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Miami-Dade Transportation
Planning Organization
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NORTH BEACH
COMPLETE STREETS
for Corridors with Bicycle/Pedestrian Gaps on the
State Highway System in Miami-Dade County
Work Order VII-27

COMPLETE STREETS FOR CORRIDORS WITH BICYCLE/PEDESTRIAN GAPS ON THE STATE HIGHWAY SYSTEM IN MIAMI-DADE COUNTY

Prepared for:

Miami-Dade Transportation Planning Organization

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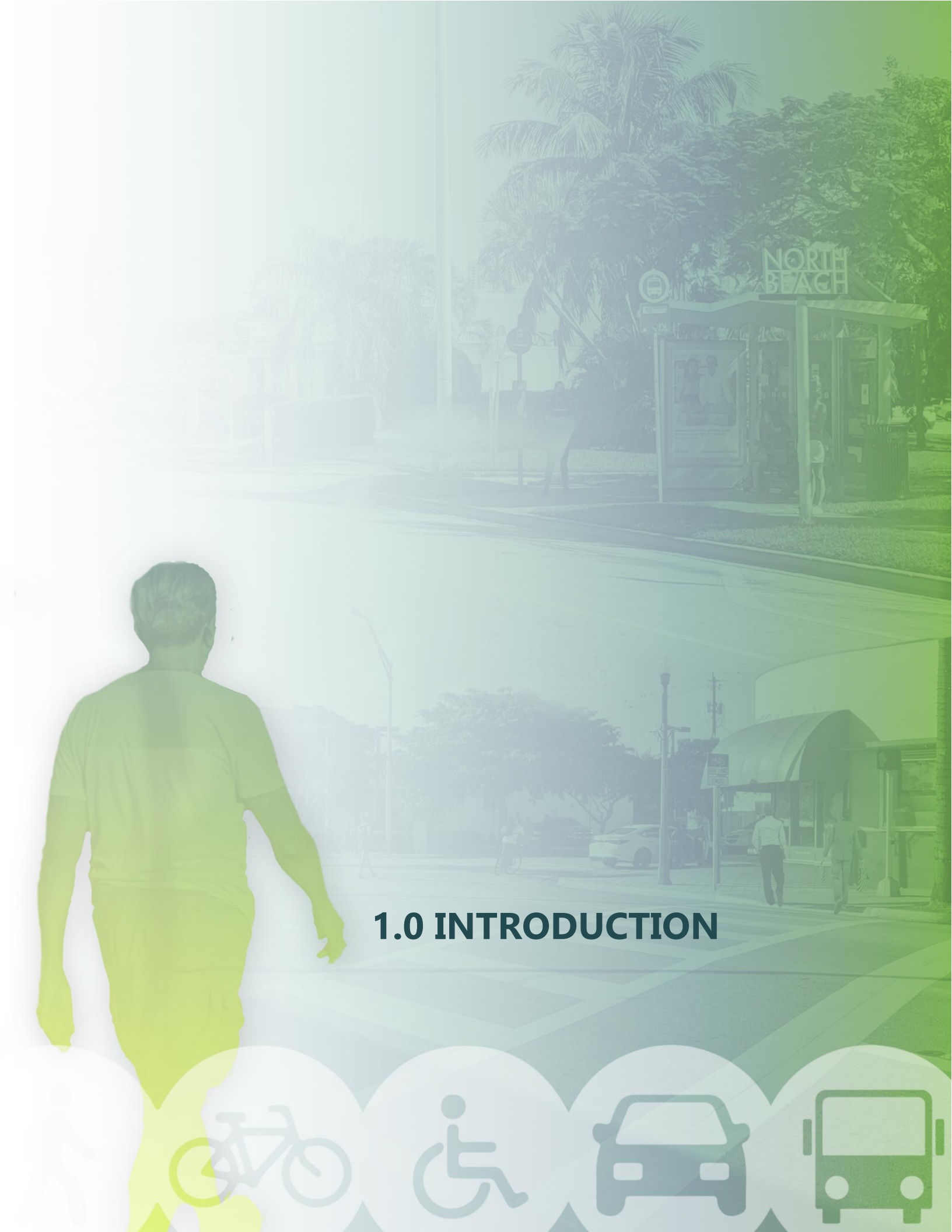

1.0 INTRODUCTION

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1.1 Background

Complete Streets provide guidance and criteria to help prepare design plans based on principles of safer, more comfortable, and accessible streets so that walking and non-motorized transportation are viable and foremost choices. Complete Streets are about people first, whereby, pedestrians, bicyclists, transit riders, and motorists of all ages and abilities must be able to safely move along streets. Complete Streets provide several benefits in addition to mobility such as public health, economic vitality, aging, safety, and environmental quality.

As part of the Miami-Dade Transportation Planning Organization's (TPO's) SMART Moves solicitation process, there were various citizens requests to make streets more user friendly for non-motorized forms of transportation. As such, this study incorporates the requests to look at selected corridors to incorporate Complete Streets concepts with emphasis on advancing unfunded needs prioritized in the 2045 Long Range Transportation Plan (LRTP). This study shall also incorporate the Miami-Dade County Mayor's recently announced initiative creating a Pedestrian-First Transportation Master Plan.

1.2 Study Purpose

The *Miami-Dade Complete Streets Corridors Study* identifies potential complete streets corridors along state roads within Miami-Dade County and proposes complete streets improvements along two of those identified corridors.

1.3 Project Limits

The project limits are state roads within Miami-Dade County.

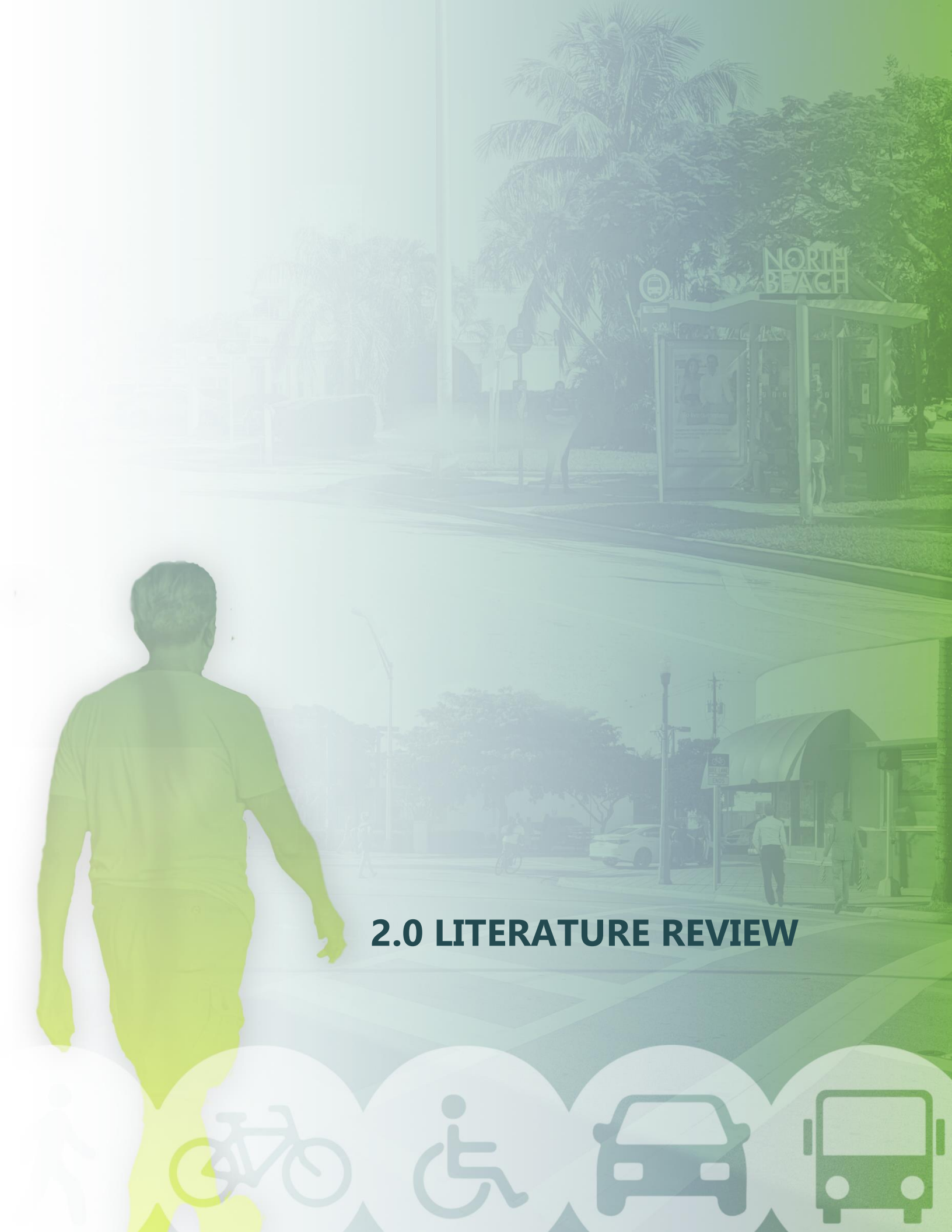
1.4 Study Advisory Committee (SAC)

A Study Advisory Committee (SAC) was formed to discuss relevant issues regarding the development and progress of the study. The SAC was comprised of representatives from the following entities: Miami-Dade County Regulatory and Economic Resources (RER), Miami-Dade County Department of Transportation and Public Works (DTPW), the Florida Department of Transportation (FDOT), Miami-Dade County Parks, Recreation and Open Spaces (PROS) Department, and the impacted municipalities of the final two corridors (Miami-Dade County and the City of Miami Beach). Three SAC meetings were held during the study process on the following dates: April 29, 2021, July 1, 2021, and October 21, 2021. Details from these meetings are throughout the report.

1.5 Report Layout

This report is organized into the following sections:

- 1.0 Introduction
- 2.0 Literature Review
- 3.0 Existing Conditions and Data Collection
- 4.0 Corridor Identification and Evaluation
- 5.0 Refined Corridor Analysis
- 6.0 Recommendations and Concepts
- 7.0 Conclusion



2.0 LITERATURE REVIEW

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The *Miami-Dade County Complete Streets Corridors* study included a nationwide and statewide research effort with the purpose of documenting best practices regarding the development of Complete Streets in similar corridors. This research included federal, state and local regulations that support the development of Complete Streets. As part of this task, the project team reviewed impact areas that are considered in the development of Complete Streets, such as: non-motorized transportation modes, health, Americans with Disabilities Act (ADA), public transportation, sustainability, livability, climate change, safety, and economic revitalization. The overall objective of this task is to identify concepts, strategies, state-of-the-art technologies, and physical improvements that could be integrated in the selected projects. Overall, this document provides a summary of the literature review findings.

2.1 Documents Reviewed

The nationwide and statewide research efforts provided example treatments, guidelines, and policies that can be utilized as reference and examples for the project. The following documents represent best practices, design guidelines, and policies were included in the nationwide and statewide research effort:

- FDOT Context Classification
- FDOT Strategic Highway Safety Plan
- Maryland DOT Context Classification
- MetroPlan Orlando Complete Streets Policy
- Minneapolis, Minnesota Complete Streets Policy
- Montgomery County, Maryland Complete Streets Design Guide
- St. Petersburg, Florida Complete Streets Implementation Plan

In addition to the nationwide and statewide research, local documents were reviewed for related efforts. Several of the documents reviewed provided policy guidance, key corridor selection criteria, and solutions guidance for the project. The local documents reviewed included the following:

- 2045 Miami-Dade Bicycle Pedestrian Master Plan
- Miami-Dade SMART Trail Master Plan
- Miami-Dade MPO Complete Streets Manual
- Miami-Dade County Complete Streets Guidelines
- Safe Routes to School Infrastructure Plans
- Miami-Dade County Vision Zero Plan

A common trend among the nationwide and statewide examples was **the common prioritization of bicycle and pedestrian projects** as well as **serving historically underserved communities**. Additionally, **context sensitivity** was emphasized in all the examples, similar to FDOT's and Miami-Dade's approach to implementing Complete Streets.

2.2 Key Topics

The matrix below provides an overview of the key topics covered in each of the documents reviewed. The key topics are color-coded and tagged throughout the document and are defined as follows:

Key Topic	Tag	Description
Policy Guidance	Policy	Offers Complete Streets policy guidance.
Corridor Selection Criteria	Corridor Selection	Provides criteria for selecting ideal Complete Streets corridors.
Lists Potential Corridors	Potential Corridors	Lists potential Complete Street corridors within Miami-Dade County.
Bike/Ped Network Connections	Network Connections	Provides potential connections to the local bike/ped network.
Implementation Guidance	Implementation	Provides example complete streets solutions and implementation guidance.
Case Studies/Best Practices	Best Practices	Includes Complete Street case studies and best practices.

Plan	Policy	Corridor Selection	Potential Corridors	Network Connections	Implementation Guidance	Best Practices
Nationwide and Statewide Research						
Context Classification Guide	X				X	
Strategic Highway Safety Plan	X				X	
Maryland DOT Context Classification	X				X	X
MetroPlan Orlando Complete Streets Policy	X	X				
Minneapolis Complete Streets Policy	X				X	X
Montgomery County Complete Streets Design Guideline	X				X	X
St. Pete Complete Streets Implementation Plan	X				X	X
Local Efforts						
2045 Miami-Dade Bicycle Pedestrian Master Plan	X	X				X
Miami-Dade SMART Trails Master Plan				X		
Miami-Dade Complete Streets Manual	X	X	X		X	X
Miami-Dade Complete Streets Guidelines	X				X	
Safe Routes to School Infrastructure Plans				X	X	
Miami-Dade Vision Zero Plan			X		X	X
Plan NoBe	X		X		X	

2.3 Nationwide and Statewide Review

2.3.1 FDOT Context Classification Guide

Document Title: FDOT Context Classification Guide

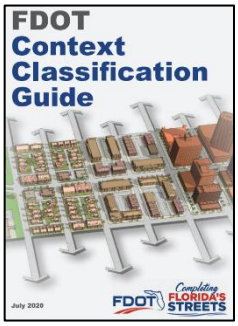
Agency: Florida Department of Transportation (FDOT)

Jurisdiction: State of Florida

Document Year: 2020

Tags: Policy | Implementation

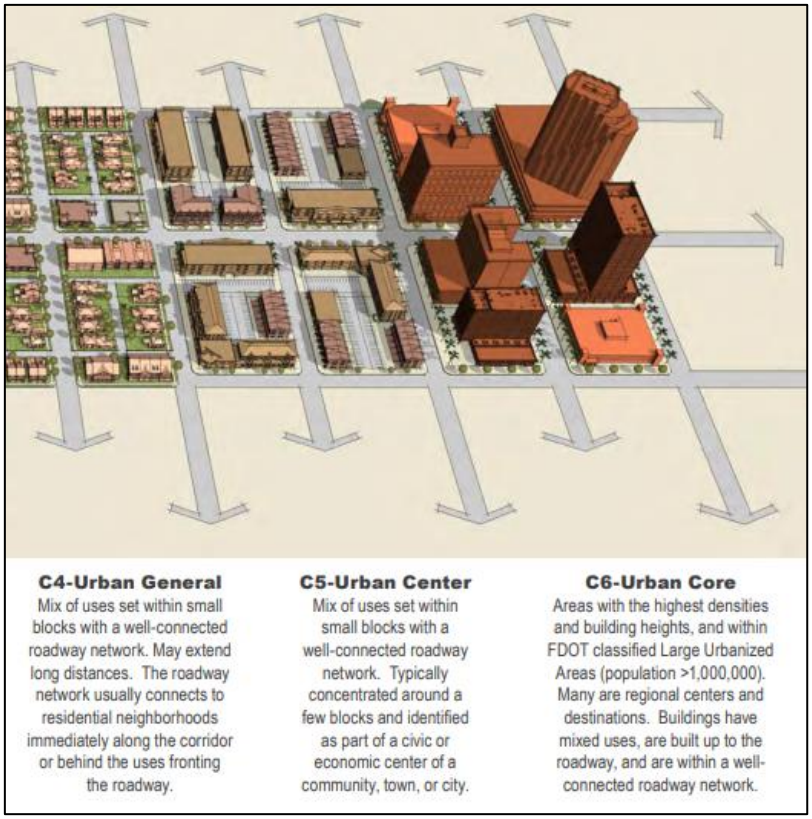
Document Cover:



Document Summary: FDOT utilizes a context-based approach to planning, designing, and operating the state transportation network. To implement this approach, FDOT has adopted a roadway classification system containing eight context classifications to define all non-limited-access state roadways. This document provides guidance for how the context classification system can be used, how to determine the context classification of a roadway, and provides the relationship between context classification with the FDOT Design Manual and other FDOT guidance.

Key Findings: The FDOT Context Classification Guide provides the following information relevant to complete streets projects:

- The context classification of a roadway determines key design criteria
- The context classification system was developed as a way to incorporate multimodal needs into the existing functional classification system
- The key context-based design controls are: design users, design speed, design vehicle, and traffic characteristics
- Context classification helps identify the anticipated users of the roadway
- FDOT provided a preliminary context classification for all state roadways. A project-level evaluation may be necessary to confirm the most appropriate context classification for specific roadways and roadway segments
- Primary measures to determine context classification include: intersection density, block perimeter, block length, land use, building height, existing and future densities, etc.



C4-C6 context classifications. Source: FDOT Context Classification Guide, 2020.

2.3.2 FDOT Strategic Highway Safety Plan

Document Title: Florida Strategic Highway Safety Plan

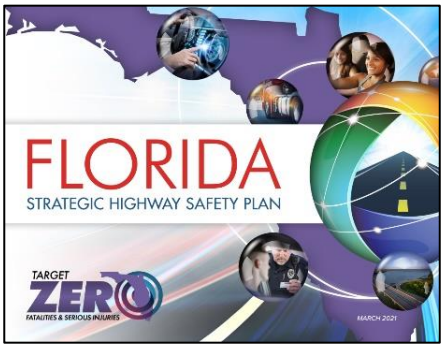
Agency: FDOT

Jurisdiction: State of Florida

Document Year: 2021

Tags: Policy | Implementation

Document Cover:



Document Summary: The vision of the Florida Strategic Highway Plan (2021) is to eliminate all transportation-related fatalities and serious injuries for all modes of travel. The plan provides a framework for how Florida's traffic safety partners will move toward the vision of a fatality-free transportation system during the next five years.

Key Findings: The plan introduces a "Safe System" approach with new priorities and strategies for the state of Florida. This approach includes:

- Safe road users
- Safe vehicles
- Safe speeds
- Safe roads
- Post-crash care

TARGET ZERO FATALITIES & SERIOUS INJURIES

The plan also identifies three emphasis areas to focus safety initiatives and specific strategies:

- Roadways: lane departures and intersections
- Road users: bikes and pedestrians, aging road users, motorcycles and motor scooters, commercial motor vehicle operators, and teen drivers
- User behavior: impaired driving, occupant protection, speeding and aggressive driving, and distracted driving

The following evolving emphasis areas were highlighted:

- Work zones
- Drowsy and ill driving
- Rail grade crossings
- Roadway transit
- Micromobility
- Connected and automated vehicles

Various crash and fatality statistics. Source: Florida Strategic Highway Safety Plan, 2021.

2.3.3 Maryland DOT Context Classification

Document Title: Context Driven: Access & Mobility for all Users

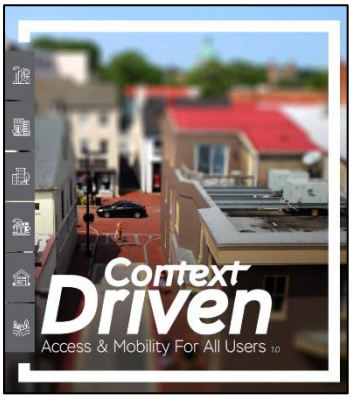
Agency: Maryland DOT (MD DOT)

Jurisdiction: State of Maryland

Document Year: 2020

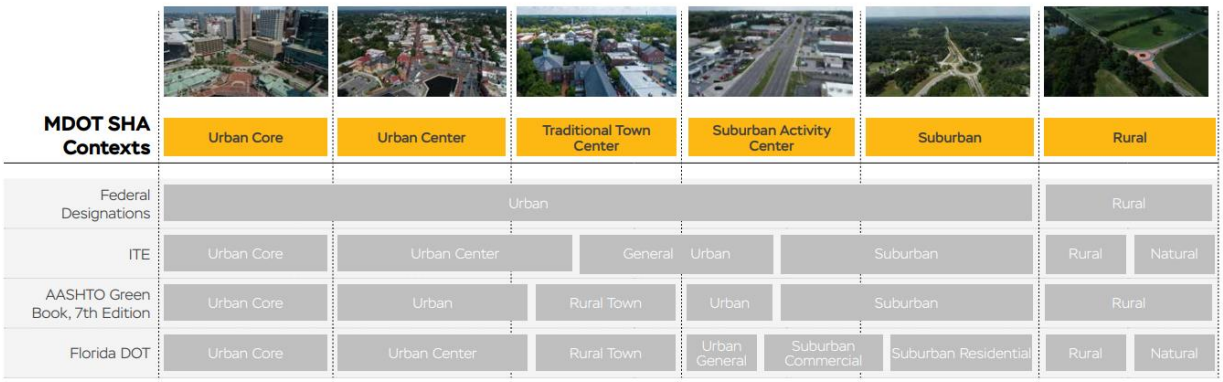
Tags: Policy, Implementation, Best Practices

Document Cover:



Document Summary: This guide provides key characteristics and example transportation treatments for state roads within Maryland. The purpose of the guide is to illustrate potential opportunities and improvements that can be implemented based on the context of the surrounding environment of the road. The goals of the guide are: balance access and mobility, maintain flexibility, and encourage innovation.

Key Findings: The six Maryland roadway contexts are: Urban Core, Urban Center, Traditional Town Center, Suburban Activity Center, Suburban, and Rural. Additionally, the MD DOT included a comparison chart of their contexts with FDOT's context classifications for comparison (see chart). Each context has a summary sheet with sample scenarios presenting safety and operational challenges along with countermeasures and benefits.



Roadway context comparison table. Source: Context Driven: Access and Mobility for all Users, 2020.

In comparison, FDOT has eight context classifications. The Urban Core and Urban Center classifications are consistent with both MD DOT and FDOT. However, FDOT provides two classifications for rural areas (Rural, Natural) where MD DOT provides one (Rural). Additionally, FDOT provides additional classifications for the MD DOT Suburban Activity Center and Suburban Classifications. Depending on which final corridors are selected through this study, it may be beneficial to reference the MD DOT summary sheets for their similar context classifications for example treatments on similar state roads. The focus for Complete Streets in Miami-Dade County are on Urban General, Urban Center, and Urban classifications (C4-C6) according to the LRTP. The summary sheets for the comparable MD DOT classifications are included in the appendix at the end of this document. The summary sheets include the following key characteristics and illustrative transportation treatments for each context such as: typical characteristics, an access and mobility diagram, representative communities, proven treatments, need areas, and countermeasures and benefits.

