pedestrian, and Motorist Traffic Laws • Sidewalk Accessibility • Law Enforcement and Security Seminar
Evaluation and Monitoring
<ul style="list-style-type: none"> • Area Organization Surveys • Bicycle and Pedestrian Counts • Annual Crash Data Review

The recommended engineering projects included 15 improvement projects such as multimodal connections, long-term bicycle parking, crosswalk restriping, signal timing modifications, etc. The multimodal projects were prioritized since these projects would benefit the most users in the transportation system. Low-cost, high-benefit projects were listed next such as adding pedestrian signals, restriping crosswalks, and adding pedestrian signs. Higher cost projects were also recommended such as the NW 14 Street project and Healthwalk. These recommendations include projects for improving both the pedestrian and bicycle network. The recommended engineering projects are provided below. The details of these recommendations are included in Section 7.0 of this report – Recommendations and presented in the list below. Additionally, the improvement locations are presented in the map below.

Overall the goal of Health District Bicycle and Pedestrian Mobility Plan is to implement projects that will improve the bicycle and pedestrian network of the Health District. Funding opportunities and opportunities to combine improvements with ongoing efforts at the City, County or State will be identified by the City in order to implement recommended improvements. below:

Project List
Project 1: Multimodal Connections
Project 2: Multimodal ADA Compliance
Project 3: Adding New Pedestrian Signals, Audible Tones, and/or Crosswalks
Project 4: Modify Pedestrian Signal Timing and/or Replace Pedestrian Signal
Project 5: Restriping Crosswalks
Project 6: Adding Pedestrian Crossing Signs/Beacons
Project 7: NW 14 Street Improvements
Project 8: Healthwalk
Project 9: Traffic Calming
Project 10: Long-Term Bicycle Parking
Project 11: Short-Term Bicycle Parking
Project 12: Miami River Greenway Connection
Project 13: Adding Mid-Block Crosswalk
Project 14: Traffic Flow Modifications
Project 15: Bicycle Corridors



2.0 INTRODUCTION

The Health District, previously referred to as the Miami Civic Center, is the second largest and densest employment area in Miami-Dade County composed of hospitals, research educational institutions, social service offices, judiciary offices, and housing. More than 39,000 people are employed in this area at major institutions such as Jackson Memorial Hospital, Miami Veterans Affairs (VA) Hospital, University of Miami Miller School of Medicine and Hospital, 11th Judicial Circuit Court of Florida, State Attorney's Office, Miami-Dade County Department of Health, Miami-Dade College Medical Campus, and Lindsey Hopkins Technical Institute.

These are regional destinations that are accessed by auto, transit, and non-motorized modes during peak hours. Based on previous studies, the general perception by employees and visitors in the area is



Figure 1 – Typical Crosswalk

that the Health District area has pedestrian and bicycle inadequacies, such as: crosswalk visibility, sidewalk conditions, inadequate pedestrian signals, insufficient lighting, excessive vehicle speeds in certain areas, and inadequate bicycle facilities. It is critical to address the non-motorized mobility needs of area residents and workers. A well-designed pedestrian and bicycle network will enhance the character and livable qualities of the area and support

economic vitality. As such, the Health District Bicycle and Pedestrian Mobility Plan is envisioned to improve non-motorized transportation safety, mobility, and access to public transportation.

The Health District has characteristics of a downtown area. The area primarily has institutional and commercial land uses that attract a lot of workers from other parts of south Florida. Like a typical downtown, the Health District area is well served by transit. Currently the area is served by eight Metrobus routes (12, 17, 21, 32, 77, 246, M, and 277), the 95 Express route, and by Metrorail. There are two Metrorail Stations within the area: Civic Center and Culmer Metrorail stations. Additionally, a trolley circulator is anticipated to begin serving the area in 2012.

The Health District area is primarily an employment center and the mid-day period also has characteristics of the morning (AM) and afternoon (PM) peak periods. During the AM, mid-day, and PM

peak hours on a typical weekday, the intersections and sidewalks are heavily utilized by pedestrians and bicyclists throughout the Health District area. These well-defined characteristics present several opportunities and challenges from a non-motorized infrastructure development point-of-view.

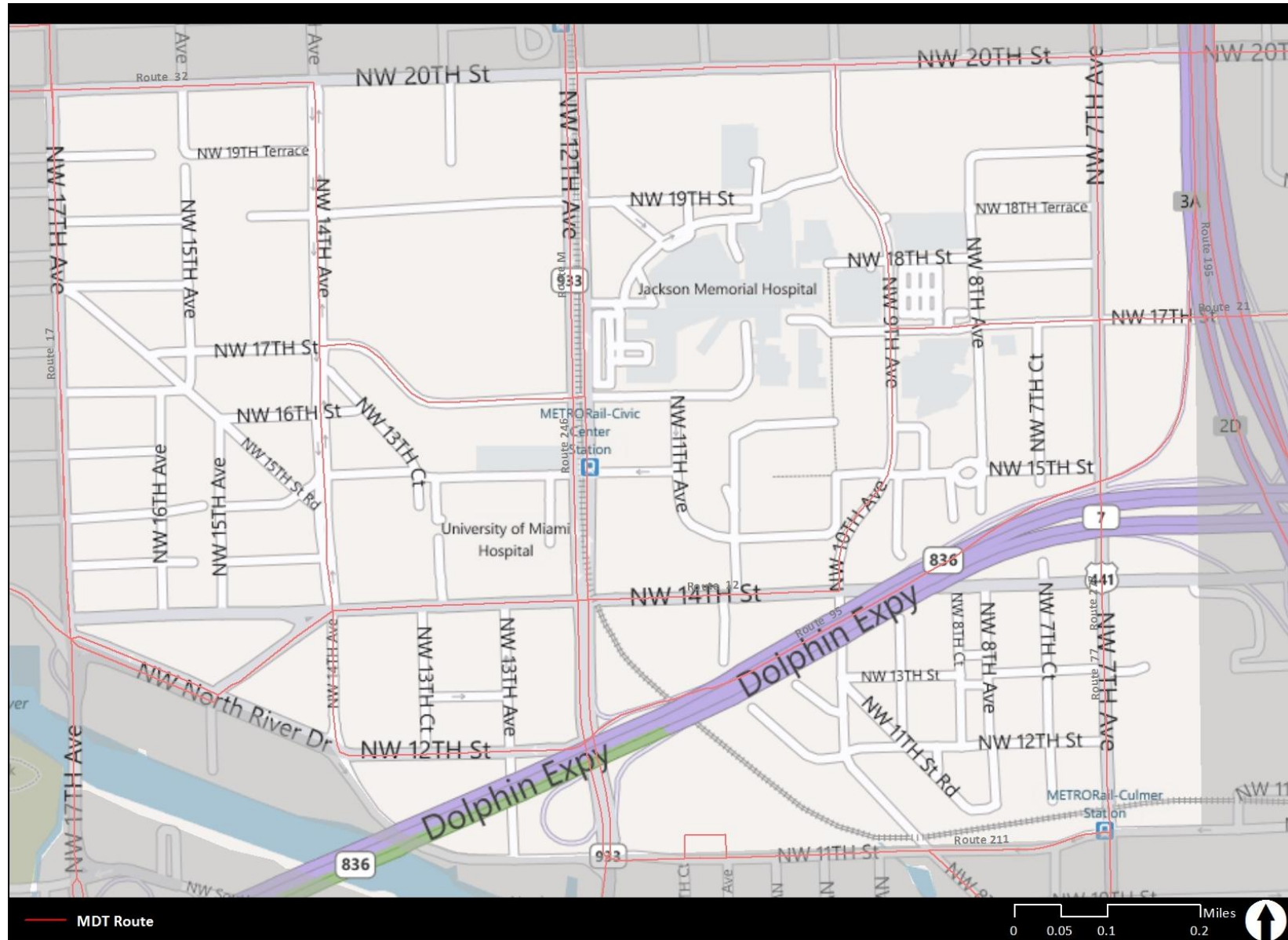
Study Objective

The ultimate objective of this study is to identify initiatives and improvements that can make the Health District area a place where walking and biking are safe, easy, attractive, and convenient modes of transportation. The mobility plan accomplishes the following:

1. Defines goals and objectives for bicycle and pedestrian infrastructure development (also known as non-motorized transportation) in the Health District area;
2. Synthesizes past planning efforts by identifying needs and potential non-motorized transportation planning improvements;
3. Analyzes available data and collects additional data to identify non-motorized transportation needs;
4. Identifies projects that address the existing needs;
5. Provides a set of policy initiatives and recommendations, and;
6. Provides planning-level cost estimates that can be included in the City's Capital Improvements Program.

For purposes of this study, the Health District area is bounded on the north by NW 20 Street, on the south by the North River Drive / NW 11 Street, on the west by NW 17 Avenue, and the east by I-95 (see **Figure 2**).

Figure 2 – Health District Study Area



3.0 BACKGROUND/LITERATURE REVIEW

The Health District area has been the subject of several transportation related improvement studies, however, none have focused solely on the non-motorized components of the area. The background/literature review provides consistency between various plans and studies and helps build upon elements that have already been studied. Additionally, this background/literature review will assist with the identification of potential bicycle and pedestrian related improvements that have already been studied and recommended.

The following data sources, studies, and plans were reviewed as part of this task:

- Health District Basis of Design Report (BODR)
- Miami Civic Center Circulator Study
- Miami Trolley System
- Health District Traffic Study
- Miami Bicycle Master Plan
- Miami River Multimodal Transportation Plan
- NW 7 Avenue Traffic and Pedestrian Study
- Miami-Dade MPO 2011 Transportation Improvement Program (TIP)
- Miami-Dade 2035 Long Range Transportation Plan (LRTP)
- City of Miami Capital Improvements Program (CIP) Projects
- Complete Streets Policies
- University of Miami Walksafe and Bikesafe Programs
- Masterplans and Developments

Provided below is a summary of each of the studies and background information.

Health District Basis of Design Report (BODR)

The Miami Partnership and City of Miami collaborated to develop the Health District BODR which was finalized in April 2008. This effort developed different types of streetscapes, gateways, and signage to create a visual identity of the Health District area. The study identifies several bicycle and pedestrian improvements as part of streetscapes recommendations and developed alternatives for improvements. The study limits were NW 20 Street on the north, NW 14 Street on the south, NW 17 Avenue on the west, and NW 7 Avenue on the east.



Figure 3 – Health District BODR Network

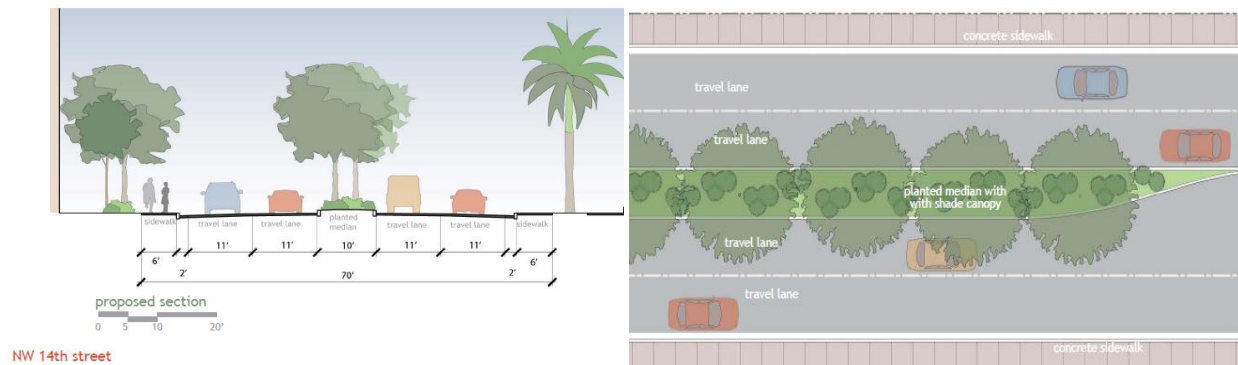
The study categorized the roadway network of the Health District area into the following three categories:

1. Connector streets
 - a. NW 17 Avenue
 - b. NW 12 Avenue
 - c. NW 14 Street
 - d. NW 7 Avenue
 - e. NW 20 Avenue
 - f. NW 9/10 Avenue
2. Linkage streets
 - a. NW 14 Avenue
 - b. NW 17 Street
 - c. NW 15 Street
 - d. NW 15 Street Road
3. Local Streets
 - a. NW 8 Avenue
 - b. NW 17th, 18th, and 19th Streets
 - c. NW 18 Terrace
 - d. NW 13 Court
 - e. NW 15, 16, 17, 18, and 19 Streets,

f. NW 14, 16, and 19 Terraces between NW 17 Avenue and NW 14 Avenue

The streetscape improvement recommendations included widening the sidewalks, improving crosswalks, planting canopy trees, and installing street furniture. An example of a concept drawing of a typical section in the report is presented in **Figure 4**.

Figure 4 – Example of Proposed Typical Section in Health District BODR



One of the most significant pedestrian and bicycle related transportation improvements proposed from this study was the *Healthwalk*. The Healthwalk concept was generally a widening of the sidewalk to 8 feet on one side of a roadway with tree shade canopy and specialized pavement in order to promote pedestrian and bicycle activity and provide a central east/west linkage in the Health District area. The concept drawing of the Healthwalk is presented in **Figure 5**. The Healthwalk was conceptualized along multiple roadway segments to provide an east/west connection in the Health District area (see **Figure 6**)

Figure 5 – Healthwalk

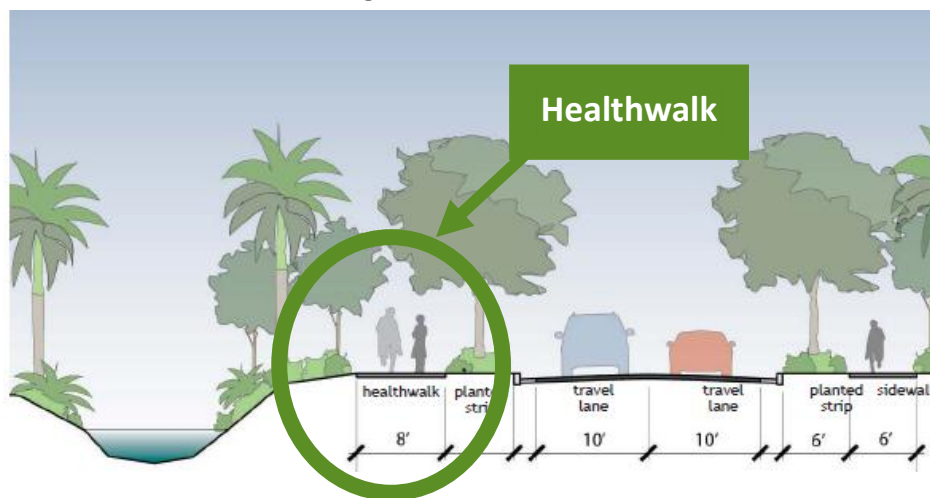
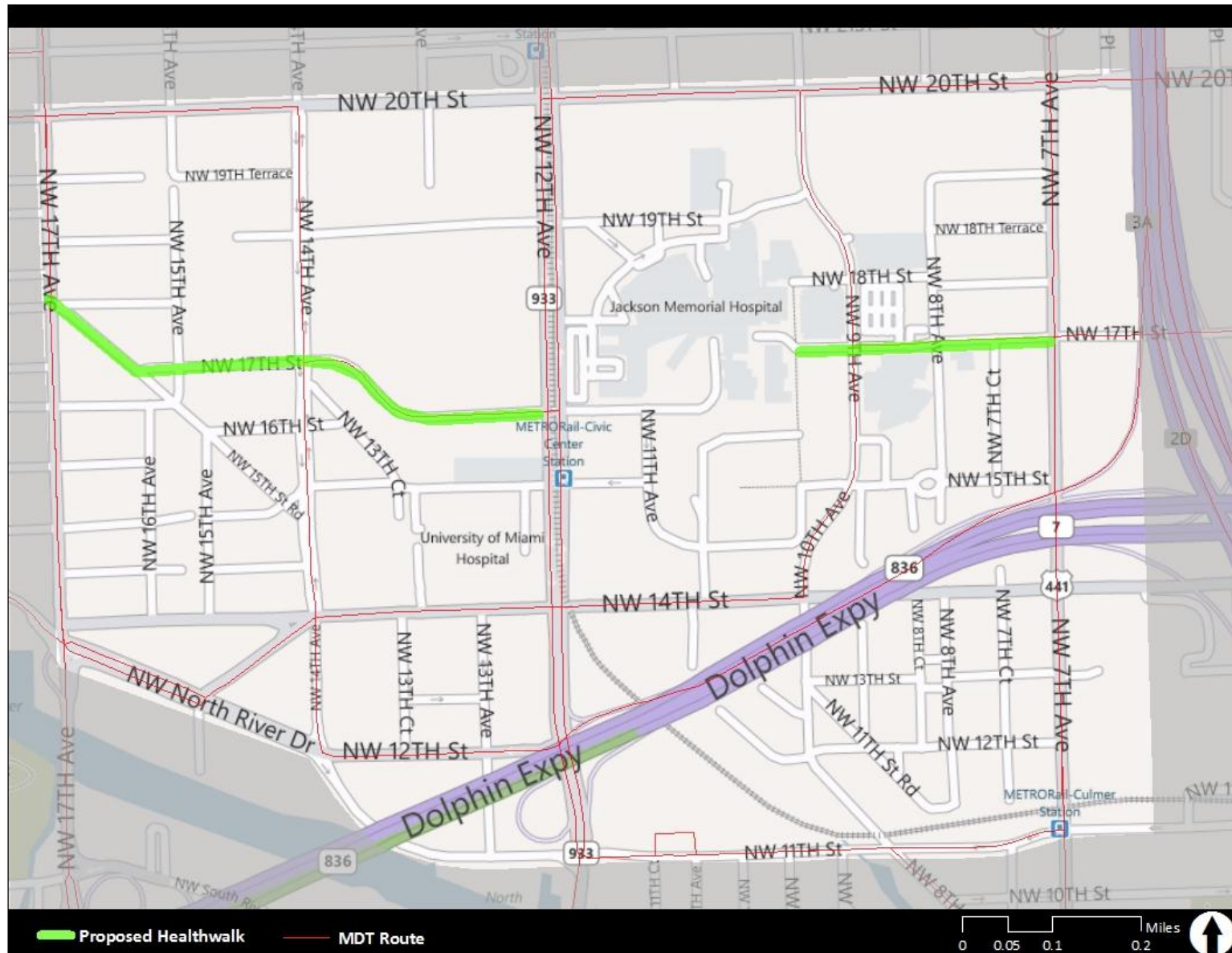


Figure 6 – Healthwalk



Four wayfinding sign types were conceptualized in the study: District signs, Local signs, Pedestrian Destination, and Pedestrian Orientation. The District sign types took into consideration vehicular and pedestrian needs. The Local signs were medium-scale signs which would also direct vehicular traffic and pedestrian traffic. Pedestrian Destination signs were smaller-scale signs to direct pedestrians to specific destinations and transit stops. The Pedestrian Orientation signs were used as a map to illustrate a pedestrians current location similar to a shopping mall map. It should be noted that in the future the Miami-Dade MPO has a proposed project which is intended to develop a signage program for the Health District area.

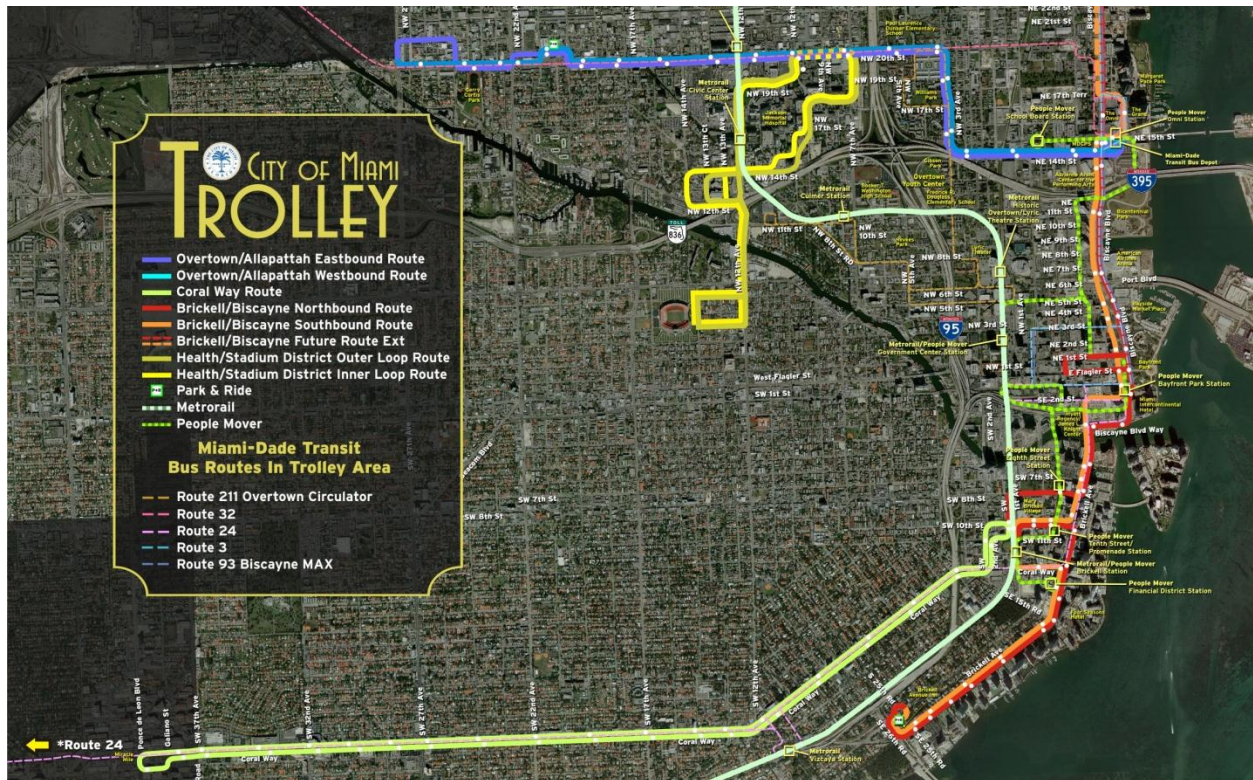
Health District Trolley and the Miami Trolley System

The Civic Center Circulator Study (Health District route), completed in February 2006, analyzed the potential implementation of a 2.9-mile, two-way, on-street circulator loop to service the Civic Center/Health District area. The operations of this project have already been partially funded by FDOT's Service Development Program.

Recently, the City of Miami Commission, as part of a systemwide trolley development plan, approved the route alignment with revisions which includes connections to the new Miami Marlin's Stadium area. The Health District route is a 4.2 mile, two-way loop circulator. This route would connect the Miami-Dade College Medical Campus, the University of Miami-Jackson Memorial Medical Centers, the Miami Veterans Affairs (VA) Healthcare Center, University of Miami Hospital, the Justice Building, and the new Marlin's Stadium. The route will also provide major transit connections with Civic Center Metrorail station and a proposed Overtown/Allapattah route. The circulator is anticipated to provide a high level of service with 10 to 15 minute headway during hours of operation.

Aside from the Health District/Civic Center Circulator Study, the City of Miami also studied and proposed trolleys along Biscayne/Brickell, Coral Way and Overtown/Allapattah areas. The proposed Miami Trolley route alignments including the Health District route (in yellow) are presented in **Figure 7**.

Figure 7 – Miami Trolley Route Alignments



Health District Traffic Study

The Health District Traffic Study mainly focused on auto mode related deficiencies in the Health District area. The study was completed in May 2009.

In this study, the existing bicycle and pedestrian network was reviewed. It found that the area lacked marked crosswalks, directional signage and adequate signalization. Several sidewalk segments were found to be missing and several others were not in compliance with ADA requirements. The NW 14 Street and NW 12 Avenue intersection was found to be the busiest.

The Health District Traffic Study report recommended non-motorized projects which are already currently planned and recommended in the LRTP, TIP, and City of Miami BODR, intersection modifications, and signage and wayfinding improvements. The study also recommended that the major streets or roadways that are adjacent to the largest employee and visitor generators, institutional uses, major parking facilities and Metrorail stations have a well interconnected system of sidewalks to provide for an efficient pedestrian system. Additionally, the study recommended improving the bike-path system between the residential areas located in the eastern and western neighborhoods.

Miami Bicycle Master Plan

The Miami Bicycle Master Plan (MBMP) was completed in November of 2009. A bicycle network plan was developed with a 20 year phasing period and included bicycle related improvements, such as: bicycle routes, shared-use lanes, bicycle lanes, shared-use paths, bicycle boulevards, neighborhood connections, and scenic view routes. The final network implementation phase would involve over 30% of the City of Miami's streets to have a bicycle related accommodations.

The MBMP also involved the analysis and determination of several bicycle parking facilities to be implemented. Bicycle parking typologies explored included: bicycle racks, shelters, lockers, stations (bicycle parking transit centers), and sharing systems (bicycle rental systems). Bicycle parking facility locations and proximities were identified and design features, such as: signs, clear path, clearance from curb, distance from rack to rack, distance from wall, distance from pedestrian aisle, and other site dimensions were reviewed. Based on the review of this document, the MBMP recommends several bicycle network projects in the Health District study area. These projects are also recommended to be phased in by the following years 2010, 2015, 2020, and 2030. It should be noted that no funding has been identified in this plan.

Miami River Multimodal Transportation Plan

The Miami River Multimodal Transportation Plan was developed in August 2007 by the Miami-Dade MPO. The plan addresses the multimodal aspects of transportation along the Miami River corridor that stretches from NW 36th Street to the mouth of the river. The plan summarized existing planned improvements from various sources, recommended new multi-modal projects to improve access, mobility, and livability along the river, and evaluated the river as a potential facility within the FDOT's Strategic Intermodal System (SIS).

The plan identified several transportation needs and deficiencies along the Miami River Corridor. Specific needs were addressed for each type of mode, which includes: pedestrian, bicycle, roadway, public transit, and freight modes. The plan also identified improvements along three sections of the river: Lower, Middle, and Upper River. Based on the plan, the Middle River is the portion of the river near the Health District area. Improvements recommended in the plan for the Middle River are included in **Table 1**.

Table 1 – Miami River Multimodal Recommended Transportation Improvements

Location	Improvement Type	Recommended Improvement
Roadway Improvements		
Along Miami River Corridor	Signage	Install wayfinding signage along corridor and on the local major highways (i.e. SR I-836) indicating major attractions
NW 12th Avenue, NW 17th Avenue, NW 22nd Avenue	ITS/Signalization	Implement an automated drawbridge traffic management system, including extended green times following bridge openings and dynamic message signs
NW 11th Street and NW 10th Street	Traffic Flow Modification	Convert to 2-way traffic flow in front of Culmer Metrorail Station, from NW 8th Street Road to west of Biscayne Boulevard. Include bike lanes, landscape, streetscape, and on-street parking
NW 17th Avenue and SR 836/NW 11th Street	Traffic Flow Modification	Restripe to provide two northbound through lanes on NW 17th Avenue at NW South River Drive, including signage. Widen NW 11th Street to allow for two eastbound lanes.
North River Drive and NW 17th Avenue	Signage	Improved directional signage to SR-836
North River Drive and NW 22nd Avenue	Signage	Install speed limit sign and install new NW 22nd Avenue Street sign
Transit Improvements		
Metrobus	Service Expansion	Improve service as demand warrants
Water bus	New Service	Implement water bus service to provide mobility between downtown terminal/port and MIC
North River Drive and NW 17th Avenue	Bus Stop	Provide pedestrian level lighting
North River Drive and NW 19th Avenue	Bus Stop	Provide pedestrian level lighting and bench with shelter at bus stop
Bicycle/Pedestrian Improvements		
Miami River Greenway	Riverwalk/ On-street	Complete the Miami River Greenway
Miami River Corridor	Parking	Remove parking meters from sidewalk and replace with "Pay and Display" machines throughout the Corridor
North River Drive @ NW 14th Avenue/ NW 12th Street	Bicycle Facilities	Install a bike rack at bus stop
North River Drive @ NW 17th Avenue/ NW 14th Street	Bicycle Facilities	Install a bike rack at bus stop
Bridges in Middle River Section	Bicycle Facilities	Install wheel gutters for bicycles at all feasible pedestrian stairs on the new NW 12th Avenue Bridge
North River Drive @ NW 22nd Court	ADA Ramps	Provide ADA ramps
North River Drive @ NW 17th Avenue /NW 14th Street	ADA Ramps/ Signal/ Crosswalks	Provide ADA ramps/ install pedestrian signal heads/ re-stripe crosswalks

HEALTH DISTRICT BICYCLE AND PEDESTRIAN MOBILITY PLAN

Location	Improvement Type	Recommended Improvement
North River Drive @ NW 15th Avenue	ADA Ramps/Signal	Provide ADA ramps, install pedestrian signal heads
North River Drive @ NW 14th Avenue/NW 12th Street	ADA Ramps/ Pedestrian Features	Provide ADA ramps, crosswalks and pedestrian refuge
NW 12th Avenue Bridge	ADA Ramps/ Lighting/Maintenance	Provide ADA ramps on bridge/ pedestrian level lighting at stairs/ remove fence south of bridge
North River Drive @ NW 11th Court	ADA Ramps	Provide ADA ramps
North River Drive @ NW 11th Avenue	ADA Ramps/Crosswalks	Provide ADA ramps and crosswalks
North River Drive @ NW 10th Avenue	ADA Ramps/Crosswalks	Provide ADA ramps and crosswalks
North River Drive @ NW 9th Court	ADA Ramps	Provide ADA ramps
North River Drive from NW 13th Avenue to NW 14th Avenue	Maintenance	Maintain streetscape
South River Drive & NW 17th Avenue	Pedestrian Features	Install pedestrian signalized crossing, pedestrian level lighting and crosswalk
North River Drive @ NW 13th Terrace	Signal	Install pedestrian signalized crossing
NW 22nd Avenue @ NW 14th Street	Crosswalks	Provide crosswalks
Durham Park @ NW 13th Street	Crosswalks	Provide crosswalks
North River Drive @ NW 22nd Avenue (surface street)	ADA Ramps	Provide ADA ramps and sign warning of staircase on east side of bridge
South River Drive @ NW 15th Avenue	ADA Ramps/Crosswalks	Provide ADA ramps and crosswalks
South River Drive @ NW 14th Court	ADA Ramps/Crosswalks	Provide ADA ramps and crosswalks
South River Drive @ NW 11th Avenue	ADA Ramps/Crosswalks	Provide ADA ramps and crosswalks

NW 7 Avenue Traffic and Pedestrian Study

The purpose of the NW 7 Avenue Traffic and Pedestrian Study was to assess the need for pedestrian improvements along NW 7 Avenue and the impacts of the new federal immigration facility at NW 7 Avenue and NW 88 Street. The report recommended more general improvements for pedestrians such as bus stop improvements, pedestrian and safety improvements, and transit improvements.

Miami-Dade MPO 2011 Transportation Improvement Program (TIP)

The Miami-Dade MPO TIP 2011 was reviewed in order to identify the transportation improvement projects in the Health District area. The Miami-Dade MPO TIP is required by federal regulations and is updated annually. It includes a four-year priority list of federally funded projects and other transportation projects funded with state and/or local monies. The TIP includes seven (7) infrastructure improvement projects in the Health District area (**Table 2**).

Table 2 – Miami-Dade MPO 2011 TIP List of Projects in Health District Area

MPO Project No.	Facility/Project Name	Project Limits		Type of Work	Lead Agency
		From	To		
DT4255981	SR 7/ NW 7 Avenue	NW 8 Street	NW 32 Street	Flexible Pavement Reconstruction	FDOT
DT4255982	SR 7/ NW 7 Avenue	NW 6 Street	NW 32 Street	Intersection Improvements	FDOT
DT4209071	Miami River Greenway	I-95	NW 12 Avenue	Bike Path/Trail	FDOT
DT4209151	Miami River Greenway	South River Dr	NW 7 Street	Bike Path/Trail	FDOT
DT4209171	Overtown Greenway/ NW 11 Street	NW 3 Avenue	NW 7 Avenue	Bike Path/Trail	FDOT
PW0000361	NW 20 Street	SR 9/NW 27 Avenue	I-95	Roadway Improvements	Miami-Dade Public Works
XA83630	SR 836 and NW 14 Street Interchange	SR 836	NW 14 Street	Exit Ramp Widening	MDX

Miami-Dade 2035 Long Range Transportation Plan (LRTP)

The Miami-Dade 2035 LRTP was reviewed in order to identify cost feasible projects. The LRTP is developed every five years as part of federal regulation requirements in order to guide transportation investments for at least a 20-year horizon. The Miami-Dade 2035 LRTP includes investments for roadways, transit, bicycle, pedestrian facilities, greenways, and trails. The cost feasible projects section in the plan was developed based on future projected revenues. Based on a review of this document a total of seven (7) infrastructure improvement projects have been identified in the Health District area which are presented in **Table 3**.

Table 3 – Miami-Dade 2035 LRTP List of Projects in Health District Area

Facility/Project Name	Project Limits		Description of Work
	From	To	
NW 20 Street	I-95	NW 27 Avenue	Roadway Infrastructure Improvement
SR 836	NW 12 Avenue	Ramp to I-95	Ramp to I-95
NW/NE 14 Street	Biscayne Boulevard	17 th Ave in Health District	Narrowing lanes, adding raised medians, and sharrows.
NW/NE 20 Street	Biscayne Boulevard	Health District	Pedestrian Facility Improvements
Overtown Greenway (except portion between NW 7 Avenue and NW 3 Avenue)	Bicentennial Park	Miami River Greenway	Trail Improvements
Miami River Greenway	NW 36 Street	NW 12 Avenue	Trail Improvements
Miami River Greenway	NW 12 Avenue	SE 2 Avenue	Trail Improvements

City of Miami Capital Improvements Program (CIP) Projects

The City of Miami Capital Improvements Program 2010-2011 Multi-Year Capital Plan was reviewed in order to identify the City of Miami funded transportation infrastructure improvement projects in the Health District area. The program includes three infrastructure improvement projects in the Health District area (**Table 4**).

Table 4 – City of Miami CIP Projects in Health District Area

City of Miami B-No.	Facility/Project Name
B-30500	Civic Center Infrastructure – D1, D2, D3, D4, & D5
B-30518	Northwest 14 Street Streetscape Project including (resurfacing and safety improvements)
B-30703	Bob Hope Drive between NW 20 and NW 17 Street (milling, resurfacing project, and adding sharrows)

The NW 14 Street Streetscape project is anticipated to include a divided median. It should also be noted that a project which is not specifically listed in the City of Miami CIP list is the NW 12 Avenue and NW 14 Street intersection improvement. This project seeks to improve the aesthetics and pedestrian safety of the intersection with a more visible pedestrian walkway.

Complete Streets Policies

The National Complete Streets Coalition was formed in 2005 in order to promote the concept of complete streets. A Complete Street is a true multimodal roadway, which is designed and operated to consider all users including: pedestrians, bicyclists, transit, and the personal vehicle. The complete streets concept was developed because the general perception was that most roadways were developed favoring the personal vehicle. The complete streets concept became closer to reality when in March 2010 the United States Department of Transportation (USDOT) issued a policy statement to reflect the Department's support of fully integrated active transportation networks. The purpose of this USDOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. *"This is the end of favoring motorized transportation at the expense of non-motorized"* – Ray LaHood, Secretary of Transportation. Some of the actions recommended from this policy include the following:

- Considering walking and bicycling as equals with other transportation modes
- Ensuring transportation modes of people of all ages and abilities
- Designing bicycle and pedestrian facilities beyond the minimum standard
- Collecting data on bicycling and pedestrian modes
- Maintain bicycle and pedestrian facilities in the same manner as roadway assets
- Improving non-motorized facilities

The Complete Streets has been introduced as a bill in the United States House of Representatives and Senate as the *Safe and Complete Streets Act 2011*. Based on a March 2011 summary of this bill, within two years each state, or state department of transportation and MPO would be required to develop policy which requires all federally-funded projects to accommodate the safety and convenience of all users in accordance with certain complete streets principles. This bill has yet to be voted on. Regardless

of the actions of the United States Congress, the City of Miami has approved the development of a “Complete Streets Program” as of March 2009.

University of Miami Walksafe and Bikesafe Programs

One of the largest institutions in the Health District area, the University of Miami, has been a strong advocate and supporter of improving safety and expanding accommodations for the walking and bicycling safety network in Miami-Dade County. The University Of Miami Miller School Of Medicine developed the Walksafe and Bikesafe programs in order to help improve the pedestrian and bicycle network for all users.

The Walksafe program was developed in 2001 and is intended to improve pedestrian safety for elementary schools. The Walksafe program has assisted with the developments of several Miami-Dade MPO Safe Routes to Schools (SRTS) studies. Even though the program intends to primarily help elementary schools, the lessons learned can be directly applied to anywhere including the Health District area. The Walksafe program is based on a 5-E model - Education, Engineering, Enforcement, Evaluation, and Encouragement – that is essential for a safe and effective pedestrian mobility plan.

The Bikesafe program was developed in 2009 in order to address the high numbers of bicyclist injuries and fatalities in the County and follows the same 5-E model from the Walksafe program.

University of Miami Miller School of Medicine – Creating a World Class Campus

University of Miami Miller School of Medicine – Creating a World Class Campus Plan – was completed in June 2008 with the objectives of developing a unified campus vision, establishing a campus identity, enhancing urbanism, improving circulation, increasing walkability, and anticipating future growth. The development of this plan included site analysis of the area of the University of Miami Miller School of Medicine Campus, organizing charettes, developing area plans, transportation facility improvements, retail potential, architecture, and developing design guidelines. Some of the transportation facility improvements included new roads, bicycle and pedestrian improvements, and redevelopment of NW 14 Street.

Masterplans and Developments

Several organizations have recently completed or have planned large projects in the Health District area.

A few major projects are listed below:

- The Miami-Dade Department of Health Center for Excellence was recently completed.
- The Miami Marriot Spring Hill Suites in the Health District area was recently completed.
- The University of Miami has recently completed other developments such as the Biomedical Research Building, Chiller Plant/Parking garage and Modular Research Laboratories.
- University of Miami has almost completed construction of Building 1 (out of 5 buildings) of its Life Science and Technology Park located east of NW 7 Avenue between NW 17 Street and NW 20 Street
- Camillus House is currently in the construction phase of a new three-acre campus on the southeast corner of NW 7 Avenue and NW 17 Street.
- Jackson Memorial Hospital developed a masterplan which summarizes a potential on-site expansion with additional retail development.

It is expected that demand for pedestrian and bicycle infrastructure will increase once these projects are completed.

4.0 PUBLIC OUTREACH

The public outreach for the Health District Bicycle and Pedestrian Mobility Plan relied on two public outreach sources: area stakeholders and an online survey.

Project Stakeholders

The stakeholders for this project were selected based on input from the City of Miami, University of Miami, and Miami-Dade MPO. Most of the stakeholders selected had previous involvement with the Miami Partnership. The Miami Partnership had multiple representatives from each area organization/institution. The idea was to have at least one representative from each area organization or institution to the extent feasible.

The stakeholder list encompassed 44 representatives from the following organizations:

- Jackson Memorial Hospital
- University of Miami Hospital
- Miami VA Healthcare System
- Miami-Dade County Department of Health
- 11th Judicial Court of Florida
- State Attorney's office
- Miami-Dade County Corrections and Rehabilitation
- Public Defenders Office
- Miami-Dade Transit
- Miami Parking Authority
- City of Miami District 1
- University of Miami Miller School of Medicine
- Lindsey Hopkins Technical Institute
- Miami-Dade College Medical Campus
- Kristi House
- Children's Home Society
- Camillus House
- Miami Marriot Springs Hill Suites

- Allapattah Neighborhood Enhancement Team (NET)
- Spring Gardens Neighborhood Association
- Miami Dade MPO
- Miami-Dade County Planning

These stakeholders provided the basic framework for the public outreach of this project.

Stakeholder Meeting

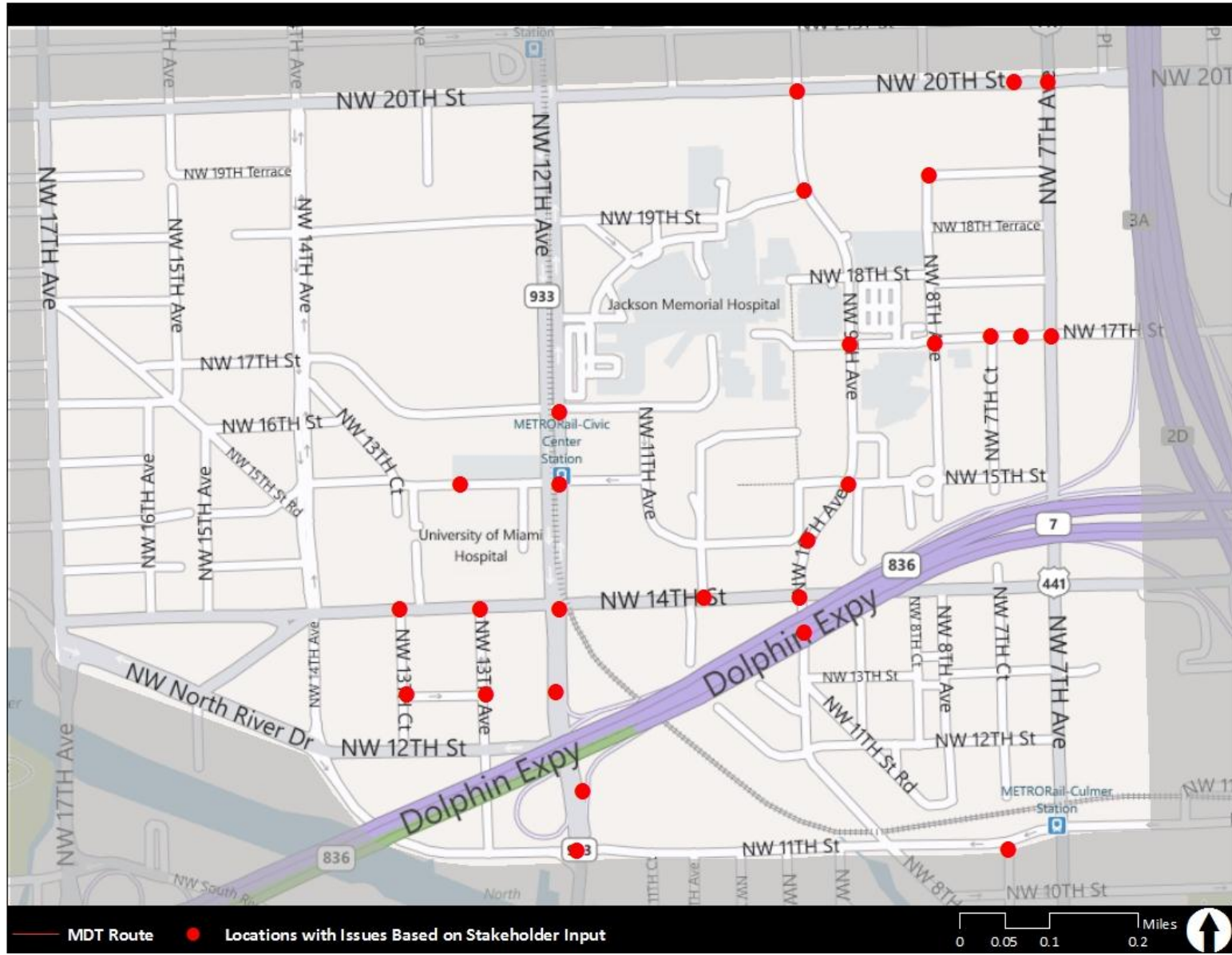
A stakeholder meeting was held on Friday, March 11, 2011. A total of 28 people attended this meeting including 4 from the project team. Below is a summary of the comments and recommendations during the meeting:

- Stakeholder Recommendations/Observations
 - Include the Culmer Metrorail Station in the Study Area. (As a result the Culmer Metrorail Station is being included in this study.)
 - Improve the bridge crossing for pedestrians along NW 9 Avenue potentially considering more lighting.
 - Review the 7th Avenue Traffic and Pedestrian Study completed by the Miami-Dade MPO (It is included in Section 2.0).
 - Review the infrastructure project along Bob Hope Drive.
 - Survey the study area and identify potential ADA issues.
 - Designate certain streets as trails. Miami-Dade County Parks and Recreation has a trail system with signage and mapping.
 - Include graphics in crosswalks pavements. (This issue was discussed with County and was found to be unfeasible).
 - Review potential for audible crossings within the Health District.
 - Consider closing NW 16 Street for pedestrians. A gate can be provided for emergency vehicle access
 - Find a central core area for a bike parking facility and dedicated bike lockers around area.
 - Review potential for a pedestrian link between buses on NW 7 Avenue and NW 12 Avenue.
 - Identify feasibility of an additional greenway along Wagner Creek.

- Develop a pedestrian walkway with flashing lights in front of the Richard E. Gerstein Justice Building and the Criminal Building (1351 NW 12 St, south side). The pedestrian and auto traffic at this location is heavy.
- Review a potential crosswalk from Kristi House parking lot to the State Attorney's Office.
- Stakeholder Comments/Observations
 - The change in pedestrian activity level during the summer is not significant.
 - City of Miami CIP Project along NW 14 Street between NW 7 Avenue and NW 17 Avenue which may include shared-use bicycle lanes. The design phase will begin soon.
 - Review MDX Project for expanding the exit ramp on NW 14 Street from westbound SR 836.
 - Potential for trolley extension to Calle Ocho to connect with the elderly population with the Health District and a shuttle to the tourist area.
- The completion of the Miami River Greenway is important to the area.
- Potential for crosswalks with solar-powered Light-Emitting Diodes (LED) along NW 12 Street by the Justice Building, the intersection of NW 14 Street and NW 11 Avenue, NW 9 Avenue between NW 17 Street and NW 17 Terrace, and NW 15 Street between NW 9 Avenue and NW 11 Avenue.
- Add more trees, less fencing, and repair curbs, sidewalks, and potholes in the area. Better striping of lanes and crosswalks is needed.

At the end of the meeting the stakeholders were asked to visually mark on a large map specific intersections or roadways in the Health District area which have issues. The meeting attendees marked the large map with bright orange dots to pinpoint these problem locations. Based on a visual inspection of this marked-up map some problem areas are along NW 12 Avenue, NW 14 Street, Bob Hope Drive, Miami-Dade College Medical Campus, and the Court House area (**Figure 8**).

Figure 8 – Locations with Issues Based on Stakeholder Input



Online Surveys

Online surveys were developed to receive input from the area workers, students, and visitors who commute to the Health District area at least few times a week. In order to better understand the pedestrian and bicycle issues which may not be revealed during a typical field review.

The survey questions were developed in close coordination with the City of Miami and University of Miami staff. These survey questions included obtaining travel characteristics of the surveyor, specific area issues, and potential recommendations. The online survey link was then distributed to representatives from the area organization which further distributed the survey link. The survey was open and distributed on Monday, June 20, 2011 and closed on Monday, July 11, 2011. A total 953 responses were received. Some responses were partially complete but they were included in the analysis. A summary of survey results are included below:

- Most of the survey respondent's worked in the Health District area (see **Figure 9**). These respondents are typically utilizing the Health District area transportation network from Monday-Friday during and during morning and evening peak hours.
- Over 20% of the respondents use public transportation to/from the Health District area (see **Figure 10**).

Figure 9 – Diversity of Online Survey Respondents

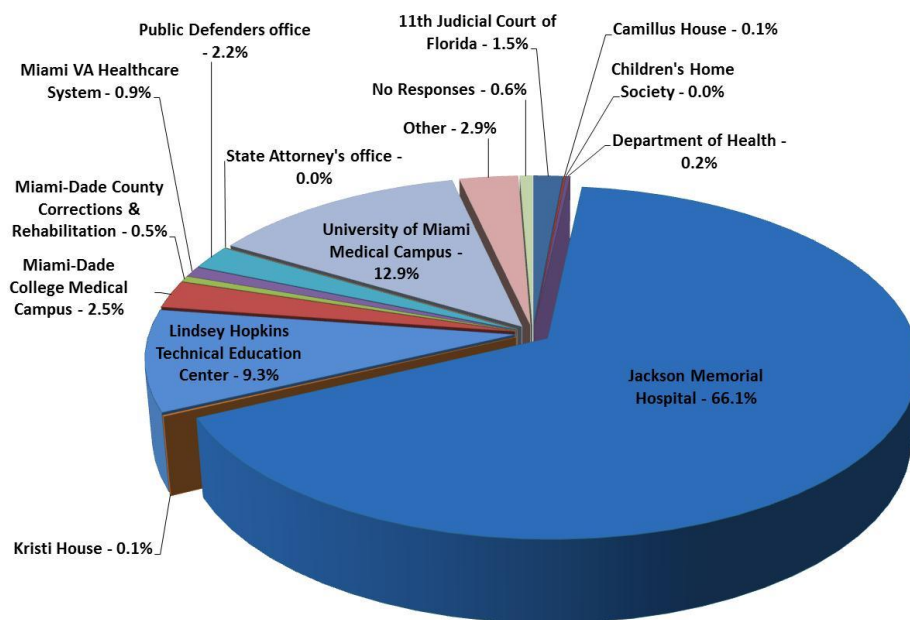
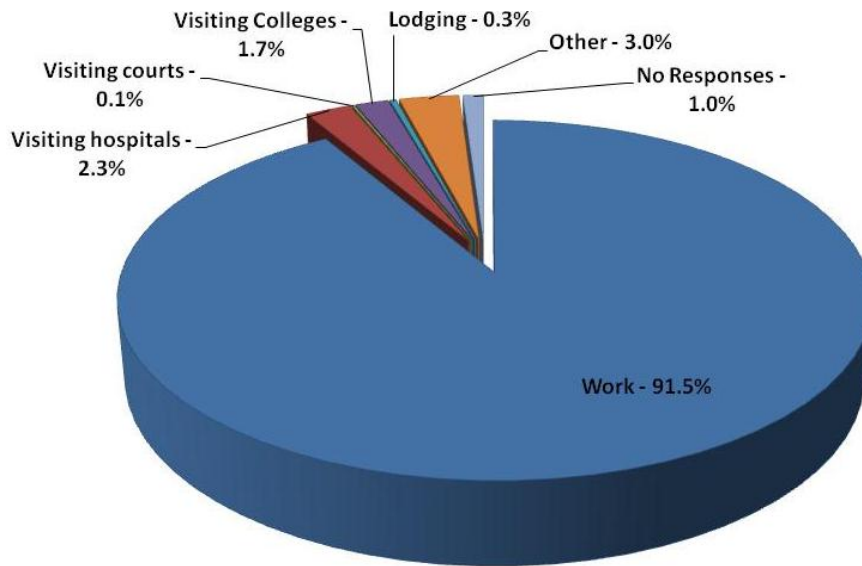
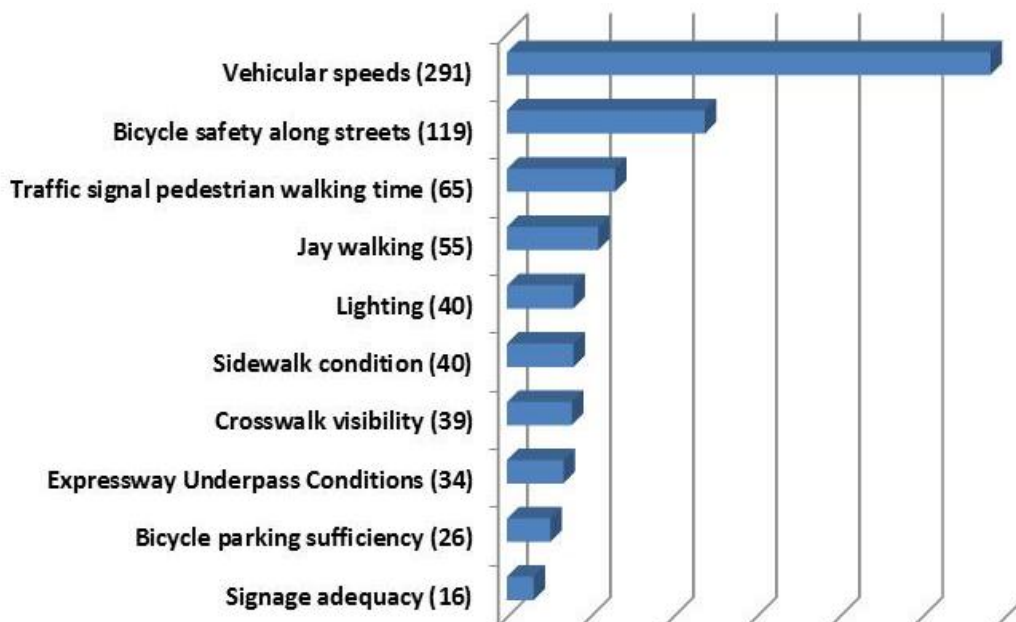


Figure 10 – Travel Characteristics of Survey Respondents



- The survey respondents were also asked to rank ten issues from the most concerning to the least concerning: Based on the survey responses the most concerning issue was vehicular speeds (ranked #1, 291 times) followed by bicycle safety along streets, pedestrian signal walking time, jay walking, and then sidewalk conditions and lighting (**Figure 11**).

Figure 11 –Most Concerning Issues by Survey Respondents (Occurrence of #1 Ranking)



The survey also contained open-ended responses. The detailed survey results are included in **Appendix A**.

5.0 EXISTING CONDITIONS

The existing conditions analysis consisted of a qualitative and quantitative review of the Health District study area. The qualitative review consisted of field observations of the existing pedestrian and bicycle facilities of the transportation networks. The quantitative review consisted of transit data and pedestrian and bicyclist counts at nine locations. Below is a summary of the field observations and pedestrian and bicyclist counts.

Field Observations

Field observations were conducted in the Health District area in March and April of 2011. The field observations consisted of reviewing the existing pedestrian and bicyclist characteristics of the transportation network. Some of the characteristics reviewed consisted of land use, vehicular parking facilities, bicycle facilities, transit facilities, lighting, signage, sidewalk/pavement conditions, roadway widths, traffic control devices, crosswalk condition, pedestrian crossing signals, and streetscape amenities. The detailed data collection report is included in **Appendix B**.



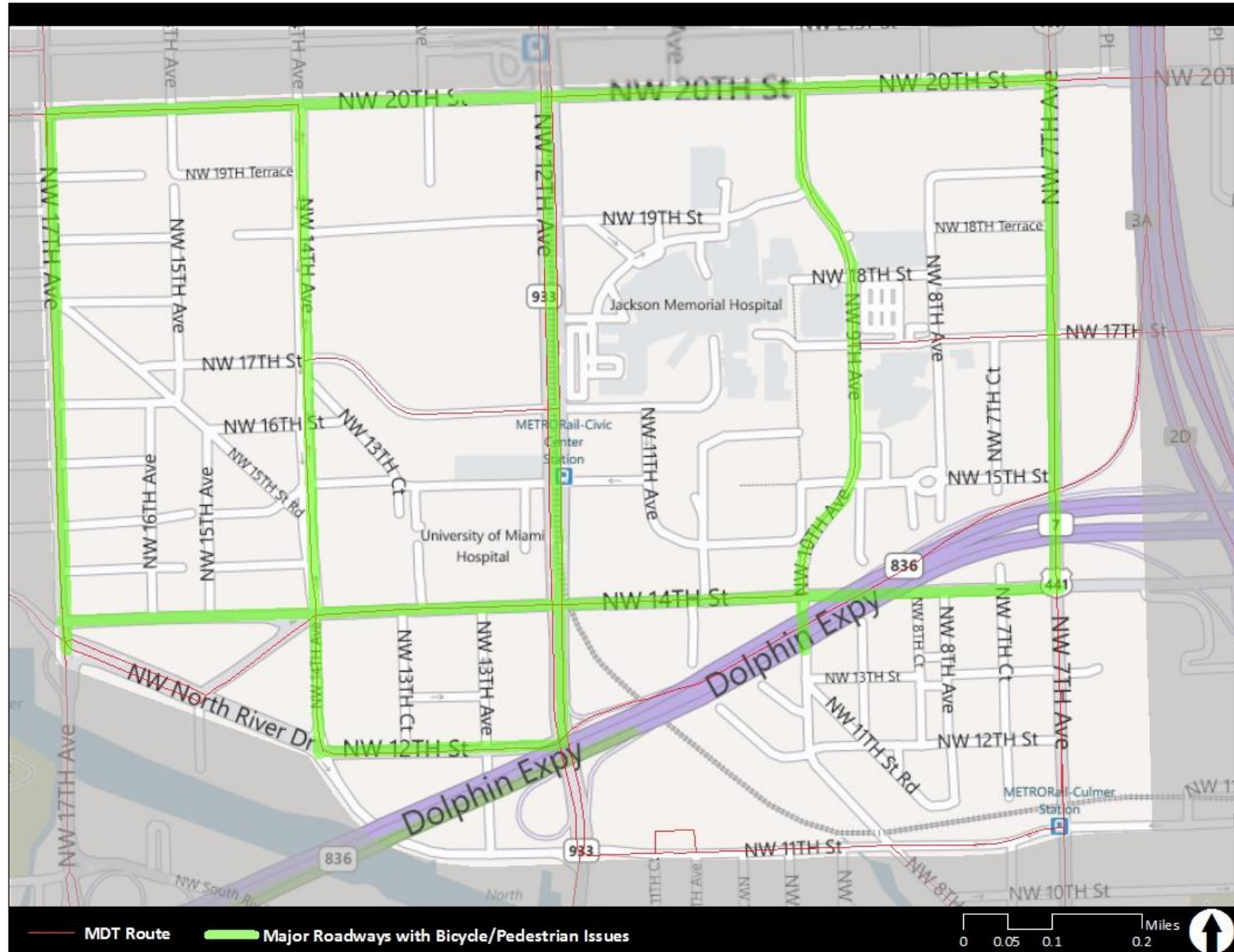
Figure 12 – Poor Sidewalk Condition

Based on the field observations several issues for pedestrians and bicyclists were identified in the Health District area ranging from sidewalk conditions to roadway conditions. Some of the general field observations include poor sidewalk and crosswalk conditions, obstacles along several sidewalks, vehicular speeds are not accommodating to pedestrians, pedestrian signal timings are not adequate (based on jaywalking pedestrians), and the area appears to be vehicular friendly and not accommodating to pedestrians and bicyclists. Based on the detailed data collection report contained in **Appendix B**, some of the pedestrian and bicyclist character and issues summarized by major roadway segments are presented in **Table 5**. Also, the major roadways with bicycle and pedestrian issues are presented in **Figure 13**.

Table 5 – Pedestrian and Bicycle Characteristics/Issues by Major Roadways

Major Roadway Segment	Characteristics/Issues
NW 17 Avenue between NW North River Drive to NW 20 Street	<ul style="list-style-type: none"> • Several faded crosswalks along corridor • Broken signalized pedestrian crossing
NW 14 Avenue between NW North River Drive to NW 20 Street	<ul style="list-style-type: none"> • Several faded crosswalks along corridor • Lack of pedestrian refuge • Lack of pedestrian crosswalks at some intersections • Unclear recommended pedestrian circulation at some intersections
NW 12 Avenue (Civic Center Metrorail corridor) between NW 12 Street to NW 20 Street	<ul style="list-style-type: none"> • High pedestrian activity • Several vehicles not yielding to pedestrians at curb-cut driveways was noted • Lack of yield-to-pedestrian signs to inform vehicles turning from NW 12 Avenue into driveways • Crosswalk at the east leg of the NW 12 Avenue and NW 16 Street intersection is well behind vehicle stop bar • Short pedestrian signal timings - some pedestrians are required to cross street in two signal phases • Several pedestrians jaywalking
NW 10 and 9 Avenue (Bob Hope Drive) between SR 836 and NW 20 Street	<ul style="list-style-type: none"> • High pedestrian activity • No designated crosswalks at some intersections • Roadway curve coupled by vehicle speeds at intersection Bob Hope Drive and NW 15 Street may be unsafe for crossing pedestrians • Several pedestrians jaywalking
NW 7 Avenue between NW 14 Street and NW 20 Street	<ul style="list-style-type: none"> • Area of high pedestrian activity at NW 7 Avenue and NW 20 Street • No pedestrian refuge and few locations for pedestrians to cross street • Vehicle speeds appear to be a conflict for pedestrians with few locations to cross NW 7 Avenue
NW 20 Street between NW 7 Avenue and NW 17 Avenue	<ul style="list-style-type: none"> • High pedestrian activity at major intersections • Roadway appears to have high vehicular volumes and high vehicular speeds
NW 14 Street between NW 7 Avenue and NW 17 Avenue	<ul style="list-style-type: none"> • One signalized pedestrian crossing was broken at the time of the field review • Utility obstacles at several locations potentially not meeting ADA requirements for sidewalk • One diagonally placed crosswalk which requires pedestrian more time to cross roadway than 90 degree crosswalk (In front of Clinical Research Building) • Signal timing may not be adequate as several pedestrians were seen jaywalking • Vehicle speeds may not be accommodating to pedestrians and bicyclists
NW 12 Street (Courthouses) between NW 12 Avenue and NW 14 Avenue	<ul style="list-style-type: none"> • High pedestrian activity • Few designated pedestrian crossings • Jaywalking is common

Figure 13 – Major Roadways with Bicycle and Pedestrian Issues



Journey to Work Data

The journey to work data is essential for understanding the multimodal characteristics of an area. The United States Census Bureau American Community Survey (ACS) is a nationwide, continuous survey which provides demographic, housing, social, and economic data every year including journey to work data. The journey to work data for the Health District area and Miami-Dade County was extracted from this ACS database. According to the data, approximately 8% of the workers living in the Health District area use transit. Additionally, about 11% of the workers working in the Health District area use transit to commute to work. The journey to work data is provided in **Table 6**.

Table 6 – Journey to Work Data Comparison

Mode of Transportation	Workers Living in Health District	Workers Working in Health District	Miami-Dade County
Car (drove alone or carpooled)	41.0%	84.8%	88.4%
Transit	8.3%	10.8%	5.2%
Bicycle	1.9%	0.3%	0.5%
Walk	37.7%	2.4%	2.2%
Other	13.0%	1.4%	3.6%

Transit Data

The transit data is essential for understanding the pedestrian activity in any particular location. The Health District area is serviced by eight Metrobus routes (12, 17, 21, 32, 77, 246, M, and 277), the 95 Express route, and the Civic Center and Culmer Metrorail stations. The Civic Center Metrorail Station is centrally located in the Health District area along NW 12 Avenue and about NW 16 Street. The Culmer Metrorail Station is located south of SR 836 on the northwest corner of the NW 7 Avenue and NW 12 Street intersection.

The Metrorail station areas typically have higher pedestrian activity compared with the Metrobus stops due to the potential volume of passengers per Metrorail train. The MDT Ridership Technical Report of June 2011, Metrorail Boardings by station, was reviewed in order to obtain ridership boarding data. According to the report, the Civic Center Metrorail Station has the 4th highest number of boardings during the month of June 2011 out of all of the other Metrorail stations. The Civic Center Metrorail Station had over 136,000 in the month of June 2011. Based on this transit boarding number alone it can

be concluded that the area around the Civic Center Metrorail Station has high pedestrian activity. The Metrorail boardings by stations is presented in **Table 7**.

Table 7 –Total Monthly Boardings for June 2011 at Metrorail Stations

Metrorail Station	Total Monthly Boardings
Dadeland South	168,424
Dadeland North	147,152
South Miami	80,413
University	41,397
Douglas	94,553
Coconut Grove	45,475
Vizcaya	30,551
Brickell	100,799
Government Center	265,309
Overtown/Arena	35,964
Culmer	27,018
Civic Center	136,819
Santa Clara	18,141
Allapattah	44,070
Earlington Heights	37,484
Brownsville	20,217
Martin Luther King	34,392
Northside	40,750
Tri-Rail	36,061
Hialeah	41,643
Okeechobee	31,861
Palmetto	26,425

Additionally, the metrobus stops were analyzed in order to assess the ADA compliance and types of stops. Some of the stops analyzed were Americans with Disabilities Act (ADA) non-compliant which meant that certain individuals with disabilities may not be able to utilize the stop. Additionally, some of the stops analyzed were ADA inaccessible which meant that certain individuals with disabilities may not be able to access the stop. According to MDT data, there are 90 total bus stops in the Health District area. The following is a summary of the data from these 90 stops.

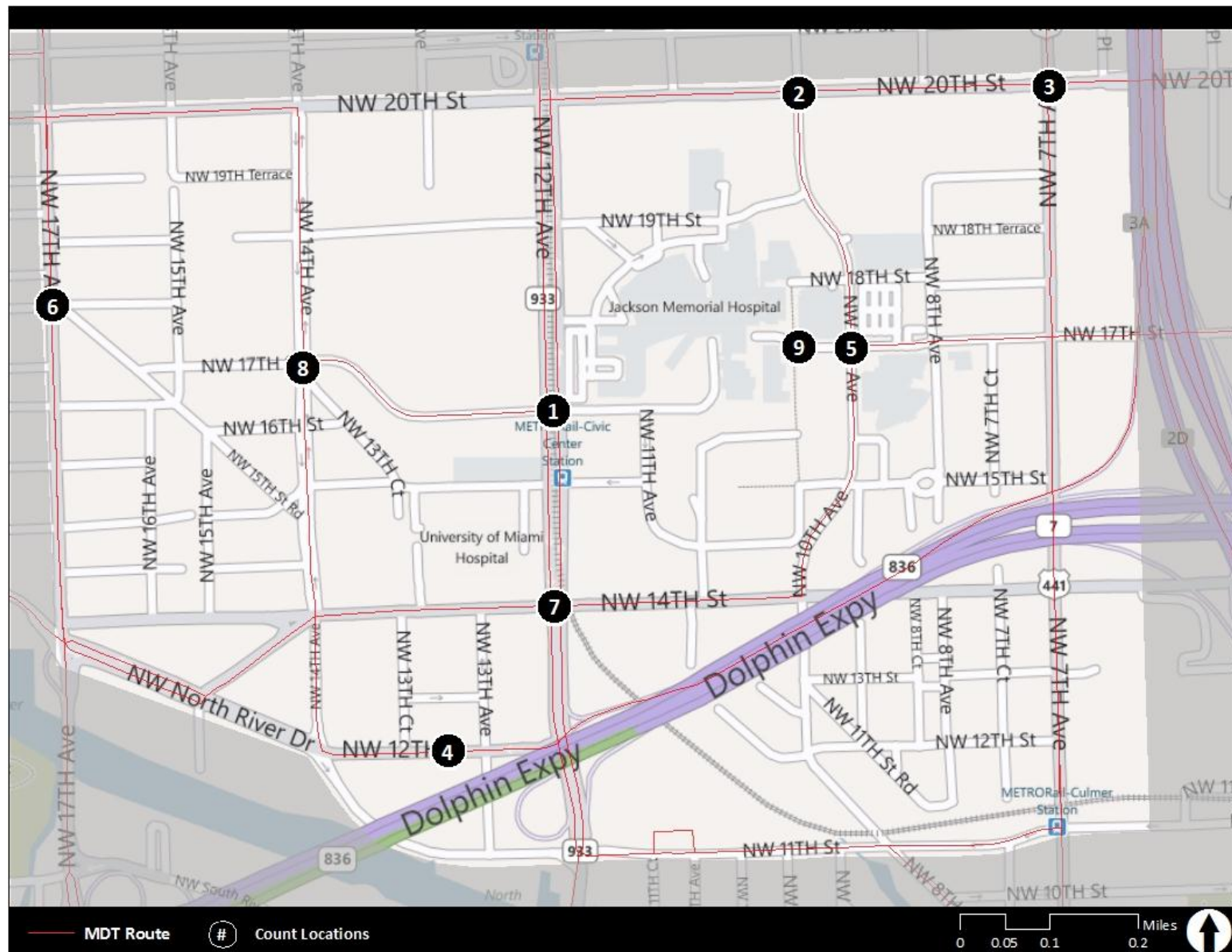
- 12 ADA non-compliant Metrobus stops
- 14 ADA inaccessible Metrobus stops
- 45 Metrobus stops without seating
- 76 Metrobus stops without shelter

Pedestrian and Bicyclist Counts

The pedestrian and bicyclist counts were performed at nine locations in March 2011 during the morning peak period between 8:00 and 10:00 AM. The 9 locations were selected in close coordination with the City of Miami and University of Miami staff (**Figure 14**). These nine locations were scattered throughout the Health District area for better representation of non-motorized activity and were selected to capture the activity from the major pedestrian and bicyclist generators in the area such as the colleges, hospitals, and court houses. Location number nine, which is Fred Cowell Mall, was intended to be a gauge for the pedestrian and bicyclist activity since it already has a high volume of non-motorized traffic. The detailed pedestrian and bicyclist count information with illustrations of the pedestrian and bicycle flows are included in **Appendix C**.

1. NW 12 Street and NW 16 Street (Civic Center Metrorail Station)
2. NW 20 Street and NW 10 Avenue
3. NW 20 Street and NW 7 Avenue
4. NW 12 Street by Richard Gerstein Justice Building
5. Bob Hope Drive and NW 17 Street
6. NW 17 Avenue by NW 15 Road (Healthwalk)
7. NW 12 Avenue and NW 14 Street
8. NW 14 Avenue and NW 13 Court
9. Fred Cowell Mall (Pedestrian Mall near Bob Hope Drive from approximately NW 15 Street to NW 17 Street)

Figure 14 –Pedestrian and Bicyclist Count Locations



The results of this two-hour pedestrian count survey indicate that the NW 12 Avenue and NW 16 Street area, close to the Civic Center Metrorail Station, was the busiest area. A total of 2,200 pedestrians were counted in a two hour period. This location is the transit center for the entire Health District area and central pedestrian connector for the Jackson Memorial Hospital, Miami VA Healthcare System, and the UM Hospital. The next highest pedestrian activity location was NW 12 Street by the Richard Gerstein Justice Building. Overall, all nine locations had very high level of pedestrian activity. The pedestrian count summary is presented in **Figure 15**.

The results of this two-hour bicyclist count survey indicate that the highest bicyclist activity location was NW 20 Street and NW 7 Avenue with over 100 bicyclists in a two hour period. The next highest bicyclist counts were NW 17 Avenue and NW 15 Road and then Fred Cowell Mall which has several bicycle parking locations. The bicyclist count summary is presented in **Figure 16**.