2.3.4 MetroPlan Orlando Complete Streets

Document Title: Complete Streets Policy

Agency: MetroPlan Orlando

Jurisdiction: Orange, Osceola, and Seminole counties

Document Year: 2020

Tags: Policy | Corridor Selection

Document Cover:

Document Summary: MetroPlan Orlando adopted the regional Complete Streets Policy in March 2020 in addition to publishing a Complete Streets Policy Report in 2016 which made the case for the importance of Complete Streets in Central Florida. The policy includes goals, design guidance, project prioritization guidance, and a funding structure.

Key Findings: The **goals** are defined as follows:

- Create a complete, connected network of streets, roads, and trails that safely and comfortably serves every type of system user,
- Provide safe and comfortable transportation options for vulnerable users of all ages and abilities
- Support redevelopment of and connectivity to activity centers,
- Provide safe, comfortable, and effective access to transit through walking and bicycling.

As far as **design**, the Complete Streets Policy emphasizes the following:

- Following existing best practices and guidelines
- Lighting needs to be considered in the design phase. Ideal lighting allows for safe street crossing, visibility, and minimal light pollution.
- Context sensitivity: appropriate design standards and input from community should be considered within each context
- Impacts: Planners and engineers should consider the impacts to the community during each phase of the process

The Complete Streets Policy includes the following **project prioritization guidance**:

- Emphasis on traditionally underserved communities (where applicable)
- Consistency with FDOT's Resurfacing, Restoration, and Rehabilitation (RRR) process to ensure cost-effectiveness
- Using the Congestion Management Process (CMP) to ensure that investment decisions are made with a clear focus on desired outcomes

Funding for MetroPlan's Complete Street program includes:

- Resurface, Restoration, and Rehabilitation projects
- Federal and state discretionary grant programs
- Philanthropic programs
- Public-Private Partnerships

2.3.5 Minneapolis Complete Streets Policy

Document Title: Complete Streets Policy

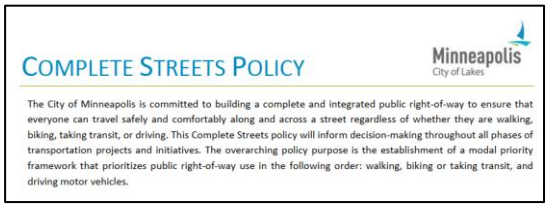
Agency: City of Minneapolis

Jurisdiction: City of Minneapolis, Minnesota

Document Year: 2016

Tags: Policy, Best Practices, Implementation

Document Cover:



Document Summary: The foundation of this policy is a modal priority framework to guide public right-of-way improvements. Their modal priority establishes in the following order: walking, or biking as the top two modes to consider when making roadway improvements and putting the motor vehicle last.

Key Findings: Their modal priority justification priority is as follows:

- All trips begin or end with walking, regardless of mode
- Transit extends the range of travel and provides greater efficiencies and operational benefits than motor vehicles
- Biking extends the range of higher-speed non-motorized travel
- Safety of the most vulnerable street users is the highest priority because they are the most at risk
- The highest priority modes have been historically underinvested in resulted in a rebalancing of the transportation network
- Transportation investment influence travel choices

Modal priority visualization. Source: Minneapolis Complete Streets Policy, 2016.

Implementation of this policy is outlined by the following:

- All public and private projects and initiatives that interact with and impact the public right-of-way will go through the Complete Streets Policy Process
- A context-based approach based on the modal priority framework will be implanted for each project
- Design of public right-of-way will be based on the following: *Design Guidelines for Streets and Sidewalks (Access Minneapolis), NACTO Urban Street Design Guide, AASHTO, ITE,* and*, MnDOT Local State-Aid Route Standards*

Additionally, the following exemptions are included for implanting their modal priorities:

- Cost of a new facility for a particular mode is excessively disproportionate to need or probable future use.
- Documented lack of current or future need (i.e., higher-quality parallel routes in close proximity).
- Constraints related to physical space, emergency vehicle clearance, or right-of-way acquisition.
- Mode is prohibited by law from using the street.

2.3.6 Montgomery County Complete Streets Design Guidelines

Document Title: Montgomery County Complete Streets

Agency: Montgomery County DOT, Montgomery Planning Commission

Jurisdiction: Montgomery County, Maryland

Document Year: 2021

Tags: Policy, Best Practices, Implementation

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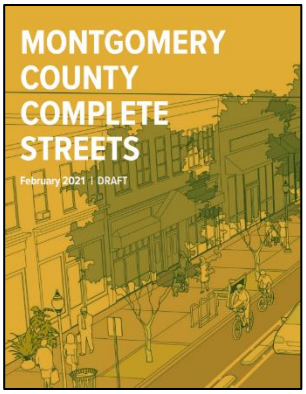
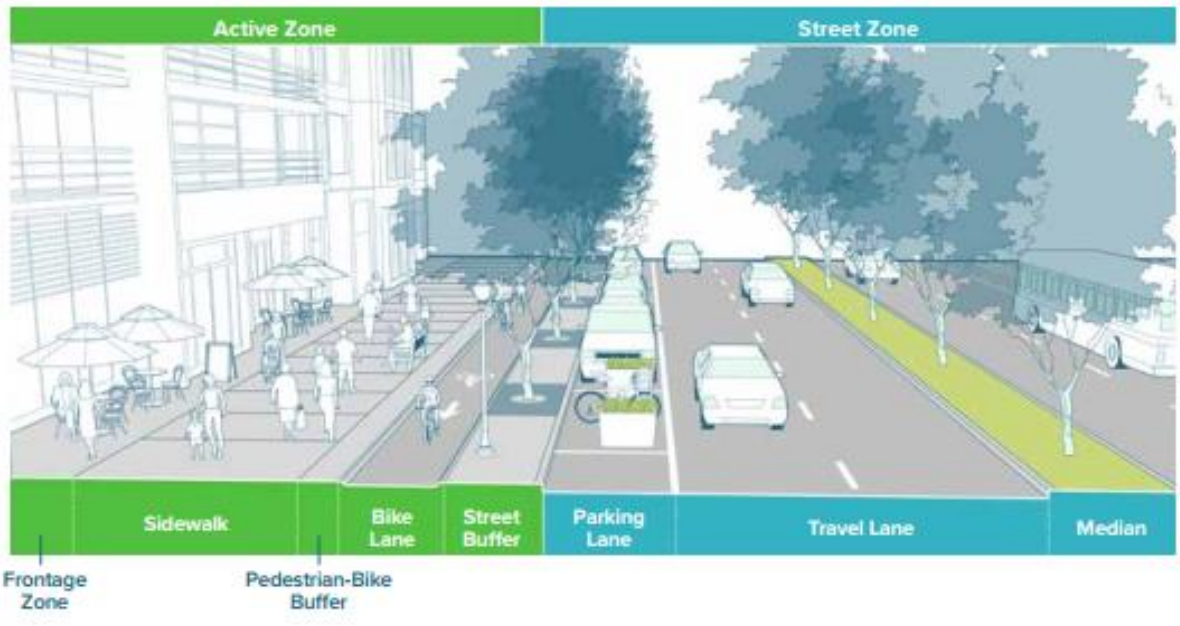


Document Summary: This document meant to guide to the development of great places that are supported by safe and efficient transportation systems. The purpose is to provide guidance for new streets or reconstructing/retrofitting existing streets based on the following principles: safety, sustainability, and vitality. The guide is meant to be used early in the roadway planning and design process to identify the default or desired dimensions and characteristics of the roadway.

Key Findings: For design implementation of Complete Streets, the guide is organized into the following categories: street types, active zones, street zones, bikeways, intersections, green streets, speed management, and implementation. Depending on the corridors chosen for final design, this document will be an ideal reference for design references and implementation methods.

The image below provides an example of the active zones and street zones in terms of design. Vehicular travel exclusively travels in the Street Zone and pedestrian travel almost always takes place in the Active zone. Bicycle travel may be located in either zone.



Example design guidance by zone. Source: Montgomery County Complete Streets, 2021.

2.3.7 St. Petersburg Complete Streets Implementation Plan

Document Title: Complete Streets Policy

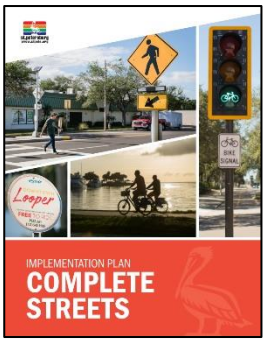
Agency: City of St. Petersburg

Jurisdiction: City of St. Petersburg, Florida

Document Year: 2019

Tags: Policy, Best Practices, Implementation

Document Cover:



Document Summary: Implementation plan defines the approach and steps the city will pursue to implement their adopted Complete Streets Policy.

Key Findings: The St. Petersburg (St. Pete) Complete Streets Policy includes the following:

1. Facilities for people walking, bicycling, and using public transit should be established as core elements in the planning and design of all roadway and bridge projects

2. Appropriate context-sensitive roadway design standards should be considered while recognizing the need for flexibility in balancing the needs of users and adjacent land uses

3. City staff should create a Complete Streets Implementation Plan to guide the development of future roadway facilities for all modes of travel

4. The City should draw upon all appropriate sources of funding

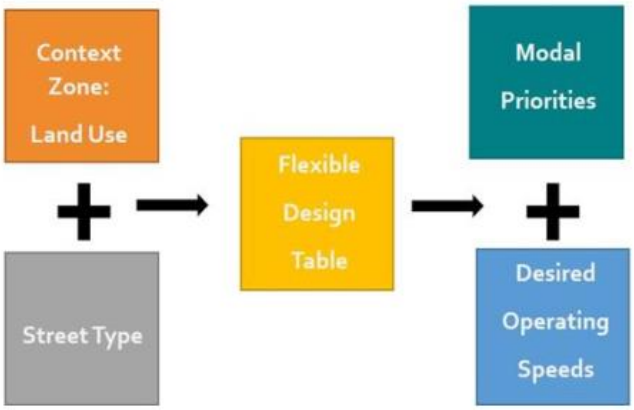
5. City departments should incorporate the corresponding elements of these Complete Streets principles into their work plans

Additionally, the city has developed the implementation plan's "big ideas" to include specific approaches to guide future projects:

- Placemaking, Context Zones, Street Types, Modal Priority, Maximum Desired Operating Speeds (displayed in the below graphic)
- Flexible Street Guidance, Level of Traffic Stress for People Bicycling, Neighborhood Greenways
- Transit Oriented Development, Sustainability and Smart Growth

Moreover, the plan included a 3-step approach to implementing complete streets including:

- Process improvements – includes changes to policy and project delivery
- Capital projects – outlines project recommendations and phasing
- Program enhancements – lists new and expanded programs



Implementation Plan's "big ideas" graphic. Source: St. Pete Complete Streets Policy, 2019.

2.4 Local Review

2.4.1 2045 Miami-Dade Bicycle Pedestrian Master Plan

Document Title: 2045 Miami-Dade Bicycle Pedestrian Master Plan

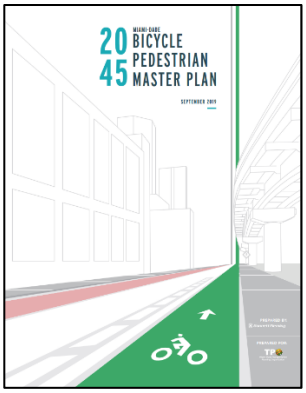
Agency: Miami-Dade TPO

Jurisdiction: Miami-Dade County

Document Year: 2019

Tags: Policy, Corridor Selection, Best Practices

Document Cover:



Document Summary: The subject of Complete Streets was included within the 2045 Miami-Dade Bicycle Pedestrian Master Plan (Plan) as one of five best-practice topics that are recommended to be implemented within Miami-Dade County as a way to continue to grow the County's bicycle and pedestrian friendliness.

Key Findings: The five Complete Streets principles identified in the Plan include:

- Design for safety
- Prioritize pedestrian movement where needed
- Complement surrounding land uses, environment, and community
- Incorporate green design
- Create and compliment public spaces

The document included the following recommendations when selecting Complete Streets corridors:

- Urbanized Areas (C4-C6) (pages 84-99) whose land use density is more walkable/bikeable
- Connects to Communities of Concern (Zero Car, Impoverished)
- Connects to high population centers (20+ people per acre)
- Connects to high employment centers (45+ jobs per acre)
- Direct connection to transit facilities

Example Complete Street graphics. Source: Miami-Dade Bicycle Pedestrian Master Plan, 2019.

2.4.2 Miami-Dade SMART Trails Master Plan

Document Title: SMART Trails Master Plan

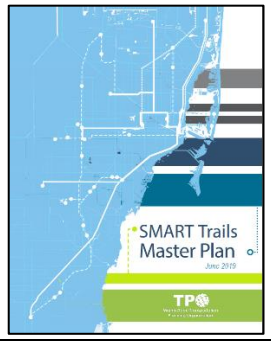
Agency: Miami-Dade TPO

Jurisdiction: Miami-Dade County

Document Year: 2019

Tags: Network Connections

Document Cover:

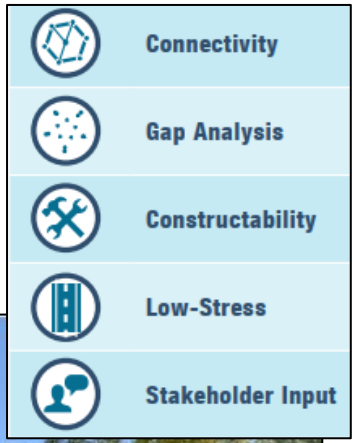


Document Summary: Miami-Dade County has a planned county-wide network of paved paths and has coordinated local plans with the Florida Greenways and Trails System (FGTS). The SMART Trails Master Plan (2019) was developed as part of the Strategic Miami Area Rapid Transit (SMART) Plan implementation effort that identified potential first-last-mile connections for the SMART plan corridors and the regional non-motorized trail system. Conceptual design graphics were included to visually represent potential implementation.

Key Findings: The SMART Trails network was developed using the following strategies:

- Transit nodes were emphasized
- Areas isolated from the overall existing and planned bicycle and pedestrian facilities were examined for the potential to create or improve connections
- First Mile/Last Mile (FLM) evaluation process with weighted criteria (see adjacent criteria listed in blue)

Connections to the SMART Trails network will be a consideration when reviewing potential corridors and evaluating corridor solutions.



FLM evaluation process.

Example trail concept (Atlantic Greenway to Beach Corridor).

2.4.3 Miami-Dade MPO Complete Streets Manual

Document Title: Complete Streets Manual

Agency: Miami-Dade MPO

Jurisdiction: Miami-Dade County

Document Year: 2014

Tags:

Policy

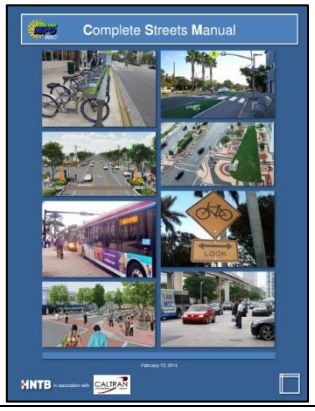
Implementation

Potential Corridors

Best Practices

Corridor Selection

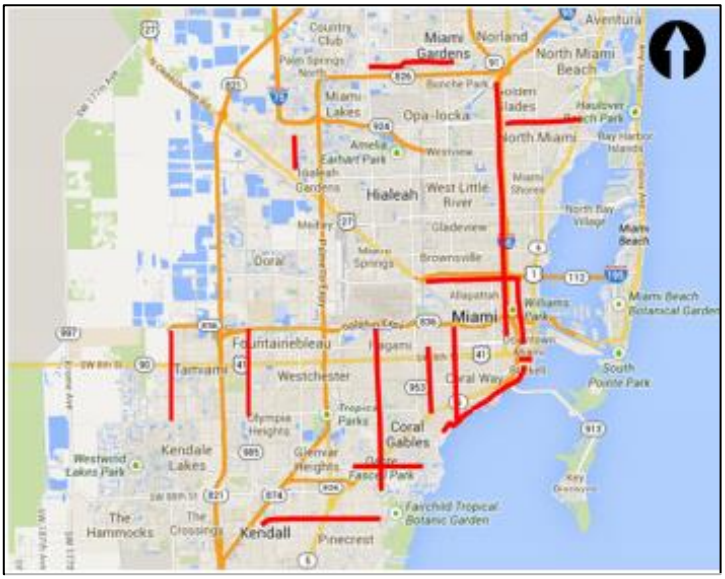
Document Cover:



Document Summary: The Miami-Dade MPO Complete Streets Manual (2014) was developed with the purpose of providing guidance for the implementation of a complete street. The guidance provided included: a planning background, complete streets toolkit, context for design, recommended corridors, corridor concepts, and an implementation plan.

Key Findings: The following provides an overview of the key sections of the plan. This plan can be used as a reference document throughout the planning process for the current project:

- Planning Background: included regulations and local impacts of complete streets, case studies, and lessons learned for
- Complete Streets Toolkit: included pedestrian improvements, bicycle improvements, mixed motor vehicle and parking improvements, green improvements, transit improvements
- Context for Design: includes complete streets elements/solutions based on functional classification
- Complete Streets Corridors: identifies recommended corridors, includes corridor evaluation criteria, corridor evaluation matrix
  - Identified 15 potential corridors as complete streets candidates. These were identified based on varied geographic options, roadway classifications, and roadway jurisdictions
  - Evaluation matrix includes: transit LOS, transit ridership, ADT, ROW, activity center access, network gaps, existing infrastructure, accident rates, economic revitalization
- Corridor Concepts and Implementation Plan: Potential corridors and solutions should be evaluated and selected with consideration to the guidance developed in this plan.



Map of the preliminary candidates for potential corridors.

2.4.4 Miami-Dade County Complete Streets Design Guidelines

Document Title: Complete Streets Design Guidelines

Agency: Miami-Dade County

Jurisdiction: Miami-Dade County

Document Year: 2016

Tags: Policy | Implementation

Document Cover:

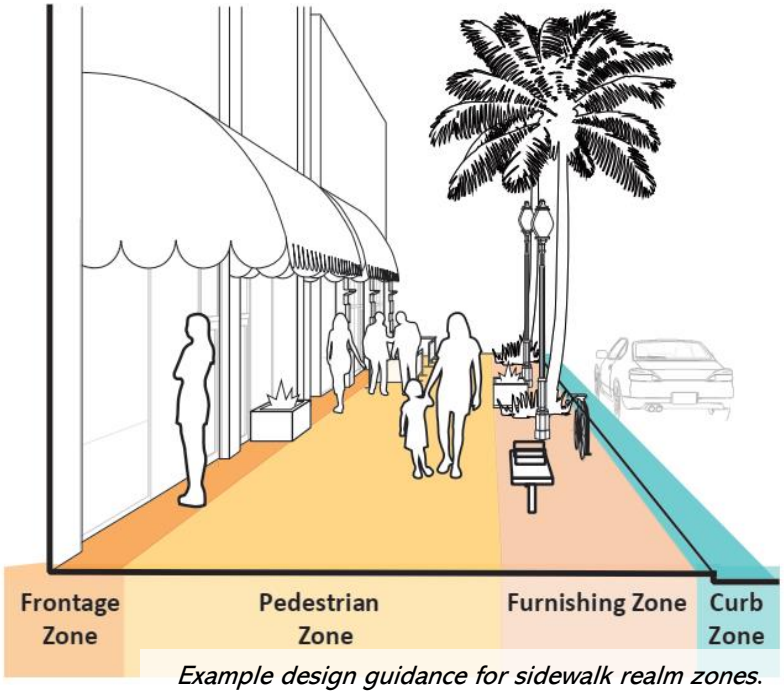
Document Summary: The Miami-Dade County Complete Streets guidelines were developed using national guidelines for design along with lessons and applications from similar cities.

Key Findings: Five principles were developed when designing Complete Streets:

- Safety: prioritizing safety over traffic flow; using design to enforce safe use
- Health: increase walking and biking, particularly for shorter trips; support Age Friendly Initiative
- Modal Equity: provide facilities for every mode on every street; establish connected network for all users
- Context Sensitive: align speeds and features with neighborhood character; use opportunities to placemake with street design
- Sustainability: use streets as the first line of stormwater capture and filtration; increase tree canopy and landscaping to support comfortable sidewalks and increased biodiversity

The document also provided the following guidance for project prioritization, with a focus on equity and safety. Additionally, these measures used for project prioritization double as performance measures for completed projects and should be monitored during the life of the project.

- Crash frequency and severity
- Presence of bicycle, pedestrian, and transit facilities
- Inclusion in planning documents
- Role within multimodal networks (missing links, access to key destinations)
- Sensitive populations surrounding project (Age Friendly Initiative)
- Income and health of surrounding population



Example design guidance for sidewalk realm zones.

2.4.5 Safe Routes to School Infrastructure Plans

Document Title: Safe Routes to School Infrastructure Plans

Agency: Miami-Dade TPO

Jurisdiction: Miami-Dade County

Document Year: 2020

Tags:

Network Connections | Implementation

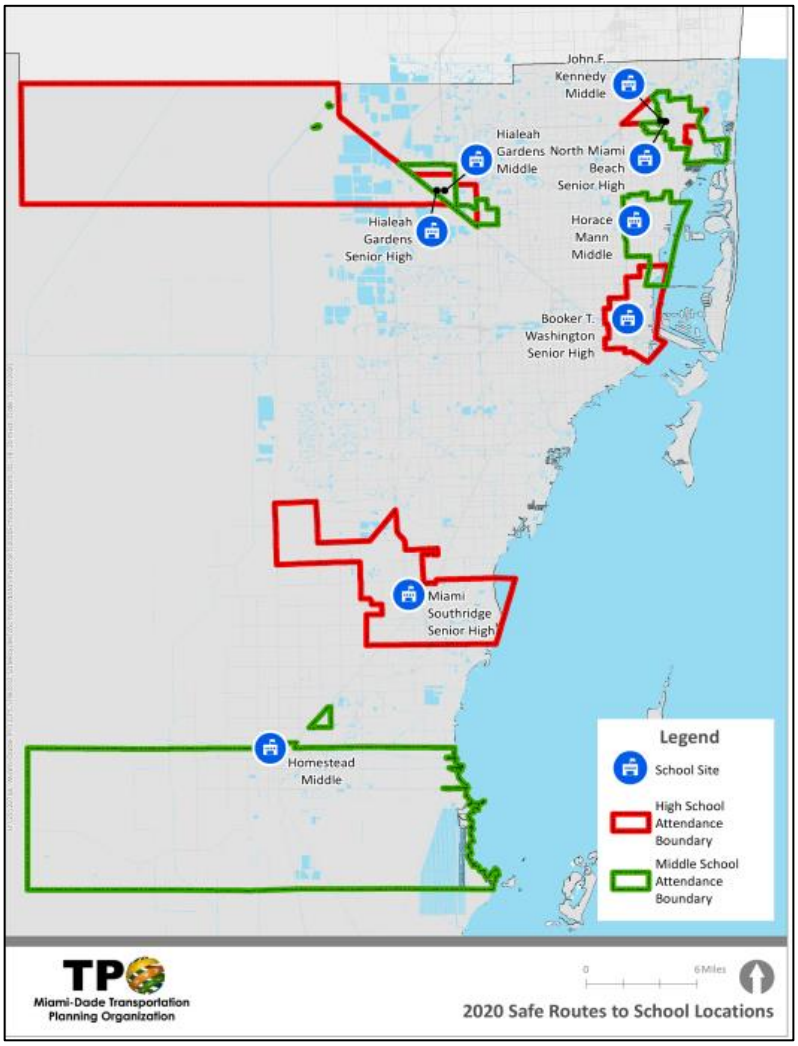
Document Cover:

Document Summary: Safe Routes to School (SRTS) is a federally funded program to make walking and biking to and from schools safe, practical, and enjoyable. The SRTS Infrastructure Plans (2020) are a continuation of previous efforts by the TPO that have been taking place since the mid-2000s. Each year, the TPO selects priority schools to be studied for SRTS improvements.

Key Findings: The following schools were selected for analysis and SRTS infrastructure recommendations:

- Booker T. Washington Senior High School
- Hialeah Gardens Middle School
- Hialeah Gardens Senior High School
- Homestead Middle School
- Horace Mann Middle School
- John F. Kennedy Middle School
- Miami Southridge Senior High School
- North Miami Beach Senior High School

Complete Streets recommendations should be consistent with SRTS recommendations identified in this report.



2020 Safe Routes to School Location Map.

2.4.6 Miami-Dade County Vision Zero Plan

Document Title: Vision Zero Plan

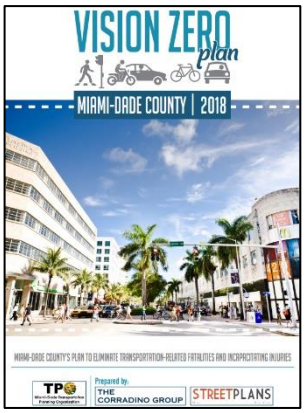
Agency: Miami-Dade TPO

Jurisdiction: Miami-Dade County

Document Year: 2018

Tags: Best Practices, Implementation, Potential Corridors

Document Cover:



Document Summary: The Miami-Dade County Vision Zero Plan (2018) provides a systematic approach to implementing safety countermeasures and policies to reduce and eliminate fatalities and serious injuries related to mobility within the county. An action plan is included listing 18 corridors and improvements.

Key Findings: The 18 corridors are listed in the table below. Location N (SW 152nd) corresponds with Corridor 6 in the current complete streets study.

Identifier	Location	Suggested Countermeasure	Cost	Responsible Party	Time Frame
A	NW 207TH DR and NW 37TH AVE	Signalize	$250,000	Miami Gardens	2-5 years
B	NE 215TH ST and NE 2ND AVE	Add left-turn phasing (Reconstruct Signal)	$250,000	Miami Gardens	2-5 years
C	AVENTURA BLVD and NE 29TH PL	Restrict left-turn phases	$75,000	Aventura	0-2 years
D	NW 122ND ST and W 32ND AVE	Add Channelized left-turn lane and phasing SB	$400,000	Hialeah Gardens	3-5 years
E	NW 95TH ST and NW 32ND AVE	Add Channelized left-turn lanes E-W and modify phasing	$750,000	Miami-Dade County (West Little River CDP)	3-5 years
F	NW 9TH ST from RED RD to FLAMINGO RD	Reduce Speed Limit	$20,000	Hialeah	0-2 years
G	NW 29TH AVE and NW 56TH ST	Convert to All-Way Stop	$2,500	Miami-Dade County (Brownsville CDP)	0-1 year
H	NW 13TH ST from 3RD AVE to BISCAYNE BLVD	Reduce Speed Limit	$20,000	City of Miami	0-1 year
I	NW 3RD AVE and NW 5TH ST	Add Signal Heads and Reflective Backplates (Reconstruct Signal)	$500,000	City of Miami	2-5 years
J	NW 12TH ST and NW 127TH AVE	Widen Median E-W	$1,500,000	Miami-Dade County (Unincorporated)	5-10 years
K	SW 26TH ST and SW 122ND AVE	Widen Median N-S	$1,500,000	Miami-Dade County (Unincorporated)	5-10 years
L	SW 24TH ST from SW 87TH AVE to SW 82ND AVE	Speed Study and Revise Speed Limit	$25,000	Miami-Dade County (Westchester CDP)	0-1 year
M	SW 37TH AVE and PEACOCK AVE	Restripe NB left-turn Receiving Lanes	$10,000	City of Miami	0-1 year
N	SW 152ND ST from SW 112TH AVE to SW 102ND AVE	Speed Study and Revise Speed Limit	$25,000	Miami-Dade County (Richmond Heights CDP)	0-1 year
O	SW 168TH ST and SW 112TH AVE	Add left-turn phasing	$50,000	Miami-Dade County (Palmetto Estates CDP)	0-2 years
P	SW 268TH ST and SW 134TH AVE	Signalize	$250,000	Miami-Dade County (Princeton CDP)	2-5 years
Q	SW 312TH ST and SW 152ND AVE	UNDER CONSTRUCTION	--	Homestead	--
R	SW 312TH ST and NE 43RD/137TH AVE	Add "Signal Ahead" Warning Sign NB	$1,200	Homestead	0-1 year

Miami-Dade County Vision Zero Plan Action Implementation Plan, Table S-2.

2.4.7 Plan NOBE

Document Title: Plan NoBe

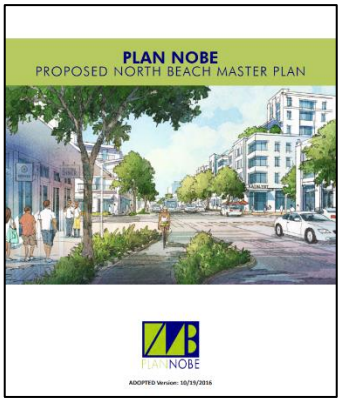
Agency: City of Miami Beach

Jurisdiction: North Beach, Miami Beach

Document Year: 2016

Tags: Policy, Implementation, Potential Corridors

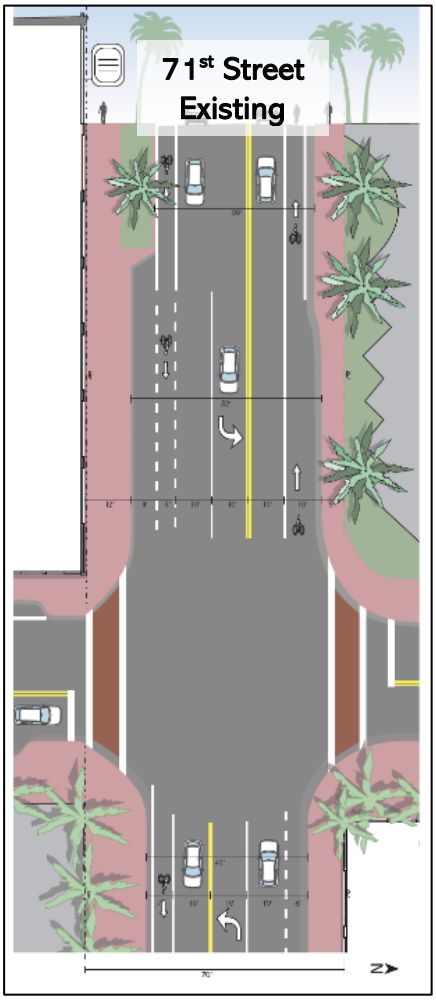
Document Cover:

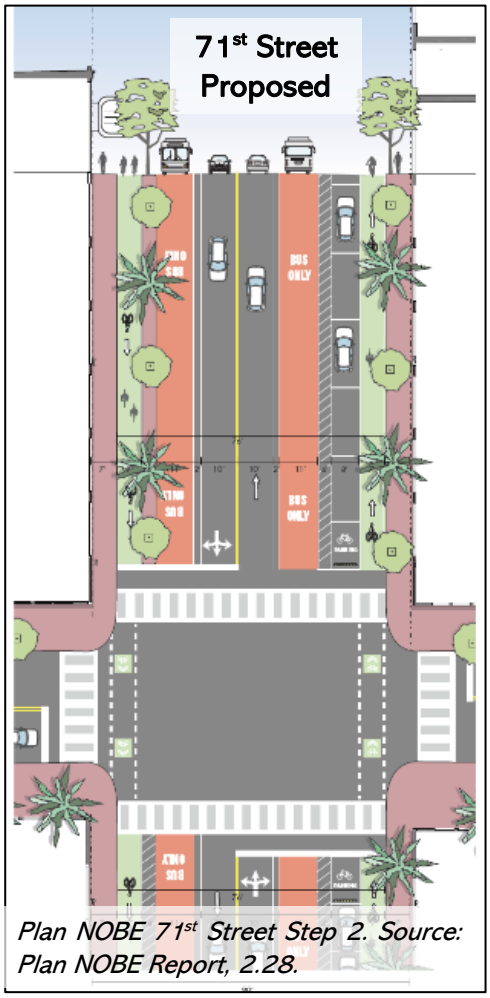


Document Summary: Provides the basis for public policy in the North Beach area of the city of Miami Beach in regards to physical development. Plan NoBe provides public-sector priorities as well as direction for private-sector decisions.

Key Findings: This plan is relevant to the Normandy Corridors identified in the Tier 3 corridor selection. Recommendations include:

- Proposes protected bike lane along Normandy
- Provide exclusive transit lanes along Normandy corridor
- 71st Street vision:
- Step 1: Dedicated Transit Lanes; Two-Way Car Travel;
- On-Street Parking
- Step 2: All above + protected bike lanes
- Step 3: Step 1 + grade-separated protected bike lanes





Plan NOBE 71st Street Step 2. Source: Plan NOBE Report, 2.28.

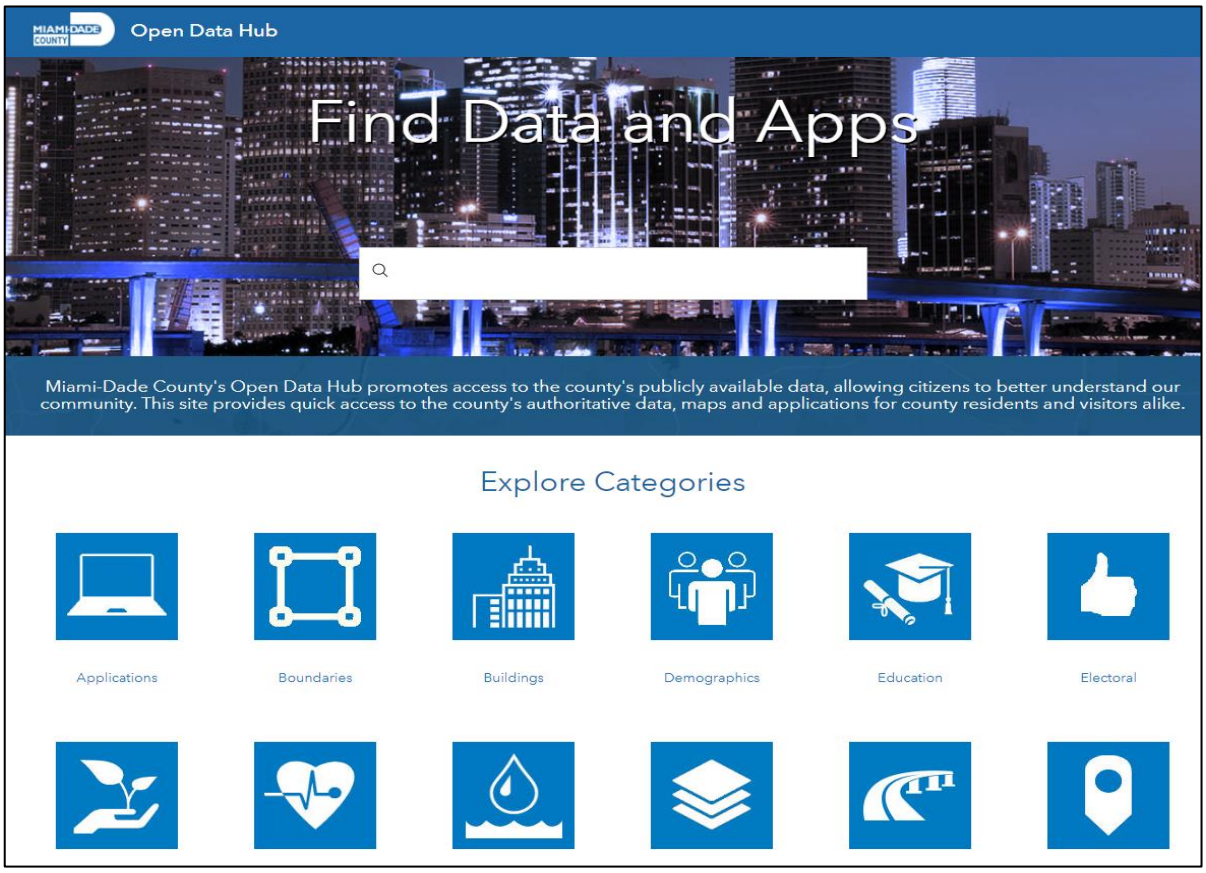
3.0 EXISTING CONDITIONS AND DATA COLLECTION

3.0 EXISTING CONDITIONS AND DATA COLLECTION

The *Miami-Dade County Complete Streets Corridors* study included an existing conditions and data collection task that was intertwined with the corridor identification and evaluation further detailed in **Section 4.0** of this report.

The existing conditions and data collections task was executed using a combination of data from interactive mapping resources and additional spatial data sources that were provided to the project team. Much of the data was downloaded from the Miami-Dade County (MDC) Open Data Hub, from the Florida Department of Transportation (FDOT) databases, or directly from county staff. The interactive mapping resources utilized were FDOT's ConnectPed Public Interactive Mapping Tool and FDOT's BikePed (BP) Tool. The types of data utilized are summarized in **Section 3.1**.

Once the base data was acquired, the existing conditions analysis began by identifying corridors throughout the county that could be complete streets candidates. This led to the Tier 1 Corridor Identification described in **Section 3.2** of this report. The Tier 1 Corridor Identification process yielded a preliminary list of 40 corridors that were further analyzed through the Tier 2 and Tier 3 Corridor Identification and evaluation process.



Screenshot from MDC Open Data Hub.

3.1 Base Data Sources

In addition to the data sources and existing maps utilized in the Literature Review detailed in **Section 2.0**, a summary of the additional raw data sources is provided in the table on the following page.

TABLE 3-1 BASE DATA SOURCES

Data Type	Source
Annual Average Daily Traffic (AADT)	FDOT Annual Average Daily Traffic (2019). AADT shapefile, downloaded from FDOT.
Bicycle Crashes	Vision Zero crash data received from DTPW (2021).
Bicycle Networks	Miami-Dade MPO Paved Path dataset, 2019; SUN_Trail_Status shapefile (2021), downloaded from FDOT.
Bus Route	Line feature of Miami-Dade County bus routes (2021). Downloaded from MDC Open Data, 2021.
Bus Shelter	Point feature class of Miami-Dade transit bus shelters (2018). Downloaded from MDC Open Data, 2021.
City Limits	City Limits derived from Florida parcel data (2019). PAR_CITYLM_2019 shapefile downloaded from the Florida Geographic Data Library (FGDL).
Context Classification	FDOT preliminary context classification. Preliminary_Context_Classification_TDA shapefile, FDOT, 2021.
County Zoning	Miami-Dade County (MDC) zoning boundaries (2021). Downloaded from MDC Open Data, 2021.
Employment Density	FDOT Population and Employment data via Statewide Transped app. PopulationAndEmploymentDensity2010 shapefile, FDOT, July 2019.
Land Use	MDC polygon feature class of land use (2021). Downloaded from MDC Open Data, 2021.
Metromover	Line feature class of Miami-Dade Transit (MDT) Metromover light rail system tracks (2018). Downloaded from MDC Open Data, 2021.
Metromover Station	Point feature class of MDT Metromover stations (2018). Downloaded from MDC Open Data, 2021.
Metrorail	Line feature class of MDT Metrorail tracks (2018). Downloaded from MDC Open Data, 2021.
Metrorail Station	Point feature class of MDT Metrorail stations (2018). Downloaded from MDC Open Data, 2021.
Municipal Land Use	Polygon feature class of municipal land use within MDC (2018). Downloaded from MDC Open Data, 2021.
Municipal Zone	MDC municipal zoning districts, (2021). Downloaded from MDC Open Data, May 2021.
Speed Limit	FDOT maximum speed limit feature class. Maximum_Speed_Limit_TDA shapefile, FDOT, May 2021.
State Roads	FDOT State Roads feature class (2021). State_roads shapefile, FDOT, January 2021.
Tri-Rail	Line feature class of TriRail train system within MDC (2018). Downloaded from MDC Open Data, 2021.
Poverty Status	American Community Survey (ACS) 5-year estimates (2015-2019) poverty status percentage by census tract, ACS Table B17020. Downloaded via Census Bureau's API.
Population Density	FDOT Population and Employment data via Statewide Transped app. PopulationAndEmploymentDensity2010 shapefile, FDOT, July 2019.

Data Type	Source
Safe Routes to School	Miami-Dade County (MDC) High School Attendance Boundary (2019); MDC Middle School Attendance Boundary shapefile (2019) obtained from MDC Open Data Hub.
SMART Corridors	SMART Plan Corridor map (2020), Miami-Dade TPO.
Transit Information	MDC Bus stops, MDC Open Data, updated February 2019.
Pedestrian Crashes	Vision Zero crash data received from DTPW (2021).
Vision Zero Safety Priority Project	Vision Zero safety priority project list and map received from Irene Soria (DTPW); draft list 11/2020.
Zero Car Households	American Community Survey (ACS) 5-year estimates (2015-2019) vehicle availability percentage by census tract, ACS Table B08201. Downloaded via Census Bureau's API.

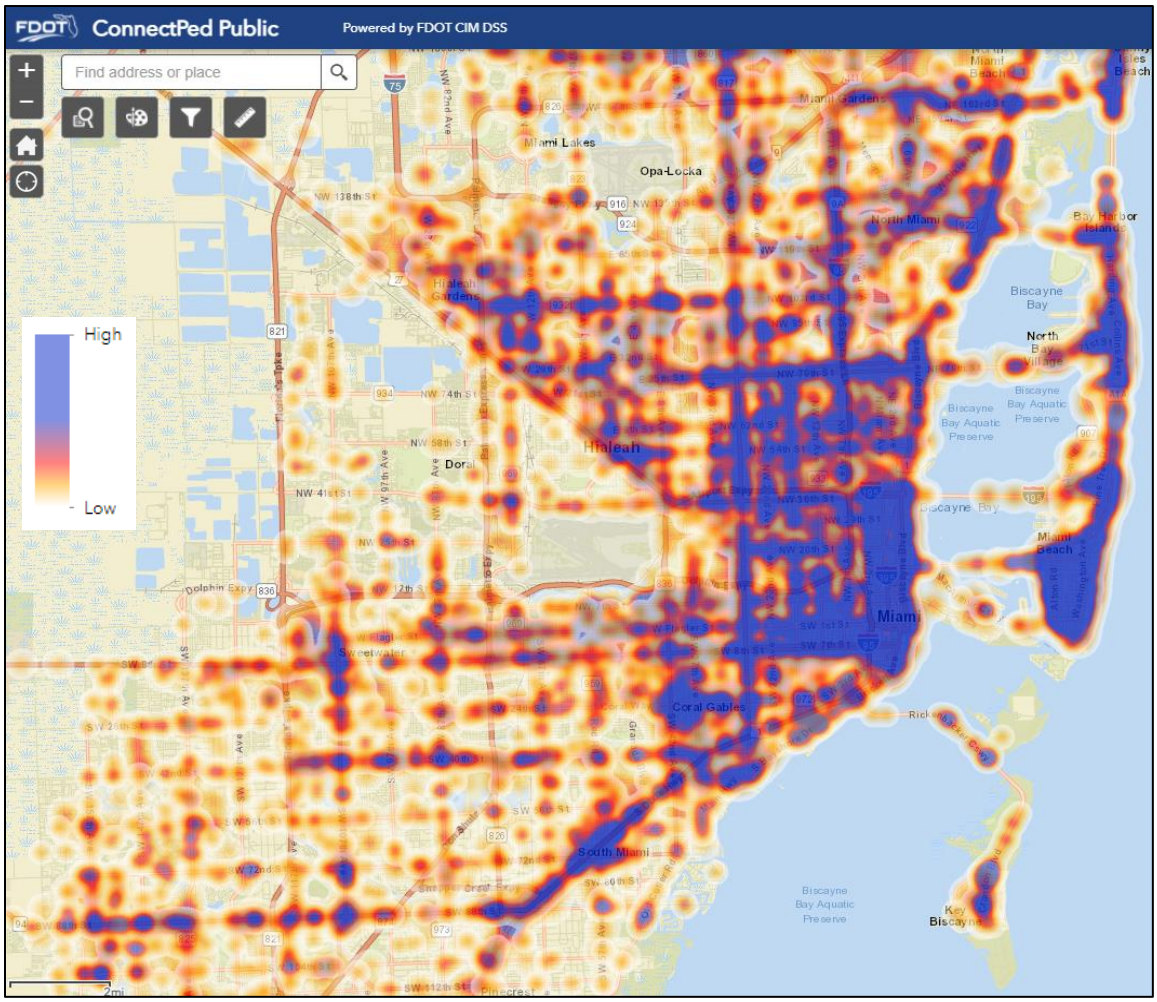
3.2 Tier 1 Corridor Identification

The Tier 1 Corridor Identification was the result of the base data collection and existing conditions analysis. With guidance from the Complete Streets recommendations listed in the *Bicycle and Pedestrian Master Plan* element of the 2045 LRTP, the project team utilized data mapping techniques with the FDOT ConnectPed Public Interactive Mapping Tool and GIS spatial analysis using data from Miami-Dade County to identify problem spots within the county. As a result of the analysis, 40 initial corridors were identified across Miami-Dade County as potential Complete Streets Tier 1 corridors (**Table 3-2** and **Figure 3-1**).