Figure 15 –Pedestrian Counts by Location during Two-Hour Peak

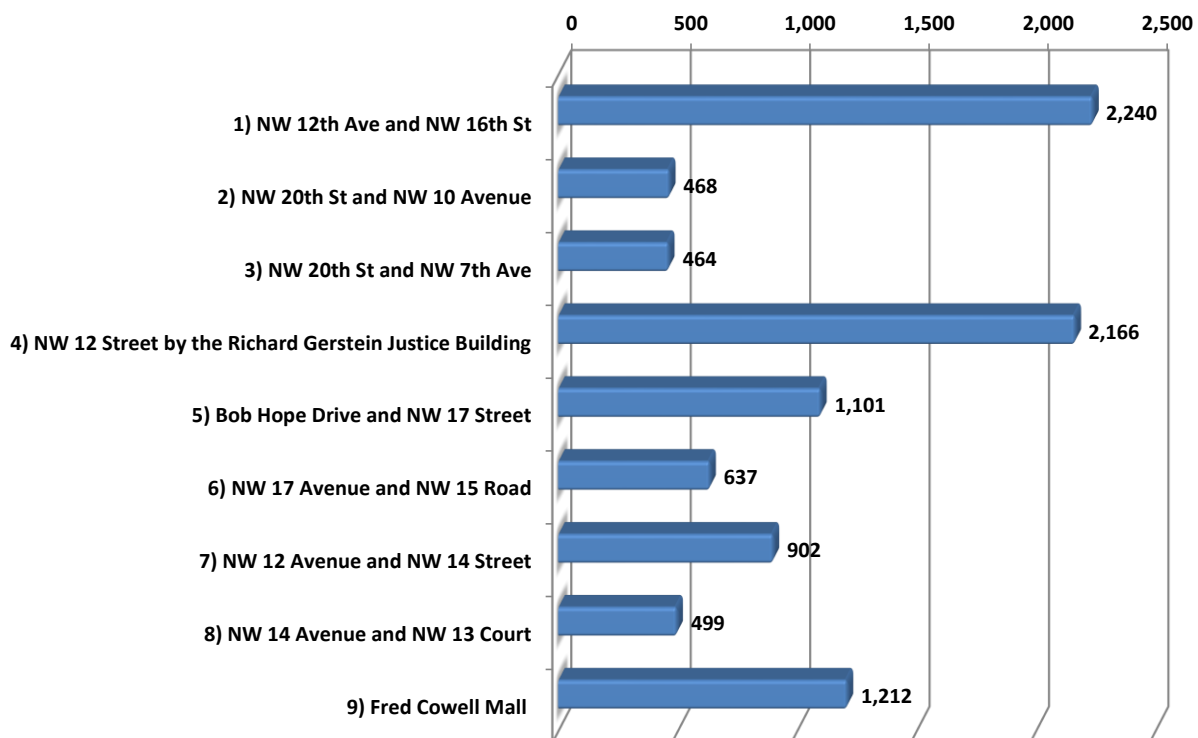
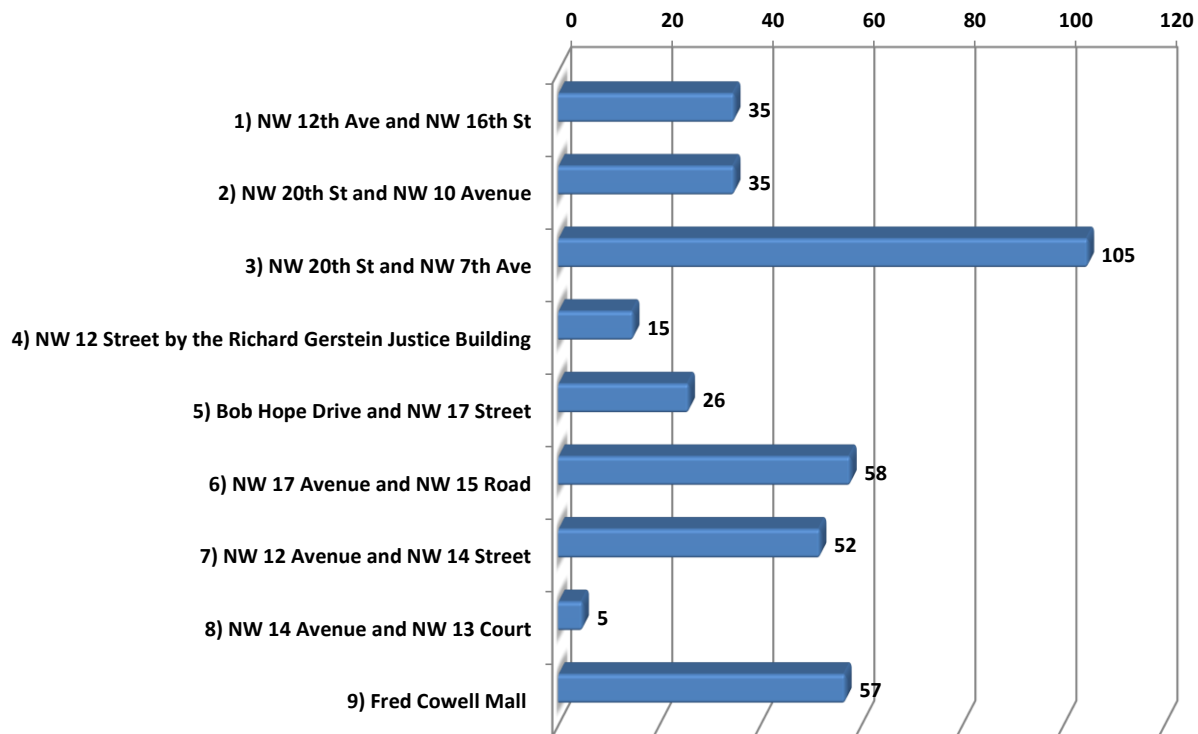


Figure 16 –Bicyclist Counts by Location during Two-Hour Peak



6.0 ESTABLISHING GOALS AND OBJECTIVES

The establishment of the goals and objectives were developed based on the background/literature review, public outreach, and field reviews. This section provides the basic framework for the development of recommendations. The goals and objectives are focused on improving the pedestrian and bicyclist facilities. This focus will help the Health District area promote a complete streets type transportation network. The summary of the goals and objectives for the Health District area are presented in **Table 8**.

Table 8 – Established Goals and Objectives

Goal 1: Maintain and develop safe, convenient, attractive, and accessible non-motorized facilities
<ul style="list-style-type: none"> • Objective 1.1: Prioritize improvements along highly traveled corridors and intersections • Objective 1.2: Prioritize improvements to address any issues with ADA accessibility. • Objective 1.3: Develop pedestrian walkways which are aesthetically pleasing, attractive, and well-lit. • Objective 1.4: Establish mechanisms to ensure timely and adequate maintenance of existing facilities • Objective 1.5: Balance emergency vehicles needs and pedestrian and bicyclist accommodations • Objective 1.6: Provide safe and attractive short- and long-term bicycle parking facilities
Goal 2: Maintain and Improve Connections with Planned Non-Motorized Facilities
<ul style="list-style-type: none"> • Objective 2.1: Develop bicycle and pedestrian connections with the planned Miami River Greenway • Objective 2.2: Improve connectivity with neighborhoods surrounding the Health District • Objective 2.3: Improve non-motorized connections to transit facilities
Goal 3: Educate, promote, and enforce existing bicycle and pedestrian laws
<ul style="list-style-type: none"> • Objective 3.1: Educate area users to minimize unsafe conditions such as jaywalking • Objective 3.2: Educate area motorists to minimize unsafe condition • Objective 3.3: Allocate resources to enforcement of existing bicycle and pedestrian laws • Objective 3.4: Promote walking and bicycling by conducting safety workshops, distributing literature, and conducting bike-to-work days

7.0 RECOMMENDATIONS

The recommendations in this plan are intended to help improve the safety and mobility of the bicycle and pedestrian infrastructure of the Health District area in order to provide a truer “complete streets” environment. The recommendations were developed based on the background research, public outreach, and data collection/field review of the area. The recommendations were categorized into two areas:

- Non-Engineering Improvements
- Engineering Projects

The non-engineering improvements include the recommended policies, education, encouragement, enforcement, and evaluation needs in order to improve and promote a bicycle and pedestrian mobility in the Health District area. The engineering projects will assist the local agencies in determining the types of physical improvements needed to provide a safe, easy, convenient, and attractive Health District. The detailed descriptions of these recommendations are included in this section. Additionally, potential funding sources are included at the end of this section.

Non-Engineering Improvements

This section describes the recommended non-engineering improvements for the Health District area. The recommended non-engineering improvements are organized into five categories: policies, education, encouragement, enforcement, and evaluation. These five categories are presented in **Table 9** through **Table 13**, respectively.

Table 9 –Policies

POLICIES
<p>Description of Recommended Policies</p> <ul style="list-style-type: none"> Modal Priority – In the long term the City of Miami should designate the Health District area a pedestrian priority zone similar to downtown Miami. This would pave the way for a complete streets transportation network. The Modal Priority designation would help prioritize projects for the highest level of comfort for pedestrians and would encourage additional funding of pedestrian improvements to the area. The Modal priority should recommend 25 mph maximum speed limits throughout the area. However, a delicate balance between pedestrian needs and emergency vehicle needs should be considered. Complete Streets - Transportation projects should be consistent with the Complete Streets concept. All transportation projects in the Health District area should be designed equally for pedestrians, bicyclists, transit, and personal vehicles where applicable. The Miami-Dade MPO, with its experience and resources, should be at the forefront of developing this Complete Streets policy which should be utilized in Miami-Dade County and can be used as a model for a complete streets policy. After completion of a Complete Streets policy, the Miami-Dade MPO should coordinate with FDOT, Miami-Dade Public Works, and the Cities to adopt these policies. The University of Miami may provide insight with the development of a Complete Streets policy based on its experience with the Walksafe and Bikesafe programs. It should be noted that the Miami-Dade MPO is developing a case study for incorporating the Complete Streets concepts to a number of corridors in Miami-Dade County. Additionally, the United States Congress is considering a bill – <i>Safe and Complete Streets Act of 2011</i> – which would require the State DOT's and MPO's to accommodate all users of the roadway with Complete Streets principles. A great source of information for the development of a Complete Streets policy is the National Complete Streets Coalition. Low-Speed Roadway Designs – These types of designs improve pedestrian and bicyclist safety. Based on the online survey, the most concerning issue to the respondents were the vehicular speeds. One low-speed design consideration would be to design roadways with a design speed of 30 mph wherever appropriate. Careful consideration should be made to emergency vehicle needs. The City of Miami, Miami-Dade Public Works, and FDOT should be the responsible agencies for implementing these types of designs in the Health District area. Crime Prevention Through Environmental Design (CPTED) – CPTED is an approach to designing facilities and buildings which can deter criminal behavior. Some of these CPTED design principles include proper lighting design, landscape design, placement of windows in buildings, and maintenance. The area organizations should promote these concepts for existing facilities and any new buildings. The City of Miami and Miami-Dade Public Works should also be involved with the development of projects that utilize CPTED.

Responsible Agencies/Organizations

- City of Miami
- Miami-Dade MPO
- Miami-Dade Public Works
- FDOT
- Area organizations

Table 10 –Education**EDUCATION****Description of Recommended Education Techniques**

- **Signage Program** – A signage program should be utilized in the Health District area which advises pedestrians, bicyclists, and motorists of certain traffic laws such as yielding to pedestrians and jaywalking, and providing adequate directions to the users of the transportation network. However, signage should be adequately spaced and sized as to not decrease the motorist attention of any potential roadway hazards such as crossing pedestrians, bicyclists, signalized intersections, etc. It should be noted that the Miami-Dade MPO is currently working on a Signage Program for the Health District. This signage program should be developed to advise all users of the transportation network.
- **Email Blast** – The most convenient and effective tool for advising the workers and students in the area is through an email blast. The email blast could be used to inform the workers and students about bicycle and pedestrian safety tips and laws. The email should be concise and offer additional sources of information such as FDOT’s “Pedestrian and cycling tips” webpage. This email blast should be managed by one of the area organizations and inform the other area organizations to blast the email to workers and/or students. The University of Miami may be a great candidate for this tool since it has a Walksafe and Bikesafe program dedicated to improving non-motorized transportation safety. Additionally, this email blast should be sent at least once a year to all of the area workers and students.
- **Guides** - A “Health District Guide” should be developed which educates the reader about the Health District area, pedestrian and bicyclist accommodations, and traffic/pedestrian/bicyclist traffic laws and precautions. This should be a collaborative effort between the larger organizations in the area which typically have the available resources such as University of Miami and Jackson Memorial Hospital. The recommended placement of these guides are at the Metrorail stations and entrances to the large organizations.
- **Ambassador Program** – ambassadors may be utilized for advising visitors who are unfamiliar with the area. The University of Miami and other area stakeholders may be suitable sponsors for this type of program.
- **Online Support** -Another technique would be to develop a website pertaining to the entire Health District area, links to all the area institutions and organizations, transit usage, and

pedestrian and bicyclist accommodations.

- **Bicycle Helmet Giveaways** – The City of Miami should coordinate with the area organizations and recommend bicycle helmet giveaways in order to promote bicycle safety. Area organizations with a high priority may be Jackson Memorial Hospital, University of Miami, Miami-Dade College, VA Hospital, and other organizations.

Responsible Agencies/Organizations

- Miami-Dade MPO
- Area organizations such as University of Miami, Jackson Memorial Hospital, etc.
- City of Miami

Table 11 –Encouragement

ENCOURAGEMENT

Description of Recommended Encouragement Techniques

- **Employee Incentive Programs** - The area organizations should encourage transit usage through employee incentive programs which reduce the regular cost of transit monthly passes. The area organizations need to be willing to establish these incentives and encourage employees through email and/or pamphlet. Additionally, MDT should begin a campaign for encouraging these highly dense areas and educating the organizations about the benefits of transit.
- **Artwork in Public Spaces** – Providing artwork in public places not only makes an area seem more pleasant but encourages pedestrians to use the areas facilities. Artwork can be provided in several places in the Health District area. Such artwork can be included in the Metrorail stations, Metrorail structures, and the utility structures in the areas. In Pasadena, California, public artwork is being wrapped on industrial-style utility and traffic signal boxes (see **Figure 17**). It is recommended that the area organizations, Miami-Dade MPO, and Miami-Dade Public Works consider artwork on the public utilities.
- **Maintenance Program** – All the area organizations should be involved with a maintenance program which encourages employees and visitors in the area to not litter and promote a clean and friendly environment. The City of Miami and Miami-Dade Public Works needs to have an active maintenance program for keeping the public right-of-ways clean and trash cans empty. Additionally, although mentioned in **Table 12** with the enforcement initiatives, the local police department should routinely enforce anti-litter laws.
- **Development of Long-Term Bicycle Parking Facilities** – The City of Miami, Miami Parking Authority and MDT should coordinate the development of at least three long-term bicycle parking facilities. Long-term bicycle parking facilities can prevent criminal activities such as bicycle thefts. Long-term bicycle parking facilities is further discussed in the projects section of this plan.
- **Bike Miami Days** – The City of Miami should be encouraged to hold a Bike Miami Days event in the Health District area (see **Figure 17**). Bike Miami days are a great tool for promoting and

encouraging the bicycle as an alternative mode of transportation. A Bike Miami Days in the Health District area may potentially be supported by the advertising of the area organizations. Local bicycle advocacy groups – which frequent Bike Miami Days – and the members of the Miami-Dade MPO Bicycle and Pedestrian Advisory Committee (BPAC) will have an opportunity to access the areas bicycle amenities and provide support for any bicycle related improvements to the area.

- **Bike Sharing Program** – The City of Miami should review the possibility of implementing a bicycle sharing program in order to promote a health alternative to traveling around the Health District area.

Responsible Agencies

- Miami-Dade MPO
- Miami-Dade Public Works
- MDT
- Area organizations such as University of Miami, Jackson Memorial Hospital, etc.
- City of Miami

Figure 17 –Public Artwork on Utilities in Pasadena, California and Bike Miami Days

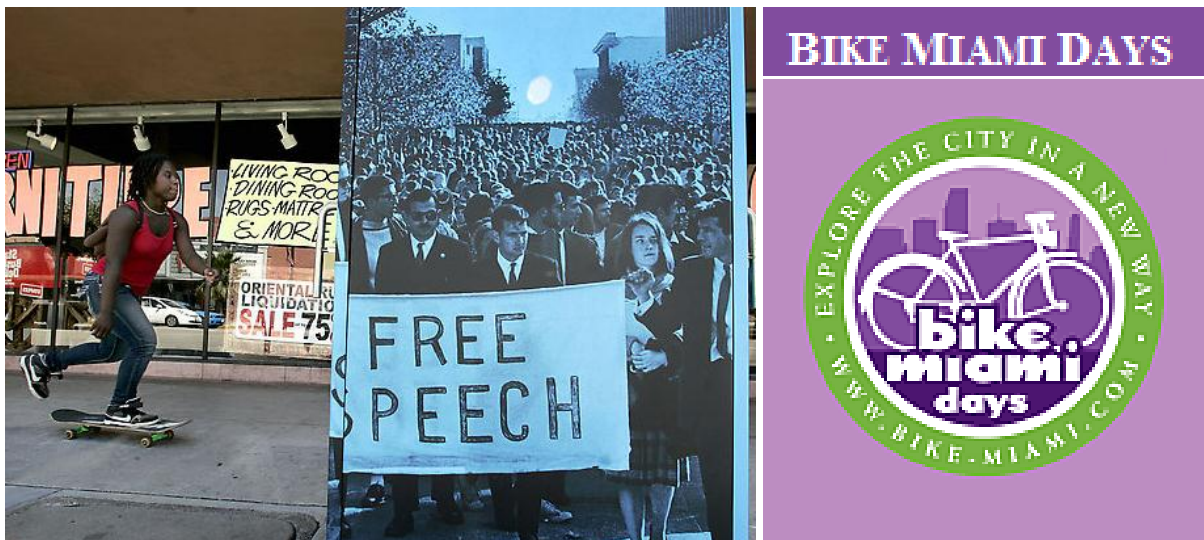


Table 12 –Enforcement

ENFORCEMENT
Description of Recommended Enforcement Techniques
<ul style="list-style-type: none"> Bicycle, Pedestrian, and Motorist Traffic Laws – The City of Miami Police should perform spot checks during the peak hours at certain key intersections within the district in order to enforce the laws relating to bicyclists, pedestrians, and motorists. Vehicles should not be speeding and pedestrians should not be jaywalking. Bicyclists, pedestrians, and motorists should be treated equally. Based on the field review, stakeholder input, and the online surveys, some keys intersections which should be considered for review include the following: NW 14 Street and NW 1100 Block/NW 11 Street; NW 12 Avenue and NW 16 Street/NW 1500 Block; NW 12 Avenue and NW 14 Street; and Bob Hope Drive and NW 17 Street. Sidewalk Accessibility – Sidewalk accessibility is an important characteristic for providing a safe, easy, convenient, and attractive bicycle and pedestrian network. Also, the accessibility allows the sidewalk to be meeting ADA requirements. It has been cautioned by some stakeholders that sidewalk accessibility may be hindered by some vendors. Throughout the Health District several vendors can be identified on the sidewalks which seem to be following sidewalk accessibility standards. However there are a few vendors which may reduce the sidewalk width below ADA standards. The City of Miami should restrict where vendors are located and operating. Also, law enforcement should be encouraged to observe street vendors and if the sidewalk spaces seems reasonable to accommodate pedestrians. Additionally, the agencies issuing permits should be certain that sufficient space is provided for pedestrian access. Law Enforcement and Security Seminar – the law enforcement and private security should be educated on the traffic laws for motorists, pedestrians, and bicyclists. The local law enforcement, such as the City of Miami Police Department, should hold an annual seminar regarding these traffic laws. A great source of information for these traffic laws can be found in the FDOT website – “Pedestrian Laws” and “Bicycle Laws”.
Responsible Agencies
<ul style="list-style-type: none"> City of Miami Local Police Department Miami-Dade MPO Miami-Dade Public Works Area organizations

Table 13 –Evaluation and Monitoring

ENFORCEMENT
Description of Recommended Evaluation and Monitoring Techniques
<ul style="list-style-type: none"> • Area Organization Surveys – It is recommended that every five years the City of Miami organize an online survey for the workers, visitors, and students in the area in order to assess the public perception. These surveys could be distributed to the area organizations. The survey should include a question about overall comfort with the safety for pedestrians and bicyclist in the area. • Bicycle and Pedestrian Counts – Bicycle and pedestrian counts should be collected every five years in order to quantitatively assess the bicycle and pedestrian activity in the Health District area. • Annual Crash Data Review – Analysis of the crash data of the Health District area will be an important assessment tool for determining the before and after effects of improvements.
Responsible Agencies
<ul style="list-style-type: none"> • FDOT • Miami-Dade Public Works • Miami-Dade MPO • Area organizations

Engineering Projects

This section describes the recommended engineering projects for the Health District area. There are a total of 15 recommended engineering projects for the Health District area as presented in **Table 14**. The engineering projects are prioritized from Project 1 - as the project with the most impact relative to cost - to project 15. Project 1: Multimodal Connections and Project 2: Multimodal ADA Compliance, are a priority since they would benefit the most users. Project improvements were focused in areas with the highest pedestrian and bicycle activity as identified in the analysis conducted. Other engineering projects identified which are low-cost, high-value pertained to bicycle parking, pedestrian signal timings, crosswalk restriping, etc.

There are several higher-profile and high-value projects such as the NW 14 Street Improvement Healthwalk projects included in the recommendations which are a priority in the District, however, funding for these projects has always been a challenge.

Table 14 –List of Engineering Projects

Project List
Project 1: Multimodal Connections
Project 2: Multimodal ADA Compliance
Project 3: Adding New Pedestrian Signals, Audible Tones, and/or Crosswalks
Project 4: Modify Pedestrian Signal Timing and/or Replace Pedestrian Signal
Project 5: Restriping Crosswalks
Project 6: Adding Pedestrian Crossing Signs/Beacons
Project 7: NW 14 Street Improvements
Project 8: Healthwalk
Project 9: Traffic Calming
Project 10: Long-Term Bicycle Parking
Project 11: Short-Term Bicycle Parking
Project 12: Miami River Greenway Connection
Project 13: Adding Mid-Block Crosswalk
Project 14: Traffic Flow Modifications
Project 15: Bicycle Corridors

These engineering projects are defined individually in **Tables 15** through **Table 29**. These tables contain the following categories of information for each of these projects:

- **Description** – contains a summary description of each of the projects
- **Locations** – contains the locations recommended for these types of projects
- **Coordinating Agency/Organization** – contains all the agencies and/or organizations which could be involved in the development of the project
- **Timeframe** – the anticipated timeframe for implementing these improvements
- **Cost** – the potential cost of the project. The cost information is not described in exact dollar amounts. Instead the cost information is described with the following symbols:
 - \$ - low cost project
 - \$\$ - medium cost project
 - \$\$\$ - high cost project

Table 15 –Project 1: Multimodal Connections

Project 1: Multimodal Connections	
Description	<ul style="list-style-type: none"> Multimodal Connections are the locations with high pedestrian and bicycle activity is present since these locations are the transit centers of the area. The potential types of projects involved which will establish the multimodal connections include short and long term projects with varying costs. Since these are the areas with the highest pedestrian activity then infrastructure investments in these areas provide the most benefits to the users. Two locations are the focus of these Multimodal Connection improvements: Civic Center and Culmer Metrorail Stations.
Civic Center Metrorail Station Area – NW 12 Avenue between NW 1500 Block and NW 16 Street (see Figure 18)	<ul style="list-style-type: none"> Increase pedestrian walk times at the intersection with NW 16 Street and NW 1500 Block with NW 12 Avenue. Warning beacon for the approaches along NW 12 Avenue and NW 16 Street and NW 1500 Block – the warning beacon can supplement the existing signal system by provide more warning for drivers and being interconnected with the traffic signal controller assembly. Addition of accessible pedestrian signal with audible tones at NW 16 Street and NW 1500 Block Moving the crosswalk closer to the intersection on the east leg of the NW 12 Avenue and NW 16 Street intersection Potential for long-term bicycle parking facility near the area Traffic Calming (i.e. speed cushions) along NW 12 Avenue from NW 12 Street to NW 20 Street Decrease vehicle turning radii to reduce speeds at each of the intersections Information Kiosk – may be provided at the expense of University of Miami and/or Jackson Memorial Hospital
Culmer Metrorail Station area – NW 11 Street, NW 11 Terrace, NW 7 Avenue, and NW 8 Street Road	<ul style="list-style-type: none"> Potential for accessible pedestrian signal with audible tones Decrease vehicle turning radii to reduce speeds at the intersections Improve bicycle and pedestrian connections to the Health District area by utilizing CPTED and other design methods specifically along NW 8 Street Road and NW 10 Avenue. These types of improvements could include additional lighting along these roadways. Potential for landscaped median along NW 7 Avenue to prevent jaywalking.
Coordinating Agency/Organization	<ul style="list-style-type: none"> Miami-Dade Public Works Florida Department of Transportation (NW 12 Avenue and NW 7 Avenue) Miami-Dade Transit City of Miami Area stakeholders
Timeframe	<ul style="list-style-type: none"> 2-5 years (short to long term projects)
Cost	<ul style="list-style-type: none"> \$-\$\$\$ (low to high cost improvements)

Figure 18 –NW 12 Avenue at NW 16 Street and NW 1500 Block**Table 16 –Project 2: Multimodal ADA Compliance**

Project 2: Multimodal ADA Compliance	
Description	<ul style="list-style-type: none"> Transit users are the primary pedestrians of the non-motorized network. Infrastructure investments for the transit networks provide the most benefits to users. According to GIS data from Miami-Dade Transit, some of the existing bus stops throughout the Health District area are not ADA compliant and/or accessible. Additionally, some of the existing bus stops throughout the Health District area do not have benches and/or shelters. The purpose of this project will be to improve the standards of these existing bus stops. Miami Trolley stops should be prioritized first. It is recommended that the City of Miami coordinate with MDT and Miami-Dade Public Works in order to review the potential for upgrading the stops mentioned below. Some of these improvements may require easements from the area institutions. The City should coordinate with Miami Dade Transit and Health District stakeholders to provide for transit easements for shelter and other improvements.
Locations (multiple locations)	<ul style="list-style-type: none"> ADA Non-Compliance Stop (see Figure 19): wherever feasible, ADA non-compliant stops should be reconstructed to comply with ADA requirements. ADA Non-Accessible Stop (Figure 20): wherever feasible, ADA non-accessible stops should have ADA accessibility. Bus Stops without Benches (Figure 21): wherever feasible, stops without benches should have a bench. Bus Stops without Shelters (Figure 22): wherever feasible, stops without shelters should have a shelter.
Coordinating Agency	<ul style="list-style-type: none"> Miami-Dade Transit and Public Works City of Miami FDOT Area organizations
Timeframe	<ul style="list-style-type: none"> ADA Non-Compliant and/or Non-Accessible Stops – 2-5 years Bus Stops without Benches and/or Shelters – 0-2 years
Cost	<ul style="list-style-type: none"> \$-\$\$\$ (low to high cost improvements)

Figure 19 –ADA Non-Compliant Bus Stops

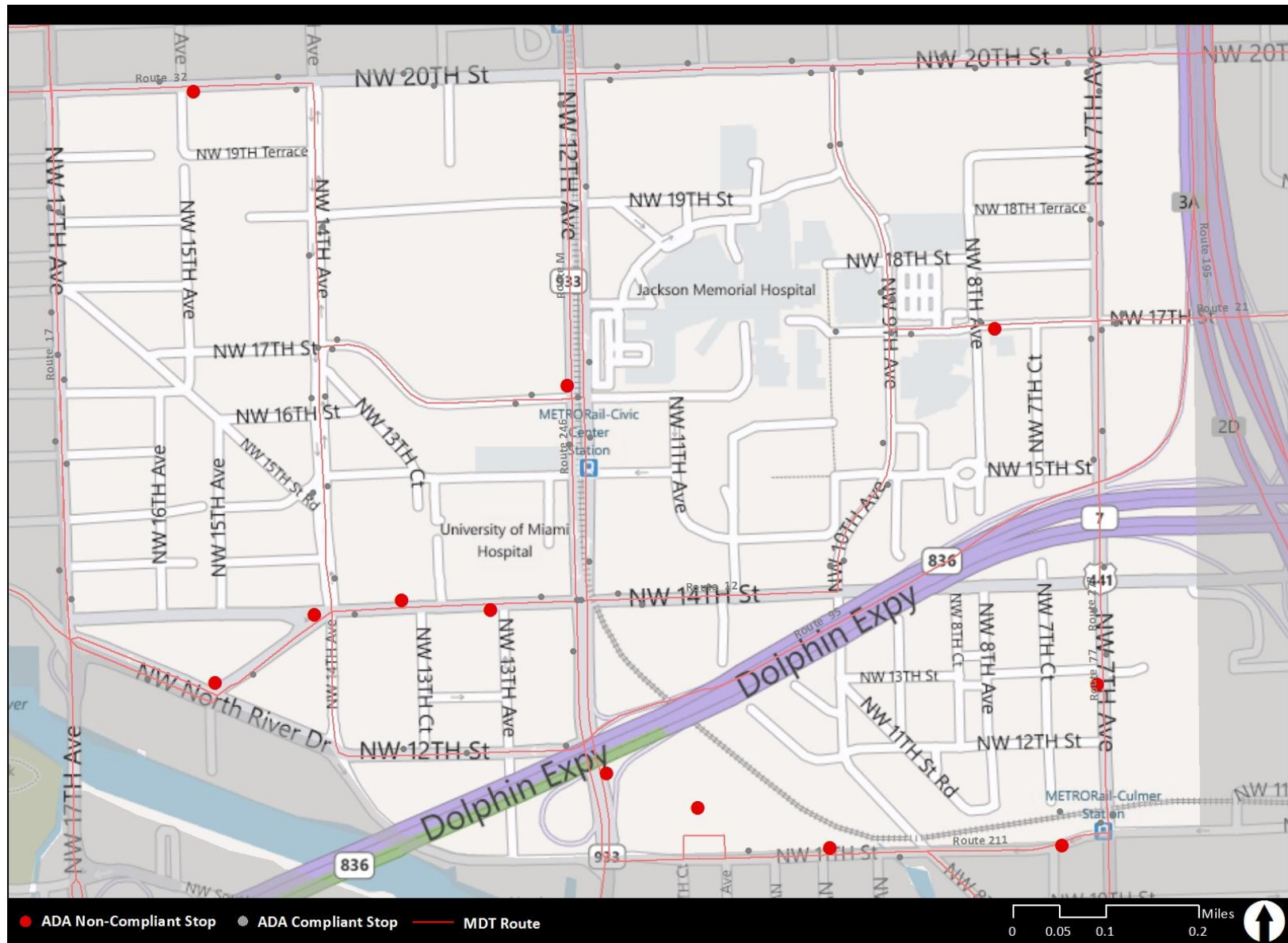


Figure 20 –ADA Non-Accessible Bus Stops

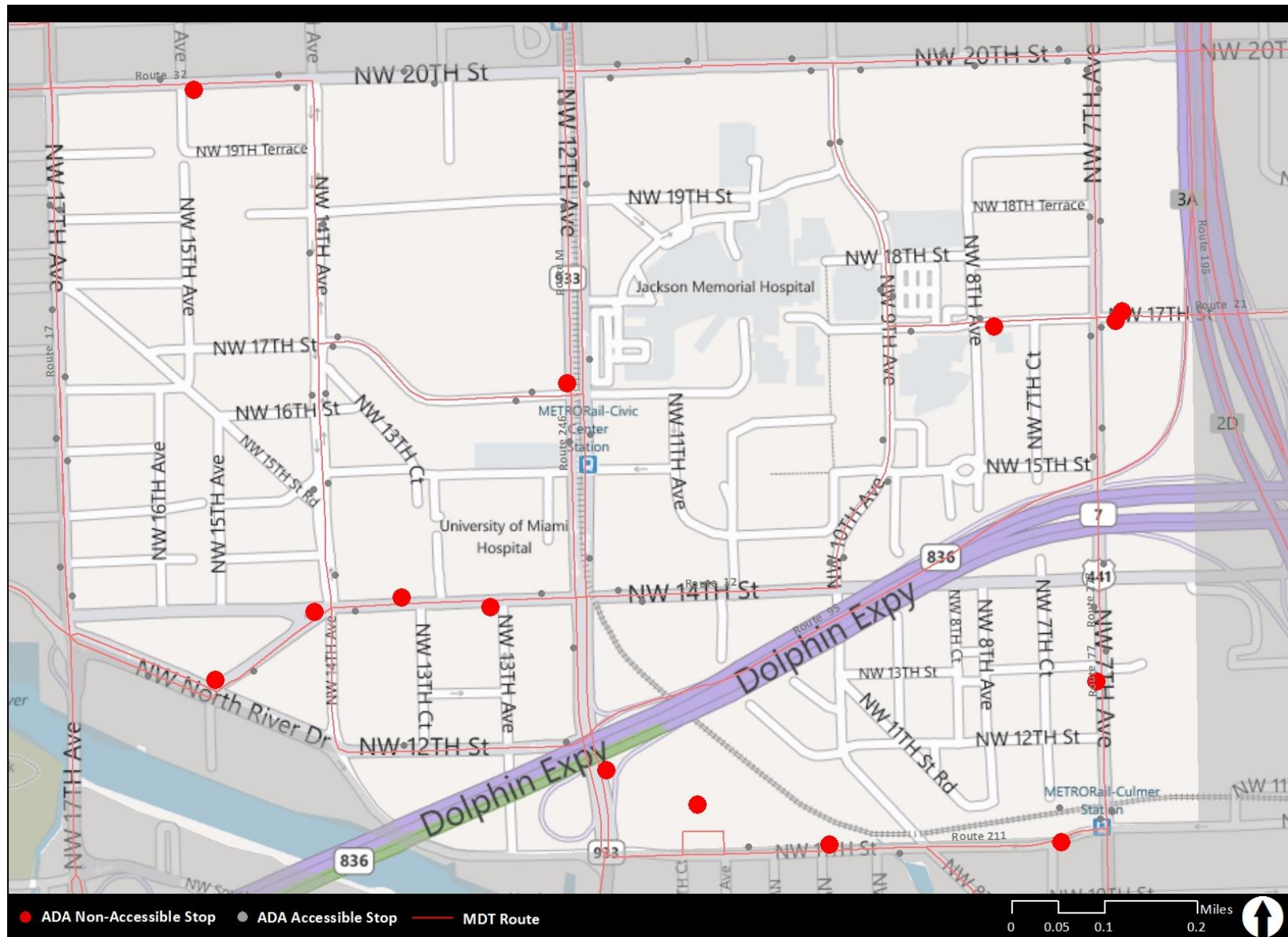


Figure 21 – Bus Stops Without Seating

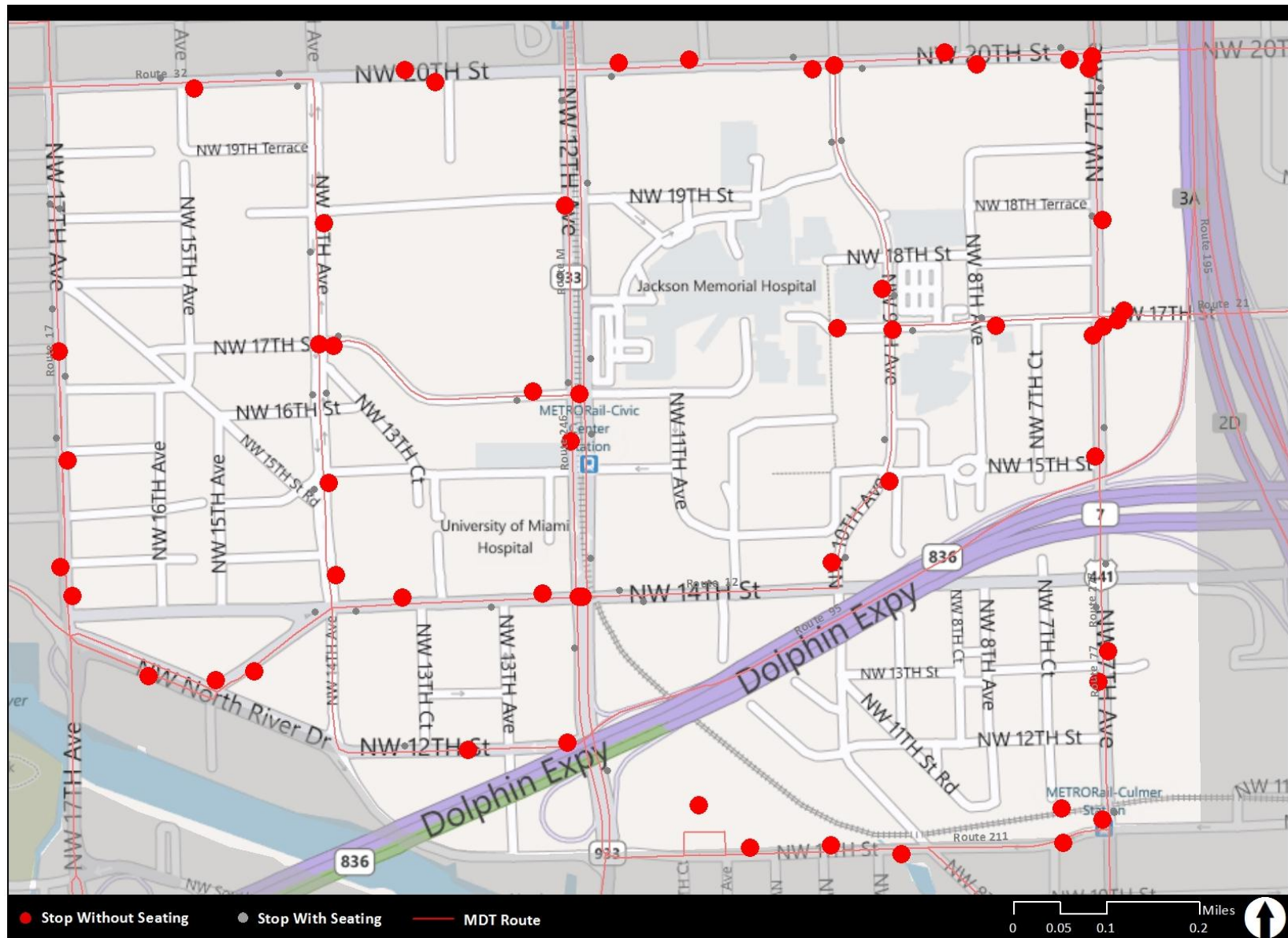


Figure 22 – Bus Stops Without Shelters

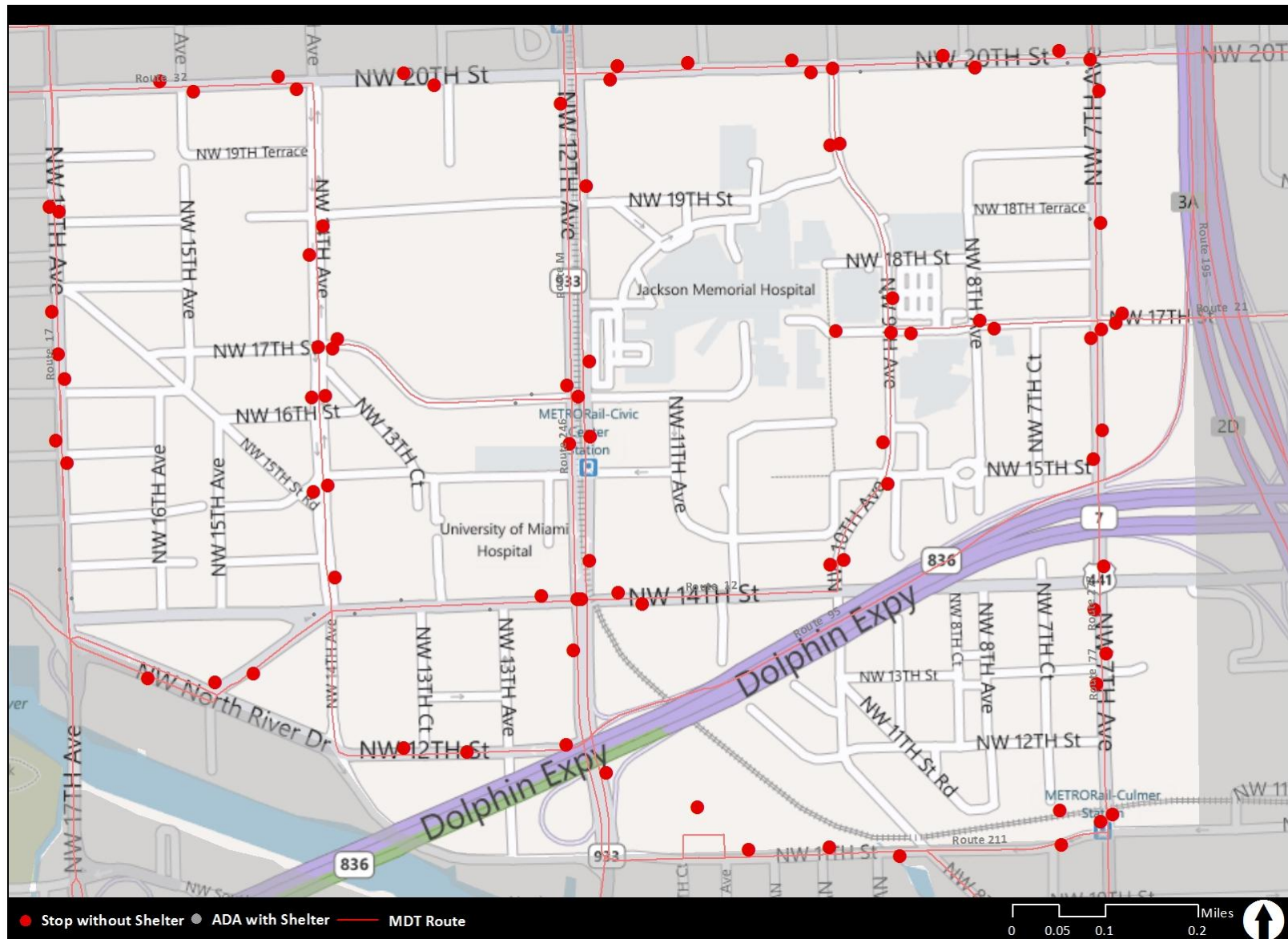


Table 17 –Project 3: Adding New Pedestrian Signals, Audible Tones, and/or Crosswalks