3.2.1 Data Mapping Methodology

Using FDOT's ConnectPed Public Interactive Mapping Tool, identified initial hot spots with the following criteria:

- State Road
- Bicycle Crash Hot Spot
- Pedestrian Crash Hot Spot



Screenshot from FDOT's ConnectPed Interactive map showing the bicycle and pedestrian crash hot spots.

Once these hot spots were displayed, other layers were added to further identify potential corridors as guided by the LRTP. These layers included:

- Preliminary Context Classification
- Zero Car Households
- Poverty Status
- Population and Employment Density

Starting from the southern limits of Miami-Dade County, corridors were selected based on bicycle and pedestrian hot spots and on suitability as indicated one or more of the above categories.

3.2.2 Bicycle and Pedestrian Master Plan Guidance

The *Bicycle and Pedestrian Master Plan* included the following recommendations for selecting potential Complete Streets Corridors:

- Urbanized Areas (C4-C6) whose land use density is more walkable/bikeable
- Connects to Communities of Concern (Zero Car, Impoverished/Low Income)
- Connects to high population centers (20+ people per acre)
- Connects to high employment centers (45+ jobs per acre)
- Direct connection to transit facilities

These elements were used as a baseline for corridor identification and selection during the spatial analysis process.

3.2.3 Additional Corridor Information

During the corridor selection process, additional characteristics and general information utilized in Complete Streets projects was gathered for each segment to help further refine the segments. These characteristics included:

- Jurisdiction/Municipality
- Speed limit
- AADT (2019)
- Bike trail connection

3.2.4 Study Advisory Committee Input

The Study Advisory Group (SAC) had their first virtual meeting on April 29, 2021 to review the corridors and offer further guidance on corridor selection. Based on their input, initial corridor information was refined during the Tier 2 identification process.

Other data sources or information provided by the SAC during the first meeting included the following:

- A draft complete streets plan from the Department of Transportation & Public Works (DTPW)
- Vision Zero data based on the high injury network (HIN) with prioritization from DTPW
- The Bike-Ped "BPTOOL" from FDOT District 6

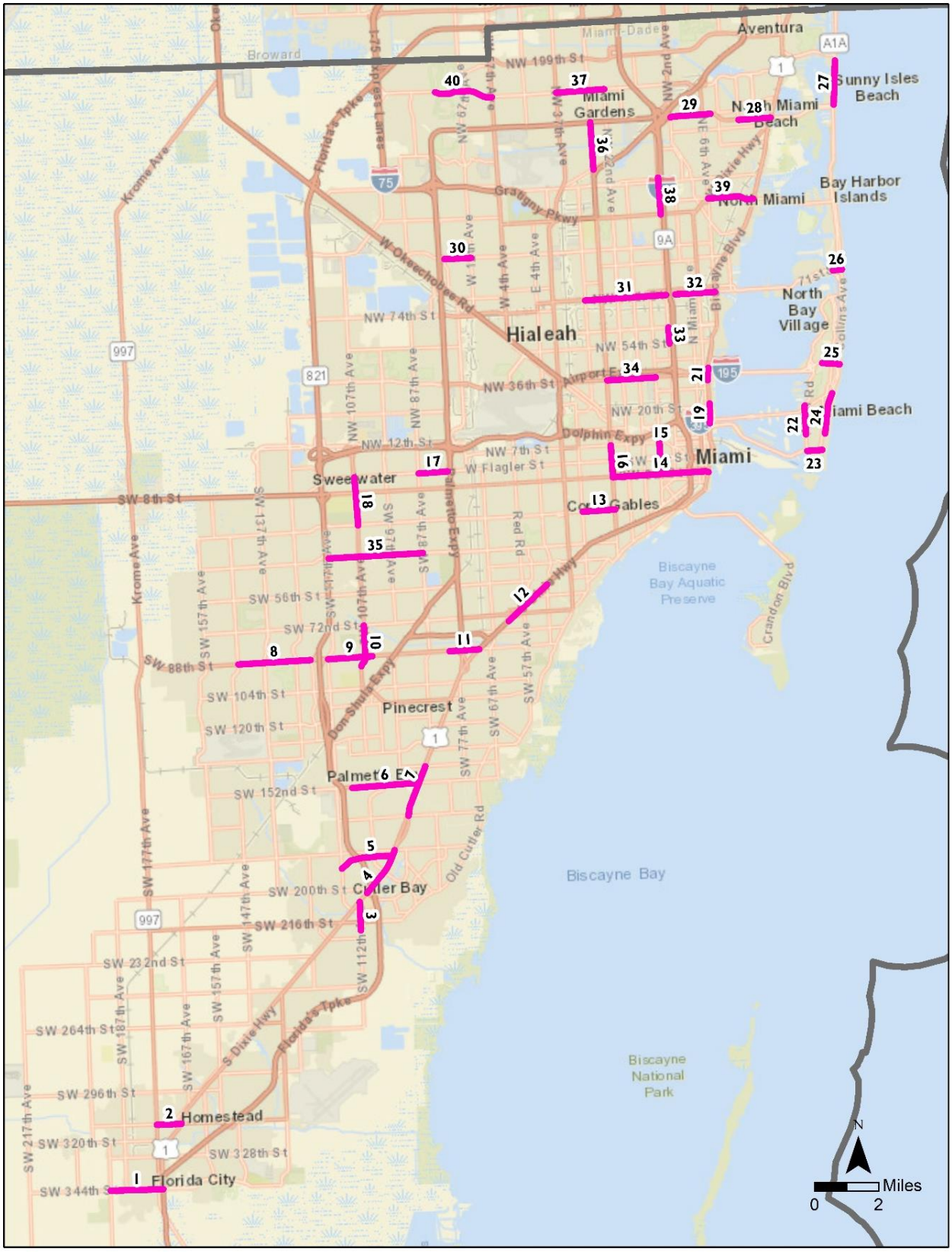
3.2.5 Tier 1 Corridors

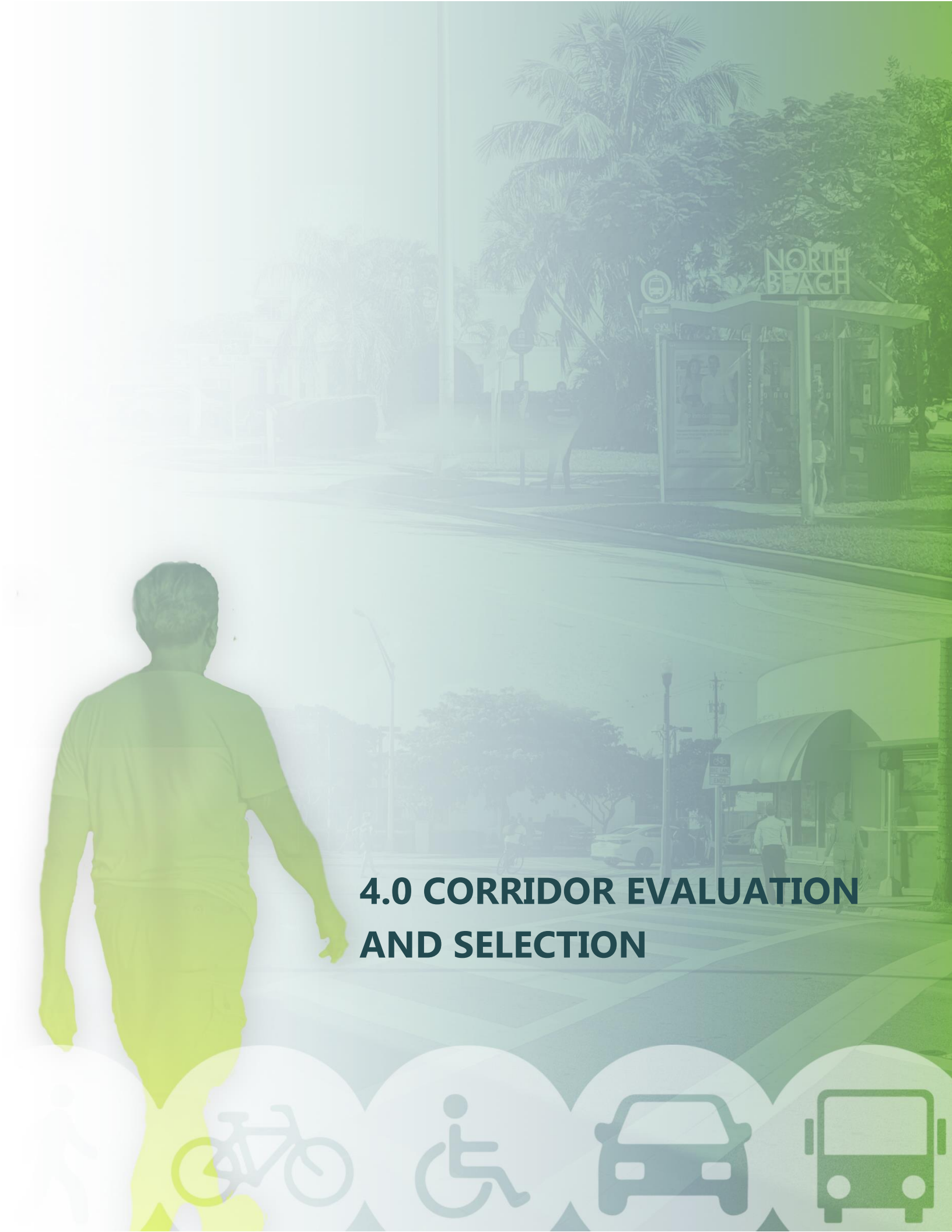
Table 3-2 and **Figure 3-1** Tier 1 Corridors present the initial list and map of 40 potential corridors identified through the base data collection and existing conditions process. This list was further refined in the Tier 2 and Tier 3 Corridor Identification process.

TABLE 3-2 TIER 1 CORRIDORS

#	Corridor	Limits	Jurisdiction
1	SW 344th Street (SR 9336)	SW 18th Avenue to Krome Avenue	Florida City
2	NE 8th Street/SW 312th Street (SR 998)	Krome Avenue to US 1	Homestead
3	SW 112th Avenue (SR 989)	SW 224th Street to US 1	County
4	US 1 (SR 5)	SW 200th Street to SW 184th Street	Cutler Bay
5	Quail Roost Drive (SR 994)	SW 117th Avenue to US 1	County
6	SW 152nd (SR 992)	SW 112th Avenue/Lincoln Blvd to US 1	County
7	US 1 (SR 5)	SW 168th Street to SW 144th Street	Palmetto Bay
8	SW 88th Street (SR 94)	SW 147th Avenue to SW 122nd Avenue	County
9	SW 88th Street (SR 94)	SW 117th Avenue to Kendale Blvd	County
10	SW 107th Avenue (SR 985)	SW 93rd Street to SW 72nd Street	County
11	SW 88th Street (SR 94)	SW 79th Avenue to US 1	County
12	US 1 (SR 5)	SW 62nd Avenue to Maynada Street	Coral Gables
13	SW 22nd Street (SR 972)	SW 37th Avenue to SW 27th Avenue	Miami
14	US 41/SR 90	SW 27th Avenue (SR 9) to US 1	Miami
15	SW 12th Avenue (SR 933)	US 41 to NW 7th Street	Miami
16	SW 27th Avenue (SR 9)	US 41 to NW 7th Street	Miami
17	Flagler Street (SR 968)	SW 87th Avenue to SW 78th Avenue	County
18	SW 107th Avenue (SR 985)	SW 24th Street to W Flagler Street	Sweetwater/County
19	US 1 (SR 5)	NE 14th Street to NE 21st Street	Miami
20	NW 36th Street (SR 25)	N Miami Avenue to US 1	Miami
21	US 1 (SR 5)	NE 33rd Street to NE 39th Street	Miami
22	Alton Road (SR 967)	N of Dade Boulevard to 11th Street	Miami Beach
23	Macarthur Causeway	Alton Road to SR A1A	Miami Beach
24	SR A1A	11th Street to N of 23rd Street	Miami Beach
25	W 41st Street (SR 112)	Chase Avenue to SR A1A	Miami Beach
26	Normandy Drive (SR 934)	SR A1A to Collins Avenue	Miami Beach
27	SR A1A	Sunny Isles Boulevard to 189th Street	Sunny Isles
28	NE 163rd Street (SR 926)	NE 15th Avenue to US 1/Biscayne Boulevard	North Miami Beach (NMB)
29	NE 163rd Street (SR 926)	NW 2nd Avenue to NE 8th Avenue	County/NMB
30	W 49th Street/NE 103rd (SR 932)	W 18th Court Ave to W 12th Avenue	Hialeah
31	NW 79th Street (SR 934)	NW 32nd Avenue to US 441	County
32	NW 79th Street (SR 934)	NW 4th Court Avenue to US 1	Miami
33	US 441 (SR 7)	NW 54th Street to NW 62nd Street	Miami
34	NW 36th Street (SR 25, US 27)	NW 27th Avenue to NW 12th Avenue	Miami
35	SW 40th Street (SR 976)	SW 117th Avenue to SW 87th Avenue	County
36	NW 27th Avenue (SR 817)	Ali Baba Avenue to Palmetto Expy (SR 826)	Opa Locka/Miami Gardens
37	NW 183rd Street (SR 860)	NW 37th Avenue to NW 22nd Avenue	Miami Gardens
38	NW 7th Avenue (US 441)	NW 119th Street to NW 137th Street	North Miami
39	NE 123rd/NE 125th Street (SR 922)	NE 6th Avenue (SR 915) to US 1	North Miami
40	NW 183rd/NW 186th Street (SR 860)	NW 75th Place to NW 57th Avenue	County

FIGURE 3-1 TIER 1 CORRIDORS





4.0 CORRIDOR EVALUATION AND SELECTION

4.0 CORRIDOR EVALUATION AND SELECTION

The *Miami-Dade County Complete Streets Corridors* study included a corridor evaluation task. This task was intertwined with the existing conditions and data collection task discussed in further detail in Section 3.0.

The corridor evaluation task consisted of the three steps:

1) Evaluation of Tier 1 Corridors (40 corridors total)
2) Identification of the Tier 2 Corridors (Top 20 Corridors) based on the results of Step 1
3) Selection of the Tier 3 Corridors (Final Two Corridors) based on the results of Steps 2 and 3

Data utilized is summarized within the following sections.

4.1 Tier 2 Corridor Screening

The Tier 2 Corridor Screening worked from the base information collected during the Tier 1 process in combination with input from the SAC. Then, the corridors were further evaluated with the ultimate goal of narrowing the list of 40 corridors to a list of 20 corridors. This process included:

- Documenting additional metrics for each corridor
- Refining existing categories
- Developing a scoring system and evaluation matrix
- Applying weights to the scoring categories
- Prioritizing a list of corridors

  Note: At the first SAC meeting on April 29, 2021, the following guidance was provided on how to prioritize the corridors:

  - Consider FDOT ride reports and FDOT Resurfacing, Restoration, and Rehabilitation (RRR) projects for more efficient costing and less impact on the community
  - Consider changes in the bike network. Conceptual trail and bike infrastructure alignments change often. More emphasis should be placed on the existing bicycle network when prioritizing projects.
  - Redundancy of projects. Avoid corridors that are already being studied or have recently been studied.

Based on this guidance, among other metrics, the Tier 2 Corridor Selection process ultimately yielded a list of Top 20 Corridors. These corridors are geographically distributed throughout the county and represent 10 municipalities as well as unincorporated areas. The process and results are summarized in this section. The excel tables detailing the analysis are provided in the appendix.

New Metrics

The additional metrics documented for each corridor included the following categories:

- Safe Routes to School (SRTS) 2020 Infrastructure Plan attendance boundaries
- Vision Zero (VZ) Priority Location
- SMART Plan/Premium Transit Corridor location
- FDOT District 6 Bicycle and Pedestrian priority scores

Data Refinements

Some of the data from the Tier 1 was further developed as part of the Tier 2 process to help with eventual scoring of the category. The data refinements are summarized below:

- Pedestrian Crash Hot Spot: This was a general yes/no category in Tier 1 based on the heat map from FDOT ConnectPed tool. For Tier 2, Vision Zero pedestrian crash data was analyzed.
- Bicycle Crash Hot Spot: This was a general yes/no category in Tier 1 based on the heat map from FDOT ConnectPed tool. For Tier 2, Vision Zero bicycle crash data was analyzed.
- Transit Connection: This was a general yes/no category in Tier 1 based on the presence of transit routes or stops along the corridor. Every corridor had a 'yes' in this category. Therefore, this category was refined to include the number of transit stops within the corridor.

Scoring System and Evaluation Matrix

Once all of the data was finalized for each corridor in each category, a scoring system was developed for each category. The scoring was based on a point system ranging from 0 to 3 based on how the corridor met the scoring criteria. **Table 4-1** displays each category along with the scoring criteria and the data sources.

Category Weights

After each category was scored, a weighting system was applied to the categories. Categories received a higher weight based on importance to complete streets metrics. For example, those categories with criteria that were specifically detailed in the LRTP received higher weights than those that were not. There were three weight categories with weights ranging from 1 to 3: low (1), medium (2), and high (3).

Prioritized List

Lastly, the unweighted scores and weighted scores were averaged to yield the final prioritized list of corridors. The Top 20 corridors are outlined and in bold in **Table 4-2** and displayed in **Figure 4-1.**

TABLE 4-1 SCORING SYSTEM

Category	Criteria	Score	Description/Justification	Source
Context Classification	C6	3	LRTP identified context classifications between C4 and C6 as ideal complete streets candidates.	FDOT preliminary context classification. Preliminary_Context_Classification_TDA shapefile, FDOT, May 2021.
	C5	2		
	C4	1		
Speed Limit	30	3	Target speed for a regionally significant roadway based on the Thoroughfare (TH) classification is 30-35 mph (Miami-Dade Complete Streets Design Guidelines).	FDOT maximum speed limit feature class. Maximum_Speed_Limit_TDA shapefile, FDOT, May 2021.
	35	2		
	40	1		
Zero Car Households	20%+	3	A higher concentration of zero car households is a characteristic for complete streets projects (LRTP).	American Community Survey (ACS) 5-year estimates (2015-2019) vehicle availability percentage by census tract, ACS Table B08201. Downloaded via Census Bureau's API.
	15-19.9%	2		
	10-15%	1		
Poverty Status	25%+	3	A higher concentration of poverty status is ideal candidates for complete streets projects (LRTP).	American Community Survey (ACS) 5-year estimates (2015-2019) poverty status percentage by census tract, ACS Table B17020. Downloaded via Census Bureau's API.
	15-24.9%	2		
	10-14.9%	1		
Population Density	20+	3	Population per acre using 2010 Census data.	FDOT Population and Employment totals and density by acreage data from 2010 Census downloaded from ConnectPed app. PopulationAndEmploymentDensity2010 shapefile, FDOT, July 2019.
	15-19.9	2		
	10-14.9	1		
Employment Density	25+	3	Jobs per acre using 2010 Census data.	FDOT Population and Employment totals and density by acreage data from 2010 Census downloaded from ConnectPed app. PopulationAndEmploymentDensity2010 shapefile, FDOT, July 2019.
	15-24.9	2		
	5-14.9	1		
Safe Routes to School (SRTS)	Yes	3	2020 SRTS attendance boundary zone.	SRTS 2020 Infrastructure Plan; MDC High School Attendance Boundary (2019); MDC Middle School Attendance Boundary shapefile (2019) obtained from MDC Open Data Hub.
	No	0		
SMART Corridor	Yes	3	Proximity to a SMART Plan Corridor.	SMART Plan Corridor map (2020), Miami-Dade TPO.
	Transects/Connects	1.5		
	No	0		
Bike Network Connection	Direct Connection (existing)	3	Connection to existing paved path.	Miami-Dade MPO Paved Path dataset, 2019
	Connection (programmed/funded)	2	Connection to programmed/funded trail.	SUN_Trail_Status shapefile (2021), downloaded from FDOT.
	Connection/Adjacent (planned/unfunded)	1	Connection or adjacent to planned path (unfunded).	SUN_Trail_Status shapefile (2021), downloaded from FDOT.
	No	0	No nearby trail connectivity or paved path already exists along corridor.	Miami-Dade MPO Paved Path dataset, 2019
Transit Connection	20+	3	# stops	Miami-Dade County Bus stops, MDC Open Data, updated February 2019.
	10-19	2		
	1-9	1		

Category	Criteria	Score	Description/Justification	Source
Ped Crashes	5+	3	# crashes	Vison Zero crash data received from DTPW (2021).
	3-4	2		
	1-2	1		
Bike Crashes	2+	3	Number crashes based on Vision Zero data received from county.	Vision Zero crash data received from DTPW (2021).
	1	2		
	0	0		
Vision Zero Safety Priority Project	Yes	3	Identified as one of the Top 50 Priority Segments on the Vision map and project list.	Vision Zero safety priority project list and map received from DTPW; draft list 11/2020
	No	0		