Project 3: Adding Pedestrian Signals/Crossing	
Description	<ul style="list-style-type: none"> • A pedestrian signal improves the safety for a pedestrian crossing the street. • Crosswalks should be available for pedestrians at all legs of a signalized intersection where feasible. Additionally, crosswalks should be available at the stop-controlled legs of unsignalized intersections. • Based on the field review, several locations did not have pedestrian signals and/or crosswalks. • The purpose of this project will be to add crosswalks and pedestrian signal at all legs of all signalized intersections where feasible subject to the approval of Miami-Dade Public Works.
Locations (see Figure 24)	<ul style="list-style-type: none"> • East leg of the intersection of NW 14 Street and NW 11 Avenue – add a crosswalk and a pedestrian signal • South leg of the intersection of Bob Hope Drive and NW 15 Street – add a crosswalk and a pedestrian signal • West leg of the intersection of NW 19 Street and Bob Hope Drive – add a crosswalk • West leg of the intersection of NW 14 Street and NW 13 Court – add a crosswalk and a pedestrian signal • Addition of accessible pedestrian signal with audible tones along NW 12 Avenue and NW 16 Street and NW 1500 Block – Project 1 • Addition of accessible pedestrian signal with audible tones along NW 14 Street and NW 1100 Block and NW 11 Street – Project 7 • Addition of accessible pedestrian signal with audible tones along Bob Hope Drive and NW 17 Street and signalized midblock crosswalk between NW 17 Street and NW 15 Street.
Coordinating Agency	<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami
Timeframe	<ul style="list-style-type: none"> • 0-2 years
Cost	<ul style="list-style-type: none"> • \$\$ (medium cost improvements)

Figure 23 –Pedestrian Signal and Crosswalks

Figure 24 – Potential Locations for the Adding New Pedestrian Signals, Audible Tones, and/or Crosswalks

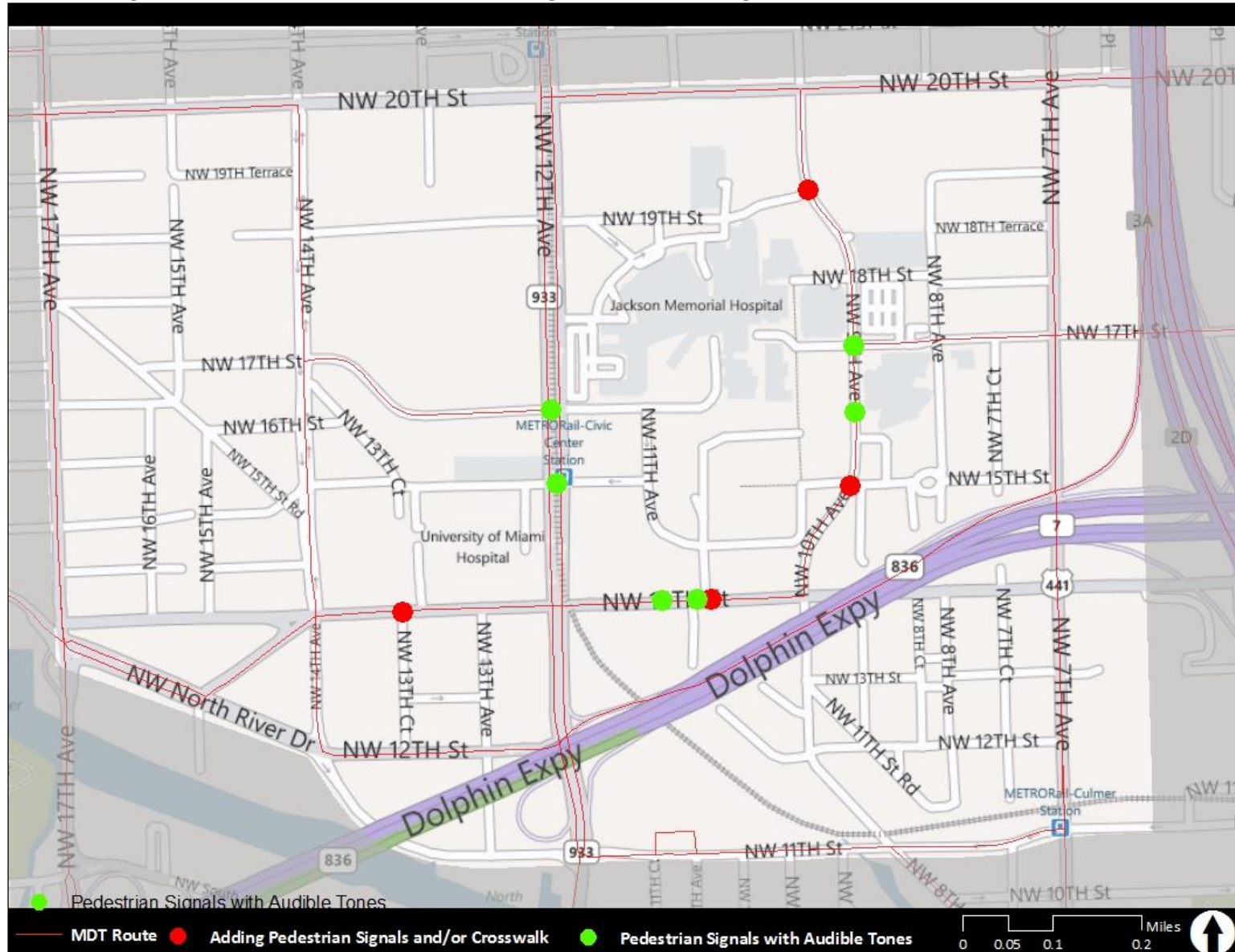


Table 18 –Project 4: Modification of Signal Timing or Replacement of Signals

Project 4: Modify Pedestrian Signal Timing and/or Replace Pedestrian Signal	
Description	<ul style="list-style-type: none"> • During the field review, several locations in the Health District area were identified where pedestrians were jaywalking and some of the pedestrian signals were not functioning. • The purpose of this project is to modify the signal timing at key locations to reduce unsafe walking conditions. Additionally, all nonfunctioning pedestrian signals should be repaired or replaced. • Modifying pedestrian signal timing may prevent unsafe walking conditions such as jaywalking. • Signal cycle lengths should be kept short – 90 seconds or less – to minimize pedestrian wait-time which can help reduce the number of unsafe jaywalking.
Locations (see Figure 25)	<ol style="list-style-type: none"> 1. NW 17 Avenue and NW 15 Road/NW 18 Street (pedestrian signal needs to be replaced based on field review log) 2. NW 17 Avenue and NW North River Drive (pedestrian signal needs to be replaced based on field review log) 3. Bob Hope Drive mid-block crosswalk between NW 17 Street and NW 15 Street (signal timing modification) 4. NW 14 Avenue and NW North river Drive (pedestrian signal needs to be replaced based on field review log) 5. NW North River Drive and NW 13 Terrace (signal timing modification) 6. NW 12 Avenue and NW 16 Street (signal timing modification) 7. NW 12 Avenue and NW 13 Court (signal timing modification) 8. NW 12 Avenue and NW 14 Street (signal timing modification) 9. Bob Hope Drive and NW 20 Street (signal timing modification) 10. Bob Hope Drive and NW 15 Street (signal timing modification) 11. NW 7 Avenue and NW 20 Street (signal timing modification) 12. NW 14 Street and NW 1100 Block (signal timing modification) 13. NW 14 Street and NW 11 Avenue (signal timing modification) 14. NW 14 Street and NW 13 Avenue (signal timing modification) 15. NW 14 Street and NW 13 Court (signal timing modification) 16. NW 14 Street and NW 14 Avenue (pedestrian signal needs to be replaced based on field review log)
Coordinating Agency	<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami • FDOT
Timeframe	<ul style="list-style-type: none"> • 0-2 years
Cost	<ul style="list-style-type: none"> • \$ (low cost improvements)

Figure 25 –Locations for Recommended Signal Timing Modification or Replacement of Pedestrian Signal

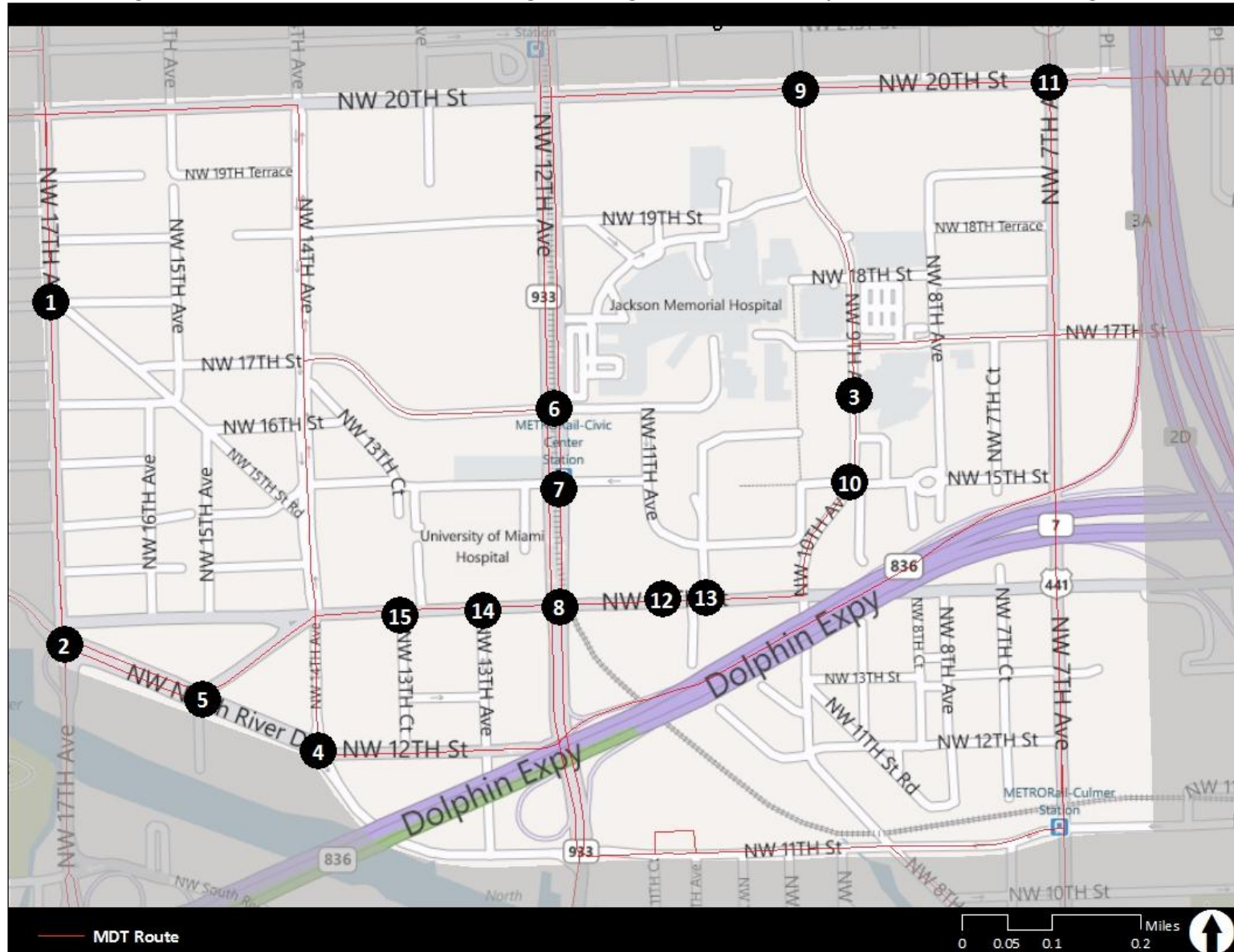


Table 19 –Project 5: Restriping Crosswalks

Project 5: Restriping Crosswalks	
Description	<ul style="list-style-type: none"> • During the field review, several crosswalks were identified which were faded. • The purpose of this project will be to identify the faded crosswalks and recommend restriping with high visibility materials such as thermoplastic striping. • Since the Health District area has high vehicular activity, thermoplastic striping is the recommended material for striping.
Locations (see Figure 26)	<ul style="list-style-type: none"> • NW 17 Avenue at NW 20 Street, NW 19 Terrace, NW 19 Street, NW 18 Terrace, NW 15 Road, NW 17 Street, NW 16 Terrace, NW 16 Street, NW 15 Street, NW 14 Terrace, NW 14 Street, and NW North River Drive • NW 14 Avenue at NW 20 Street, NW 17 Street, NW 16 Street, NW 14 Terrace, and NW North River Drive • Bob Hope Drive at NW 19 Street, NW 17 Street, and NW 14 Street. • NW 7 Avenue at NW 19 Street, NW 18 Terrace, NW 18 Street, and NW 15 Street. • NW 11 Avenue and NW 15 Street/NW 10 Avenue • NW 13 Street at NW 13 Avenue and NW 13 Court • NW 12 Street and NW 13 Court and NW 13 Avenue • NW North River Drive and NW 13 Terrace • NW 17 Street and NW 8 Avenue and NW 7 Court
Coordinating Agency	<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami • FDOT
Timeframe	<ul style="list-style-type: none"> • 0-2 years
Cost	<ul style="list-style-type: none"> • \$ (low cost improvements)

Figure 26 – Potential Locations for Crosswalk Restriping

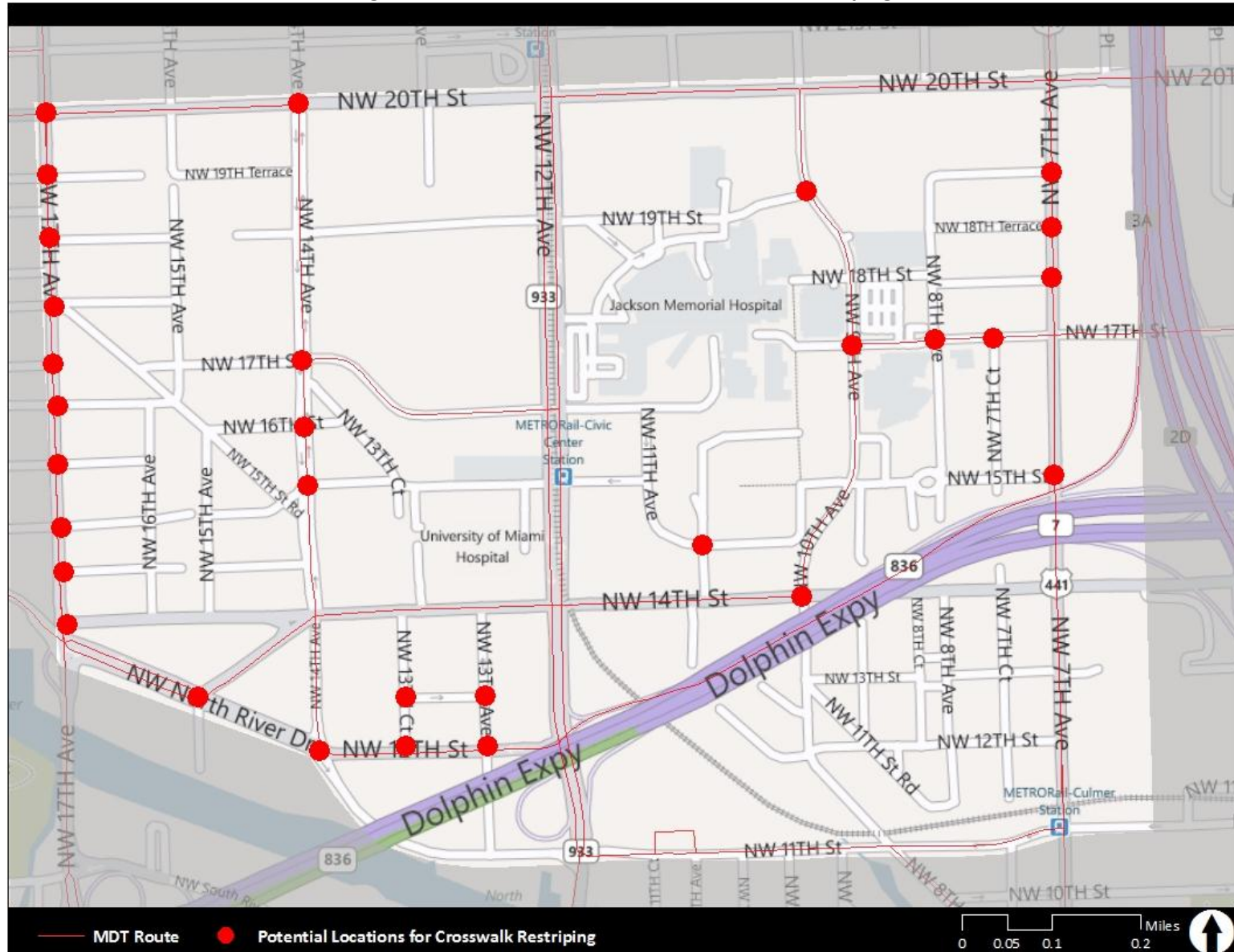


Table 20 –Project 6: Adding Pedestrian Crossing Signs/Beacons

Project 6: Adding Pedestrian Crossing Signs	
Description	<ul style="list-style-type: none"> During the public involvement process, some comments were made regarding unsafe pedestrian crossings and/or high pedestrian activity crossings. Also, during the field review the pedestrian crossing signs along NW 12 Street by the Courthouse may not be visually apparent for motorist. Adding new pedestrian crossings sign or pedestrian warning beacon may improve safety for pedestrians crossing. New MUTCD pedestrian crossing signs provide warning for drivers regarding crossing pedestrians (see Figure 27).
Locations	<ul style="list-style-type: none"> Courthouse Crosswalk along NW 12 Street between NW 13 Avenue and NW 13 Court – existing pedestrian crossing signs do not appear to provide enough warning for drivers about crossing pedestrians. It is recommended that a warning beacon be utilized with appropriate pedestrian crossing signage. NW 12 Avenue Northbound to Eastbound SR 836 Pedestrian crosswalk – based comments from project stakeholders, this area may be unsafe for pedestrians. It is recommended to install a pedestrian crossing sign at this location.
Coordinating Agency	<ul style="list-style-type: none"> Miami-Dade Public Works City of Miami FDOT
Timeframe	<ul style="list-style-type: none"> 2-5 years
Cost	<ul style="list-style-type: none"> \$ (low cost improvements)

Figure 27 Potential Pedestrian Crossing Signs

Table 21 –Project 7: NW 14 Street Improvements

Project 7: NW 14 Street Improvements	
Description	<ul style="list-style-type: none"> NW 14 Street typically has high pedestrian activity based on the pedestrian counts and field review. During the public involvement process several stakeholders voiced their concern about the unsafe conditions for pedestrians along NW 14 Street. The purpose of this project is to focus on pedestrian and bicycle related improvements along NW 14 Street between Bob Hope Drive and NW 14 Avenue. This project will need to be coordinated by the City of Miami with Miami-Dade Public Works and the property owners along the NW 14 Street limits. It should be noted that currently the City of Miami has a CIP project along NW 14 Street which intends to construct a raised median along this segment. Any pedestrian/bicyclist improvements will need to be balanced with emergency vehicle needs.
Location (see Figure 28)	<ul style="list-style-type: none"> NW 14 Street between NW 14 Avenue and Bob Hope Drive
Recommendations	<ul style="list-style-type: none"> Speed limit signs of 25 mph. Warning beacon for the approaches along NW 14 Street at NW 1100 Block and NW 11 Avenue – the warning beacon can supplement the existing signal system by provide more warning for drivers and being interconnected with the traffic signal controller assembly. Addition of accessible pedestrian signal with audible tones along NW 14 Street and NW 1100 Block and NW 11 Street. Lane width should be no more than 11 feet along the entire segment. Sidewalk widths should be no less than 6 feet unobstructed along the entire segment. Removing/relocating utility obstacles along the sidewalks of NW 14 Street between Bob Hope Drive and NW 12 Avenue. Landscaped median placement along the entire project length – landscaped medians may be used to prevent pedestrians from jaywalking. Red light cameras should be installed along NW 14 Street at NW 1100 Block and NW 11 Avenue – several stakeholders expressed concerns with vehicles running red lights at these locations. Potential for speed-hump placement along NW 14 Street by NW 1100 Block and NW 11 Avenue – speed humps have been utilized on some roadways in the City of Miami Beach and have a width small enough for emergency vehicles to pass over without being hindered. Potential for in-roadway lighting placement at NW 1100 Block and NW 11 Avenue – in-roadway lighting may be a method utilized for warning road users of the pedestrian crossings at these locations.
Coordinating Agency	<ul style="list-style-type: none"> Miami-Dade Public Works City of Miami Property owners along the NW 14 Street project limits
Timeframe	<ul style="list-style-type: none"> 2-5 years
Cost	<ul style="list-style-type: none"> \$\$-\$\$\$ (medium to high cost improvements)

Figure 28 – NW 14 Street Improvements

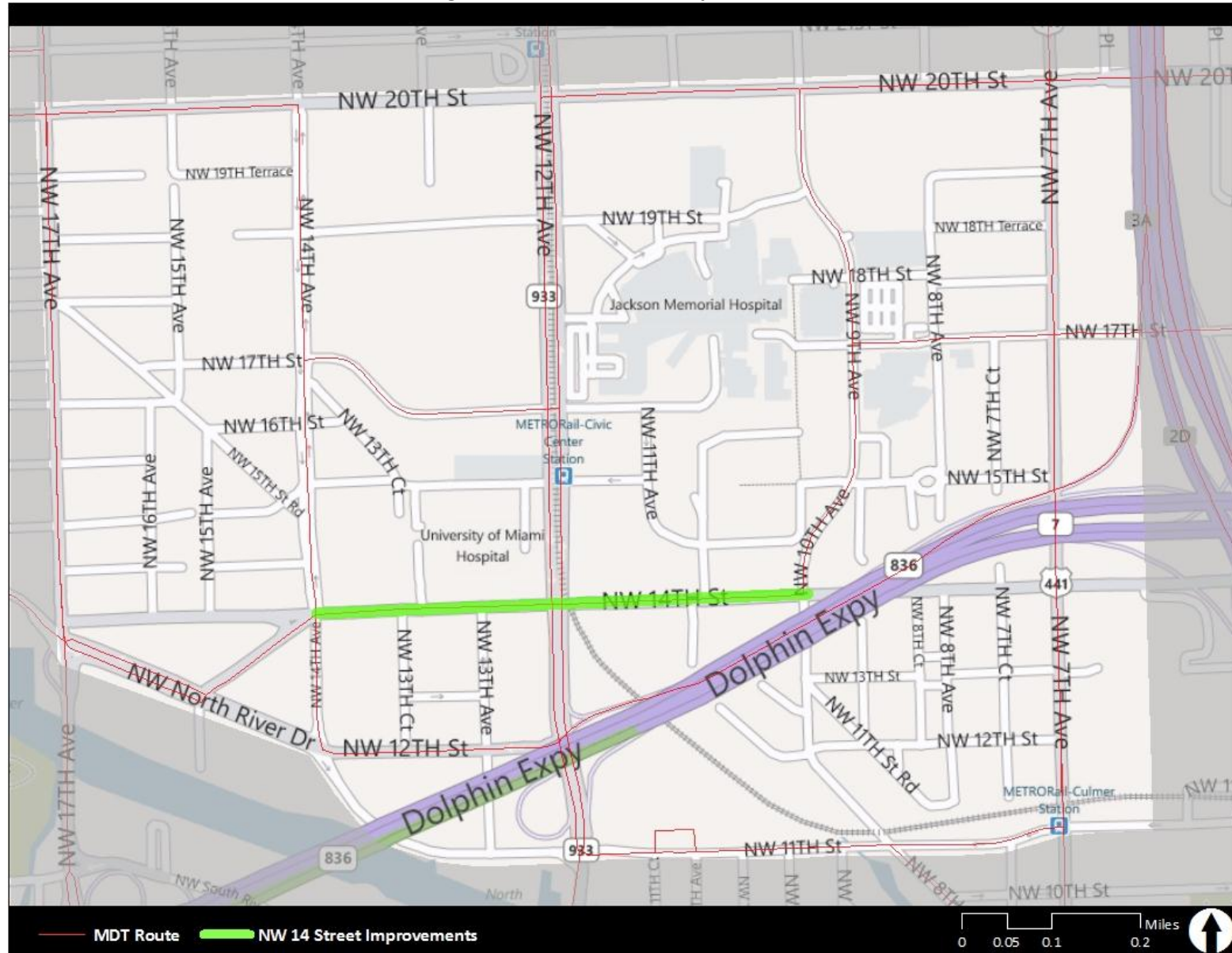


Table 22 –Project 8: Healthwalk

Project 8: Healthwalk	
Description	<ul style="list-style-type: none"> • The Healthwalk has been a high priority project in the Health District since the development of the Health District BODR. The intent of this project is to provide an east/west connection in the Health District area with improved pedestrian and bicycle amenities. • The typical section generally includes a two-lane undivided roadway with planted strips as a buffer between roadway and sidewalk. The south sidewalk would be designated “Healthwalk” and include an 8 foot soft sidewalk with continuous shading. • The City of Miami should take the lead in the development of this project with coordination with the area organizations and Miami Dade Public Works.
Locations (three segments, see Figure 29)	<ul style="list-style-type: none"> • NW 15 Road/NW 17 Street between NW 17 Avenue to NW 14 Avenue • NW 17 Street / NW 16 Street between NW 14 Avenue and NW 12 Avenue • NW 17 Street between just west of Bob Hope Drive to NW 7 Avenue (east-most segment). • Potential east/west connector between NW 12 Avenue and just west of NW 9 Avenue – this segment would be for pedestrian/bicyclist/emergency vehicle use only and would need to be developed by the area organizations since there is limited public right-of-way.
Coordinating Agency	<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami • Property owners along the Healthwalk project limits
Timeframe	<ul style="list-style-type: none"> • 2-5 years
Cost	<ul style="list-style-type: none"> • \$\$-\$\$\$ (medium to high cost improvements)

Figure 29 – Healthwalk with Potential E/W Connector

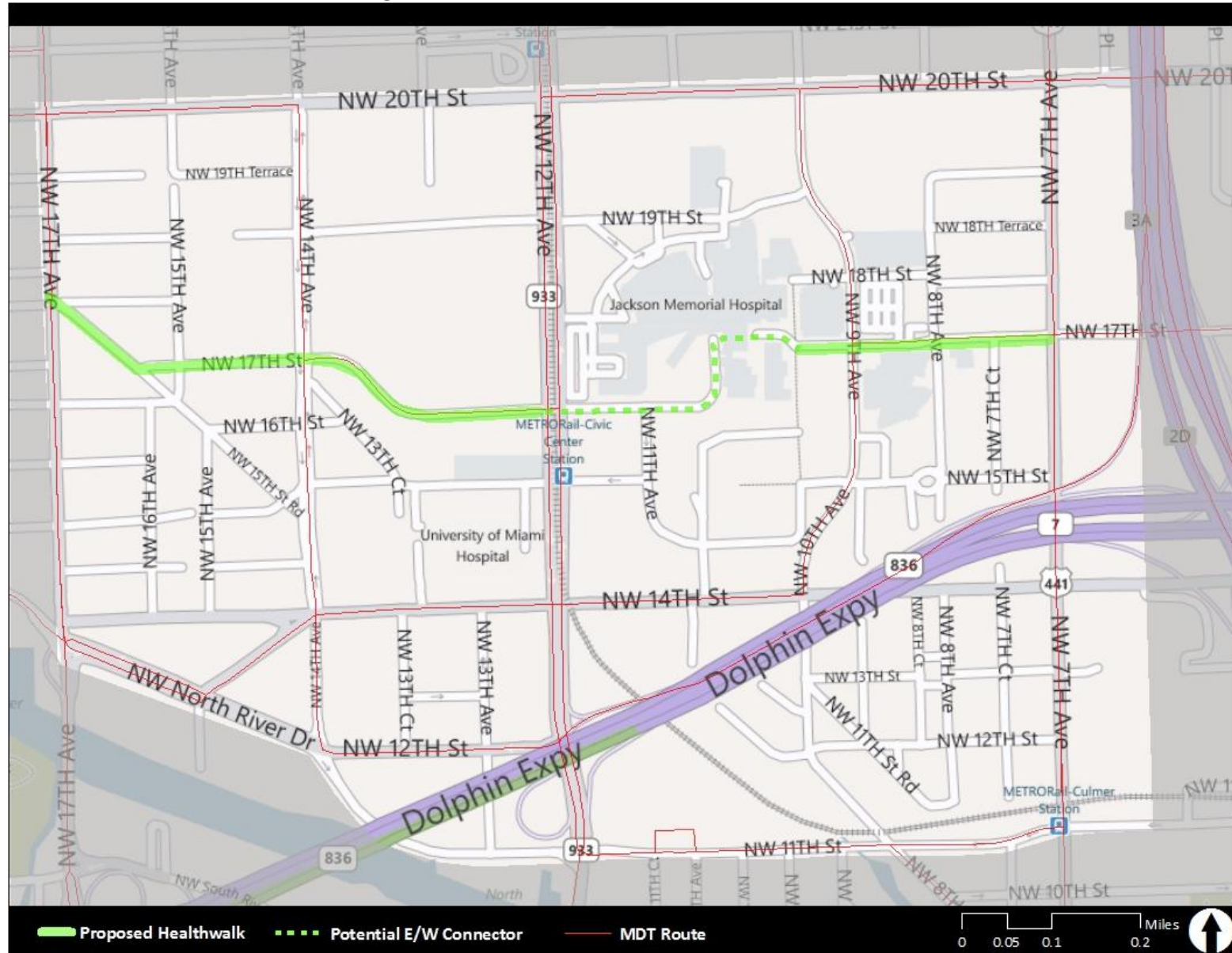


Table 23 –Project 9: Traffic Calming

Project 9: Traffic Calming	
Description	<ul style="list-style-type: none"> Several roadways with high to moderate pedestrian activity were identified during the public involvement and field review process. Due to the level of pedestrian and vehicular activity, the locations indicated below may be appropriate candidates for traffic calming measures. Traffic calming is a method of reducing vehicular speeds in order to improve pedestrian safety and mobility. Some traffic calming methods may include one or a combination of the following: speed cushions, reduced lane widths, traffic circles, stop signs, etc. Other traffic calming measures may reduce vehicular speeds along with improving pedestrian and bicycle amenities with roadway lane width reductions. Below are some locations along with some preliminary recommendations. All traffic calming measures must first be coordinated and analyzed with Miami-Dade Public Works guidelines. Additionally, the Florida Department of Transportation must approve of any traffic calming measures along State Roads. Additional coordination with the area organizations emergency vehicle needs will be required.
Locations (see Figure 30)	<ul style="list-style-type: none"> Bob Hope Drive between NW 20 Street and NW 12 Street – preliminary recommendation of adding speed limit signs of 25 mph, landscaped median reducing lane widths in order to reduce vehicular speeds. NW 7 Avenue between NW 20 Street and NW 12 Street – preliminary recommendation of adding landscaped median and other pedestrian improvements. NW 14 Avenue between NW 20 Street and NW 12 Street – preliminary recommendation of adding speed limit signs of 30 mph and reducing lane widths in order to reduce vehicular speeds. NW 17 Avenue between NW 20 Street and NW North River Drive – preliminary recommendation of adding speed limit signs of 30 mph and installing a landscaped median. NW 20 Street between NW 17 Avenue and NW 7 Avenue – preliminary recommendation of adding landscaped median and reducing lanes widths in order to reduce vehicular speeds. NW 12 Avenue between NW 20 Street and NW 14 Street - part of Project 1: Multimodal Connection project NW 14 Street between NW 14 Avenue and Bob Hope Drive – part of Project 10: NW 14 Street Improvements Healthwalk – part of Project 11: Healthwalk
Coordinating Agency	<ul style="list-style-type: none"> Miami-Dade Public Works City of Miami FDOT Property owners along the project limits
Timeframe	<ul style="list-style-type: none"> 2-5 years
Cost	<ul style="list-style-type: none"> \$\$-\$\$\$ (medium to high cost improvements)