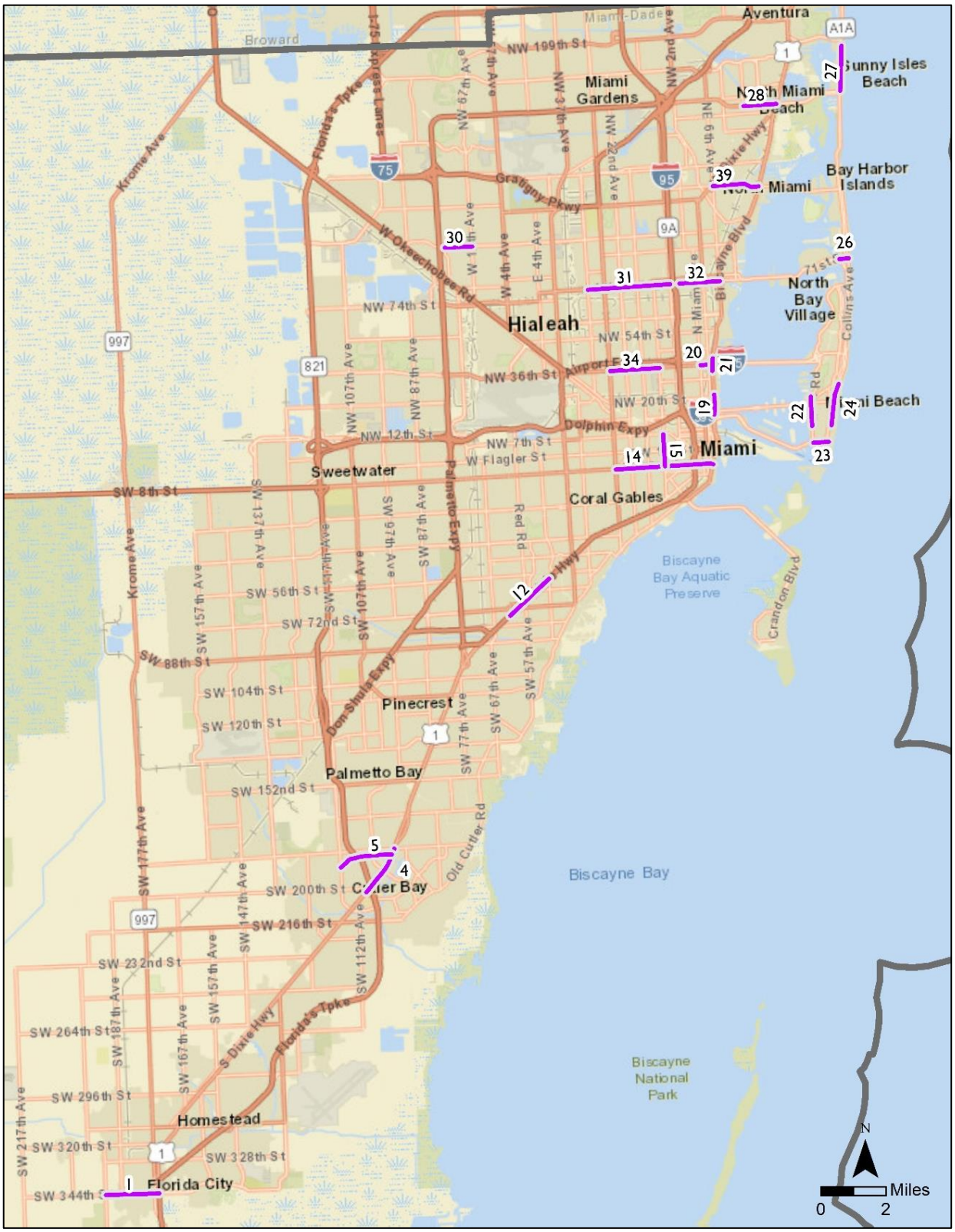
TABLE 4-2 PRIORITIZED CORRIDOR LIST

Top 20 Corridors

#	Corridor	Limits	Municipality	Score
14	**US 41/SR 90**	**SW 27th Avenue (SR 9) to US 1**	**Miami**	**50.25**
20	**NW 36th Street (SR 25)**	**N Miami Avenue to US 1**	**Miami**	**45.75**
34	**NW 36th Street (SR 25, US 27)**	**NW 27th Avenue to NW 12th Avenue**	**Miami**	**44.75**
23	**Macarthur Causeway (5th Street)**	**Alton Road to SR A1A**	**Miami Beach**	**42.50**
15	**SW 12th Avenue (SR 933)**	**US 41 to NW 7th Street**	**Miami**	**42.00**
24	**SR A1A**	**11th Street to N of 23rd Street**	**Miami Beach**	**40.75**
19	**US 1 (SR 5)**	**NE 14th Street to NE 21st Street**	**Miami**	**38.25**
39	**NE 123rd/NE 125th Street (SR 922)**	**NE 6th Avenue (SR 915) to US 1**	**North Miami**	**37.25**
5	**Quail Roost Drive (SR 994)**	**SW 117th Avenue to US 1**	**County**	**36.75**
22	**Alton Road (SR 967)**	**N of Dade Boulevard to 11th Street**	**Miami Beach**	**36.50**
21	**US 1 (SR 5)**	**NE 33rd Street to NE 39th Street**	**Miami**	**36.50**
32	**NW 79th Street (SR 934)**	**NW 4th Court Avenue to US 1**	**Miami**	**35.75**
26	**Normandy Drive (SR 934)**	**SR A1A to Collins Avenue**	**Miami Beach**	**33.50**
28	**NE 163rd Street (SR 926)**	**NE 15th Avenue to US 1/Biscayne Boulevard**	**North Miami Beach**	**33.25**
27	**SR A1A**	**Sunny Isles Boulevard to 189th Street**	**Sunny Isles**	**33.00**
4	**US 1 (SR 5)**	**SW 200th Street to SW 184th Street**	**Cutler Bay**	**33.00**
30	**W 49th Street/NE 103rd (SR 932)**	**W 18th Court Avenue to W 12th Avenue**	**Hialeah**	**32.50**
12	**US 1 (SR 5)**	**SW 62nd Avenue to Maynada Street**	**Coral Gables**	**32.50**
31	**NW 79th Street (SR 934)**	**NW 32nd Avenue to US 441**	**County**	**32.25**
1	**SW 344th Street (SR 9336)**	**SW 18th Avenue to Krome Avenue**	**Florida City**	**32.25**
33	US 441 (SR 7)	NW 54th Street to NW 62nd Street	Miami	31.50
2	NE 8th Street/SW 312th Street (SR 998)	Krome Avenue to US 1	Homestead	30.75
11	SW 88th Street (SR 94)	SW 79th Avenue to US 1	County	30.50
36	NW 27th Avenue (SR 817)	Ali Baba Avenue to Palmetto Expy (SR 826)	Opa Locka/Miami Gardens	29.00
16	SW 27th Avenue (SR 9)	US 41 to NW 7th Street	Miami	27.50

#	Corridor	Limits	Municipality	Score
38	NW 7th Avenue (US 441)	NW 119th Street to NW 137th Street	North Miami	26.00
25	W 41st Street (SR 112)	Chase Avenue to A1A	Miami Beach	26.00
3	SW 112th Avenue (SR 989)	SW 224th Street to US 1	County	24.75
37	NW 183rd Street (SR 860)	NW 37th Avenue to NW 22nd Avenue	Miami Gardens	23.25
18	SW 107th Avenue (SR 985)	SW 24th Street to W Flagler Street	Sweetwater/County	22.50
13	SW 22nd Street (SR 972)	SW 37th Avenue to SW 27th Avenue	Miami	22.00
10	SW 107th Avenue (SR 985)	SW 93rd Street to SW 72nd Street	County	19.75
40	NW 183rd/NW 186th Street (SR 860)	NW 75th Place to NW 57th Avenue	County	19.50
29	NE 163rd Street (SR 926)	NW 2nd Avenue to NE 8th Avenue	County/NMB	18.50
8	SW 88th Street (SR 94)	SW 147th Avenue to SW 122nd Avenue	County	18.00
9	SW 88th Street (SR 94)	SW 117th Avenue to Kendale Boulevard	County	17.50
35	SW 40th Street (SR 976)	SW 117th Avenue to SW 87th Avenue	County	16.50
17	Flagler Street (SR 968)	SW 87th Avenue to SW 78th Avenue	County	15.75
7	US 1 (SR 5)	SW 168th Street to SW 144th Street	Palmetto Bay	15.00
6	SW 152nd (SR 992)	SW 112th Avenue/Lincoln Blvd to US 1	County	11.25

FIGURE 4-1 TOP 20 CORRIDORS



4.2 Tier 3 Final Corridor Selection

Once the Top 20 Corridors were identified, they were presented to the SAC to provide input on the final corridor selection. The meeting was held virtually on July 1, 2021. The SAC discussed items such as equity, geographical distribution, and other ongoing, pending, or upcoming projects along the potential corridors.

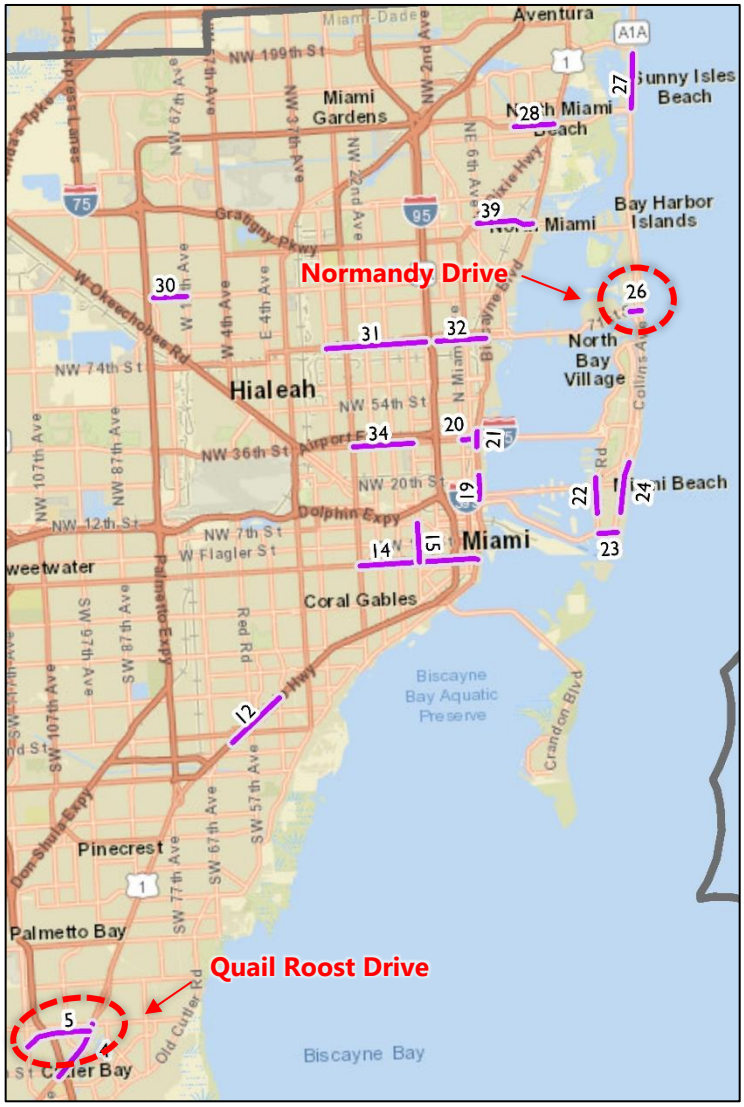
Furthermore, an additional meeting was held with FDOT on July 20, 2021 to discuss the timing of other studies and projects within the limits of the final 20 corridors.

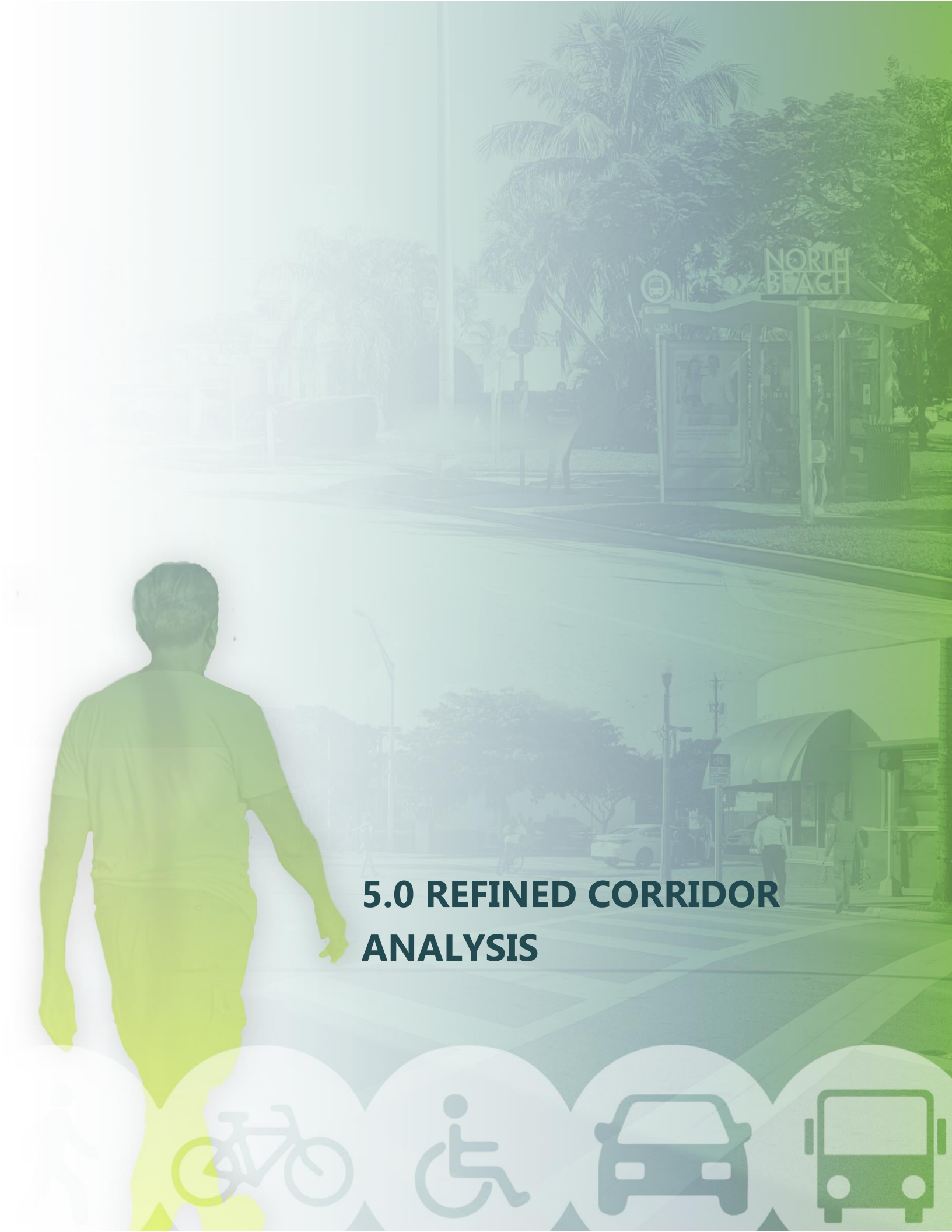
Based on input from these meetings, the final corridors selected for further analysis are listed below and circled in **Figure 4-2**:

- **Project 5: Quail Roost Drive (SR 994) from SW 117th Avenue to US 1.** Located in unincorporated Miami-Dade County. Had high FDOT pedestrian and bicycle scores and could serve as a connection to the South Dade Trail. Identified as a top Vision Zero priority. Transects a SMART Plan corridor, included in the SRTS infrastructure plan. A resurfacing, restoration, and rehabilitation project is scheduled for 2022 to include ADA upgrades. A Project, Development and Environment (PD&E) project in progress about a mile west.

- **Project 26: Normandy Drive (SR 934) from Bay Drive to Collins Avenue** Miami Beach jurisdiction. High FDOT pedestrian and bicycle scores and on the FDOT bike network plan (Atlantic Trail connection). High scores in population density. Designated evacuation route. A resurfacing, restoration, and rehabilitation project is scheduled for along this facility for 2026.

FIGURE 4-2 TIER 3 CORRIDORS





5.0 REFINED CORRIDOR ANALYSIS

5.0 REFINED CORRIDOR ANALYSIS

Once the Tier 3 corridors were identified, a refined corridor analysis was conducted for each corridor that included an overview of existing conditions, safety analysis of recent crash data, a traffic analysis of AADT trends, and a review of relevant plans for each corridor. The results of this analysis will be used to develop the recommendations and concepts for each corridor.

- **General Characteristics:** The general characteristics gathered for each corridor included roadway characteristics such as FDOT functional classification, context classification, speed limit(s), bicycle and pedestrian facilities, transit facilities, lighting, drainage, existing land use, and zoning.

- **Safety Analysis:** The safety analysis included a crosswalk evaluation of the signalized intersections along the corridor and a historical safety review of crash data.

- **Traffic Analysis:** The traffic analysis was conducted by reviewing AADT trends using the FDOT's Florida Traffic Online (FTO) database. The most recent five years of data was analyzed, from 2015 to 2019. Data from 2020 was available at the time of the analysis but was not included in the trend review due to the potential traffic impacts as a result of the COVID-19 pandemic.

- **Review of Relevant Plans:** A review of relevant plans and recent studies was conducted to ensure consistency of recommendations with other plans as well as avoid duplication of efforts.

Normandy Drive Corridor in North Bay Village. Source: Project Team, December 2021.

5.1 Quail Roost Drive Analysis

5.1.1 Study Corridor Description

Quail Roost Drive (SR 994) is an east-west corridor located in southern Miami-Dade County just west of Cutler Bay and southwest of Palmetto Bay. The study limits are from SW 117th to US 1 (**Figure 5-1**) and is approximately 1.7 miles long. It is functionally classified by FDOT as an Urban Minor Arterial. The study corridor is located in unincorporated Miami Dade County. Quail Roost Drive is a four-lane roadway with a two-way center turning lane (see **Figure 5-2**). Florida's Turnpike (SR 821) transects the corridor. The corridor includes a mixture of commercial, residential, and industrial uses.

FIGURE 5-1 QUAIL ROOST DRIVE LIMITS

Quail Roost Drive east of 117th Avenue. Source: Google Maps, February 2021.

5.1.2 General Roadway Characteristics

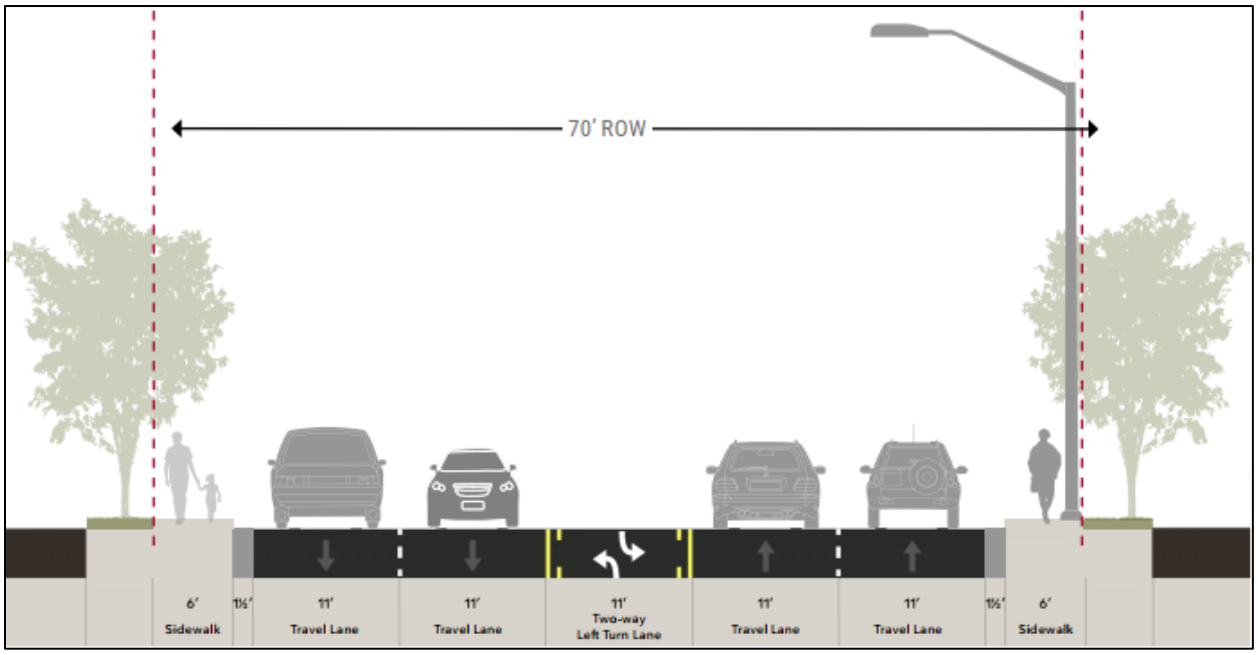
The following list summarizes the existing roadway characteristics for the Quail Roost Drive study corridor:

- **2019 Annual Average Daily Traffic (AADT)**: ranges from 19,300 to 37,000
- **Functional Classification**: Urban Minor Arterial
- **Preliminary Context Classification**: C3R (Suburban Residential) from SW 117th Avenue to the Florida Turnpike; C4 (Urban General) from the Florida Turnpike to US 1
- **Posted Speed Limit**: 40 mph
- **Sidewalks**: Sidewalks are present on both sides of roadway throughout the length of the corridor
- **Bike Lanes**: There are no bike lanes along the corridor
- **Paved Paths**: Crosses the South Dade Trail west of US 1
- **School Zones**: There are no school zones along the corridor
- **Lighting**: Lighting is present along the corridor
- **Drainage**: the drainage is a curb-and-gutter system
- **Signalized intersections**: There are nine (9) signalized intersections along the corridor
- **Crosswalks**: Each of the nine (9) intersections have marked crosswalks.

5.1.3 Typical Section

The existing roadway configuration (shown in **Figure 5-2**) consists of four approximately 11-foot travel lanes; an 11-foot center double-left turn lane; and an approximate 6-foot sidewalk on both sides of the roadway. Drainage is handled through curb-and-gutter.

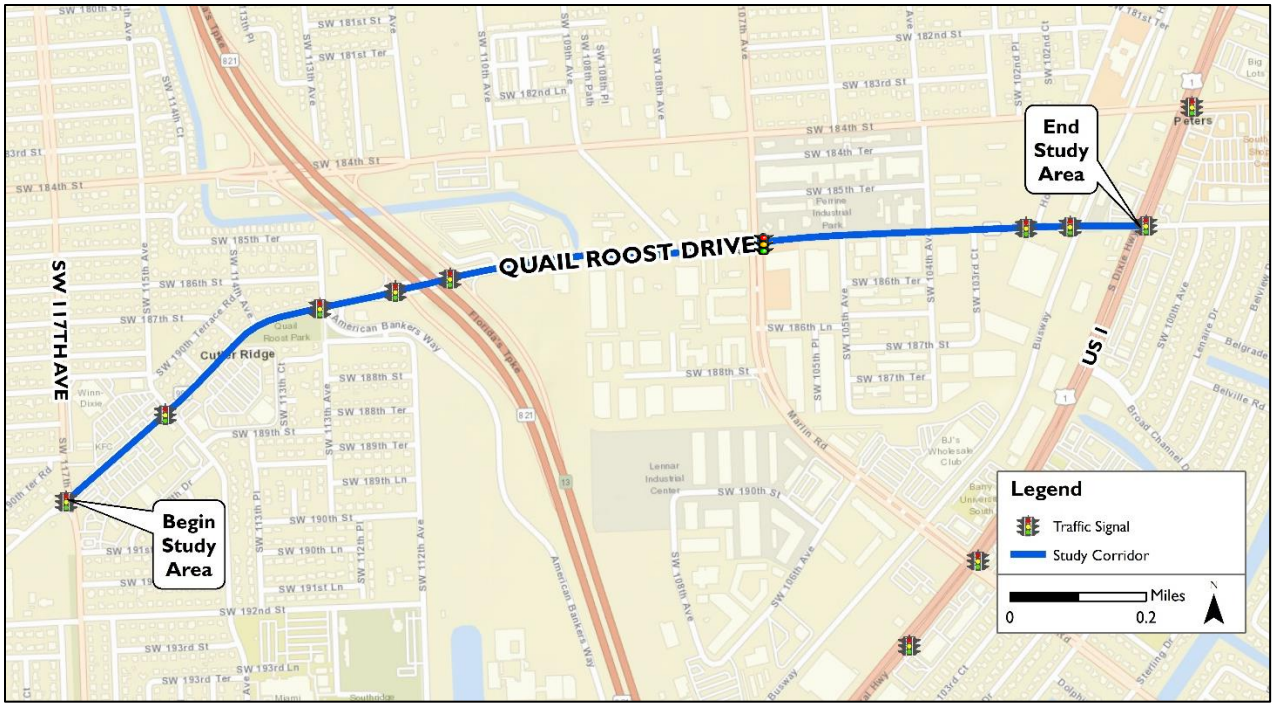
FIGURE 5-2 QUAIL ROOST DRIVE TYPICAL SECTION



5.1.4 Signalized Intersections and Crosswalks

There are nine (9) signalized intersections along the corridor at the following locations (see **Figure 5-3**): SW 117th Avenue, SW 115th Avenue, SW 113th Avenue, the on/off-ramps for the Florida Turnpike, SW 107th Avenue, Homestead Avenue, Miami-Dade Busway, and US 1. Each of these intersections includes a signalized crosswalk. However, only the intersection at SW 117th Avenue is a high-visibility crosswalk.

FIGURE 5-3 QUAIL ROOST DRIVE SIGNALIZED INTERSECTIONS



High visibility crosswalk at Quail Roost Drive/117th Avenue. Source: Google Maps, February 2021.

5.1.5 Pedestrian and Bicycle Facilities

Sidewalks are present along both sides of Quail Roost Drive throughout the corridor. There are eight (8) marked crosswalks along the corridor located at each of the signalized intersections. Only one of the crosswalks is a high visibility crosswalk. There are no designated bike lanes along the corridor.

The South Dade Trail, located along the Miami-Dade Transitway, which is a paved multi-use path, crosses the corridor at SW 186th Street (see **Figure 5-4**). Additionally, the Roberta Hunter Park Trail is located about 0.18 miles south of the corridor along the west side of SW 117th Avenue.

FIGURE 5-4 QUAIL ROOST DRIVE PAVED PATHS

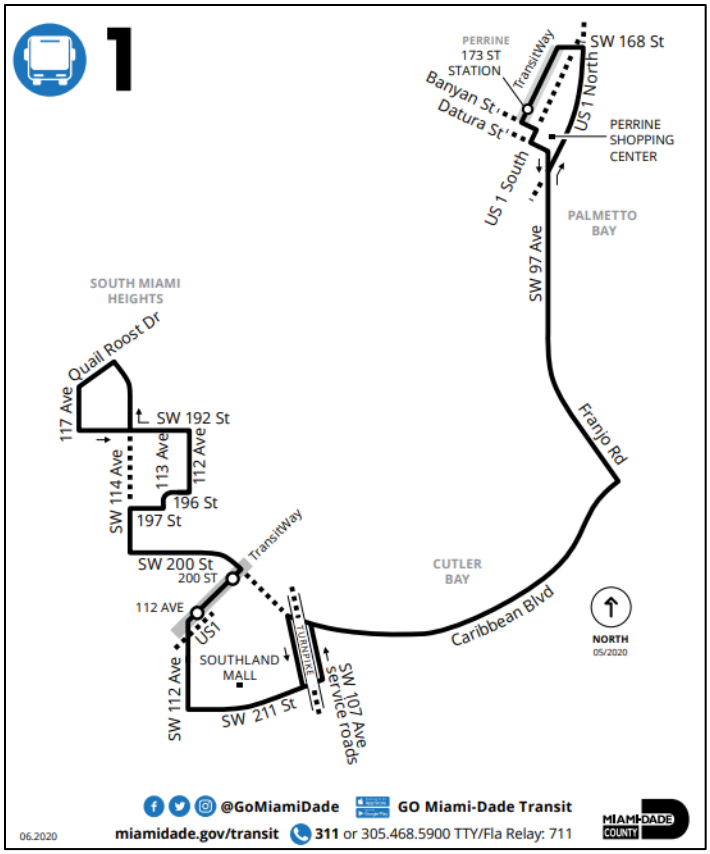
South Dade Trail at Quail Roost Drive/SW 186th Street. Source: Google Maps, February 2021.

5.1.6 Transit

The South-Dade Transitway ('transitway') crosses the project corridor west of US 1. The transitway runs parallel to US 1 extending 20 miles from Florida City to Dadeland South in Pinecrest. The transitway serves Metrobus routes, and currently is being upgraded as part of the SMART Plan South Corridor Bus Rapid Transit (see **Figure 5-6**).

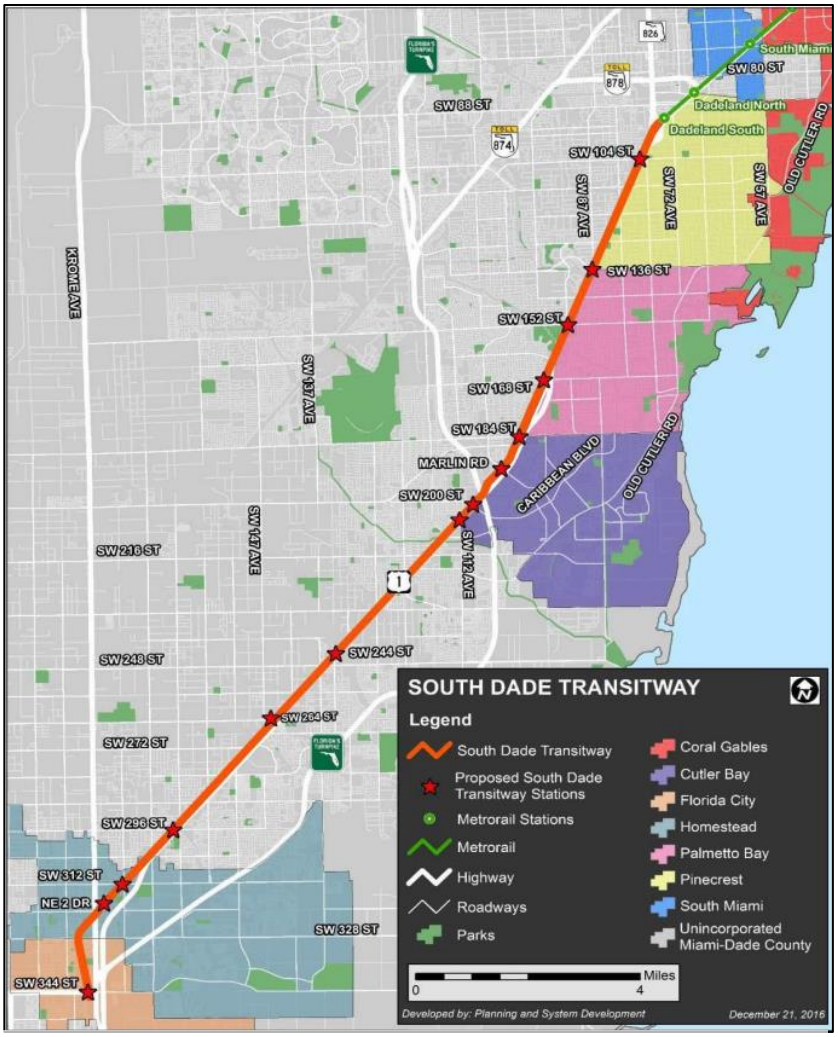
In addition to the transitway crossing the corridor, Miami-Dade Metrobus Route 1 utilizes a portion of Quail Roost Drive near 117th Avenue. This route travels from Perrine to South Miami Heights through Cutler Bay (see **Figure 5-6**). Stops include the Park & Ride lot at the 112 Avenue station on the transitway. Service runs seven days a week.

FIGURE 5-6 MDT ROUTE 1 TRANSIT MAP



Source: miamidade.gov/transit, Metrobus route details, Route 1, June 2020.

FIGURE 5-5 SOUTH DADE TRANSITWAY MAP



Source: South Dade Transitway, July 2018, Miami-Dade DTPW.

5.1.7 Existing Land Use and Zoning

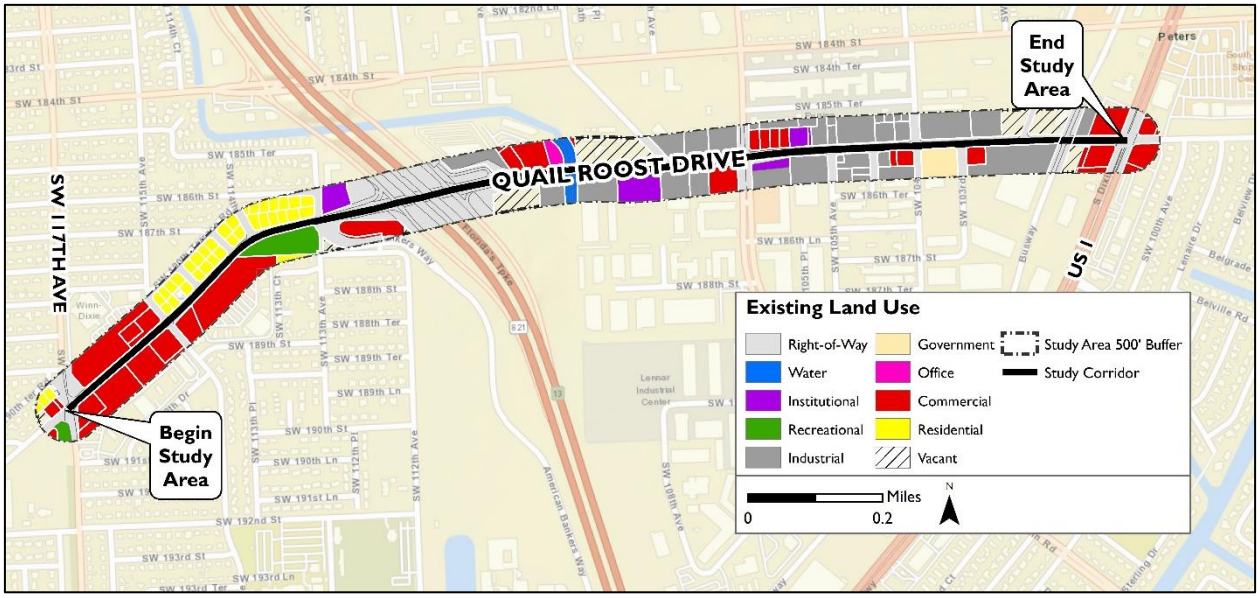
The existing land use and zoning data were obtained from the Miami-Dade County Open Data Hub and were generalized. A 500-foot study area buffer (250 feet on either side of the corridor centerline) was used. The specific data sets utilized were:

- *Land Use* shapefile for the existing land use, dated October 2021
- *County Zoning* shapefile for the zoning, dated October 2021

Existing Land Use

The existing land use (**Figure 5-7**) is primarily Commercial (red) or Industrial (grey). The commercial land uses include traditional strip developments and shopping plazas along the western end of the corridor along with concentrated commercial adjacent to US 1. The industrial uses are located east of the Florida Turnpike on both sides of Quail Roost Drive along with some institutional and commercial uses scattered throughout. There are some residential uses (yellow) consisting of single-family homes fronting Quail Roost Drive between SW 115th Avenue and SW 112th Avenue.

FIGURE 5-7 QUAIL ROOST DRIVE EXISTING LAND USE

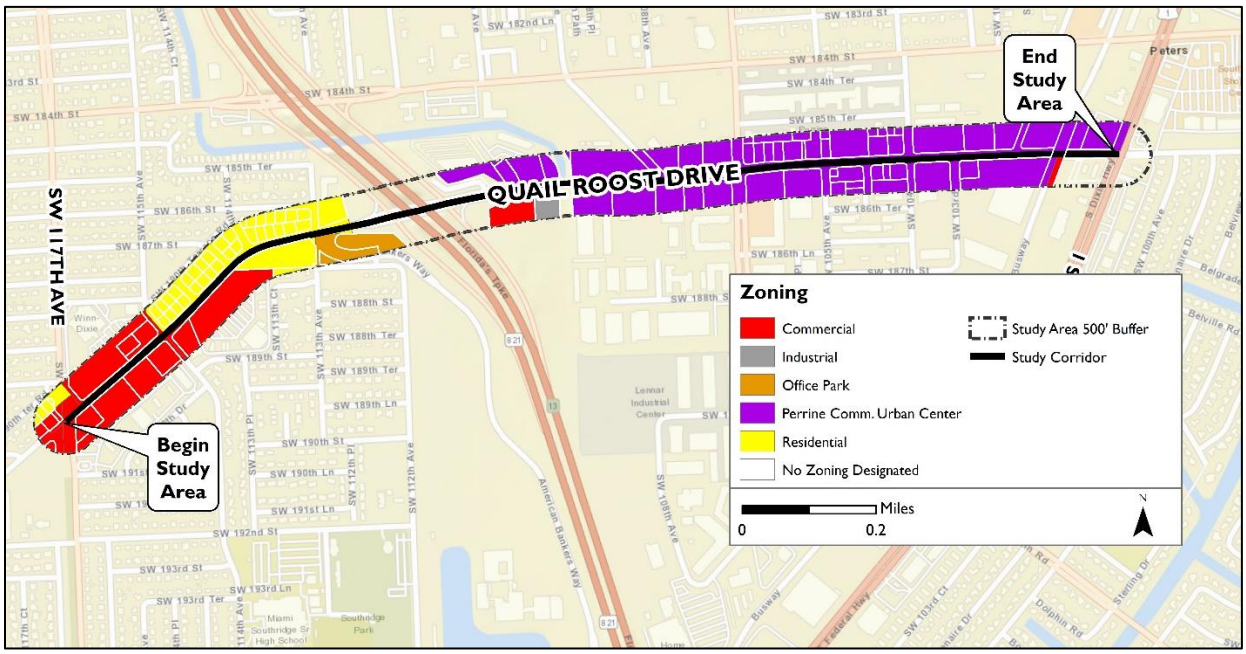


Existing commercial and residential uses on Quail Roost Drive. Source: Google Maps, February 2021.

Zoning

The zoning (**Figure 5-8**) for the corridor west of the Florida Turnpike is a combination of residential (yellow) and commercial (red). The residential is concentrated on the north side of the Quail Roost Drive, consistent with the existing land use. The commercial is located west of the residential and along both sides of the roadway. East of the turnpike, the zoning is primarily Perrine Community Urban Center (purple) with some commercial parcels and an industrial parcel.

FIGURE 5-8 QUAIL ROOST DRIVE ZONING



Quail Roost Drive east of the Florida Turnpike Source: Google Maps, January 2021.

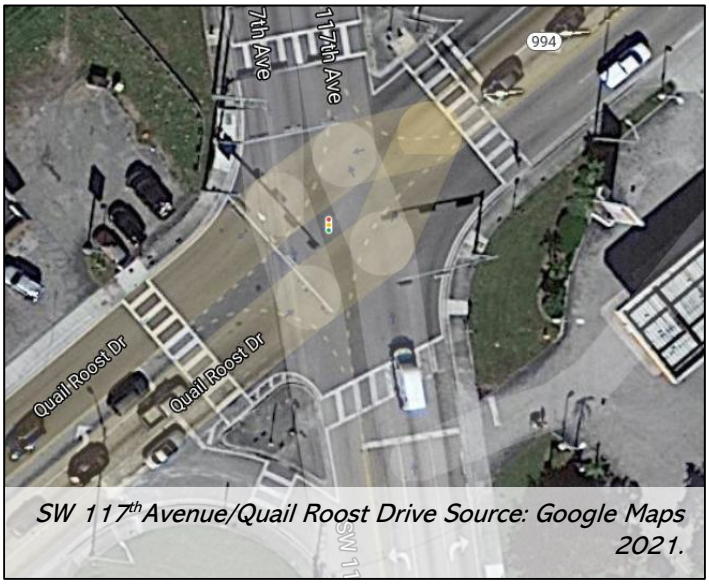
5.1.8 Safety Analysis

Crosswalk Evaluation

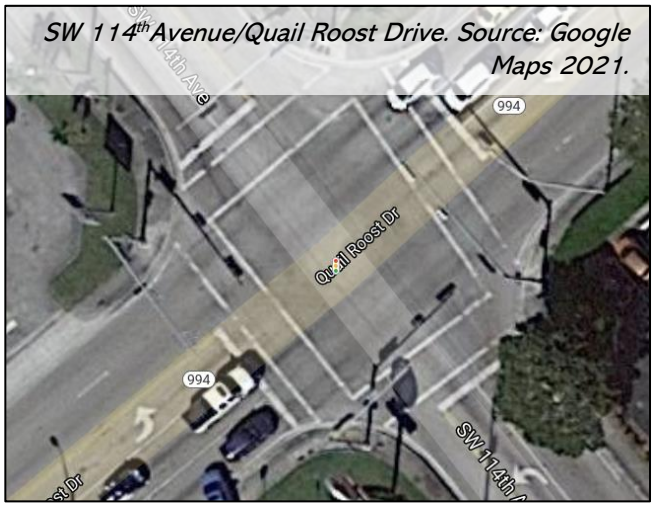
There are nine (9) signalized intersections along the study area, each with marked and signalized crosswalks. For pedestrian safety and visibility, crosswalks should be located along each intersection approach and with high visibility markings. Each intersection was evaluated for these two criteria (see **Table 5-1**). Based on this evaluation, only one intersection had crosswalks at each intersection approach with high visibility markings (SW 117th Avenue). More than half of the intersections had a marked crossing not present at one approach (SW 113th Avenue, Turnpike South, Turnpike North, South Dade Transitway, and US 1). Eight of the intersections did not have high visibility crosswalks.

TABLE 5-1 QUAIL ROOST DRIVE CROSSWALK ANALYSIS

Intersection	Number of Marked Crossings	High Visibility Crosswalks
SW 117th Avenue	6/6	Yes
SW 114th Avenue	4/4	No
SW 113th Avenue	4/5 (east crossing not present)	No
Turnpike South	3/4 (east crossing not present)	No
Turnpike North	3/4 (west crossing not present)	No
SW 107th Avenue	4/4	No
Homestead Avenue	3/3	No
South Dade Transitway	3/4 (east crossing not present)	No
US 1	3/4 (south crossing not present)	No



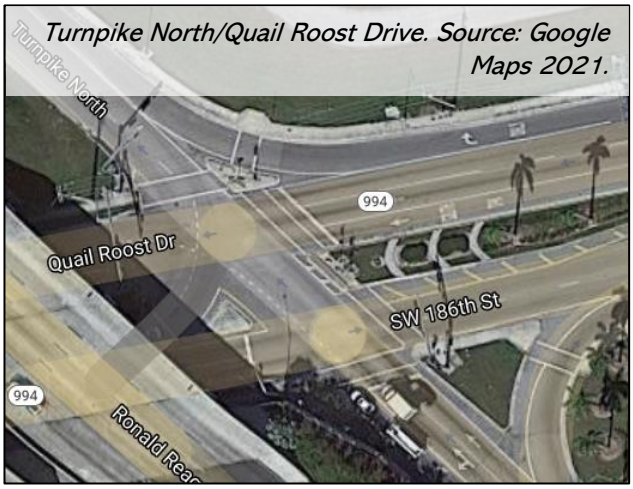
SW 117th Avenue/Quail Roost Drive Source: Google Maps 2021.



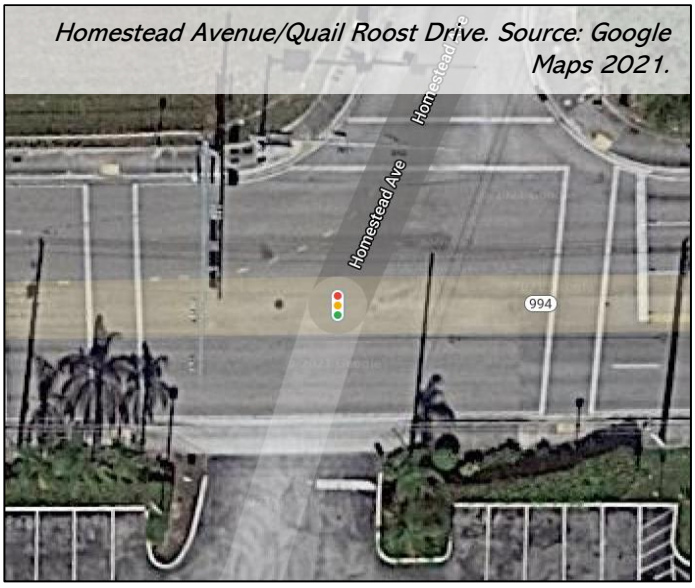
SW 114th Avenue/Quail Roost Drive. Source: Google Maps 2021.

SW 113th Avenue/Quail Roost Drive. Source: Google Maps 2021.

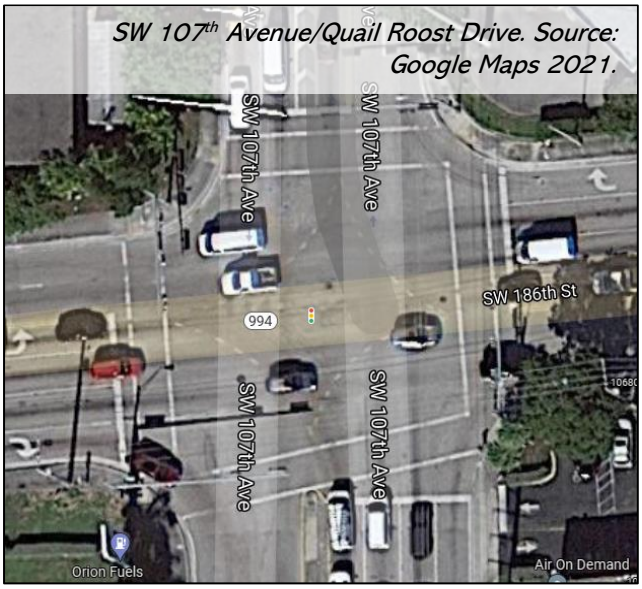
Turnpike South/Quail Roost Drive. Source: Google Maps 2021.