Figure 30 – Traffic Calming

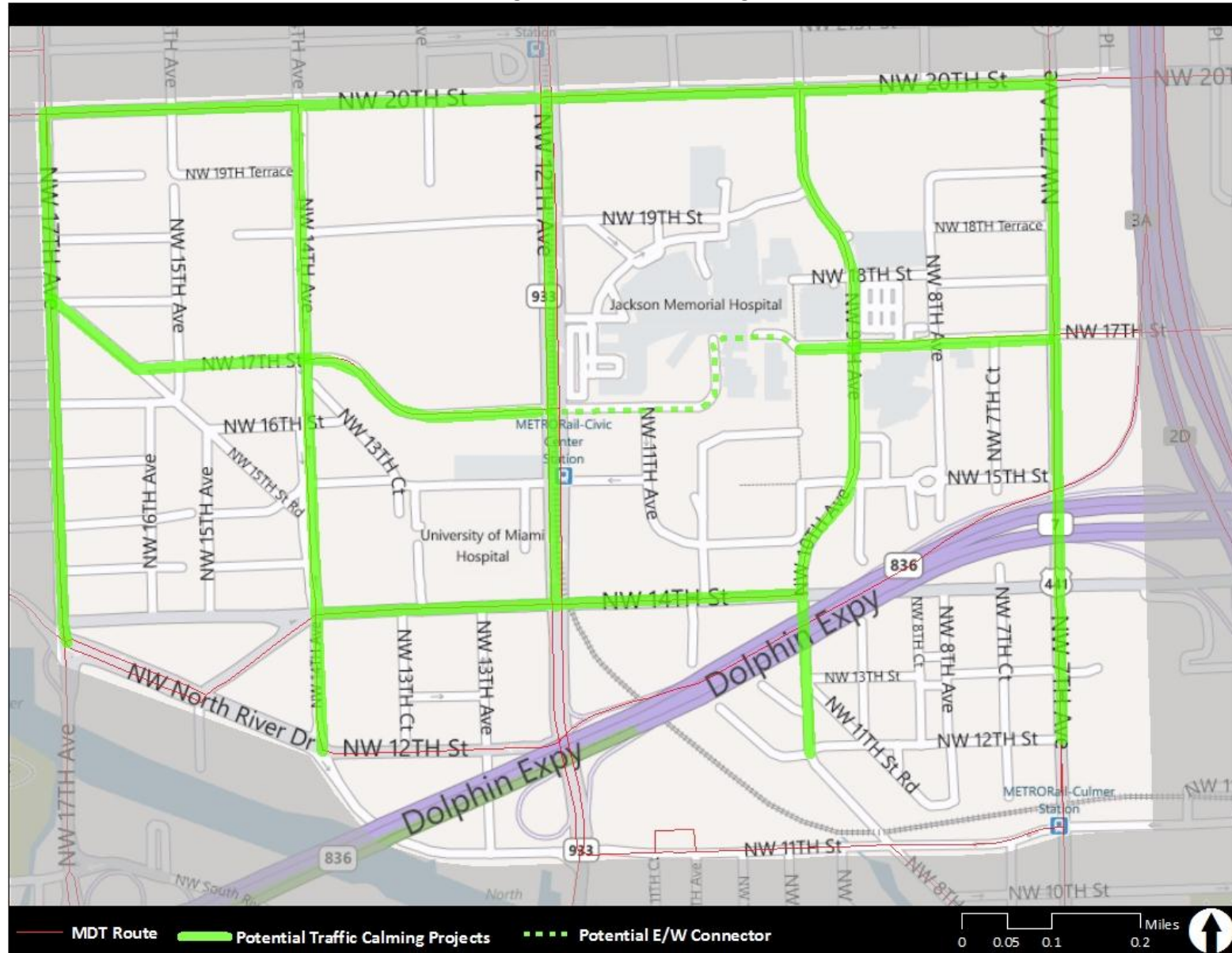


Table 24 –Project 10: Long-Term Bicycle Parking

Project 10: Long-Term Bicycle Parking	
Description	<ul style="list-style-type: none"> Some areas were identified as having high activity. These areas may have the most potential to implement a long-term bicycle parking facility and offer an alternative mode of transportation. These areas with high activity are typically busy areas in the Health District. Long-term bicycle parking facilities throughout key locations in the Health District area will help promote bicycling. Long-term bicycle parking contains additional amenities which short term bicycle parking does not have such as protection from weather and enhanced safety/security. Long-term bicycle parking projects typically require more investment and space needs compared to short-term bicycle parking. Available Right-of-Way and/or City of Miami property may be utilized.
Types of Long-Term Bicycle Parking to Be Considered	<ul style="list-style-type: none"> Bicycle Lockers Bicycle Stations (shower facilities, changing rooms, and locker facilities)
Locations (see Figure 32)	<ul style="list-style-type: none"> Civic Center Metrorail Station – a Bicycle Station is recommended for this area since it has the most potential due to the level of pedestrian and bicycle activity. Bob Hope Drive and about NW 17 Street – Bicycle lockers can be located in the Miami Parking Authority parking lot – JMH Park Plaza East Garage Courthouse and NW 12 Street area - Bicycle lockers can be located in the Miami Parking Authority parking lot – Lots 18 and 26
Coordinating Agency	<ul style="list-style-type: none"> Miami-Dade Transit Miami Parking Authority Miami-Dade Public Works City of Miami Government Institutions Private Organizations
Timeframe	<ul style="list-style-type: none"> 2-5 years
Cost	<ul style="list-style-type: none"> \$\$-\$\$\$ (medium to high cost improvements)

Figure 31 –Long-Term Bicycle Parking (Bicycle Lockers and Stations)

Figure 32 – Potential Long-Term Bicycle Parking Locations

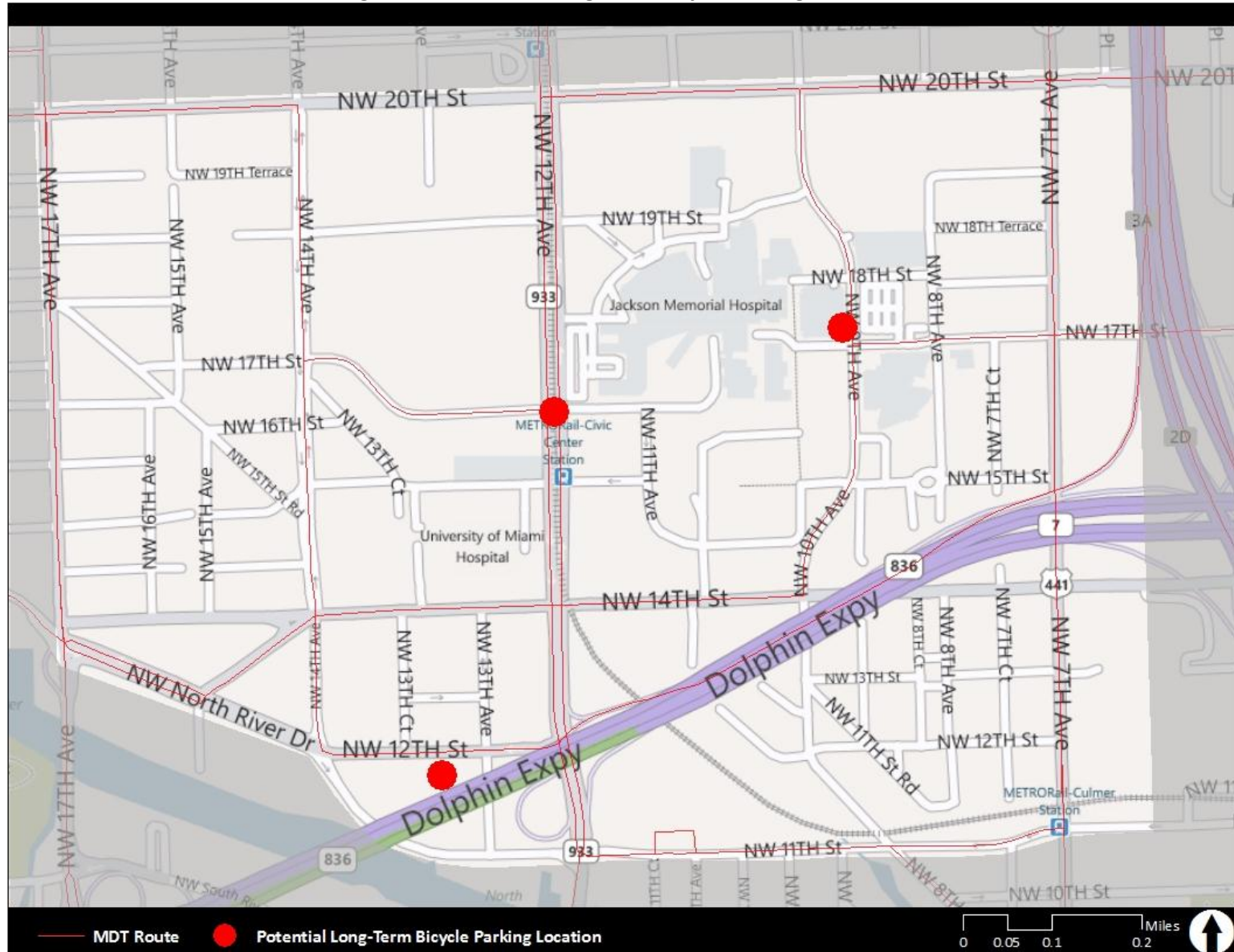


Table 25 –Project 11: Short-Term Bicycle Parking

Project 11: Short-Term Bicycle Parking	
Description	<ul style="list-style-type: none"> Based on the bicycle counts, certain facilities have a high bicycle activity. Short-term bicycle parking should be available to compliment this activity. Short-term bicycle parking should be inexpensive and time-efficient for bicycle users. One method for quick and inexpensive installation of short-term bicycle parking is converting one on-street parking space into a bike rack/shelter. The Health District already has several roadways with on-street parking. Locations should be selected to protect bicycles from weather as best as possible, not obstruct pedestrian traffic in any way, and maximize visibility. Locations are recommended in institutional or commercial areas only.
Potential Improvements	<ul style="list-style-type: none"> Bicycle Racks
Locations (5 potential on-street locations, see Figure 34)	<ul style="list-style-type: none"> NW 20 Street in front of Lindsey Hopkins Technical Institute – based on bicycle counts, NW 20 Street by NW 7 Avenue has high bicycle activity. Short-term bicycle parking should be available in front of the Lindsey Hopkins Technical Institute. May require coordination with Lindsey Hopkins Technical Institute to obtain property easements. NW 13 Avenue between NW 12 Street and NW 14 Street – conversion of one on-street parking space to bicycle racks NW 13 Court between NW 12 Street and NW 14 Street – conversion of one on-street parking space to bicycle racks NW 11 Avenue between NW 14 Street and NW 10 Avenue/NW 15 Street – conversion of one on-street parking space to bicycle racks NW 17 Street between Bob Hope Drive and NW 8 Avenue – conversion of one on-street parking space to bicycle racks
Coordinating Agency	<ul style="list-style-type: none"> Miami Parking Authority Miami-Dade Public Works City of Miami
Timeframe	<ul style="list-style-type: none"> 1-2 years
Cost	<ul style="list-style-type: none"> \$-\$\$ (low to medium cost improvements)

Figure 33 –Short-Term Bicycle Parking

Figure 34 – Potential Short-Term Bicycle Parking Locations

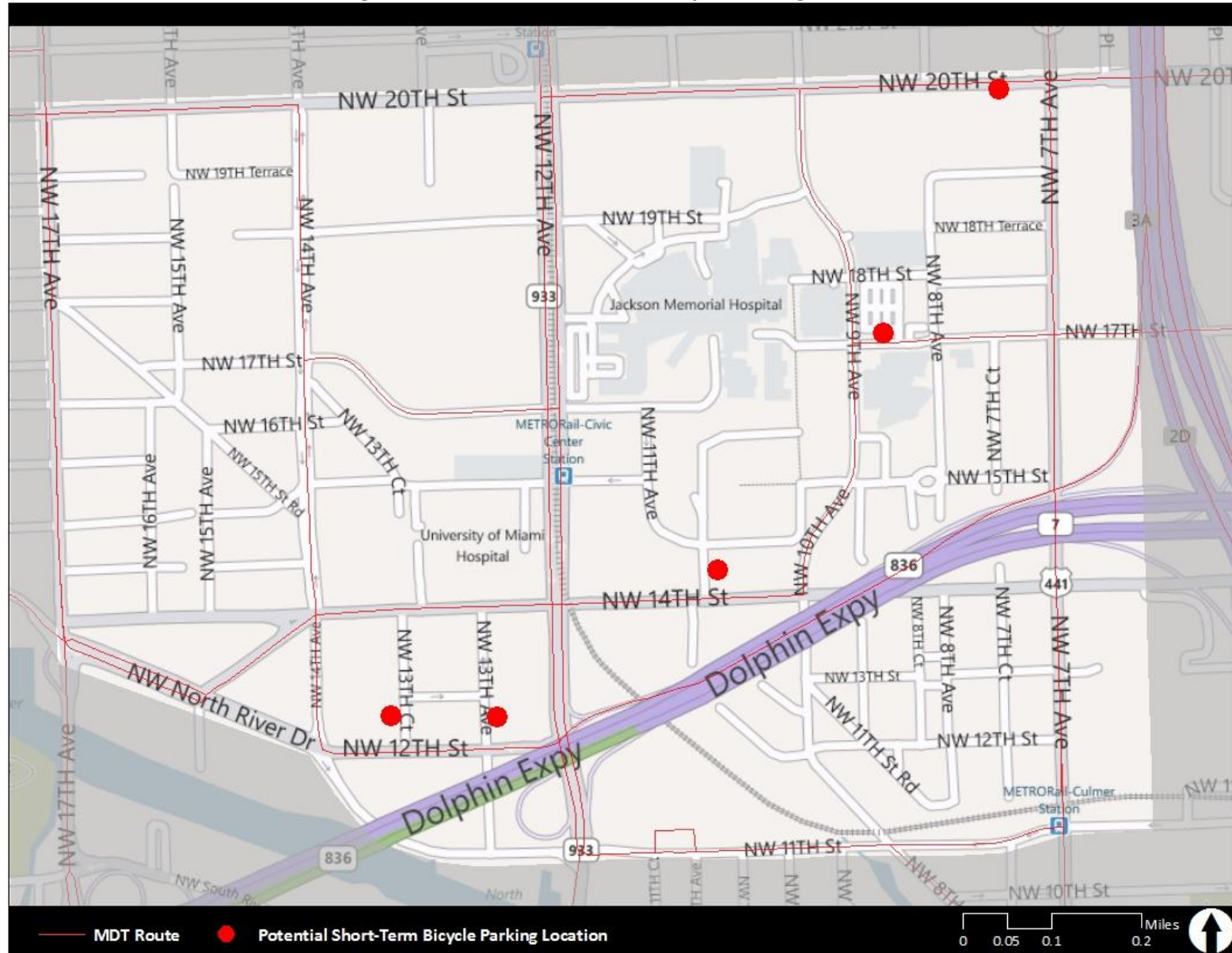


Table 26 –Project 12: Miami River Greenway Connection

Project 12: Miami River Greenway Connection	
Description	<ul style="list-style-type: none"> • The Miami River Greenway project is important for improving the non-motorized infrastructure along the Miami River. The Miami River Greenway project has several segments along the river. • The purpose of this project will be to connect the Health District's non-motorized network with the Miami River Greenway's non-motorized network.
Locations (see Figure 35)	<ul style="list-style-type: none"> • Potential connection from NW 14 Avenue to NW 17/16 Street (conceptualized Healthwalk) and connect with Jackson Memorial Hospital/University of Miami by NW 12 Avenue.
Coordinating Agency	<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami • Miami River Commission
Timeframe	<ul style="list-style-type: none"> • More than 5 years
Cost	<ul style="list-style-type: none"> • \$\$\$ (high cost improvements)

Figure 35 – Potential Miami River Greenway Connection

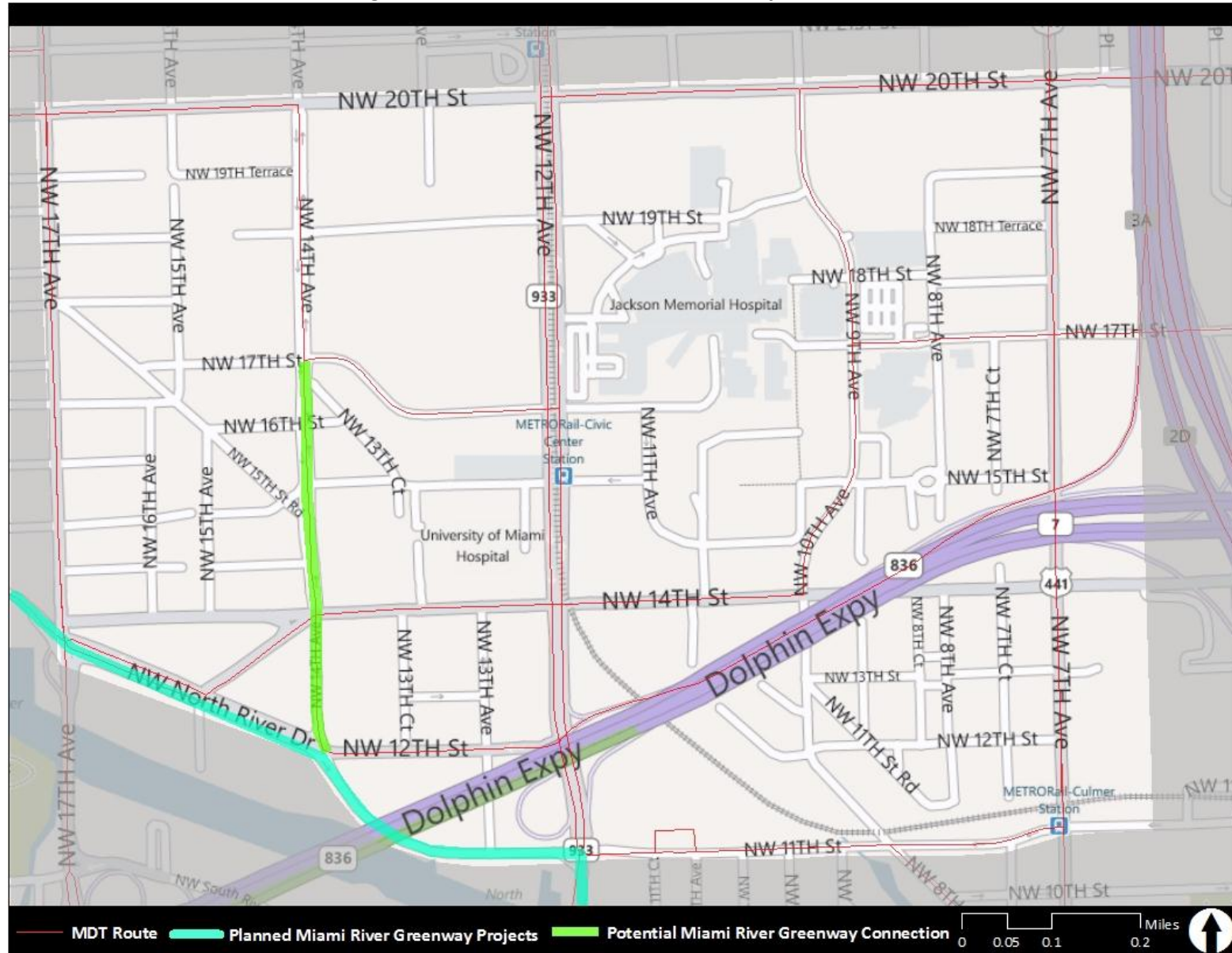


Table 27 –Project 13: Adding Signalized Mid-Block Crosswalk

Project 13: Adding Signalized Mid-Block Crosswalk	
Description	<ul style="list-style-type: none"> During the public involvement process, some comments were made regarding mid-block crosswalk at some locations. Mid-block crosswalks are an important link for pedestrians when intersection crosswalks are inconveniently far. Mid-block crosswalks may also prevent jaywalking. Sometimes areas for vehicular parking and pedestrian activity are separated by vehicular traffic which would require pedestrians to travel to the nearest intersection to cross the roadway safely. The purpose of this project will be to identify some potential mid-block crosswalk locations.
Locations	<ul style="list-style-type: none"> NW 20 Street between Bob Hope Drive and NW 7 Avenue (MDC and Lindsey Hopkins) – based on pedestrian counts, several pedestrians crossing NW 20 Street at this location. NW 12 Avenue between NW 14 Street and NW 12 Street (Kristi House and State Attorney's office) – based on stakeholder input, several pedestrians cross NW 12 Avenue between these two locations.
Coordinating Agency	<ul style="list-style-type: none"> Miami-Dade Public Works City of Miami FDOT
Timeframe	<ul style="list-style-type: none"> 2-5 years
Cost	<ul style="list-style-type: none"> \$\$\$ (high cost improvements)

Table 28 –Project 14: Traffic Flow Modifications

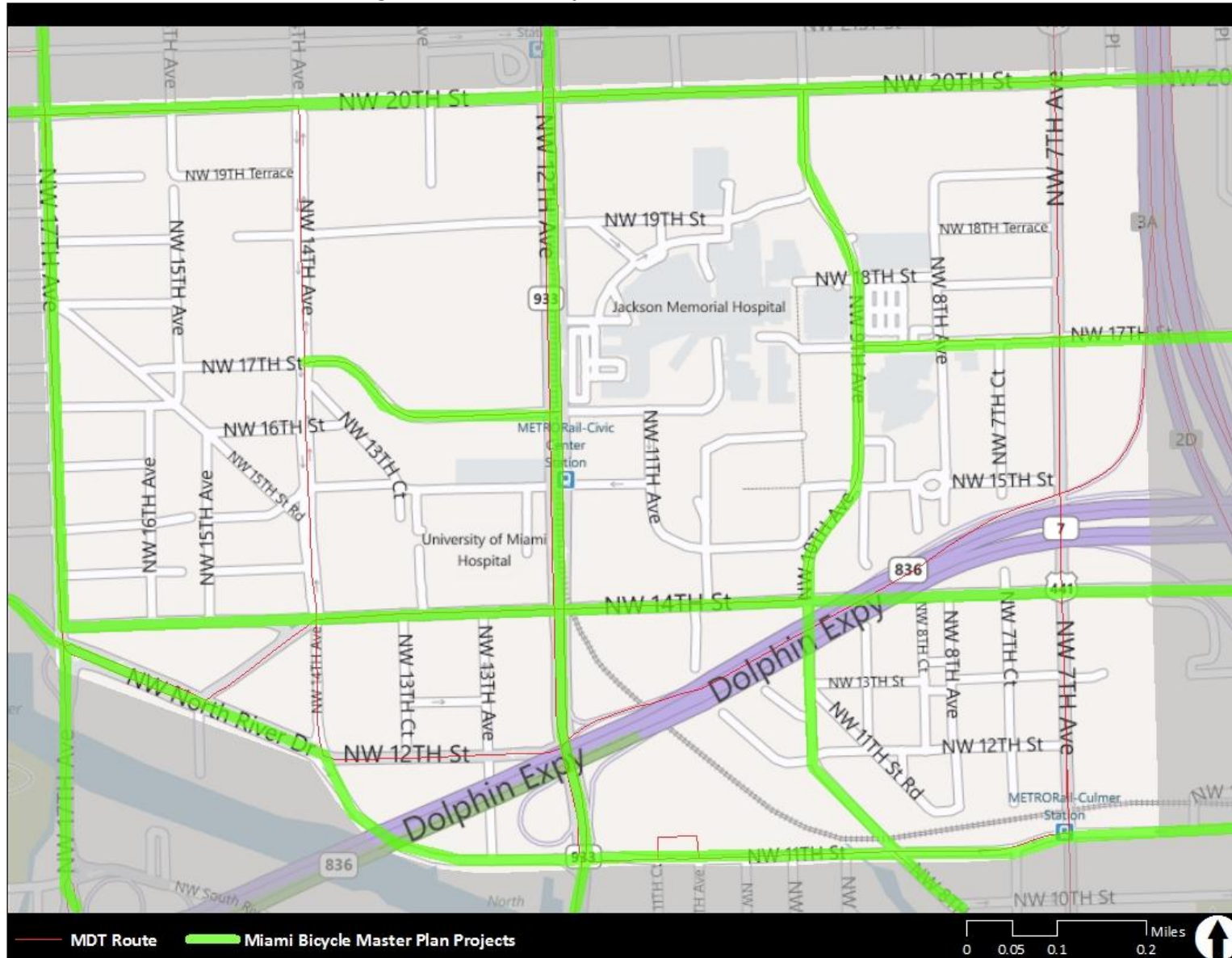
Project 14: Traffic Flow Modifications	
Description	<ul style="list-style-type: none"> This project includes the conversion of one-way street segments into two-way streets. A detailed traffic operations analysis will have to be performed in order to assess the impacts of the one-way to two-way street conversion. Any traffic flow modification would need to be approved by Miami-Dade Public Works and City of Miami.
Locations	<ul style="list-style-type: none"> NW 11 Street between NW 7 Avenue and NW 8 Street Road – this roadway segment connects with NW 7 Avenue which is a State Road therefore FDOT coordination will be required. NW 12 Street between NW 13 Avenue and NW 12 Avenue – it appears that there is sufficient right-of-way for this conversion. NW 13 Avenue between NW 12 Street and NW 14 Street – on-street parking on both sides of the street is heavily utilized in this one-lane, one-way road. However parking stalls appear to be wider than typical. It may be a challenging to obtain consensus with area organizations. NW 13 Street between NW 13 Avenue and NW 13 Court – on-street parking on both sides of the street is heavily utilized in this one-lane, one-way road. However parking stalls appear to be wider than typical. It may be a difficult obtain consensus with area organizations.

Coordinating Agency
<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami • FDOT • Area organizations such as the Courthouses.
Timeframe
<ul style="list-style-type: none"> • 2-5 years
Cost
<ul style="list-style-type: none"> • \$\$\$ (high cost improvements)

Table 29 –Project 15: Bicycle Corridors

Project 15: Bicycle Corridors
Description
<ul style="list-style-type: none"> • The Miami Bicycle Master Plan has already proposed an extensive bicycle network in the City of Miami including the Health District area. • The bicycle network includes bicycle routes, bicycle lanes, bicycle sharrows, shared-use paths / greenways, and bicycle boulevards.
Locations and Types of Bicycle Corridor Projects in the Health District Area (see Figure 36)
<ul style="list-style-type: none"> • Bob Hope Drive / NW 8 Street Road between NW 20 Street and NW 7 Avenue – Sharrows • NW 12 Avenue between NW 71 Street and Coral Way – Bicycle Route • NW 17 Avenue between NW North River Drive and US-1 – Bicycle Route • NW 14 Street between NW 7 Avenue and NW 17 Avenue – Sharrows • Healthwalk between NW 14 Avenue and NW 12 Avenue – Sharrows • NW 14 Street between NW 1 Avenue and NW 7 Avenue – Bicycle Lanes • NW 17 Street between NW 9 Avenue and NW 3 Avenue (part of Healthwalk) – Bicycle Lane • NW North River Drive / NW 11 Street – Shared Use Path • NW 17 Avenue between NW 14 Street and NW 36 Street – Sharrows • NW/NE 20 Street between NW 27 Avenue and NE 2 Avenue - Sharrows
Coordinating Agency
<ul style="list-style-type: none"> • Miami-Dade Public Works • City of Miami • FDOT
Timeframe
<ul style="list-style-type: none"> • 2-10 years
Cost
<ul style="list-style-type: none"> • \$-\$\$\$ (low to high cost improvements)

Figure 36 – Miami Bicycle Master Plan Network in Health District Area



Potential Funding Sources

This section provides an overview of the potential funding sources which may be utilized for project implementation. The following is a list of the potential funding sources:

- **City of Miami CIP** – the City of Miami has allocated resources for bicycle, pedestrian, and transit improvements in its CIP. The CIP programs which may pertain to these areas of improvements include the “Street and Sidewalks” and “Mass Transit” CIP programs. Based on the 2010 – 2011 Capital Budget and Multi-Year Capital Plan these programs have the following funding amount: Streets and Sidewalks program has \$129,454,544 and the Mass Transit program has \$4,443,240. It should be noted that the Mass Transit program is currently in the process of implementing the Miami Transit system. Some of the multimodal improvement recommendations from this plan may be incorporated into the Mass Transit program such as ADA improvements at bus-stops, bus-stop-bench, and bus-shelter improvements.
- **Miami-Dade County** – There are several major categories in the Miami-Dade MPO Fiscal Year 2012-2016 TIP which provides an overall framework of the typical funding sources that could be tapped for project implementation:
 - **Road Impact Fee** – The Miami-Dade County Public Works Department manages this category of projects. The funding for this category of projects is further divided into four main categories: Road and Bridge projects, Resurfacing, Traffic Operations Projects to Increase Capacity and Safety (TOPICS), and Traffic Control Devices.
 - **Multimodal People’s Transportation Plan (PTP)** – The Citizens Independent Transportation Trust (CITT) oversee the projects in this plan and work closely with Miami-Dade County Public Works Department. The funding from this category is divided into Major Highway Road Improvement projects and Neighborhood Improvement projects. The Neighborhood Improvement projects include multimodal improvement projects such as ADA curb cuts, pavement markings, roadway lighting, traffic calming, traffic signals, etc.
 - **Non-motorized Component** – The Miami-Dade County Public Works Department manages this category of projects which includes improvements for bicycle and pedestrian facilities.
 - **Transportation Disadvantaged Section** – Several agencies are committed to improving the environment for the transportation disadvantaged. These projects are already

included within several categories of projects in the TIP such as FDOT District 6, Road Impact Fee, and the Multimodal People's Transportation.

- **Congestion Management Process (CMP) Projects** – The CMP projects are coordinated between the Miami-Dade MPO, FDOT, and Miami-Dade County Public Works Department. Incorporation of projects in this category may be time consuming due to the level of review required.
- **FDOT District 6, Primary State Highway and Other Modal Projects, Bicycle/Pedestrian Corridor Improvements** – The FDOT District 6 has a subcategory of projects known as Bicycle/Pedestrian Corridor Improvements. FDOT typically participates in the funding of these types of projects which are usually implemented by local agencies such as the City of Miami and/or Miami-Dade County. Some of these projects are funded by the Federal Transportation Enhancement Discretionary Program.
- **Miami-Parking Authority (MPA)** – Some of the recommendations from this plan will require close coordination with the MPA. The MPA may also be a potential funding partner with these improvements. Such improvements include conversion of parking spaces to bicycle racks and development of bicycle lockers/stations at some of the MPA parking garages.
- **Area Stakeholders** – The area stakeholders can be major partners in the implementation of some of the recommendations including the non-engineering improvements. The University of Miami, with its Walksafe and Bikesafe programs, may be the most appropriate candidate to manage some of the improvement projects.

Appendix A

Online Survey Results



Constant Contact Survey Results

Survey Name: Health District Bicycle and Pedestrian Mobility Plan Survey

Response Status: Partial & Completed

Filter: None

8/23/2011 8:21 AM EDT

TextBlock:

The purpose of this survey is to gauge public opinion which will assist with the development of the Health District Bicycle and Pedestrian Mobility Plan. Your opinion is greatly appreciated!

TextBlock:

What is your association in the Health District area?

Answer	0%100%	Number of Response(s)	Response Ratio
Work		872	91.5 %
Visiting hospitals		22	2.3 %
Visiting courts		1	<1 %
Visiting Colleges		16	1.6 %
Lodging		3	<1 %
Other		29	3.0 %
No Response(s)		10	1.0 %
Totals		953	100%

What is your home zip code?

Answers	Number of Response(s)
Postal Code	940

What organization/building do you primarily work/visit/other?

Answer	0%	100%	Number of Response(s)	Response Ratio
11th Judicial Court of Florida			14	1.4 %
Camillus House			1	<1 %
Children's Home Society			0	0.0 %
Department of Health			2	<1 %
Jackson Memorial Hospital			630	66.1 %
Kristi House			1	<1 %
Lindsey Hopkins Technical Education Center			89	9.3 %
Miami-Dade College Medical Campus			24	2.5 %
Miami-Dade County Corrections & Rehabilitation			5	<1 %
Miami VA Healthcare System			9	<1 %
Public Defenders office			21	2.2 %
State Attorney's office			0	0.0 %
University of Miami Medical Campus			123	12.9 %
Other			28	2.9 %
No Response(s)			6	<1 %
Totals			953	100%



How do you primarily travel to/from the Health District area?

Answer	0%	100%	Number of Response(s)	Response Ratio
Car			697	73.1 %
Vanpool/carpool service with South Florida Commuter Services or work			6	<1 %
Metrorail			146	15.3 %
Bus			50	5.2 %
Bicycle			26	2.7 %
Walk			18	1.8 %
No Response(s)			10	1.0 %
Totals			953	100%

Which streets do you primarily walk or bike along? Choose all that apply.

Answer	0%	100%	Number of Response(s)	Response Ratio
NW 20 Street			170	19.1 %
NW 14 Street			234	26.4 %
NW 14 Avenue			85	9.5 %
NW 12 Avenue (Metrorail Station location)			453	51.1 %
NW 9/10 Avenue (Bob Hope Drive)			247	27.8 %
NW 7 Avenue			127	14.3 %
NW 16/17 Street			173	19.5 %
Other			116	13.0 %
Totals			886	100%

How many times a day do you walk along the streets within the Health District area?

Answer	0%	100%	Number of Response(s)	Response Ratio
Usually never; I stay in the same building			310	32.5 %
Usually 1 to 2 times a day			374	39.2 %
Usually 3 to 4 times a day			177	18.5 %
Usually 5 or more times a day			74	7.7 %
No Response(s)			18	1.8 %
Totals			953	100%

How many times per week do you ride your bike in the Health District area?

Answer	0%	100%	Number of Response(s)	Response Ratio
Never	<div><div></div></div>		841	88.2 %
Usually 1 to 2 times a week	<div><div></div></div>		54	5.6 %
Usually 3 to 4 times a week	<div><div></div></div>		17	1.7 %
Usually 5 or more times a week	<div><div></div></div>		28	2.9 %
No Response(s)	<div><div></div></div>		13	1.3 %
Totals			953	100%

Please rank the following pedestrian-bicyclist concerns within the Health District. (1 = MOST concerning and 10 = LEAST concerning)

1 = Most

Answer	1	2	3	4	5	6	7	8	9	10	Number of Response(s)	Ranking Score*
Vehicular speeds											725	3.2
Crosswalk visibility											725	4.6
Sidewalk condition											725	5.0
Lighting											725	5.4
Traffic signal pedestrian walking time											725	4.9
Jay walking											725	6.0
Bicycle safety along streets											725	4.9
Bicycle parking sufficiency											725	6.9
Signage adequacy											725	6.8
Expressway Underpass Conditions											725	7.3

*The Ranking Score is the weighted average calculated by dividing the sum of all weighted rankings by the number of total responses.

If there were a dedicated pedestrian path or bicycle facility would you use it? Any specific locations where this would be appropriate?

648 Response(s)

Do you have specific concerns with any intersections and/or roadways within the Health District area which affect bicycle/pedestrian safety and access? If so, what concerns?

515 Response(s)

Do you have specific recommendations for pedestrian/bicycle improvements in the area (i.e. bike racks, lighting, crosswalks, underpass etc.)? If so, please be specific as to location.

428 Response(s)

TextBlock:

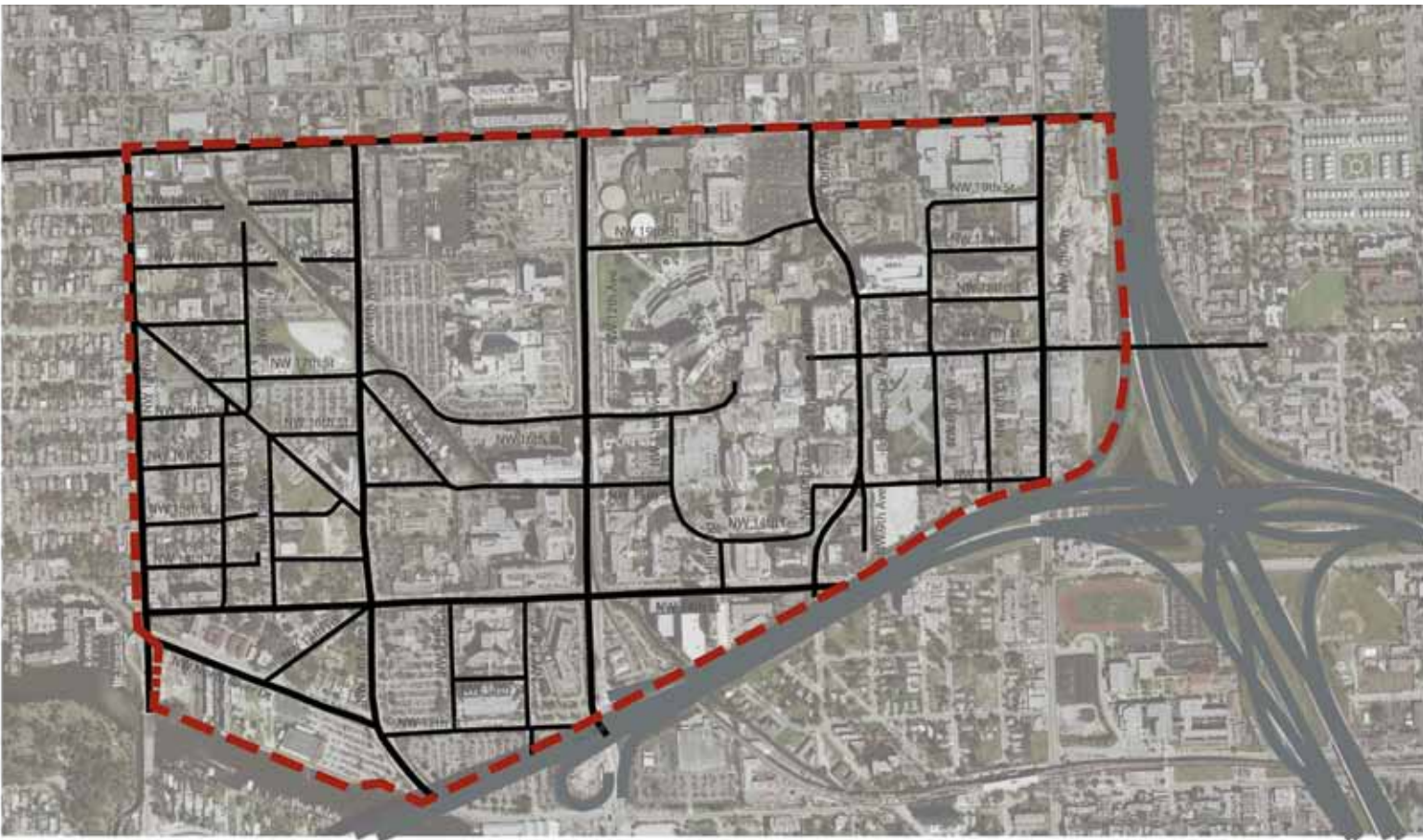
Please select the "FINISH" button to submit your results. Thank you for your time!!!

Appendix B

Field Observations

Street Network Field Log

March 5-11 & March 15-18 2011



STREET NETWORK DIAGRAM

NW 17 AVENUE

BETWEEN NW River Drive & NW 20 St

The NW 17th Avenue corridor is characterized by areas of high pedestrian and cyclist activity paired with high volume and high speed roadway conditions. The urban fabric of the street grid from NW 14th Street to NW 20th Street consists of compact blocks, with main street buildings fronting two lanes with a center turn lane and on-street parking.

The corridor is marked by nodes of intense pedestrian activity with one and two story main-street commercial buildings. A variety of uses are reflected in the buildings, including an abundance of neighborhood serving retail (grocery stores, medical clinics, coffee shops, banks), offices (bail bonds, professional organizations, law offices), and medium density residential uses.

The corridor has numerous curb cuts and breaks in the street wall due to parking lots and buildings that are excessively setback from the sidewalk. Pedestrians and cyclists along the corridor are most challenged by the high speed road design paired with limited east/west pedestrian connections across NW 17th Avenue— out of 13 intersections only four include east/west pedestrian crossings.

Another location of concern with regard to pedestrian and cyclist safety is at the intersection of NW 20 Street. Reduced sidewalk widths, obstructions in the path of pedestrians, and large curb radii help make this node less pedestrian friendly than others along the corridor.



Intersection of NW 17 Avenue and North River Drive



Urban frontage, signage, & sidewalk amenities



Mixed-use pedestrian scaled buildings

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 150' on both sides; take the form of reused utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' - 10', 5' planting strip along much of the frontage, curb/gutter. curb to curb width is 50'. Crosswalks are faded
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. Stops take three forms: glass shelter with a wood bench, unprotected wood bench with route sign and map, and route sign with no bus bench.

CROSSWALK & INTERSECTION AMENITIES

NW 17th Ave & 20th Street

4-way intersection, signalized crosswalks all sides
High traffic volume and speed intersection
Designated crosswalk across 17 Terrace faded, consists of two white lines, 10' apart

NW 17th Ave & 19th Terrace

4-way intersection, no signalized crosswalks at intersection
No designated crosswalk across 17 Avenue
Designated crosswalk across 19 Terrace faded, consists of two white lines, 10' apart

NW 17th Ave & 19th Street

Offset intersection, no signalized crosswalks at intersection(s)
No designated crosswalk across 17 Avenue
Designated crosswalk across 19 Street faded, consists of two white lines, 10' apart

NW 17th Ave & 18th Terrace

'T' intersection, no signalized crosswalks at intersection
No designated crosswalk across 17 Avenue
Designated crosswalk across 18 Terrace is faded, consists of two white lines, 10' apart

NW 17th Ave, 18th Street & NW 15 Road

4-way signalized intersection, unclear circulation, crosswalk launches from curb cut
One broken signalized crossing @ 18 Street, and crosswalk across 17 Avenue
Designated non-signalized crossing @ 17 Avenue & 15 Street, no crosswalk at 15 Road
Designated crosswalk faded, consists of two white lines, 10' apart,

NW 17th Ave & 17th Street

'T' intersection
No signalized crosswalks; midblock signalized crosswalk across 17th ave
Designated crosswalk across 17 Street faded, consists of two white lines, 10' apart

NW 17th Ave & 16th Terrace

4 way intersection, no signalized crosswalks, no designated crosswalk across 17 ave
Designated crosswalk across 16 Terrace faded, consists of two white lines, 10' apart

NW 17th Ave & 16th Street

4 way intersection, no signalized crosswalks
No designated crosswalk across 17 Avenue or across west side of 16 Street
crosswalk across east side of 16 Street faded, consists of two white lines, 10' apart

NW 17th Ave & 15th Street

4 way intersection, no signalized crosswalks
No crosswalks across 17 Avenue, crosswalks across 15 street both sides

NW 17th Ave & 14th Terrace

'T' intersection, no signalized crosswalks
Designated crosswalk @ 14 Terrace faded, no crosswalks across 17 Avenue

NW 17th Ave & 14th Street

'T' Intersection, signalized crossing across 17th Avenue, unsignalized crossing 14th Street.
Designated crosswalk consists of two white lines, spaced 10' apart

NW 17th Ave & NW River Drive

Large 4-way multilane intersection with flyover, unclear circulation pattern
One broken signalized crossing, other crossings are marked, but unsignalized
Crossings of up to 60', lack of pedestrian refuge in the roadway



NW 16 & 15 AVENUE

BETWEEN NW River Drive & NW 20 St

The NW 15th Avenue and 16th Avenue corridors are very similar in nature. The urban fabric of the street grid from NW 14th Street to NW 20th Street consists of short, compact blocks, fronted by medium density residential scaled buildings, and no street trees. The corridor is not marked by areas of intense pedestrian activity.

NW 16 Avenue

NW 16 Avenue is 2-lane road with a 5' sidewalks and on-street parking or a planting strip, that runs between NW 16 Terrace and NW 13 Street. It is characterized by low traffic volumes and a small scaled medium-density residential building frontage. There are no cyclist accommodations, and few designated pedestrian crossings.

NW 15 Avenue

NW 15th Avenue is a 2-lane road, with no designated on-street parking, and runs between NW 20 Street and 16 Terrace then jogs to the west half a block and continues south to NW 14 Street. It is characterized by low traffic volumes and low speeds. There is a 5' sidewalk on either side of the street, and a 10' planting strip that is also unlandscaped rubble in some locations.

The road segment is broken by a canal at NW 19 Street. There are no cyclist accommodations, and crossing the street safely is not a challenge due to the low traffic volumes. There are no street trees and poor building frontage. The corridor is not marked by areas of intense pedestrian activity. The street pavement is in poor condition, and lacks a curb and gutter.



View south on NW 15 Avenue toward NW 19 Street.



View north on NW 16 Avenue toward NW 16 Terrace



View toward interesction of NW 15 Ave and 15 Rd

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, inconsistently spaced 1 every 50'-100' on alternating sides; made of reused wood utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. Curb-to-curb width is 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. No other areas of pedestrian activity other than sidewalk.

CROSSWALK & INTERSECTION AMENITIES

NW 20 St & NW 16 Ave

4 way arterial intersection
no designated pedestrian crosswalk, no signal

NW 19 St & NW 15 Ave

'T'Intersection
Designated crosswalk: 2 faded white lines, spaced 10' apart
Stop sign on NW 19 St (turning right)

NW 18 St & NW 15 Ave

'T' Intersection, Stop sign on NW 18 St (turning right)
Designated crosswalk: 2 faded white lines, spaced 10' apart

NW 17 St & NW 15 Ave

Four-way stop
Designated crosswalk: 2 faded white lines, spaced 10' apart

NW 15 Rd & NW 17 St

Diagonal intersection, Stop sign at NW 17 St (turning)
Designated crosswalk: 2 faded white lines, spaced 10' apart (only for n/s crossing)

NW 16 Ter & NW 16 Ave

wide intersection, unclear pattern of travel
only designated pedestrian crosswalk across NW 15 Rd at north intersection of NW 16 Ave

NW 16 St & NW 16 Ave

Designated crosswalk: 2 faded white lines, spaced 10' apart (only for n/s crossing)

NW 16 St & NW 15 Ave

'T' intersection,
No Designated crosswalk

NW 15 St & NW 16 Ave

Four-way stop
No Designated crosswalk

NW 15 ST & NW 15 Ave

'T' intersection, Stop sign at NW 15 St (turning)
No Designated crosswalk

NW 14 Ter & NW 16 Ave

Four-way stop, stop sign at NW 14 Ter (turning)
No Designated crosswalk

NW 14 Ter & NW 15 Ave

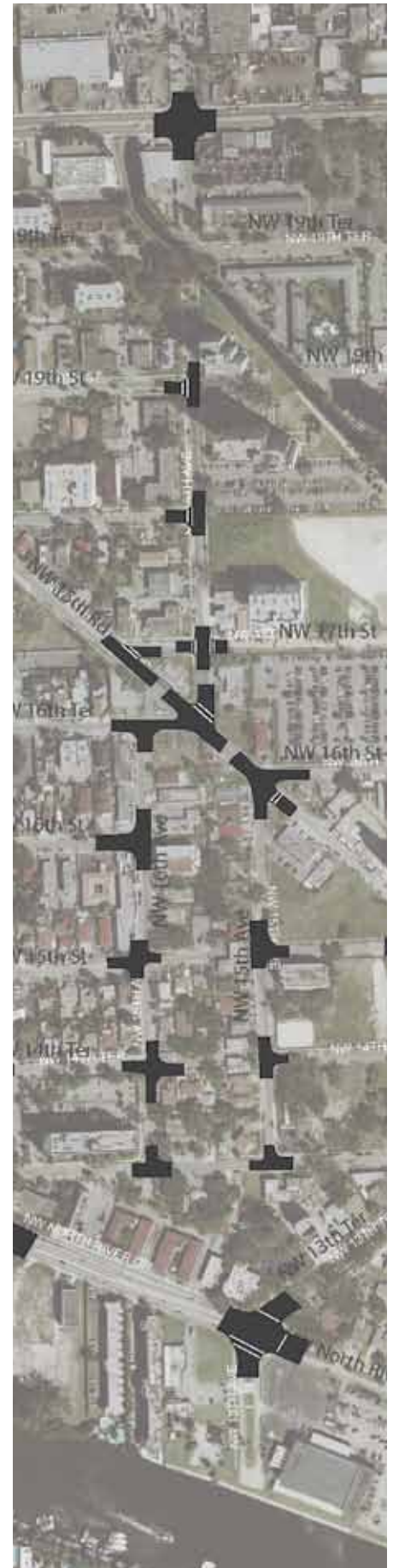
'T' intersection, Stop sign at NW 14 Ter (turning)
No Designated crosswalk

NW 13 St & NW 16 Ave

'T' intersection, Stop sign at NW 13 St (turning)
No Designated crosswalk

NW 13 St & NW 15 Ave

'T' intersection, Stop sign at NW 13 St (turning)
No Designated crosswalk



NW 14 AVENUE

BETWEEN NW North River Drive/NW 12 Street & NW 20 St

NW 14th Avenue is a 4-lane road, with a center raised median and left-turn lane. It is characterized by low volumes of automotive traffic and high travel speeds. There are no cyclist accommodations, and crossing the street safely is a challenge due to a lack of crosswalks and signalized intersections.

The urban fabric of the street grid from NW North River Drive/NW 12 Street to NW 20th Street consists of long uninterrupted blocks, fronted by large setbacks, parking lots and a lack of spatial definition. Institutional buildings and high density residential uses line the corridor.

The corridor lacks of pedestrian scaled building frontage and has no on-street parking. There are no areas of intense pedestrian activity. Pedestrians and cyclists along the corridor are most challenged by the high speed road design paired with poor street frontage.



Poor building frontage along NW 14 Ave.



Glass bus shelter, intersection of NW 15 St and 14 Ave.



Sidewalks lack shade.

Notes:	
Bicycle Facilities	None.
Lighting	Lighting consists of concrete utility poles with an attached cobra head light. spaced 1 every 100-150' on both sides.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	5' sidewalk both sides. curb to curb width 60'. few street trees. pavement markings at the crosswalk are faded. many curb cuts provide points of pedestrian conflict.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. No other areas of pedestrian activity other than sidewalk.

CROSSWALK & INTERSECTION AMENITIES

NW 20th St & NW 14th Ave

Signalized crossings

Designated crosswalk consists of two white lines, spaced 10' apart

Crossings of up to 60', lack of pedestrian refuge on the roadway

NW 19th Ter & NW 14th Ave

'T' Intersection

Designated crosswalk consists of two white lines, spaced 10' apart

Crossings of up to 60', lack of pedestrian refuge on the roadway

NW 19th St & NW 14th Ave

'T' Intersection

Designated crosswalk consists of two white lines, spaced 10' apart

Crossings of up to 60', lack of pedestrian refuge on the roadway

NW 17th St & NW 14th Ave

User-activated signalized crossing

Designated crosswalk consists of two white lines, spaced 10' apart

These two features are pretty much the standard pedestrian provision in the district.

NW 13th Court & NW 14th Ave, (just south of intersection of NW 14th Ave and NW 17th St)
crosswalk provision: continuous white lines, spaced 10' apart
traffic turning right into NW 13th Court is not required to yield to crossing pedestrians
traffic turning onto NW 14th Ave from NW 13th Court has a stop sign

NW 16th St & NW 14 Ave

no pedestrian provisions

traffic turning onto NW 16th St not required to yield to crossing pedestrians

stop signs require drivers that are turning onto NW 14th Ave to stop before turning

NW 15th St & NW 14th Ave

crosswalk provision: continuous white lines, spaced 10' apart

traffic turning into NW 15th St from NW 14th Ave not required to yield to pedestrians

traffic turning into NW 14th Ave from NW 15th St has stop sign

NW 14th Terr & NW 14th Ave

no pedestrian crosswalk

traffic turning into NW 15th Ter from NW 14th Ave not required to yield to pedestrians

traffic turning into NW 14th Ave from NW 15th St not required to yield to pedestrians

NW 14 St & NW 14 Ave

signalized pedestrian crosswalk (broken)

large intersection, unclear pattern of vehicular travel

NW North River Drive/NW 12 St & NW 14 Ave

Signalized intersection (across one side - also broken)

large intersection, unclear pedestrian circulation pattern



NW 12 AVENUE

BETWEEN NW North River Drive/NW 12 St & NW 20 St

NW 12th Avenue is a 6-lane multimodal corridor, with a raised median that accomodates the Metro-rail structure. It is characterized by high volumes of automotive travel and a high volume of pedestrian and cyclist activity. A section of NW 12 Avenue between NW 16 Street to NW 14 Street is a 4 lane divided roadway.

There is no on-street parking or cyclist accommodations. Pedestrians are abundant around the MetroRail station, numerous bus stops and at the intersection of NW 14th Street. An area of intense pedestrian activity is the south-west corner plaza at NW 16 Street. Pedestrians are challenged by the high speeds and volume of traffic and short signal times. Crossing the street safely requires pedestrians to use the pedestrian refuge to cross the street in 2 phases.

The urban fabric of the street grid from NW 20th Street to NW 14th Street consists of long uninterrupted blocks, fronted by large setbacks, parking lots and a lack of spatial definition. Institutional buildings line the corridor. There is no pedestrian scaled frontage. The transit stations and bus stops are major generato



Intersection of NW 16 St & NW 12 Ave



Pedestrian plaza at NW 16 St & NW 12 Ave



Intersection of NW 14 St & NW 12 Ave

Notes:	
Bicycle Facilities	None.
Lighting	Mix of pedestrian and industrial scaled lighting. Spaced 1 every 50'-200' on both sides; concrete/metal poles with an attached cobra head light.
Signage	Signage oriented to motorist and pedestrians. Pedestrian signage relates to Health District. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	sidewalk is 10' on both sides. curb to curb width is 100'. no street trees. many curb cuts provide points of pedestrian conflict.
Plazas, transit stops/stations, paths, other pedestrian areas	several high ridership bus stops and transit stations, shown in the Bus Route Diagram and Transit Diagram. Plaza at Metrorail station at the SW and SE corner of NW 16 street.

CROSSWALK & INTERSECTION AMENITIES

NW 20th St & NW 12th Ave

Signalized 4-way crossing

Designated crosswalk consists of two white lines, spaced 10' apart

Elevated rail tracks along NW 12th Ave provide pedestrian refuge in center of road for pedestrians NW 12th Ave

Entry to health care complex of off NW 12th Ave (S of NW 20th St, W side of road)

sidewalk continues across entryway

no further pedestrian provisions or traffic regulations

NW 19th St and NW 12th Ave

no crosswalk across NW 12th Ave and NW 19th street, Very dangerous

crosswalk across NW 19th St (on either side of NW 12th Ave) consists of a "zebra stripe", 10' wide, 1' thick markings every 4 feet.

traffic turning right off of NW 12th ave into NW 19th St, does not yield to pedestrians;

traffic exiting NW 19th St has a stop sign

eastern approach to NW 19th St has a stop bar

Entryway to parking lot along NW 12th Ave, between NW 16th St and NW 19th St

sidewalk continues across the entryway

no signage requiring drivers to yield to crossing pedestrians

Entryway to healthcare complex along NW 12th Ave (N of NW 12th ave & 16th St)

"zebra paths" continue the sidewalk along NW 12th Ave across the entryway

no signage requiring drivers turning into the driveway to yield to pedestrians

stop bar requires drivers turning onto NW 12th Ave to yield to pedestrians crossing

NW 12th Ave & NW 16th St

located in the heart of the health district

signalized intersection

zebra stripes along 3 sides of intersection

pedestrian refuge below elevated rail along NW 12th Ave

no marked crossing across NW 16th St (all other 3 crossings have Zebra stripes)

NW 13th Court/ NW 15th St & NW 12th Ave

signalized intersection

crosswalk across NW 12th Ave features a pedestrian refuge in the median

sidewalks continue along west side of NW 12th Ave across NW 13th Court,

sidewalk lowers as it passes NW 13th Court

NW 12th Ave & NW 14th St

signalized intersection

pedestrian crossing is 2 white lines 10' apart

large right of way, both streets are wide, creating a vast intersection

crossing signal is user-activated

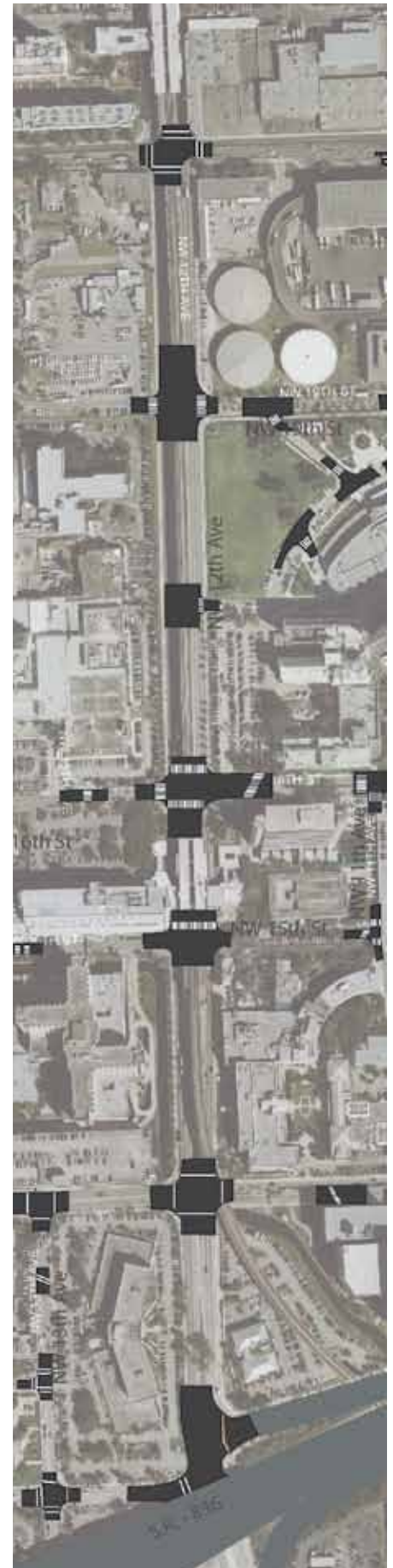
NW 12th Ave & NW 12th St

signalized intersection

pedestrian crossing is 2 white lines 10' apart

large right of way, both streets are wide, creating a vast intersection

crossing signal is user-activated



NW 10 & 9 AVENUE

BETWEEN NW 14 St & NW 20 St

Bob Hope Drive is a four lane thoroughfare with a center turn lane that is comprised of two segments: NW 10 Street and NW 9th Street. It is characterized by high speed automotive travel and a lack of pedestrian scaled building frontage. There are no cyclist accommodations, and there are seven pedestrian crossings spaced 400'-700' apart.

The urban fabric of the street grid from NW 14th Street to NW 20th Street consists of long uninterrupted blocks, fronted by a combination of large setbacks, parking lots and a lack of spatial definition. Institutional buildings and parking structures line the corridor.

The corridor has no on-street parking. Areas of high pedestrian activity include the intersection of NW 20 Street, NW 17 Street, NW 15 Street, the mid-block crossing between NW 17 Street and NW 15 Street, and the pedestrian crossing at Miami-Dade Community College. Pedestrians and cyclists along the corridor are most challenged by the high speed road design paired with poor street frontage.



Midblock crossing from Miami-Dade College



Intersection of NW 17 St & Bob Hope Drive



Midblock crossing between NW 15 St & NW 17 St

Notes:

Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 200'-250' on both sides; metal poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	sidewalk is 5' on both sides. curb to curb width is 60'. few street trees. many curb cuts provide points of pedestrian conflict.
Plazas, transit stops/stations, paths, other pedestrian areas	several bus routes exist, shown in the Bus Route Diagram. Glass bus shelter at intersection of NW 17 St.

CROSSWALK & INTERSECTION AMENITIES

NW 20th St & NW 10th Ave (Bob Hope Drive)

zebra paths connecting all sidewalks
signalized intersection
user-activated crossing signal

Crosswalk across NW 10th Ave (Bob Hope Drive) at the Miami Dade Medical College

Signalized zebra-path crosswalk, connects sidewalks on either side of NW 10th Ave
large pedestrian volume from entrance of Miami-Dade College
signage warning drivers of pedestrians that may use the crossing

NW 19th St & NW 9 Ave (Bob Hope Drive)

T-intersection, no designated crosswalk
detailed as continuous curbcut

NW 18th St & NW 9 Ave (Bob Hope Drive)

signalized 4-way intersection
pedestrian crossing signal is user-activated
zebra paths connect all sidewalks on any corner of the intersection

Midblock Crossing between NW 17 St & NW 15 St

Signalized crossing
zebra path across street

NW 17 St & NW 9 Ave (Bob Hope Drive)

signalized intersection
pedestrian crossing signal is user-activated
crosswalk designated by 2 solid continuous white lines, 10' apart

NW 15 St & NW 9 Ave (Bob Hope Drive)

signalized intersection
user-activated crosswalks
zebra paths leading across the intersection form the designated pedestrian crossing

Crosswalk at the corner of NW 14th Terrace and NW 10th Ave

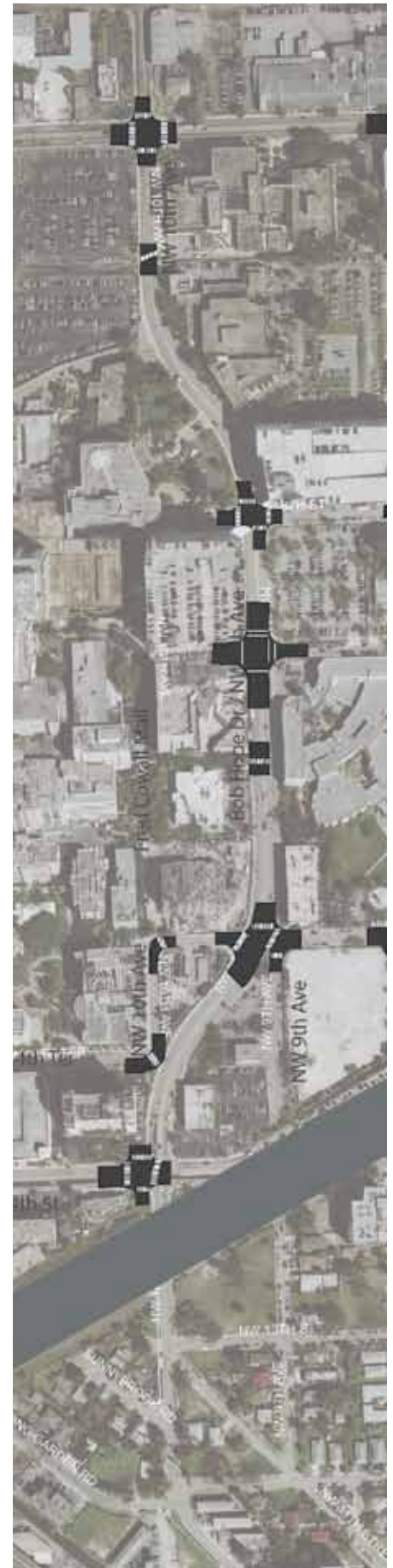
zebra path across the street

Crosswalk at the corner of NW 10th Ave and NW 15th St

zebra path connecting sidewalks on either side of the street

NW 14 St & NW 9 Ave (Bob Hope Drive)

signalized intersection
user-activated crosswalks
zebra paths leading across the intersection form the designated pedestrian crossing



NW 8 & 7 AVENUE

BETWEEN NW 15 St & NW 20 St

NW 7 Avenue

NW 7th Avenue is a 4 lane road, with a center turn lane. It is characterized by high volume and high speed automotive travel, and a lack of pedestrian scaled building frontage. There are no cyclist accommodations, and there are few pedestrian crosswalks across NW 7 Ave.

The urban fabric of the street grid from NW 14th Street to NW 20th Street consists of a mixture of redeveloped buildings (on the east side of NW 7 ave), empty lots, large institutional buildings, and small industrial buildings. The urban pattern consists of short blocks, fronted by empty lots & large setbacks, parking lots and a lack of spatial definition. Institutional and industrial uses line the corridor.

The corridor has no on-street parking, and is marked by one area of intense pedestrian activity at the intersection of NW 20 Street. Pedestrians and cyclists along the corridor are most challenged by the high speed road design paired with poor street frontage.

NW 8 Avenue

NW 8th Avenue is a 2 lane road, with on-street parking. It is characterized by low volume and low speed automotive travel. Street trees are abundant. The urban fabric of the street grid from NW 14th Street to NW 20th Street consists of small blocks with medium-low density residential buildings. Many empty lots, large setbacks, parking lots and a lack of spatial definition. Terminates in the south at Broward Circle Park.



Intersection of NW 20 St & NW 7 Ave



Intersection of NW 17 St & NW 7 Ave



Newly installed sidewalk

Notes:

Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 100'-150' on both sides; metal poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	sidewalk is 10', or 7' with a 3' planter. curb to curb width is 50'. No street trees on NW 7 Ave. many curb cuts provide points of pedestrian conflict.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram.

CROSSWALK & INTERSECTION AMENITIES

NW 20th St & NW 7th Ave

4-way, signalized intersection, pedestrian crossing signal is user-activated
crosswalk designated by 2 solid continuous white lines, 10' apart
high volume of pedestrian, cyclist and vehicular traffic

NW 20 St & NW 8 Ave

T-intersection, Stop sign on NW 20 St (turning)
crosswalk designated by 2 faded solid continuous white lines, 10' apart

NW 19th St & NW 7 Ave

T-intersection, Stop sign on NW 18 St (turning right)
crosswalk designated by 2 faded solid continuous white lines, 10' apart

NW 18 Ter & NW 7 Ave

T-intersection, Stop sign on NW 18 Ter (turning)
crosswalk designated by 2 faded solid continuous white lines, 10' apart

NW 18 Ter & NW 8 Ave

T-intersection, Stop sign on NW 18 Ter (turning)
Crosswalk designated by 2 faded solid continuous white lines, 10' apart

NW 18th St & NW 7 Ave

T-intersection, Stop sign on NW 18 St (turning)
Crosswalk designated by 2 faded solid continuous white lines, 10' apart

NW 18 St & NW 8 Ave

4-way, offset intersection, no pedestrian crossing

NW 17 St & NW 7 Ave

4-way, signalized intersection, pedestrian crossing signal is user-activated
Designated crosswalk: 2 solid continuous white lines, 10' apart

NW 17th St & NW 7 Ct

T-intersection, Stop sign on NW 17 Ct (turning)
No designated crosswalk

NW 17th St & NW 8 Ave

4-way intersection, Stop sign on NW 17 St
Designated crosswalk: brick paver stamp

NW 15th St & NW 8 Ave

Broward Circle Park Intersection, Stop sign on NW 15 St
No designated crosswalk
Public park, opportunity for enhanced pedestrian facilities

NW 15th St & NW 7 Ct

T-intersection, Stop sign on NW 7 Ct (turning)
No designated crosswalk

NW 15 St & NW 7 Ave

T-intersection, Stop sign on NW 15 St (turning)
Designated crosswalk: 2 solid continuous white lines, 10' apart



NW 20 STREET

BETWEEN NW 17 Ave & NW 7 Ave

The NW 20th Street is a major east/west corridor, and the northern boundary of the study area. It is a 4-lane road, with a center turn lane. It is characterized by high traffic volumes and high speeds. There are no cyclist accommodations, and few north/south pedestrian crossings.

The urban fabric of the street grid from NW 17th Avenue to NW 7th Avenue consists of long blocks fronted by empty lots & large setbacks, parking lots and a lack of spatial definition. Institutional and industrial uses line the corridor.

There are no street trees and poor building frontage. The corridor is marked by areas of intense pedestrian activity at most major intersections: NW 7 Ave, NW 10 Ave, NW 12 Ave, and NW 17 Ave.



Mountable curb at NW 20 St and NW 17 Ave.



Entrance to Linsey Hopkins - pedestrian plaza.



View west toward NW 12 Ave on NW 20 St.

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 150'-250' on both sides; metal poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. Curb-to-curb width is 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. Areas of pedestrian activity include: plaza at entrance to Lindsay Hopkins School, and entrance to Miami-Dade College.

NW 19 STREET

BETWEEN NW 17 Ave & NW 7 Ave

NW 19th Street has several segments exhibiting differing land use patterns and streetscape conditions. Between NW 17 Avenue and 14th Avenue (broken by a canal at NW 15 Avenue), the corridor is a two-lane medium density residential street, with on-street parking.

NW 19 Street discontinues until NW 12 Avenue, where it becomes a two-lane boulevard, and forms the entrance to a medical complex. It is characterized by low traffic volumes and a large scaled institutional buildings. There are no cyclist accommodations, and crossing the street safely is not a challenge (due to low traffic volume and pedestiran friednly street design).

The urban fabric of the street grid consists of long, sprawling blocks, fronted by blank walls, street trees and poor building frontage. The corridor is not marked by areas of intense pedestrian activity.

NW 19 Street discontinues between NW 10 Avenue and NW 8 Avenue, and returns to a two lane road with on-street parking. The urban pattern between NW 8 Avenue and NW 7 Avenue consists of industrial buildings, blank walls, parking lots, and undeveloped land.



View east on NW 19 Street and NW 17 Avenue.



View west on NW 19 Street toward NW 12 Avenue.



View west on NW 19 Street and NW 14 Avenue.

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 150'-200' on both sides; reused wood utility poles or concrete poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. Curb-to-curb width is 35'.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram.

NW 19 TERRACE, NW 18 STREET, NW 18 TERRACE BETWEEN NW 17 Ave & NW 7 Ave

The NW 19th Terrace, NW 18 Street and NW 18 Terrace are grouped together by urban form, land use and street conditions. These blocks represent what remains of the original urban fabric of the street grid between NW 17th Avenue and NW 7th Avenue which consisted of short, compact blocks, and small scale buildings. The uses are mixed from industrial on the NW 7 Avenue side, to medium density residential on the NW 17 Avenue side. The corridors are not marked by areas of intense pedestrian activity.

NW 19 Terrace

NW 19th Terrace is a 2-lane road, with on-street parking on both sides (40' curb-to-curb). It is characterized by low traffic volumes and a small scaled medium-density residential building frontage. There are no cyclist accommodations, and few designated crosswalks.

NW 18 Street

NW 18th Street is a 2-lane road, with a 10' planting strip on both sides (40' curb-to-curb). It is characterized by low traffic volumes and a small scaled medium-density residential building frontage. There are no cyclist accommodations, and few designated crosswalks.

NW 18 Terrace

NW 18th Terrace is a 2-lane road, with on-street parking on both sides (40' curb-to-curb). It is characterized by low traffic volumes and a small scaled medium-density residential building frontage. There are no cyclist accommodations, and few designated crosswalks.



Intersection of NW 19 Terrace and NW 17 Avenue.



Intersection of NW 18 Street and NW 15 Road.



Intersection of NW 18 Terrace and NW 7 Ave.