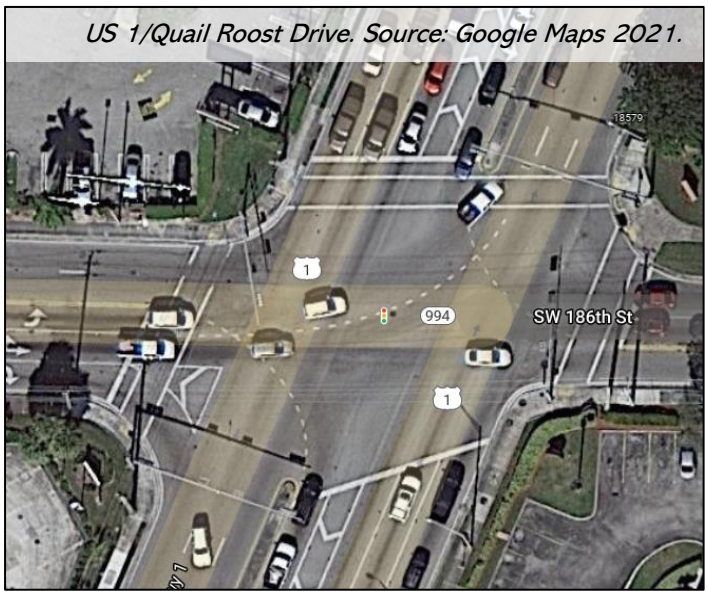
Turnpike North/Quail Roost Drive. Source: Google Maps 2021.



Homestead Avenue/Quail Roost Drive. Source: Google Maps 2021.



SW 107th Avenue/Quail Roost Drive. Source: Google Maps 2021.



US 1/Quail Roost Drive. Source: Google Maps 2021.

South Dade Transitway/Quail Roost Drive. Source: Google Maps 2021.

Historical Safety Review (Crash Analysis)

A historical safety review was conducted in the form of a crash analysis using the Signal 4 Analytics (S4) database to summarize corridor-wide and intersection crash trends for the previous five years available (2015 through 2019). General crash trends are summarized below and displayed in **Figures 5-9 through 5-11**.

- **Total Crashes:** **1,667 total** crashes ranging from 299 to 373 crashes per year
- **Crash Type**: The top three known crash types were **rear end** (461 crashes, 28%), **left turn** (315 crashes, 19%), and **sideswipe** (247 crashes, 15%)
- **Bicycle and Pedestrian Crashes:** 12 crashes involved **pedestrians** and 8 crashes involved **bicycles** (see **Figure 5-11**).
  - Two of the pedestrian crashes resulted in fatalities (detailed above)
  - The highest bike/ped crash intersection was Quail Roost Drive and US 1 followed by the commercial center near Quail Roost Drive and SW 114th Avenue.
- **High Crash Areas:** were near the following locations: the intersections of 117th Avenue, SW 113thAvenue, Turnpike south ramps, Marlin Road, US 1, and the Cutler Ridge commercial area (see **Figure 5-9** for the crash heat map)
- **Crash Severity:** Two crashes resulted in **fatalities** and 342 crashes (20%) resulted in **injuries** (**Figure 5-11**). Both fatalities involved pedestrians.
  - The first fatality occurred at 7:46 PM in 2016 at the intersection of Quail Roost Drive with a vehicle traveling east bound and SW 115th Avenue.
  - The second fatality occurred at 1:00 AM in 2018 near Quail Roost Drive and US 1. This crash was reported to be distraction-related.
- **Weather and Lighting**: Most crashes occurred in **clear** weather conditions (75%) and during **daylight** lighting conditions (77%)

FIGURE 5-9 QUAIL ROOST DRIVE CRASH HEAT MAP

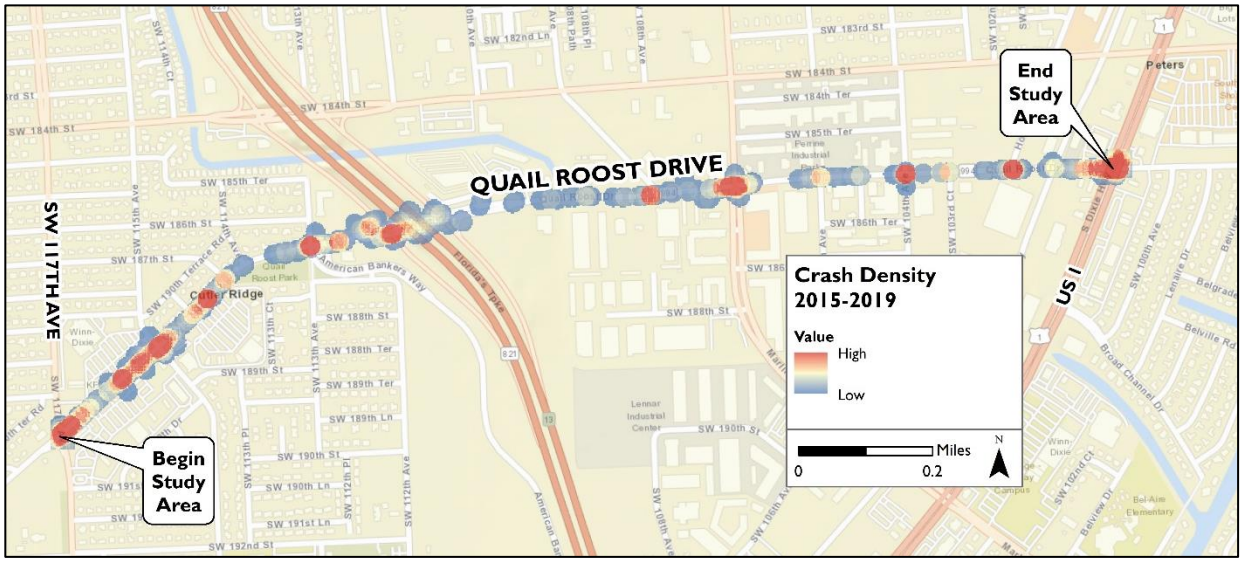


FIGURE 5-10 QUAIL ROOST DRIVE CRASH SEVERITY

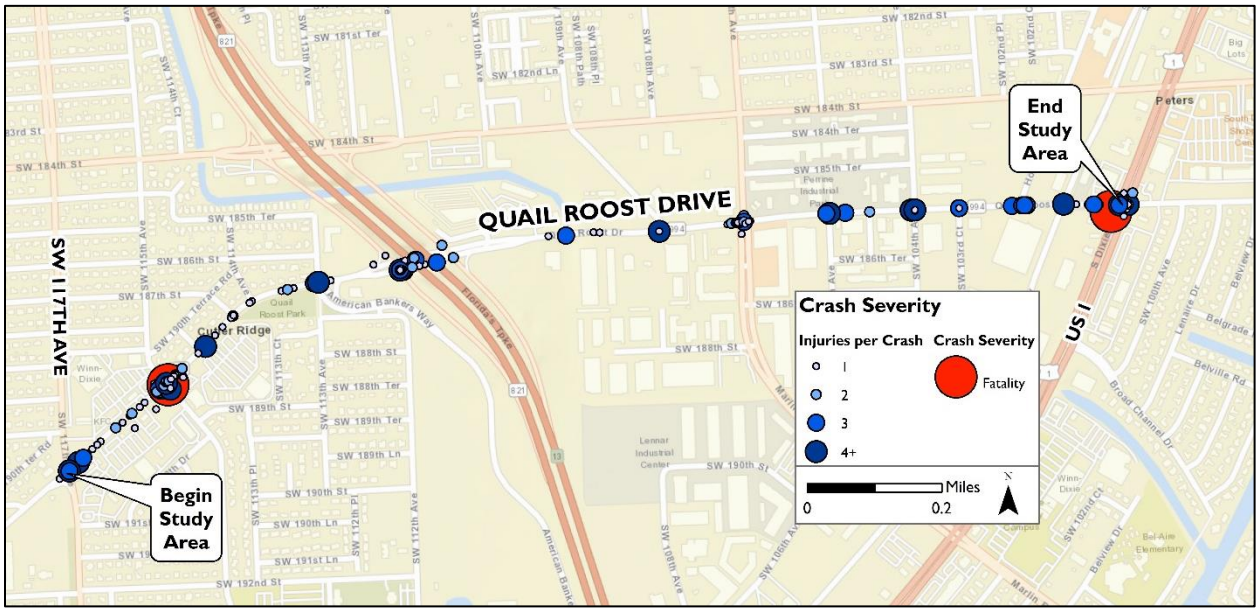
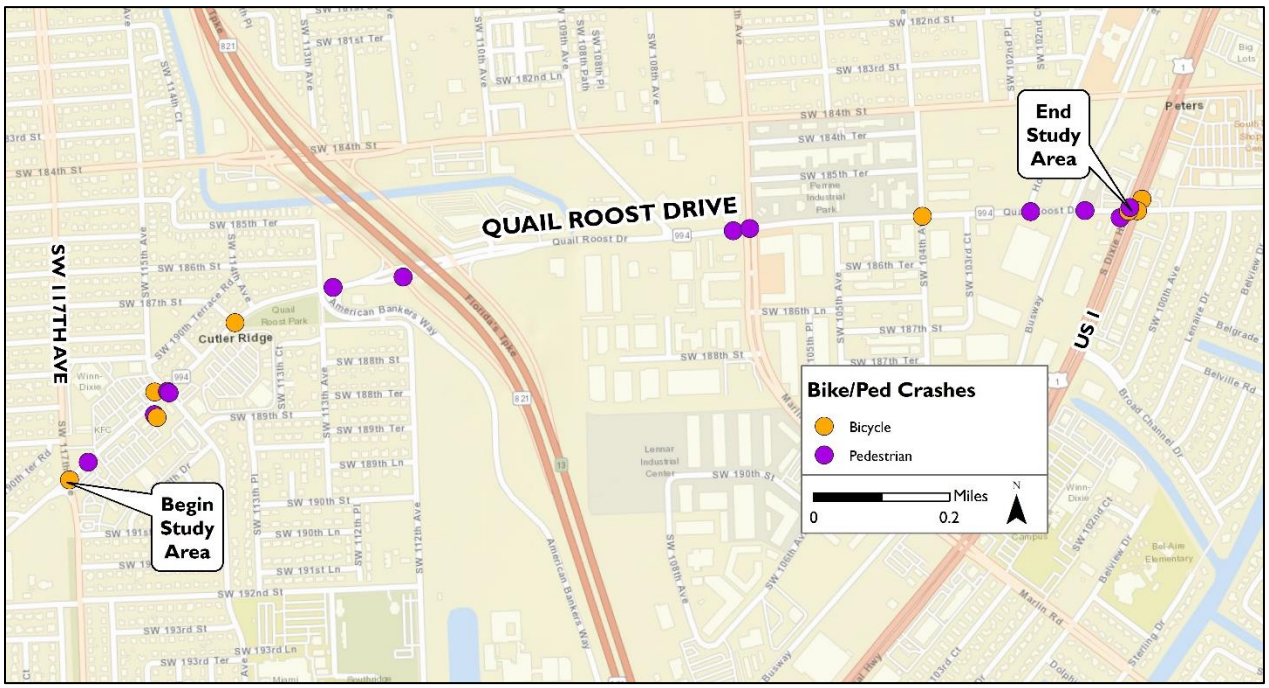


FIGURE 5-11 QUAIL ROOST DRIVE BIKE/PED CRASHES



5.1.9 Traffic Analysis

There are two count stations along the Quail Roost Drive corridor. Count Site 870054 is located approximately 200 feet west of the Florida Turnpike (SR 821) and Count Site 871114 is located approximately 200 feet west of US 1 (see **Figure 5-12**). As shown in **Table 5-2** the amount of traffic along the Quail Roost Drive Corridor has remained relative constant throughout the five-year period. Additionally, the segment of Quail Roost Drive between SW 117th Avenue and the Florida Turnpike experiences about twice as much traffic volume as the segment between the Florida Turnpike and US 1.

The Level of Service (LOS) was determined using the Generalized LOS Tables (Table 1) from the *FDOT QLOS Handbook, June 2020*. The LOS for the length of the corridor is C for the five-year time period.

TABLE 5-2 QUAIL ROOST AADT AND LOS

Count Site	2015 (LOS)	2016 (LOS)	2017 (LOS)	2018 (LOS)	2019 (LOS)	% Change
870054	34,500 (C)	35,000 (C)	32,000 (C)	34,000 (C)	37,000 (C)	7%
871114	18,900 (C)	18,900 (C)	18,100 (C)	19,300 (C)	19,300 (C)	2%

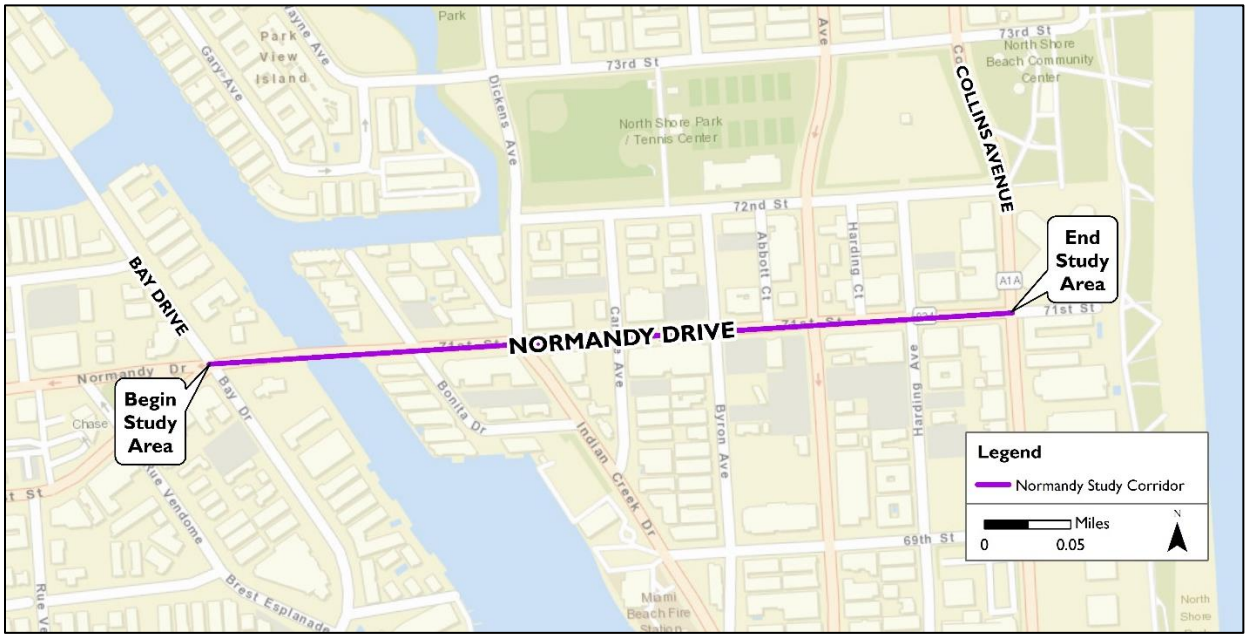
FIGURE 5-12 QUAIL ROOST DRIVE COUNT SITE LOCATIONS

5.2 Normandy Drive Analysis

5.2.1 Study Corridor Description

The Normandy Drive (SR 934) corridor is an east-west corridor located towards the northern end of Miami Beach east of North Bay Village. The study limits are from Bay Drive to Collins Avenue (**Figure 5-13**) and is approximately 0.46 miles long. The corridor is generally a two-lane roadway with left-turn lanes at the intersections and either bike lanes (western portion of the corridor) and/or a parking lane (eastern end). It is functionally classified by FDOT as an Urban Principal Arterial (Other). The study corridor is located in the City of Miami Beach.

FIGURE 5-13 NORMANDY DRIVE PROJECT LIMITS



Normandy Drive east of Carlyle Avenue. Source: Google Maps, January 2021.

5.2.2 General Roadway Characteristics

The following list summarizes the existing roadway characteristics for the Normandy Drive study corridor:

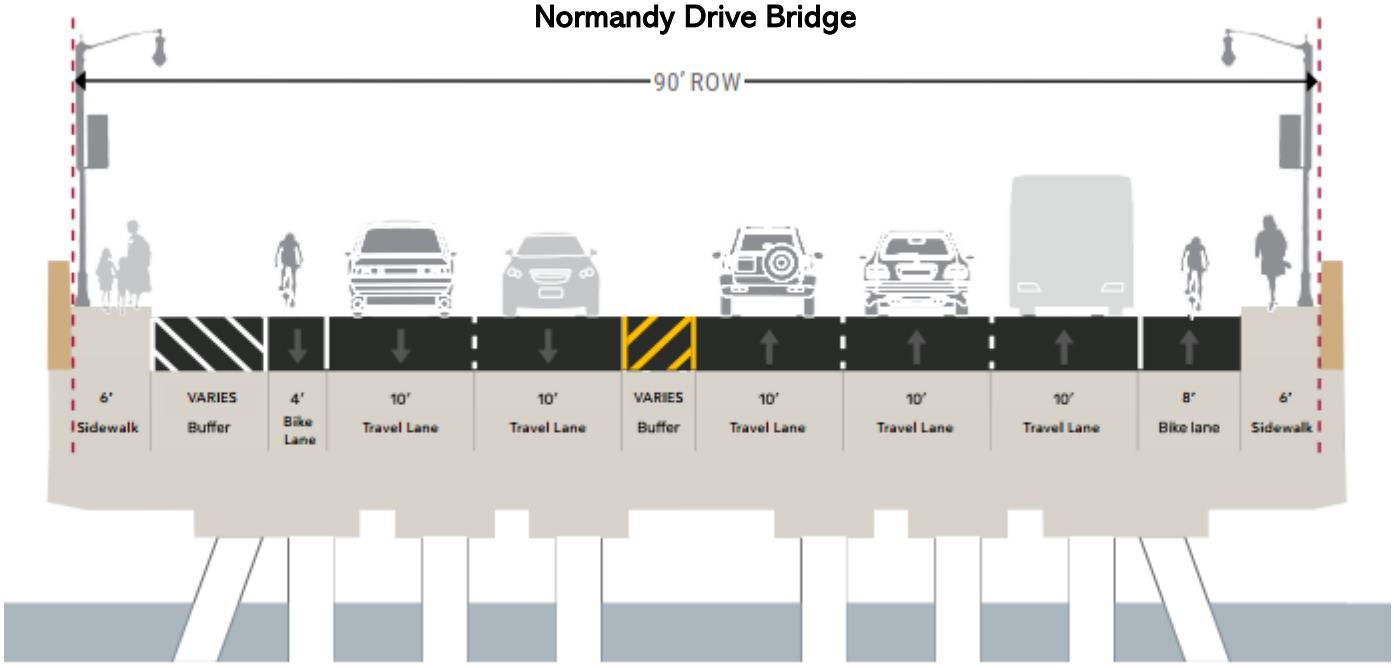
- **2019 Annual Average Daily Traffic (AADT)**: 10,700
- **FDOT Functional Classification**: Urban Principal Arterial (Other)
- **Preliminary Context Classification**: C4 (Urban General)
- **Posted Speed Limit**: 35 mph
- **Sidewalks**: Sidewalks are present on both sides of roadway throughout the length of the corridor
- **Bike Lanes**: Bike lanes are present west of Abbot Avenue
- **Paved Paths**: No paved paths exist along the corridor
- **On-Street Parking**: On-street parking is present east of Abbot Avenue and interspersed along the remainder of the corridor
- **School Zones**: There are no school zones along the corridor
- **Lighting**: Lighting is present along the corridor
- **Drainage**: the drainage is a curb-and-gutter system
- **Signalized intersections**: There are five (5) signalized intersections along the corridor
- **Crosswalks**: Each of the five (5) intersections have marked crosswalks

5.2.3 Typical Sections

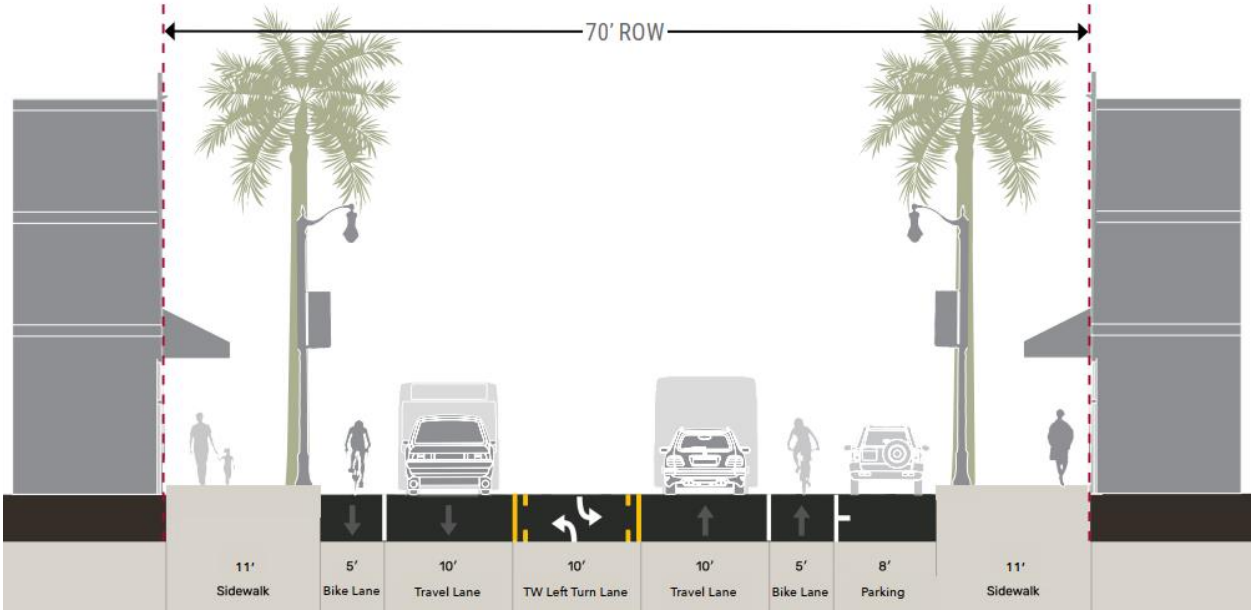
Three typical sections were developed for Normandy Drive and are displayed in **Figure 5-14**:

- Normandy Drive Bridge from Bay Drive to Indian Creek Drive
- Normandy Drive from Indian Creek Drive to Abbot Avenue
- Normandy Drive from Abbot Avenue to Collins Avenue