Notes:

Bicycle Facilities	None.
Lighting	Lighting spaced 1 every 150'-200' on both sides; reused wood or concrete utility poles with an attached cobra head light
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	5' sidewalk, 10' planting strip or on-street parking, curb-to-curb or side-walk-to-sidewalk width 40' depending on existence of curb/gutter.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. No other areas of pedestrian activity other than sidealk

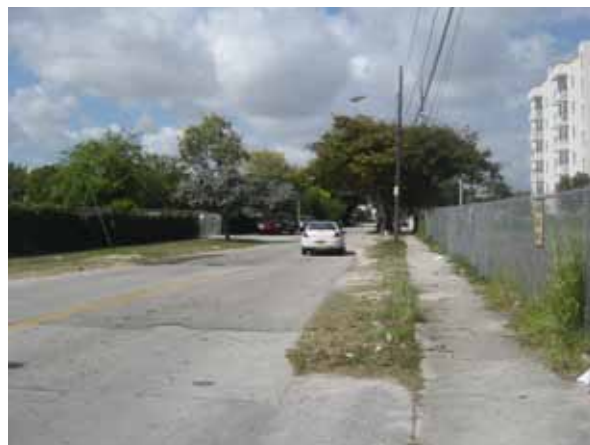
NW 17 STREET

BETWEEN NW 17 Ave & NW 7 Ave

NW 17 Street runs in two segments between NW 17 Avenue and NW 7 Avenue, and is not continuous. Between NW 17 Avenue and NW 14th Avenue it is a 2-lane road, with a 10' planting strip and 5' sidewalk. Pavement and sidewalk conditions are poor. The corridor is characterized by low traffic volumes and a mixture of small and large scaled medium-density residential building frontage. There are no cyclist accommodations, and few pedestrian crosswalks.

NW 17 Street discontinues between NW 14 Avenue and NW 9 Avenue, and continues again prior to the intersection of NW 10 Avenue. The urban fabric of the street grid from NW 9th Avenue to NW 7th Avenue consists of short, compact blocks, fronted by medium density residential building frontage. Many lots along the corridor are empty, while other developed lots are surrounded by copious amounts of parking.

While the corridor is not marked by areas of intense pedestrian activity, it is heavily used by pedestrians. One of the advantages this corridor has are the abundance of street trees, providing ample shade to pedestrians.



View west toward NW 15 Ave on NW 17 St.



Street trees line NW 17 St, view toward NW 7 Ave.



View west toward NW 10 Ave on NW 17 St.

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 200' on alternating sides; reused wood utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	5' sidewalk, includes 10' planting strip or on-street parking. curb/gutter inconsistent. curb to curb width is 40'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram.

NW 16 STREET

BETWEEN NW 17 Ave & NW 7 Ave

NW 16th Street is a 2-lane road, that runs in two segments within the project boundary. Between NW 17 and 16 Avenue it is a medium density, small scaled residential street, with on-street parking on both sides. It is characterized by low traffic volumes, and numerous curb cuts along the sidewalk. The sidewalk-to-sidewalk width is 40', with no curb/gutter. There are no cyclist accommodations, and only one designated crosswalk across NW 16 Street.

After NW 15 Avenue, NW 16 Street jogs north and continues east until terminating at the main UM/Jackson complex. The urban fabric of the street grid from NW 15th Avenue to approximately NW 12th Avenue goes from undeveloped neighborhood-scaled blocks, to large institutional super-blocks, with no relationship to the street, and fronted by blank walls, few street trees and parking lots.

The intersection of NW 16 Street and NW 12 Avenue is an area of intense pedestrian and cyclist activity. There are several bus stops (as shown in the Bus Stop Diagram), and the MetroRail station has entrances on both south sides of NW 12 Avenue. The corridor is one of the formal the entrances to the University Medical Complex.

Between NW 12 Avenue and its terminus, NW 16 Street is a vibrant, pedestrian friendly street. It is has low traffic volumes and speeds, and has an abundant number of pedestrians constantly crossing the street. There are many designated pedestrian crossings, and abundant street trees. This area could also benefit from increased retail /restaurant opportunities.



Intersection of NW 16 Street and NW 17 Avenue.



View west along NW 16 Street adjacent to VA Hospital.



Intersection of NW 16 Street and NW 14 Avenue.

Notes:

Bicycle Facilities	None.
Lighting	Lighting spaced 1 every 150'-200' on both sides; either reused utility poles or metal pole with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 10' planting strip or on-street parking, and curb/gutter (in some locations). Curb-to-curb width ranges from 30' - 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. Glass shelter in front of VA Hospital is a major pedestrian trip generator. Metro Rail Station plaza also major trip generator.

NW 15 ROAD

BETWEEN NW 17 Ave & NW 14 Ave

The NW 15th Road is a diagonal corridor that runs between NW 17 Avenue and NW 14 Avenue. NW 15th Road is a 2-lane road, with a 10' planting strip, 5' sidewalk and no designated on-street parking. It is characterized by low traffic volumes and both small scaled, low-density residential buildings and tall, high density residential buildings. There are no cyclist accommodations, and few crosswalks.

The urban fabric of the street grid from NW 14th Street to NW 20th Street consists of short, compact blocks, fronted by empty lots, few street trees and poor building frontage. In many locations, the planting strip is used as improvised parking. The only area of pedestrian activity occurs at the corner of NW 15 Road and NW 17 Avenue, where a bus stop and corner store generate many trips. The building at the intersection of NW 15 Road and NW 14 Avenue contains a structured parking garage, and no ground level uses.



View south east on NW 15 Road from NW 17 Avenue.



View northwest on NW 15 Road from NW 14 Avenue.



Intersection of NW 14 Avenue and NW 15 Road.

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 150'-200' on both sides; concrete utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk 5' wide, 10' planting strip (used as parking), no curb/gutter. Sidewalk-to-sidewalk width is 40'. Few crosswalks.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram.

NW 15 STREET

BETWEEN NW 17 Ave & NW 7 Ave

The NW 15th Street corridor contains a dynamic mix of streetscape and land use patters. Like many other streets in the district, it is broken into two segments by the main Jackson/UM complex of buildings (between NW 12 and 11 Ave).

NW 15th Street starts on NW 17 Avenue as a 2-lane road, with on-street parking on both sides. It is characterized by low traffic volumes and a range of building densities and scales, from small scaled low- and medium-density residential building frontage to 15 story high-density residential. There are no cyclist accommodations, and few designated pedestrian crossings.

NW 15 Street jogs to the north approximately 200' and continues east. The urban fabric of the street grid from NW 14 Avenue to NW 12th Avenue shifts once again to small scale office uses (inhabiting older single family homes). Abundant street trees and a well maintained planting strip give this segment of the corridor a park-like feel.

The intersection of NW 15 Street and NW 13 Court is not clearly detailed for the pedestrian. After this intersection NW 15 Street continues toward NW 12 Avenue in the form of a driveway with no sidewalk and some on-street parking. The frontage is not pedestrian friendly. The intersection of NW 15 Street and NW 12 Avenue is an area of intense pedestrian activity. NW 15 Street discontinues between NW 12 Avenue and NW 10 avenue. The street continues again after NW 10 Avenue, and is marked by small by undeveloped frontage and parking lots.



View along NW 15 Street toward NW 16 Avenue.



NW 15 Street looking toward NW 14 Avenue.



NW 15 Street looking east toward NW 12 Avenue.

Notes:

Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 150'-200' on both sides; reused utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. Curb-to-curb width is 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram.

NW 14 STREET

BETWEEN NW 17 Ave & NW 7 Ave

NW 14th Street is a major east/west corridor in the district. It is one of the few uninterrupted east/west routes in the district. NW 14th Street has two distinct segments. Between NW 17 Avenue and NW 14 Avenue it is a 2-lane road, with a 5' sidewalk, 10' planting strip and no on-street parking. This segment is characterized by low traffic volumes and a large scaled high-density residential building frontage. There are no cyclist accommodations, and few pedestrian crossings.

The intersection of NW 14 Ave and NW 14 Street is a high-volume, high-speed intersection, with the greatest movement of cars turning left from NW 14 Street onto NW 13 Terrace going toward the 836 entrance ramp on NW 17 Avenue. The intersection has one signalized crossing (broken at the time of this study). This is an intersection of medium intensity pedestrian activity. The urban fabric of the street grid from NW 14th Avenue to NW 10th Avenue consists of long blocks, fronted by blank walls, no street trees and poor building frontage. There are high levels of pedestrian activity along the length of the corridor.

Mid-block crossings across NW 14 Street between NW 12 Avenue and NW 11 Avenue are highly used and poorly detailed. High Speeds and traffic volumes persist in spite of the high number of pedestrians. Numerous curb cuts, and poor street and sidewalk conditions are also challenges.



View east on NW 14 Street from NW 17 Avenue.



Intersection of NW 14 Street and NW 12 Avenue.



Intersection of NW 14 Street and Highland Road.

Notes:

Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 150'-200' on both sides; reused utility poles or concrete poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route signs, health district maps oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 10' planting strip along residential frontage, and curb/gutter. Curb-to-curb width is 50'.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram.

NW NORTH RIVER DRIVE, NW 12 STREET

BETWEEN NW 17 Ave & 12 Ave

NW North River Drive

NW North River Drive is a four lane boulevard with a landscaped center median. It has a 70' sidewalk-to-sidewalk width, with a 5' sidewalk and 3' planting strip. It is characterized by moderate traffic volumes and small scaled office frontage housing court related industries (legal, bail bonds, etc). There are no cyclist accommodations, and few pedestrian crossings.

Many pedestrian trips going to the courthouse or related buildings around NW 12 Street originate in the parking lots along NW River Drive. There is no way for pedestrians to cross NW River Drive because there are no crosswalks.

NW 12 Street

NW 12th Street is a 2-lane road, 35' wide curb-to-curb, with on-street parking on both sides. It is characterized by low traffic volumes and low speeds. It runs between NW 12 Avenue and NW 14 Avenue, and is fronted by the Richard Gerstein Justice Building on one side, and parking lots on the other. There are no cyclist accommodations, and few designated pedestrian crossings.

The corridor is marked by intense pedestrian activity. Pedestrians originate from any of the surrounding parking lots or transit stops and cross NW 12 Street to reach the Justice Building. Trips also originate from the many court related industries that inhabit the offices directly to the west of the courthouse between NW 14 Avenue and NW 17 Avenue. Jaywalking is common, and cars only go as fast as the pedestrians will let them.



NW 12 Street view toward NW 13 Avenue.



NW River Drive looking toward NW 13 Terrace.



NW River Drive approaching NW 17 Avenue

Notes:

Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 100'-150' on both sides; concrete poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 3' planting strip along much of the frontage, and curb/gutter. Curb-to-curb width is 50'.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. NW 12 street between NW 13 Avenue and NW 13 Court is an area of intense pedestrian activity.

NW 11 AVENUE, HIGHLAND BOULEVARD BETWEEN NW 14 St & NW 12 St

NW 11th Avenue and Highland Boulevard are each short segments of streets that only occur in one location in the District. They are both marked by intense pedestrian activity, and are surrounded by institutional buildings, parking garages, and mixed-use buildings. NW 11 Avenue starts from NW 16 Street as an alley (approximately 25') then curves 90 degrees to meet Highland Boulevard at a right angle. This intersection has wide curb radii, and is fronted by a gravel parking lot and the entrance to a structured parking garage. Between Highland Boulevard and NW 10 Avenue, NW 11 Avenue is an area of intense pedestrian activity. Active ground floor uses, sidewalk cafes, wide sidewalks, on-street parking, and narrow lanes make this a very pedestrian friendly block.

Highland Boulevard is a street one-block in length that runs between NW 14 Street and NW 11 Avenue. It is a two lane boulevard with on-street parking and some pedestrian oriented frontage. It is characterized by low traffic volumes and has few street trees. There are no cyclist accommodations, and numerous crosswalks.

The urban fabric of the street grid from NW 14th Street to NW 11th Avenue consists of a short, compact blocks, fronted by ground level uses on one side, and an empty gravel lot on the other. The corridor is marked by areas of intense pedestrian activity - it is part of the route many pedestrians take connecting offices on NW 14 Street to the rest of the district.



Pedestrian oriented streetscape on Highland Blvd.



Intense pedestrian activity on NW 11 Avenue.



Mixed-use urbanism fronts NW 11 Avenue.

Notes:

Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 500' on alternating sides; reused utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	Sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. Curb-to-curb width is 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	Several bus stops exist, shown in the Bus Route Diagram. NW 11 Ave is major pedestrian corridor, between Highland Blvd and NW 9 Avenue.

NW 16 TERRACE, NW 14 TERRACE, NW 13 TERRACE BETWEEN NW 17 Ave & NW 7 Ave

The NW 16th Terrace, NW 14 Terrace and NW 13th Terrace corridors are short, east/west streets. NW 16 Terrace between NW 17 Avenue and 7 Avenue is a 2-lane road, with on-street parking on both sides and occasional street trees. It is characterized by low traffic volumes and a small scaled medium-density residential building frontage. Cyclist accommodations are nonexistent, and crossing the street safely is not a challenge.

NW 14 Terrace is a two lane road with on-street parking and street trees. The urban fabric of the street grid from NW 17th Avenue to NW 14th Avenue consists of short, compact blocks, fronted by small scale residential uses. The corridor is not marked by areas of intense pedestrian activity.

NW 13th Terrace is a tree lines boulevard, with four lanes and a large center median. It is a main vehicular connection from the Health District to the NW 17th Avenue overpass on NW North River Drive. It is characterized by high traffic volumes and a both small scaled and medium scaled residential and office building frontage. There is little cyclist activity, and some pedestrian activity between the court-related businesses along NW 13 Terrace and the courthouse.



View of NW 16 Terrace taken from NW 17 Avenue.



View of NW 14 Terrace taken from NW 17 Avenue.



View north east up NW 13 Terrace.

Notes:	
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 500' on alternating sides; reused utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. curb to curb width is 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	several bus stops exist, shown in the Bus Route Diagram.

NW 13 COURT, NW 13 AVENUE BETWEEN NW 14 St & NW 12 St

NW 13th Court is a diagonal 2-lane road, with on-street parking on both sides. It is characterized by low traffic volumes and a small scaled office building frontage. Cyclist accommodations are nonexistent. The urban fabric of the street grid from consists of short, compact blocks. The corridor is not marked by areas of intense pedestrian activity.

NW 13th Avenue is a 2-lane road, with on-street parking on both sides. It is characterized by large scaled institutional uses. Cyclist accommodations are nonexistent. The urban fabric of the street grid consists of large blocks, fronted by parking and service areas. There are no street trees and poor building frontage. The corridor is marked by intense pedestrian activity occurring between all of the court related buildings.



Small scale offices line NW 13 Ct.



View along NW 13 Avenue toward NW 14 Street.



Large institutional buildings at NW 13 Ave and 13 Ct.

Notes:

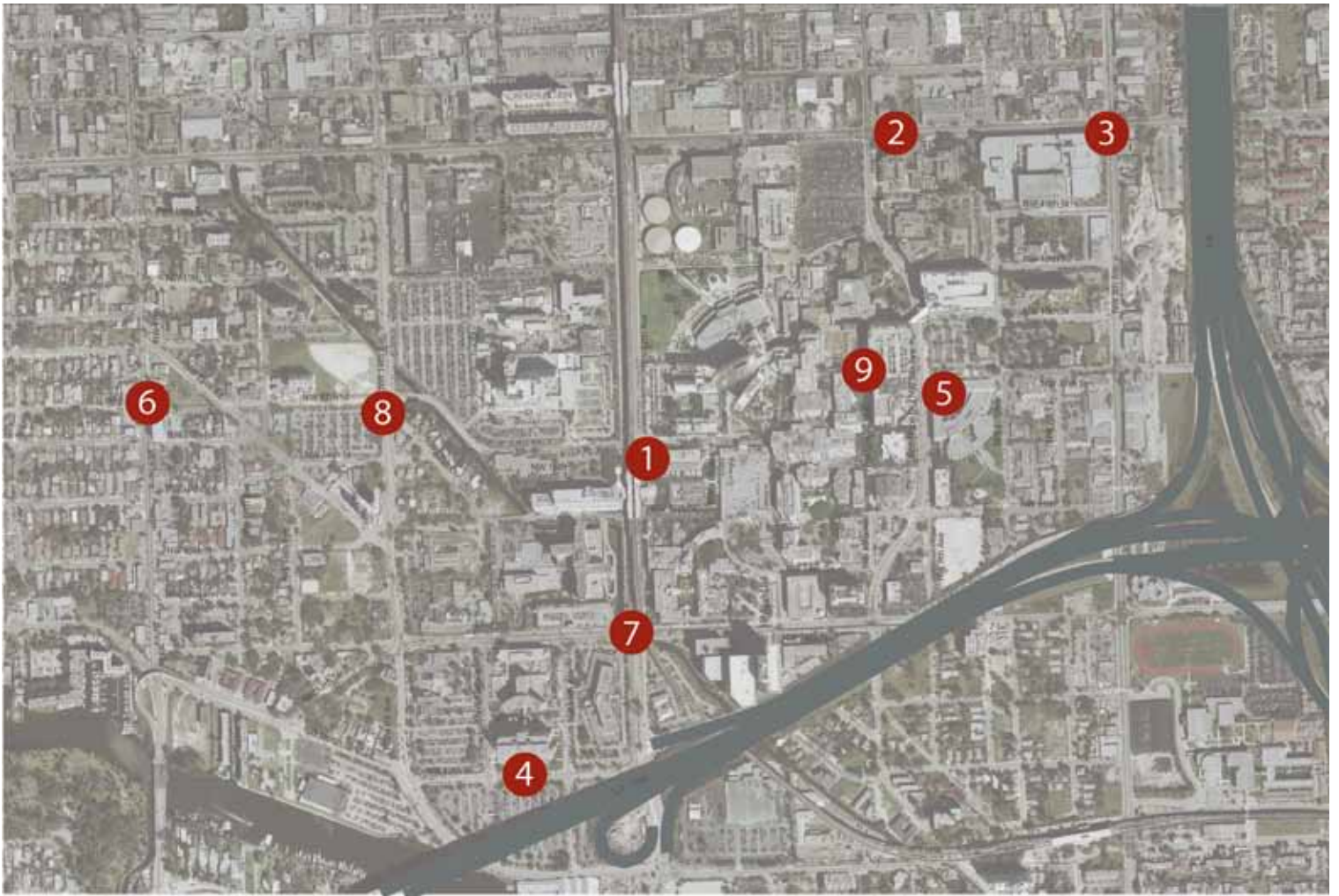
Bicycle Facilities	None.
Lighting	Lighting not pedestrian scaled, spaced 1 every 500' on alternating sides; reused utility poles with an attached cobra head light.
Signage	Most signage oriented to motorist. Bus route sign oriented to pedestrians.
Sidewalk/Pavement Amenities, Conditions	sidewalk varies between 5' to 10' wide, includes 5' planting strip along much of the frontage, and curb/gutter. curb to curb width is 50'. Crosswalks are faded or non-existent.
Plazas, transit stops/stations, paths, other pedestrian areas	several bus stops exist, shown in the Bus Route Diagram. no other areas of pedestrian activity other than sidewalk.

Appendix C

Pedestrian and Bicyclist Counts

Bicyclist & Pedestrian Count Data

March 5-11, 2011

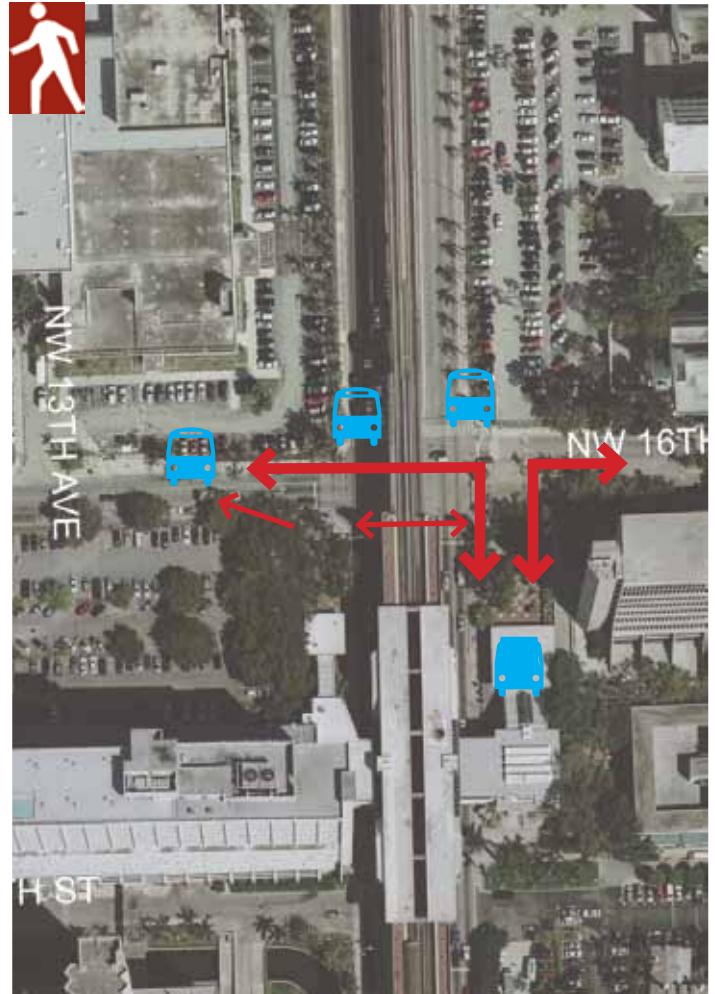


PEDESTRIAN COUNT LOCATIONS

PEDESTRIAN COUNTS	Sunny
Date:	3/7/11
Observer:	Tony Garcia
Location:	NW 12th Ave./NW 16th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

During this time period, the transit station and bus stops are the largest pedestrian trip generators. Faculty, employees, and students arrive via the bus, or transit. Two stops are located on the east and west side of NW 12th Avenue and 16 street. The third stop is located on the north side of NW 16th Street, in front of the VA Hospital. It is common for pedestrians to cross mid-block (jaywalk) to and from the VA Hospital (see diagram at right). In general, pedestrian traffic increases steadily as the morning progresses, largely because of the start of the work day and the arrival of waves of transit riders. Transit riders exiting from the station on the east side of 12 avenue either continue walking on the same side of the street or turn east onto NW 16 Street, not requiring them to cross the street. These movements explain the gap between the overall pedestrian counts and the lower numbers that are crossing the intersection. A special area of concern is the short timing of the 'walk signal', which does not give pedestrians adequate time to cross the street without having to wait in the center pedestrian refuge.



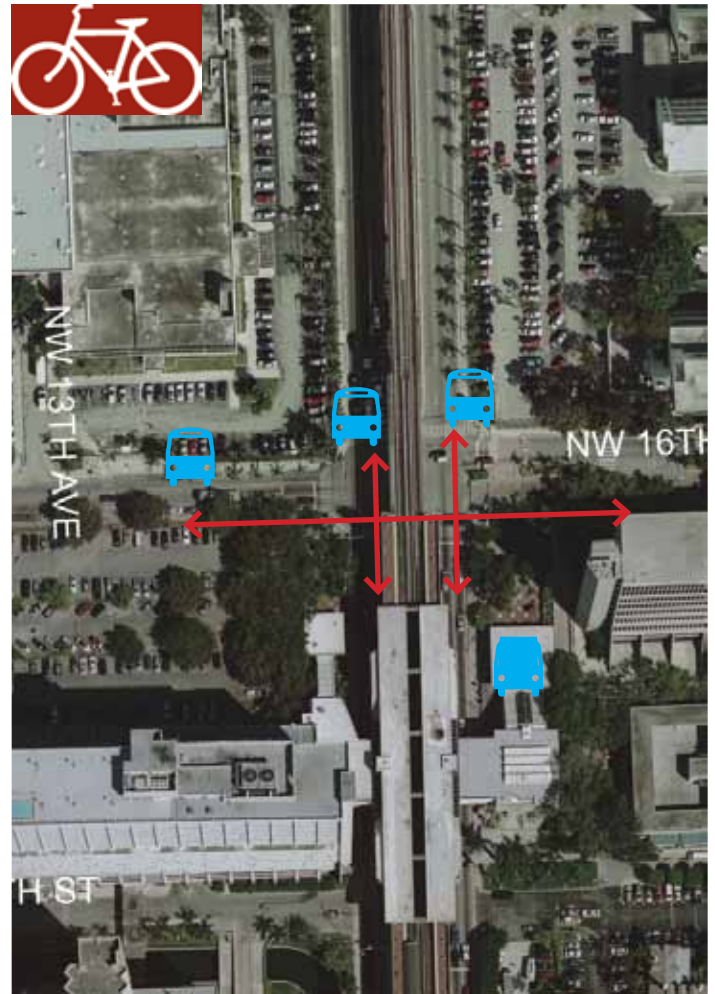
Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	179	22	20	15
8:15 am - 8:30 am	150	19	15	8
8:30 am - 8:45 am	624	26	33	23
8:45 am - 9:00 am	465	28	25	27
9:00 am - 9:15 am	158	23	7	15
9:15 am - 9:30 am	236	27	16	22
9:30 am - 9:45 am	244	26	26	39
9:45 am - 10:00 am	184	21	32	21
Total:	2,240	192	174	170

BICYCLIST COUNTS	Sunny
Date:	3/7/11
Observer:	Tony Garcia
Location:	NW 12th Ave./NW 16th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway facilities or bike racks in this location. Bicycle movement was east-west, along NW 16th Street, and north/south along 12th Avenue, with most cyclists taking to the sidewalk and riding without a helmet. Every cyclist was male. In many instances, bicyclists would act “like pedestrians” in that they would stop at the crosswalk, only to bicycle through the crosswalk when the traffic patterns were in their favor. In this instance, few cyclists activated the pedestrian crossing signal. The above behavior puts each cyclist, and the hundreds of pedestrians at risk. Particularly concerning is the increased risk bicyclists face in colliding with motor vehicles at the intersection.



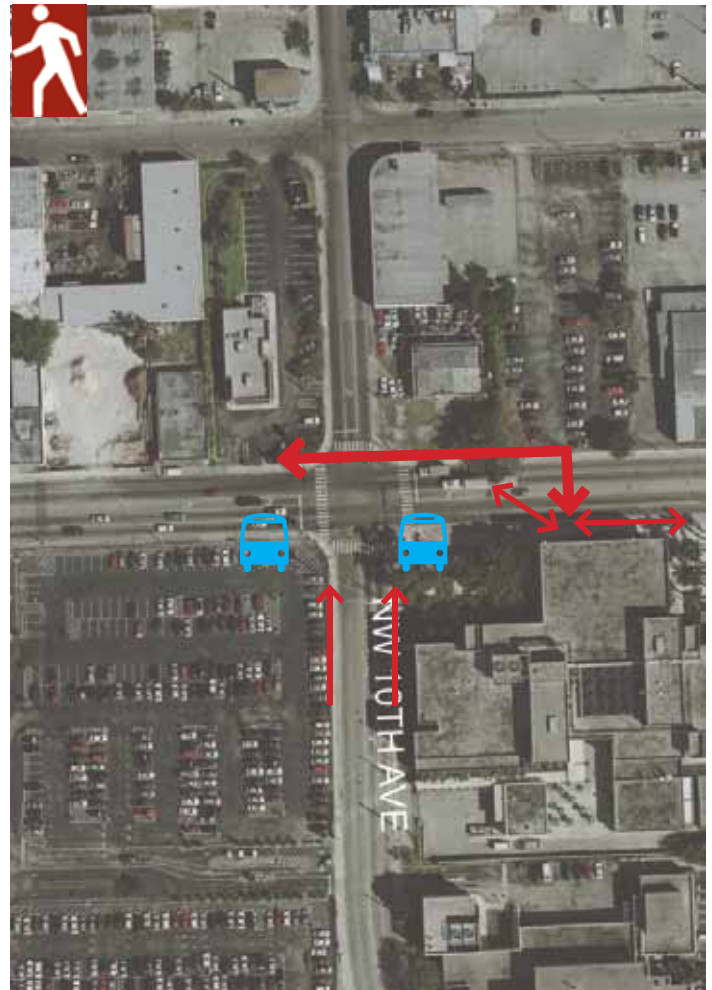
Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	5	1	4	2	0	3	5	0
8:15am - 8:30 am	1	0	1	0	1	1	1	0
8:30 am - 8:45 am	5	0	5	1	0	5	5	0
8:45 am - 9:00 am	1	0	1	1	0	1	1	0
9:00 am - 9:15 am	9	0	9	4	0	7	9	0
9:15 am - 9:30 am	2	1	1	1	1	2	2	0
9:30 am - 9:45 am	3	0	3	1	0	2	3	0
9:45 am - 10:00 am	9	0	9	4	0	7	9	0
Total:	35	2	33	14	2	28	35	0

PEDESTRIAN COUNTS	Sunny
Date:	3/7/11
Observer:	Mike Lydon
Location:	NW 10th Ave./NW 20th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

During this time period, the Miami-Dade College Medical Center is one of the largest pedestrian trip generators. Faculty, employees, and students arrive via the 32 bus, or drive and park in one of two adjacent parking lots. The first lot is located on the west side of NW 10th Avenue. The second lot is located on the north side of NW 20th Street. It is common for pedestrians to cross mid-block (jaywalk) to and from the Medical Center, typically on axis with the main entrance (see diagram at right). In general, pedestrian traffic increases steadily as the morning progresses, largely because students shuffle between buildings as classes end and start. This movement explains the gap between the overall pedestrian counts and the lower numbers that are crossing the intersection, which are detailed with vertically striped “zebra” sidewalks and pedestrian activated crossing signals.



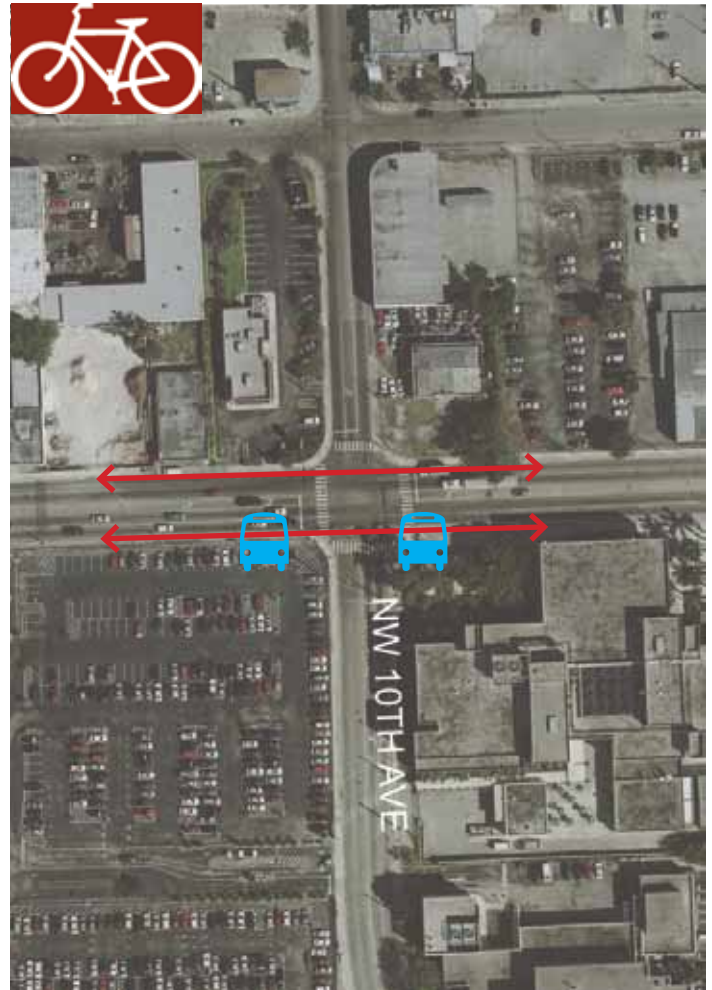
Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	18	2	7	9
8:15am - 8:30 am	22	2	9	11
8:30 am - 8:45 am	32	3	11	9
8:45 am - 9:00 am	55	9	5	8
9:00 am - 9:15 am	71	8	18	13
9:15 am - 9:30 am	74	3	12	12
9:30 am - 9:45 am	97	13	10	14
9:45 am - 10:00 am	99	9	20	11
Total:	468	49	92	87

BICYCLIST COUNTS	Sunny
Date:	3/7/11
Observer:	Mike Lydon
Location:	NW 10th Ave./NW 20th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway facilities in this location. There are three “wave” racks located in the courtyard of the main entrance to Miami-Dade College Medical Center. Each rack has a capacity of approximately 8 bicycles, when parked properly. The predominant pattern of movement was east-west, along NW 20th Street, with most cyclists taking to the sidewalk against traffic and riding without a helmet. Almost every cyclist was male. In many instances, bicyclists would act “like pedestrians” in that they would stop at the crosswalk, only to bicycle through the crosswalk when the traffic patterns were in their favor. In this instance, few cyclists activated the pedestrian crossing signal. The above behavior puts each cyclist, and the hundreds of pedestrians at risk. Particularly concerning is the increased risk bicyclists face in colliding with motor vehicles at the intersection.



Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	5	1	4	2	3	3	5	0
8:15am - 8:30 am	1	0	1	0	1	1	1	0
8:30 am - 8:45 am	5	0	5	1	4	5	5	0
8:45 am - 9:00 am	1	0	1	1	0	1	1	0
9:00 am - 9:15 am	9	0	9	4	5	7	8	1
9:15 am - 9:30 am	2	1	1	1	1	2	2	0
9:30 am - 9:45 am	3	0	3	1	2	2	3	0
9:45 am - 10:00 am	9	0	9	4	5	7	8	1
Total:	35	2	33	14	21	28	33	2

PEDESTRIAN COUNTS	Sunny
Date:	3/8/11
Observer:	Mike Lydon
Location:	NW 7th Ave. / NW 20th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

The convergence of numerous bus lines, especially the 77 and 277, make the southwest corner particularly active. In the morning, the vast majority of pedestrians are walking to and from this bus stop to the Lindsey Hopkins Technical Education Center entrance, located along the south side of NW 20th Street. Pedestrians traveling from the north side of NW 20th Avenue frequently cross mid-block to enter the Center. During this time, there is also consistent pedestrian traffic moving east to west, along NW 20th Avenue from the Overtown neighborhood. The crosswalks are detailed with stamped “brick” asphalt patterns, and pedestrian signals exist at each sidewalk corner. However, wait times are long and only the north-south crossings automatically provide the signal. Few pedestrians activate the pedestrian signal when walking east-west, choosing instead to cross without it.



Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	89	8	3	8
8:15am - 8:30 am	103	7	8	3
8:30 am - 8:45 am	65	8	5	10
8:45 am - 9:00 am	56	11	6	4
9:00 am - 9:15 am	44	6	2	5
9:15 am - 9:30 am	40	17	2	5
9:30 am - 9:45 am	28	5	5	4
9:45 am - 10:00 am	39	19	2	7
Total:	464	71	33	46

BICYCLIST COUNTS	Sunny
Date:	3/8/11
Observer:	Mike Lydon
Location:	NW 7th Ave. / NW 20th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway or bicycle parking facilities at this location. Yet, bicycling is a common mode of transport through both the NW 7th Avenue and NW 20th Street Corridors. However, the vast majority of people bicycling do not wear helmets and travel against moving traffic. Approximately half of all recorded cyclists were traveling along the sidewalk, and almost every cyclist was male. In many instances, bicyclists would act “like pedestrians” in that they would stop at the crosswalk, only to bicycle through the crosswalk when the traffic patterns were in their favor. In this instance, few cyclists activated the pedestrian crossing signal. The above behavior puts each cyclist, and the hundreds of pedestrians at risk. Particularly concerning is the increased risk bicyclists face in colliding with motor vehicles at the intersection.



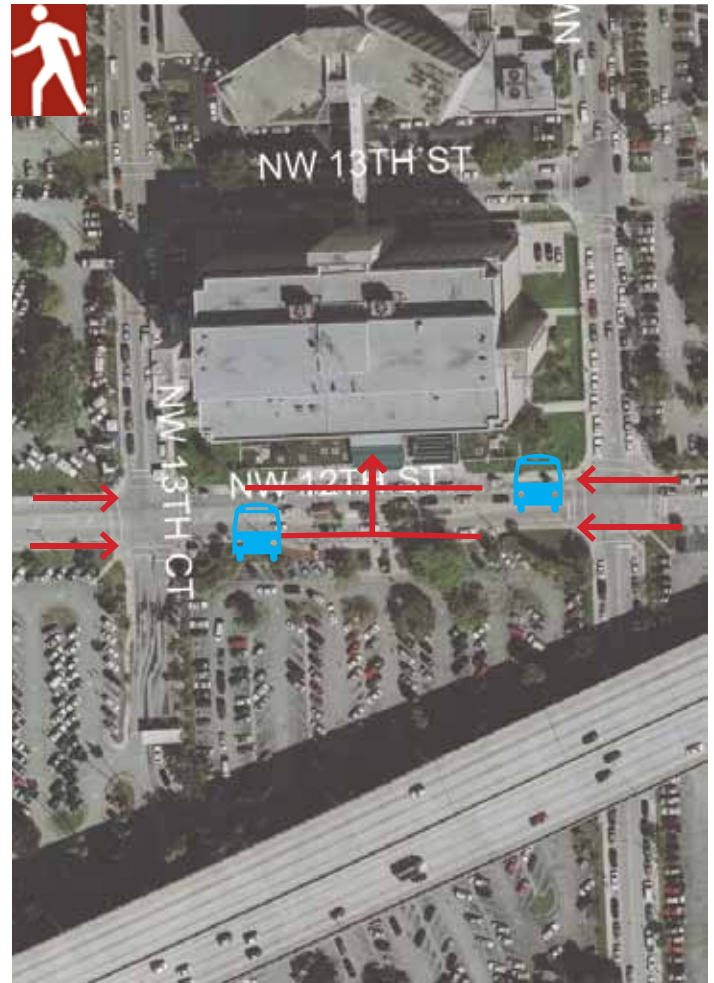
Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	12	0	12	4	8	6	12	0
8:15am - 8:30 am	7	0	7	3	4	7	7	0
8:30 am - 8:45 am	0	0	0	0	0	0	0	0
8:45 am - 9:00 am	12	0	12	2	10	10	12	0
9:00 am - 9:15 am	16	0	16	7	9	16	15	1
9:15 am - 9:30 am	4	0	4	3	1	2	3	1
9:30 am - 9:45 am	6	0	6	3	3	5	6	0
9:45 am - 10:00 am	8	0	8	3	5	7	8	0
Total:	105	0	105	25	40	53	103	2

PEDESTRIAN COUNTS	Sunny
Date:	3/8/11
Observer:	Tony Garcia
Location:	Between NW 12th & 13 Ave / NW 14th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

This area is a very active pedestrian zone. Almost all of the pedestrian activity at this location involves travel to/from the Richard Gerstein Justice Building, along NW 12 Street. Origination of pedestrian trips is split between several bus stops and surrounding surface parking lots. One crosswalk exist on axis with the entrance of the building, detailed with a zebra stripe pattern, and with no pedestrian signal. Most pedestrians jaywalk, and all cross with no signal. Car traffic volumes on NW 12 Street are low and drivers are cautious due to the volume of pedestrians crossing the street at all times.



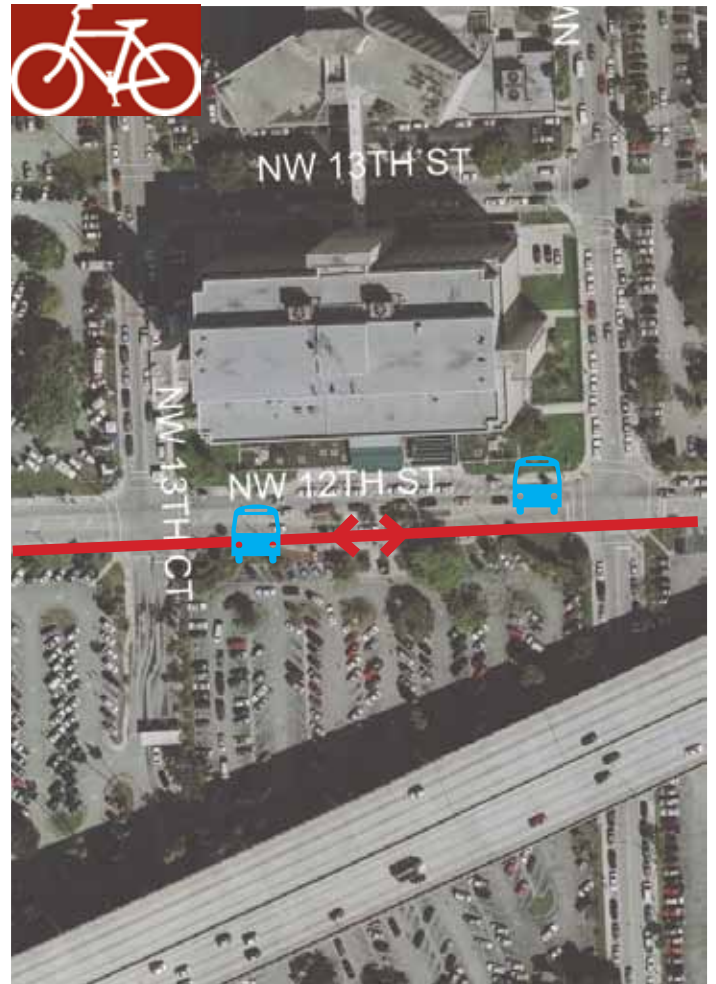
Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/o Signal
8:00 am - 8:15 am	152	35	117
8:15am - 8:30 am	175	40	106
8:30 am - 8:45 am	155	45	110
8:45 am - 9:00 am	265	69	135
9:00 am - 9:15 am	448	140	226
9:15 am - 9:30 am	510	181	253
9:30 am - 9:45 am	287	95	135
9:45 am - 10:00 am	174	80	136
Total:	2,166	685	1,218

BICYCLIST COUNTS	Sunny
Date:	3/8/11
Observer:	Tony Garcia
Location:	Between NW 12th & 13 Ave / NW 14th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway or bicycle parking facilities at this location. Bicycling is not a common mode of transport through NW 12th Street or to/from the Courthouse. The vast majority of people bicycling do not wear helmets and every cyclist was male.



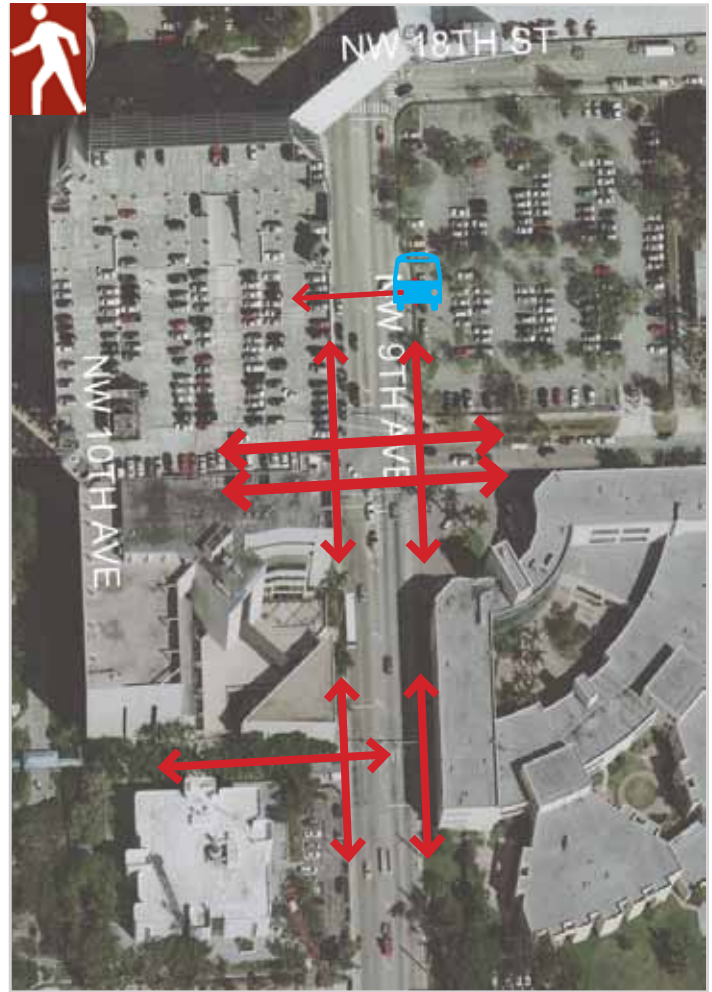
Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	1	0	1	1	0	1	1	0
8:15am - 8:30 am	1	0	1	1	0	0	1	0
8:30 am - 8:45 am	1	0	1	1	0	0	1	0
8:45 am - 9:00 am	5	2	3	2	0	2	5	0
9:00 am - 9:15 am	5	0	5	3	0	1	5	0
9:15 am - 9:30 am	1	0	1	1	0	0	1	0
9:30 am - 9:45 am	0	0	0	0	0	1	0	0
9:45 am - 10:00 am	1	0	1	1	0	0	1	0
Total:	15	2	13	10	0	5	15	0

PEDESTRIAN COUNTS	Partly Cloudy
Date:	3/9/11
Observer:	Mike Lydon
Location:	NW 9th Ave./NW 17th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are high volumes of pedestrian traffic through and around this intersection. The predominant movement pattern is east-west, crossing NW 9th Avenue (Bob Hope Drive). However, there is also significant north-south pedestrian activity. Most pedestrians are moving between parking lots/structures, the bus stop and the many medical and institutional buildings within this part of the Health District. Jaywalking occurs frequently, mostly just north and south of the intersection when north-south traffic is either light, or forced to stop for traffic signals. There is a well-used mid-block crossing just south of the intersection that receives a fairly high volume of use. However, because the traffic signals use relatively long cycles most pedestrians wind up crossing without a signal, even after initially activating the pedestrian signal.



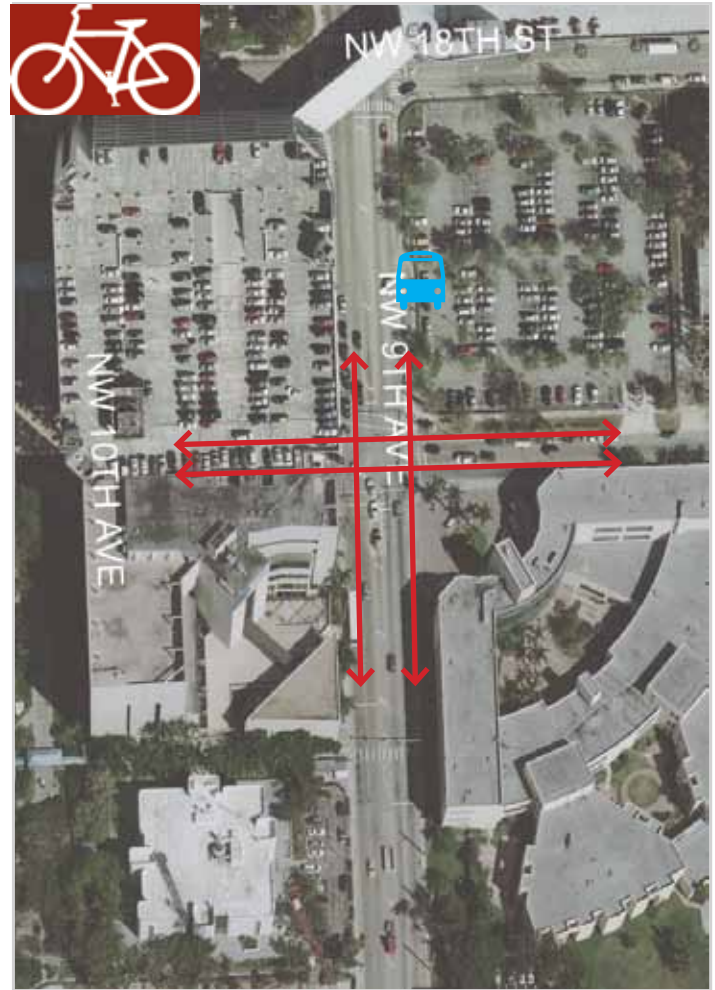
Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	100	15	6	34
8:15am - 8:30 am	125	30	21	38
8:30 am - 8:45 am	135	18	43	37
8:45 am - 9:00 am	120	20	26	39
9:00 am - 9:15 am	146	22	38	32
9:15 am - 9:30 am	142	14	51	49
9:30 am - 9:45 am	148	15	39	38
9:45 am - 10:00 am	185	15	40	42
Total:	1,101	149	264	309

BICYCLIST COUNTS	Partly Cloudy
Date:	3/9/11
Observer:	Mike Lydon
Location:	NW 9th Ave./NW 17th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway or bicycle parking facilities in this location. The predominant pattern of movement is evenly distributed between east-west and north-south activity. Approximately 50% of cyclists were moving with traffic, and within the roadway, which is a higher percentage than observed at other count locations. However, none of the cyclists were wearing a helmet and all of them were male. In many instances, bicyclists would act “like pedestrians” in that they would stop at the crosswalk, only to bicycle through the crosswalk when the traffic patterns were in their favor. In this instance, few cyclists activated the pedestrian crossing signal. The above behavior puts each cyclist, and the hundreds of pedestrians at risk. Particularly concerning is the increased risk bicyclists face in colliding with motor vehicles at the intersection.



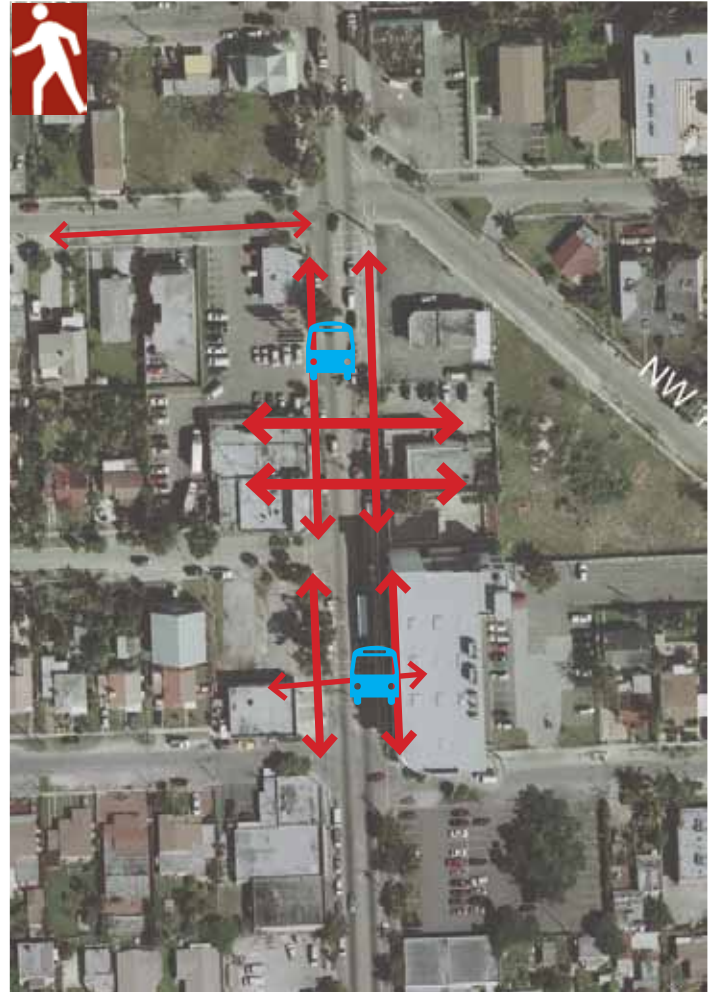
Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	8	0	8	7	1	3	8	0
8:15am - 8:30 am	1	0	1	1	0	1	1	0
8:30 am - 8:45 am	2	0	2	2	0	0	2	0
8:45 am - 9:00 am	1	0	1	0	1	0	1	0
9:00 am - 9:15 am	3	0	3	1	2	3	3	0
9:15 am - 9:30 am	5	0	5	3	2	2	5	0
9:30 am - 9:45 am	5	0	5	0	5	3	5	0
9:45 am - 10:00 am	1	0	1	1	0	0	1	0
Total:	26	0	26	15	11	12	26	0

PEDESTRIAN COUNTS	Partly Cloudy
Date:	3/9/11
Observer:	Tony Garcia
Location:	NW 17th Ave. b/n NW 17th St. and NW 15 St. Rd.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are high volumes of pedestrian traffic crossing NW 17th Avenue and on the sidewalk midblock between NW 17 Street and NW 15 Street Road. The predominant movement pattern is north-south, with most trips going to/from the main street buildings at this location. However, there is also significant east-west pedestrian activity crossing 17th Avenue. Most pedestrians are moving between parking lots, and retail buildings. Jaywalking occurs frequently because no designated crosswalks exist. The one signalized crosswalk at NW 15 St. Rd. does not work for east-west travel. There is a well-used mid-block crossing at the bus stop to the south; however, because the traffic signals use relatively long cycles most pedestrians wind up crossing without a signal, even after initially activating the pedestrian signal.



Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	92	20	5	22
8:15am - 8:30 am	60	20	9	17
8:30 am - 8:45 am	71	13	7	15
8:45 am - 9:00 am	79	19	6	21
9:00 am - 9:15 am	95	12	7	22
9:15 am - 9:30 am	81	17	1	23
9:30 am - 9:45 am	88	15	2	14
9:45 am - 10:00 am	71	12	5	28
Total:	637	128	42	162

6

BICYCLIST COUNTS	Partly Cloudy
Date:	3/9/11
Observer:	Tony Garcia
Location:	NW 17th Ave. b/n NW 17th St. and NW 15 St. Rd.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway or bicycle parking facilities in this location. The predominant pattern of bicycle activity is primarily north-south along NW 17th Avenue. None of the cyclists were wearing a helmet and all of them were male.



Arrows indicate predominant bicyclist movement patterns.

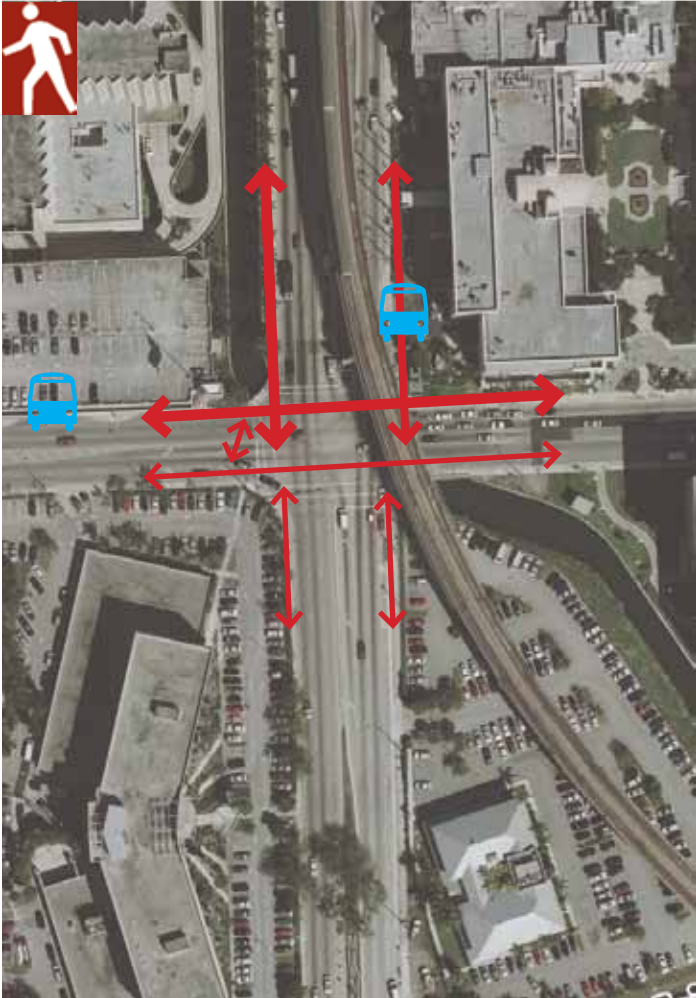
Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	10	0	10	0	0	10	10	0
8:15am - 8:30 am	5	0	5	0	0	5	5	0
8:30 am - 8:45 am	3	0	3	0	0	3	3	0
8:45 am - 9:00 am	8	0	8	1	0	7	8	0
9:00 am - 9:15 am	6	0	6	1	0	5	6	0
9:15 am - 9:30 am	13	0	13	0	0	13	13	0
9:30 am - 9:45 am	8	0	8	1	0	7	8	0
9:45 am - 10:00 am	5	0	5	0	0	5	5	0
Total:	58	0	58	3	0	55	58	0

7

PEDESTRIAN COUNTS	Sunny
Date:	3/10/11
Observer:	Mike Lydon
Location:	NW 12th Ave./NW 14th St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are high volumes of pedestrian traffic through and around this intersection. The predominant movement pattern is east-west, and north-south, crossing the northside of 14th Street. However, there is also significant north-south pedestrian activity, with the west side being the busiest. Most pedestrians are moving between parking lots/structures, the bus stops, the Metrorail station, and the many medical and institutional buildings within this part of the Health District. Jaywalking occurs, west of the intersection between the north and south side of 14th Street. Pedestrians frequently cross against the light, mostly when moving east-west along the northside of 14th Street. With limited time to cross, they typically stop half-way across, where there currently is no pedestrian infrastructure. Motorists turning right on red further degrades the pedestrian experience.



Arrows indicate predominant pedestrian movement patterns.

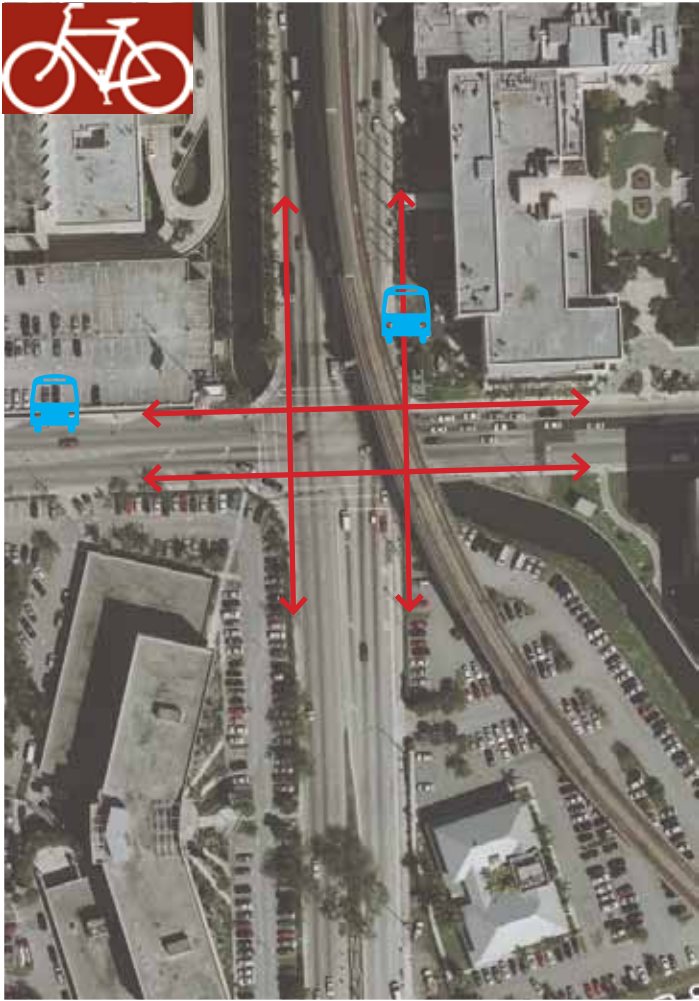
Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	102	10	11	16
8:15am - 8:30 am	122	4	17	21
8:30 am - 8:45 am	123	6	8	28
8:45 am - 9:00 am	132	9	8	31
9:00 am - 9:15 am	128	16	9	24
9:15 am - 9:30 am	115	9	13	35
9:30 am - 9:45 am	83	3	9	12
9:45 am - 10:00 am	97	0	13	17
Total:	902	57	88	184

7

BICYCLIST COUNTS	Sunny
Date:	3/10/11
Observer:	Mike Lydon
Location:	NW 12th Ave./NW 14h St.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway or bicycle parking facilities in this location. The predominant pattern of movement is evenly distributed between east-west and north-south activity. The majority of cyclists were moving with traffic, but mostly along the sidewalk, which creates conflicts with hundreds of pedestrians. Only two cyclists were wearing a helmet and the vast majority were male. In many instances, bicyclists would act “like pedestrians” in that they would stop at the crosswalk, only to bicycle through the crosswalk when the traffic patterns were in their favor. In this instance, few cyclists activated the pedestrian crossing signal. With high volumes of vehicular and pedestrian traffic, bicyclists have numerous opportunities for conflict.



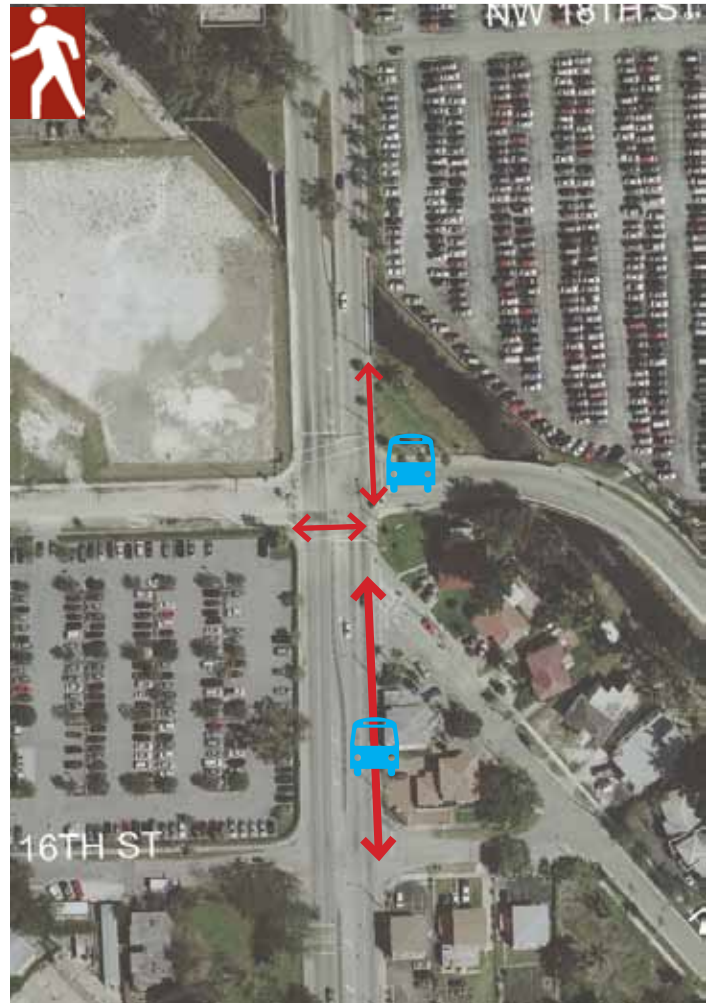
Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	5	2	3	5	0	0	5	0
8:15am - 8:30 am	11	1	10	8	3	8	9	2
8:30 am - 8:45 am	4	0	4	0	4	4	4	0
8:45 am - 9:00 am	3	0	3	1	2	3	3	0
9:00 am - 9:15 am	5	0	5	3	2	2	4	1
9:15 am - 9:30 am	8	0	8	1	7	7	8	0
9:30 am - 9:45 am	9	0	9	7	2	7	9	0
9:45 am - 10:00 am	7	0	7	5	2	7	7	0
Total:	52	3	49	30	22	38	49	3

PEDESTRIAN COUNTS	Sunny
Date:	3/10/11
Observer:	Tony Garcia
Location:	NW 14th Ave./NW 13th Ct.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are low volumes of pedestrian and vehicular traffic through and around this intersection. The predominant movement pattern is north-south, along 4th Avenue. Most pedestrians are traveling from the bus stop at 13 CT. The intersection is complex and has only one designated pedestrian crosswalk, with a broken signal. Pedestrians are forced to cross with no signal. Jaywalking is common, and motorists speed through the intersection regularly, a danger to both cyclists and pedestrians.



Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk	Jaywalking	Crossing w/ Signal	Crossing w/o Signal
8:00 am - 8:15 am	48	14	0	10
8:15am - 8:30 am	70	20	0	12
8:30 am - 8:45 am	59	29	0	12
8:45 am - 9:00 am	70	18	0	22
9:00 am - 9:15 am	65	35	0	8
9:15 am - 9:30 am	50	31	0	10
9:30 am - 9:45 am	60	25	0	9
9:45 am - 10:00 am	77	34	0	11
Total:	499	206	0	94

BICYCLIST COUNTS	Sunny
Date:	3/10/11
Observer:	Tony Garcia
Location:	NW 14th Ave./NW 13h Ct.
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway or bicycle parking facilities in this location and very few cyclists. The predominant pattern of movement is evenly distributed between east-west and north-south activity. The majority of cyclists were moving with traffic, but some along the sidewalk. No cyclists were wearing a helmet and all were male.



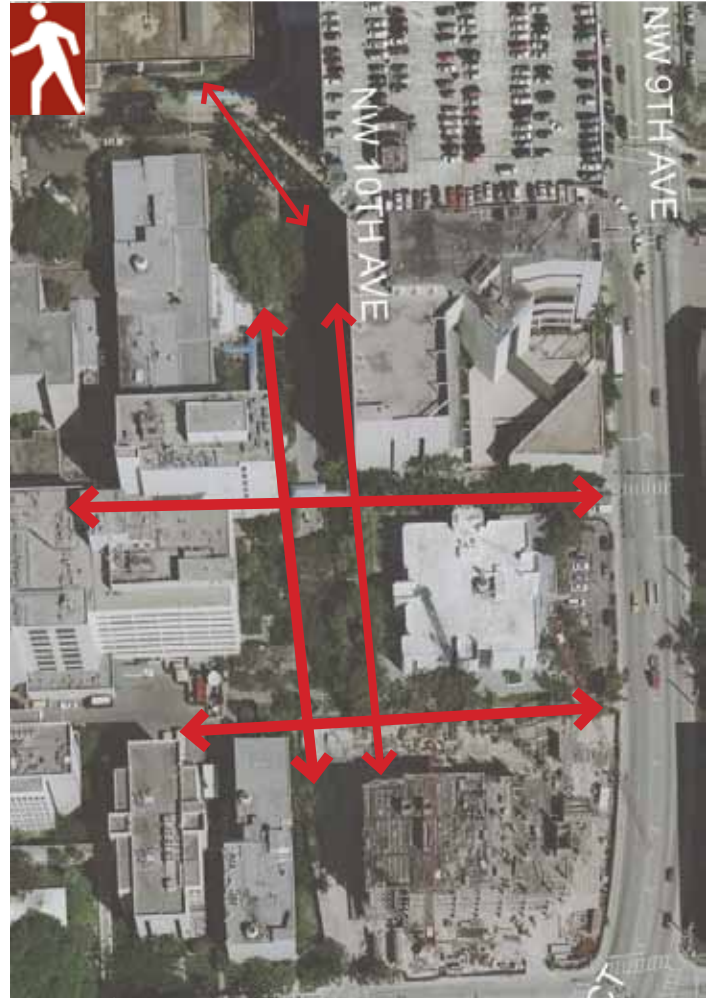
Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Traveling w/ Traffic	Traveling against Traffic	Traveling along Sidewalk	Male	Female
8:00 am - 8:15 am	1	0	1	0	0	1	1	0
8:15am - 8:30 am	0	0	0	0	0	0	0	0
8:30 am - 8:45 am	2	0	2	0	0	2	2	0
8:45 am - 9:00 am	0	0	0	0	0	0	0	0
9:00 am - 9:15 am	0	0	0	0	0	0	0	0
9:15 am - 9:30 am	1	1	0	1	0	0	1	0
9:30 am - 9:45 am	1	1	0	1	0	0	1	0
9:45 am - 10:00 am	0	0	0	0	0	0	0	0
Total:	5	2	3	2	0	3	5	0

PEDESTRIAN COUNTS	Sunny
Date:	3/22/11
Observer:	Tony Garcia
Location:	Fred Cowall Mall
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

As a completely pedestrianized ROW, there are high volumes of pedestrian traffic through and around Fred Cowall Mall. The predominant movement pattern is both east-west and north-south. Most pedestrians are moving between parking structures, the bus stops, and the many medical and institutional buildings within this part of the Health District.



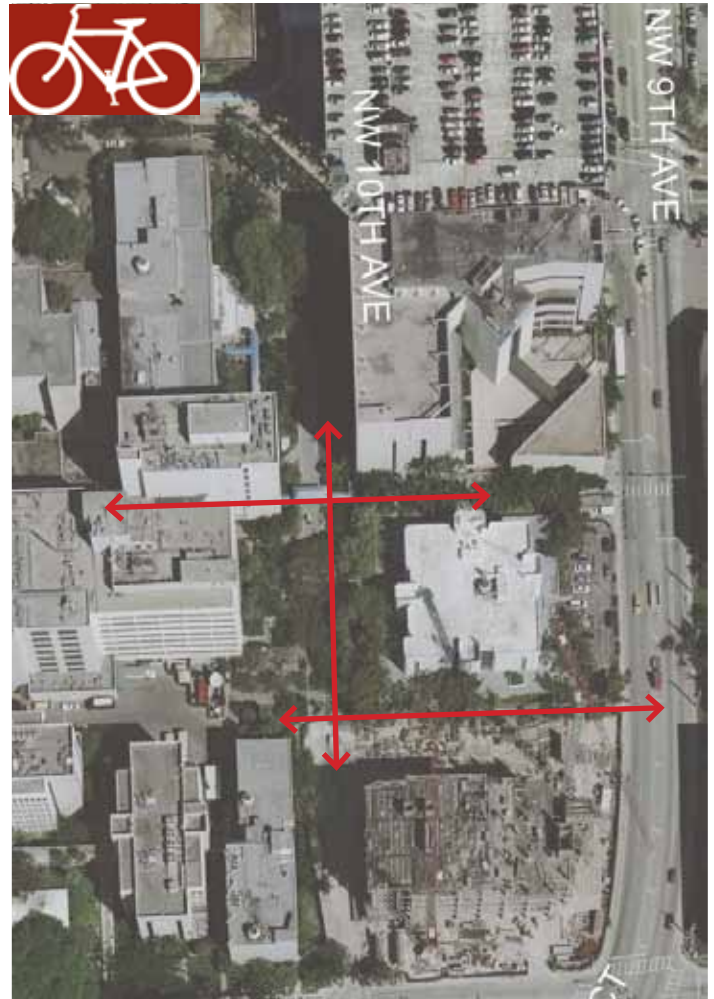
Arrows indicate predominant pedestrian movement patterns.

Time:	Pedestrians on Sidewalk
8:00 am - 8:15 am	102
8:15am - 8:30 am	152
8:30 am - 8:45 am	223
8:45 am - 9:00 am	232
9:00 am - 9:15 am	208
9:15 am - 9:30 am	115
9:30 am - 9:45 am	93
9:45 am - 10:00 am	87
Total:	1,212

BICYCLIST COUNTS	Sunny
Date:	3/22/11
Observer:	Tony Garcia
Location:	Fred Cowall Mall
Start Time:	8:00 am
End Time:	10:00 am

NOTES:

There are no bikeway facilities in this location, although the area is a non-motorized zone. Formal bicycle parking is concentrated in this area, in the form of wave racks which were consistently full during the count. The predominant pattern of movement is evenly distributed between east-west and north-south activity. All cyclists were moving along the sidewalk. Six cyclists were wearing a helmet and the vast majority were male. With high volumes of pedestrian traffic, bicyclists have numerous opportunities for conflict.



Arrows indicate predominant bicyclist movement patterns.

Time:	Bicyclists	Helmet - Yes	Helmet - No	Male	Female
8:00 am - 8:15 am	5	2	3	4	1
8:15am - 8:30 am	11	2	9	9	2
8:30 am - 8:45 am	7	1	6	7	0
8:45 am - 9:00 am	3	2	1	3	0
9:00 am - 9:15 am	5	1	4	5	0
9:15 am - 9:30 am	10	1	9	9	1
9:30 am - 9:45 am	9	0	9	9	0
9:45 am - 10:00 am	7	0	7	7	0
Total:	57	7	50	53	4