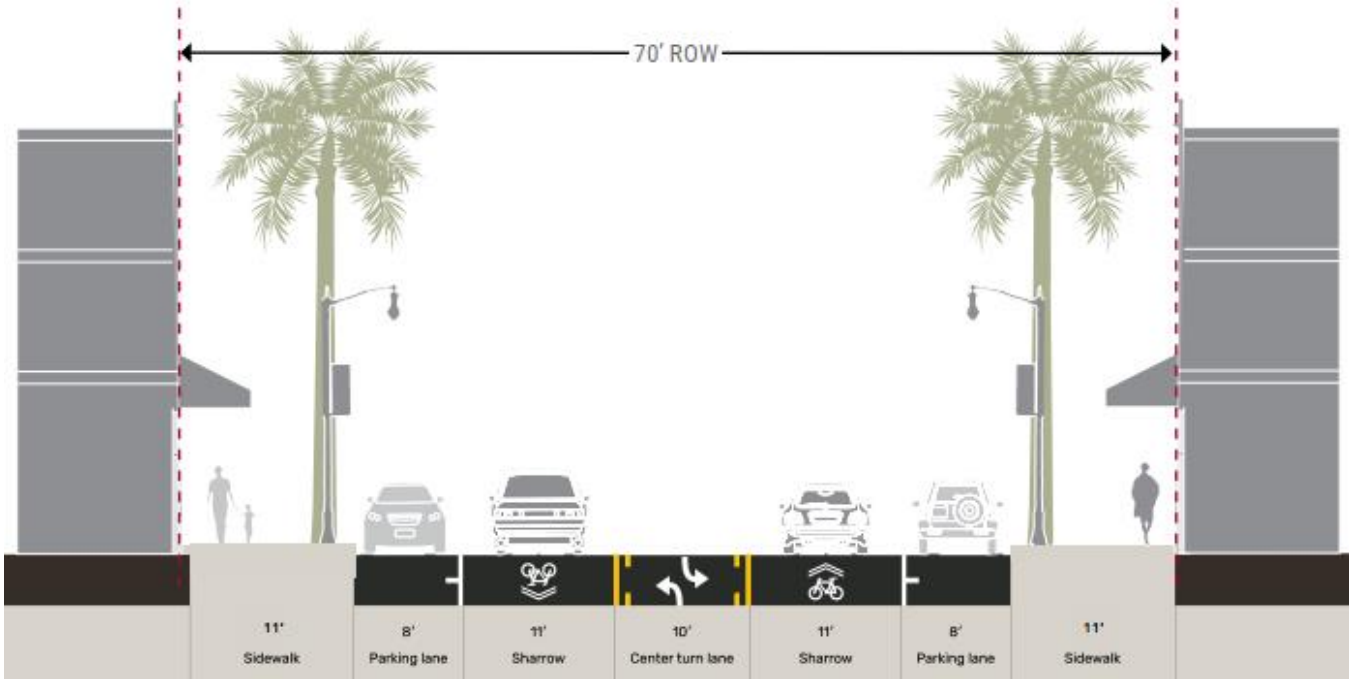
FIGURE 5-14 NORMANDY DRIVE TYPICAL SECTIONS



Indian Creek Drive to Collins Avenue



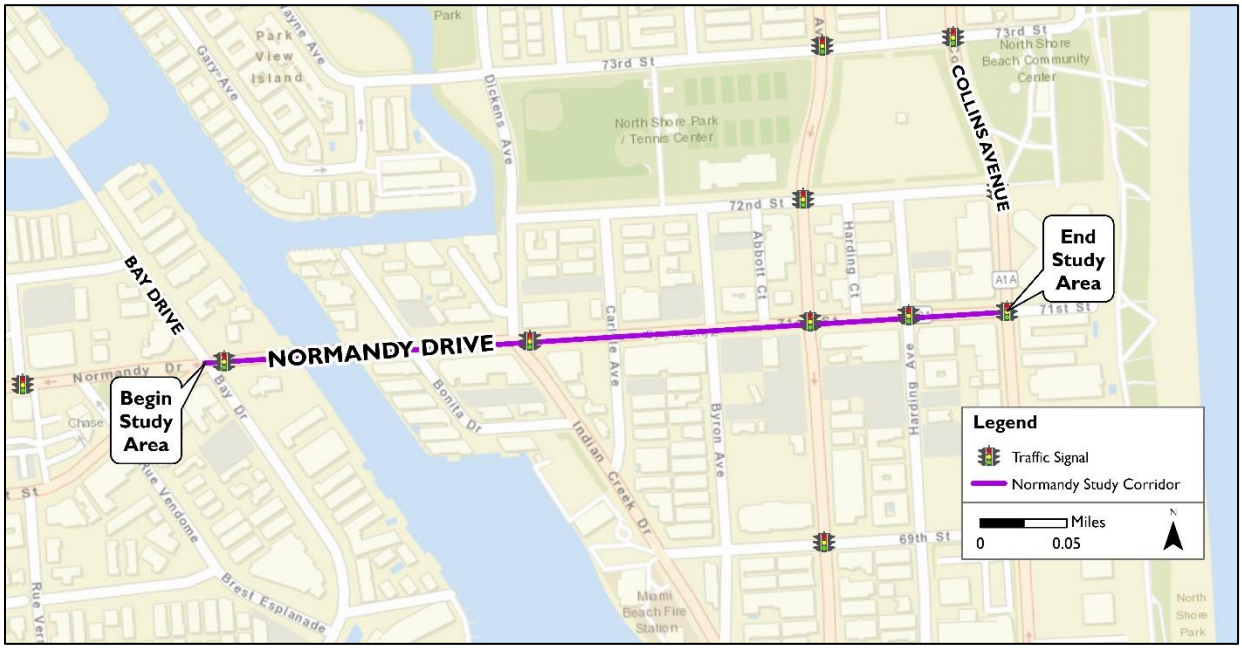
Abbot Avenue to Collins Avenue



5.2.4 Signalized Intersections and Crosswalks

There are five (5) signalized intersections along the corridor at the following locations (see **Figure 5-15**): Bay Drive, Indian Creek Drive, Harding Avenue (A1A), Harding Avenue, and Collins Avenue. Each of these intersections includes a marked crosswalk. Most of the crosswalks are delineated with red pavers.

FIGURE 5-15 NORMANDY DRIVE SIGNALIZED INTERSECTIONS



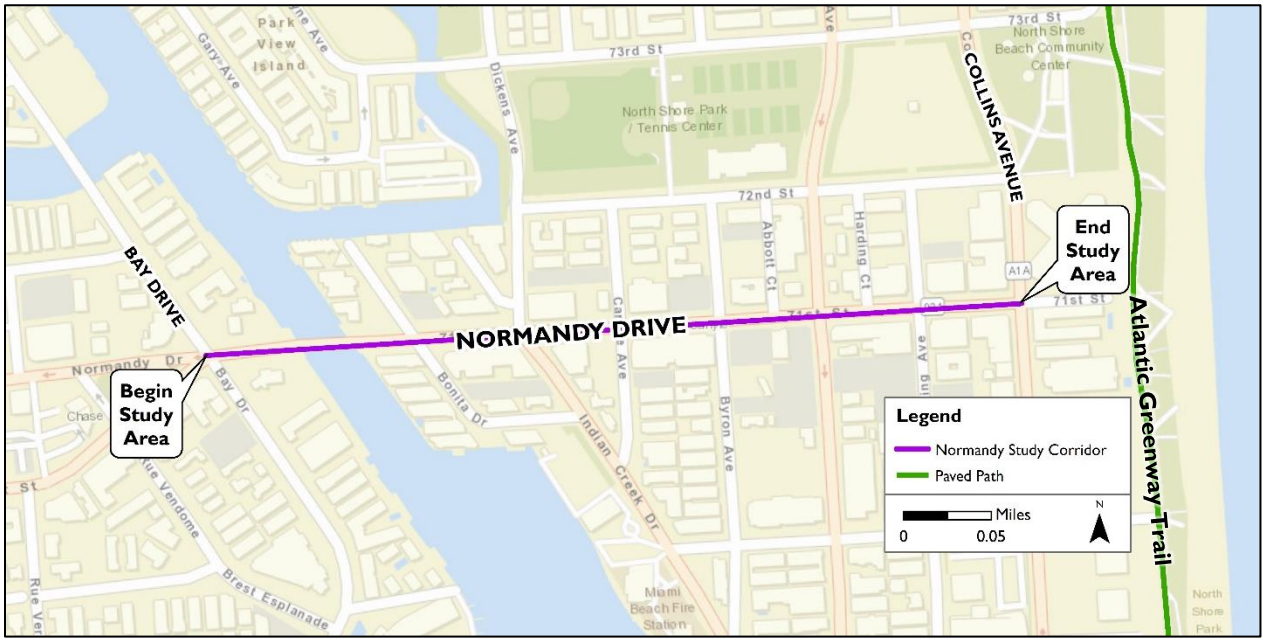
Paver crosswalks at Normandy Drive/Dickens Avenue. Source: Google Maps, January 2021.

5.2.5 Pedestrian and Bicycle Facilities

Sidewalks are present along both sides of Normandy Drive throughout the corridor. The sidewalks range in width from about five feet to 10 feet. There are five (5) marked crosswalks along the corridor located at each of the signalized intersections. Bike lanes exist but are not continuous throughout the corridor ranging from four to five feet in width. Where there are not bike lanes, there are sharrow markings along the roadway.

The Atlantic Greenway Trail (Beachwalk) is a paved path along the Miami Beach east of Collins Avenue (see **Figure 5-16**). The Atlantic Greenway Network is a system of bikeways designed to promote active transportation. They extend north/south and are constructed between the erosion control line and the beach dune system. As of May 2021, this trail has been completed from South Pointe Park to 79th Street (Source: *The Miami Bike Scene)*.

FIGURE 5-16 NORMANDY DRIVE PAVED PATHS



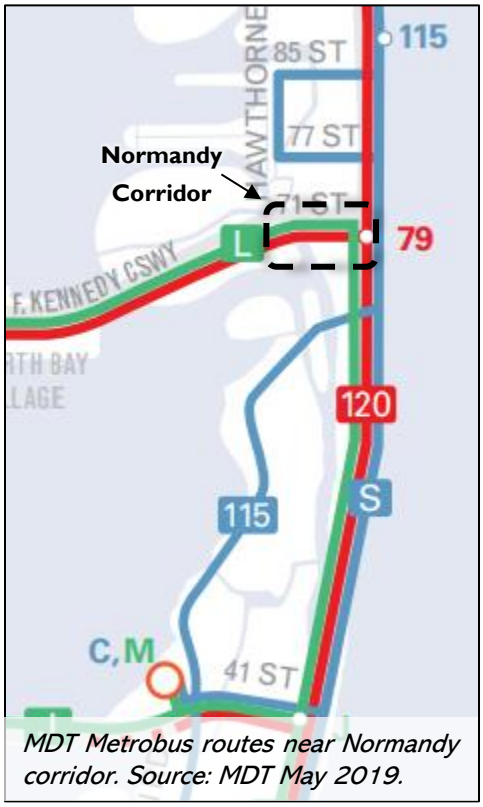
Sharrow + on-street parking on Normandy Drive west of Harding Avenue. Source: Google Maps, January

5.2.6 Transit

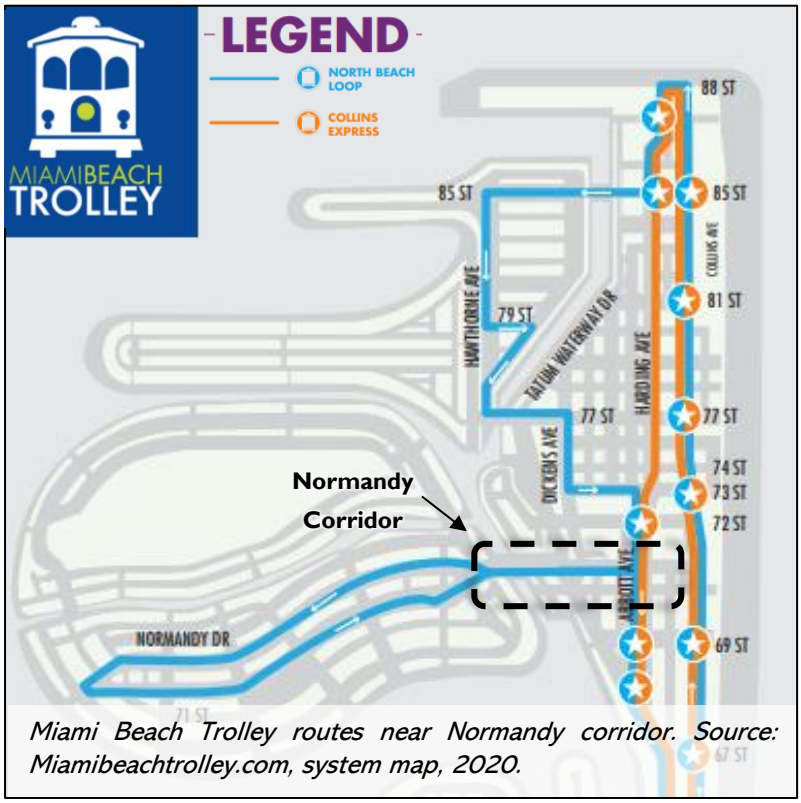
The MDT Metrobus and the Miami Beach Trolley operate along the study corridor. Metrobus has four routes along the corridor: 79 Street MAX (limited stop weekday morning and afternoon service), 112 Route L (Hialeah Metrorail station to South Beach), 115 Mid-North Beach Connection (Lincoln Road to 88th Street), and 120 Beach MAX (limited stop from Aventura Mall to Downtown Miami) all running seven days a week. There are three transit stops along the corridor.

The Miami Beach Trolley is a free citywide trolley service that currently operates 15 hours a day from 8 AM to 11 PM seven days a week at approximately 30-minute average frequency along each route. The North Beach Loop and the Collins Express run along Normandy Drive.

To help facilitate these transit services, there are some shared bike/bus pull-off lanes along the corridor.



MDT Metrobus routes near Normandy corridor. Source: MDT May 2019.



Miami Beach Trolley routes near Normandy corridor. Source: Miamibeachtrolley.com, system map, 2020.

Shared bike/bus pull-off lane for transit stops west of Byron Avenue. Source: Google Maps, February 2021.

5.2.7 Existing Land Use and Zoning

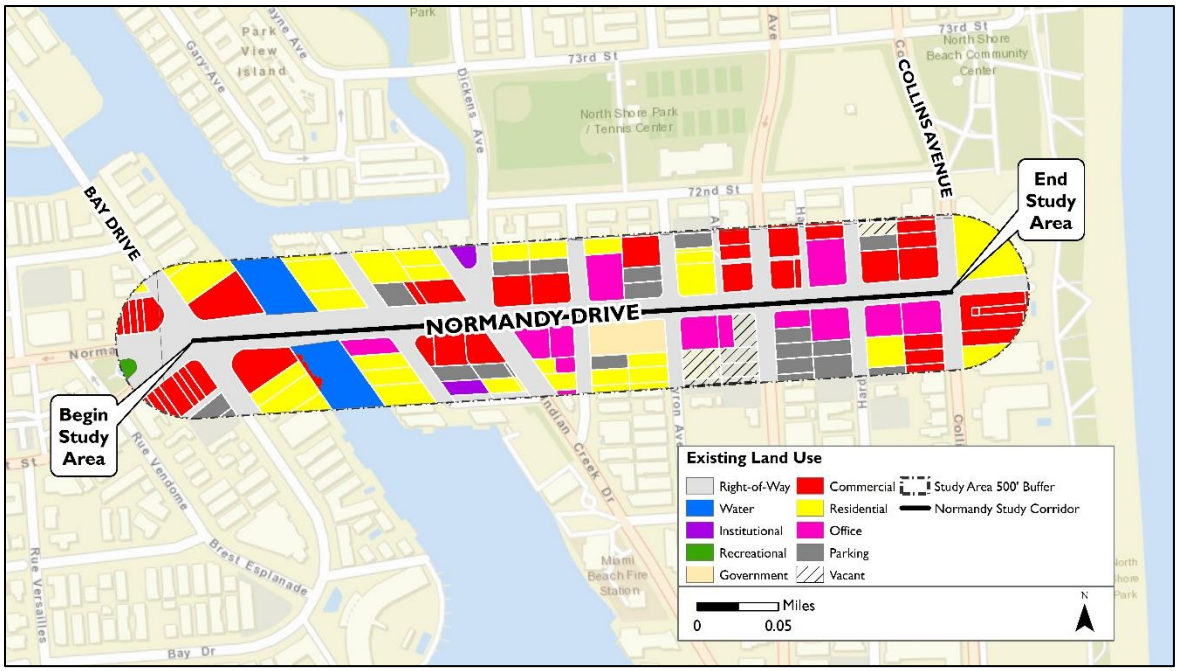
The existing land use and zoning data were obtained from the Miami-Dade County Open Data Hub and were generalized. A 500-foot study area buffer (250 feet on either side of the corridor centerline) was used. The specific data sets utilized were:

- *Land Use* shapefile for the existing land use, dated October 2021
- *Municipal Zone* shapefile for the zoning, dated October 2021

Existing Land Use

The existing land use is a mix of commercial (red), residential (yellow), and office (pink) uses along the corridor (see **Figure 5-17**). The commercial and office uses are primarily adjacent to the Normandy Drive whereas the residential uses tend to be a parcel back. The residential uses are generally multi-family with medium to high densities.

FIGURE 5-17 NORMANDY DRIVE EXISTING LAND USE

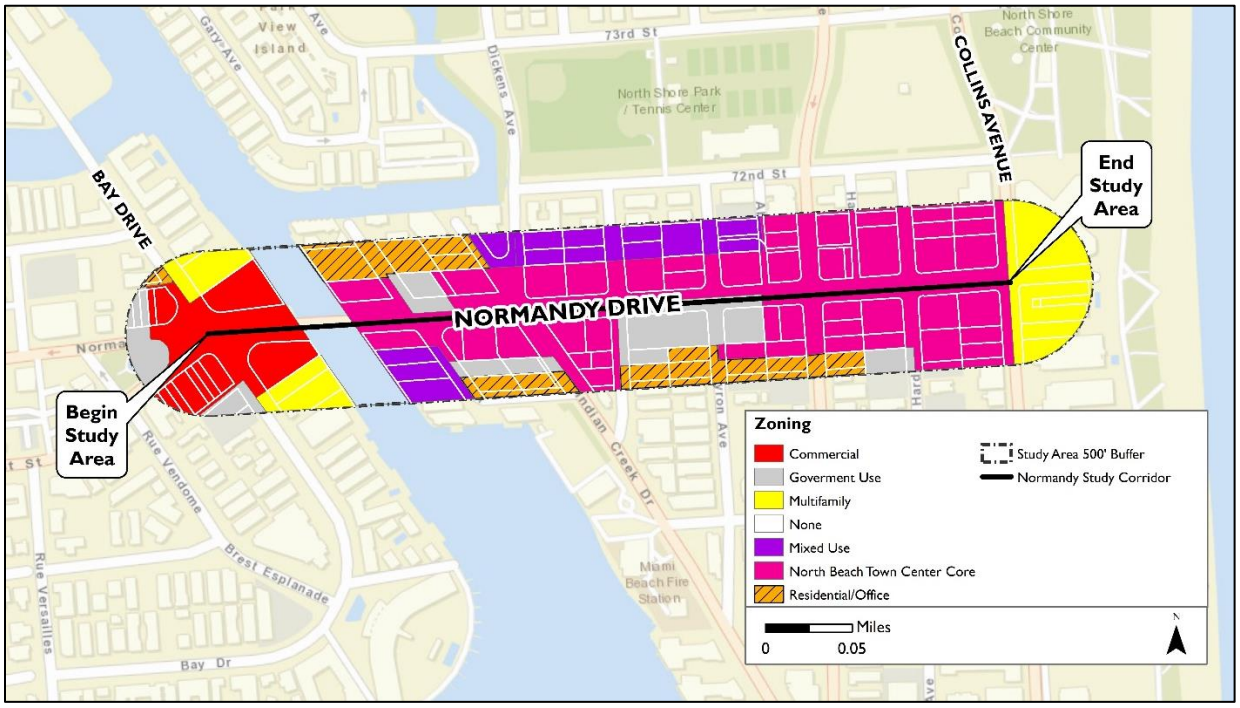


Existing commercial and high-density residential uses along corridor east of Harding Avenue. Source: Google Maps, January 2021.

Zoning

The zoning near the Normandy Drive corridor (**Figure 5-18**) is predominately North Beach Town Center Core (pink). Other zoning includes commercial (red) west of the bridge, and multifamily (yellow) east of Collins Avenue. Residential/Office (orange hash) and mixed-use (purple) are also present within the 500-foot corridor buffer.

FIGURE 5-18 NORMANDY DRIVE ZONING



North Beach Town Center Core zoning east of Collins Avenue. Source: Google Maps, January 2021.

5.2.8 Safety Analysis

Historical Safety Review

A historical safety review was conducted in the form of a crash analysis was performed using the Signal 4 Analytics (S4) database to summarize corridor-wide and intersection crash trends for the previous five years available (2015 through 2019). Crash trends are summarized below and displayed in **Figures 5-19 through 5-21**.

- **Total Crashes:** **695 total** crashes ranging from 131 to 150 crashes per year
- **Crash Type**: The top two known crash types were **rear end** (213 crashes, 31%), **sideswipe** (141 crashes, 20%)
- **Bicycle and Pedestrian Crashes:** 11 crashes involved **pedestrians** and 8 crashes involved **bicycles**
  - One of the pedestrian crashes resulted in fatalities (detailed above)
  - Three of the pedestrian crashes occurred when the pedestrian was in a designated crosswalk area
  - The highest bike/ped crash intersections were Carlyle Avenue (5 crashes) and Byron Avenue (6 crashes)
  - Four of the bicycle crashes occurred during a vehicular left turn/merge movement; three of these crashes occurred at Carlyle Avenue
  - Four of the bicycle crashes occurred either on the roadway or bike lane; three occurred when the bicycle was on a sidewalk or crosswalk
- **High Crash Areas:** were near the following locations: the intersections of Indian Creek Drive, Harding Avenue, and Collins Avenue
- **Crash Severity:** One crash resulted in a **fatality** and 117 crashes (17%) resulted in **injuries (Figure 5-20)**. The fatality involved a pedestrian in August 2018 at 9:30 AM at the intersection of Normandy Drive and Abbot Avenue. The vehicle was traveling southbound and the pedestrian was traveling eastbound within the crosswalk (to the vehicle's left).
- **Crash Time**: 30% of the crashes occurred between the hours of 4 PM and 6 PM
- **Weather and Lighting**: Most crashes occurred in **clear** weather conditions (86%) and during **daylight** lighting conditions (73%)

FIGURE 5-19 NORMANDY DRIVE CRASHES

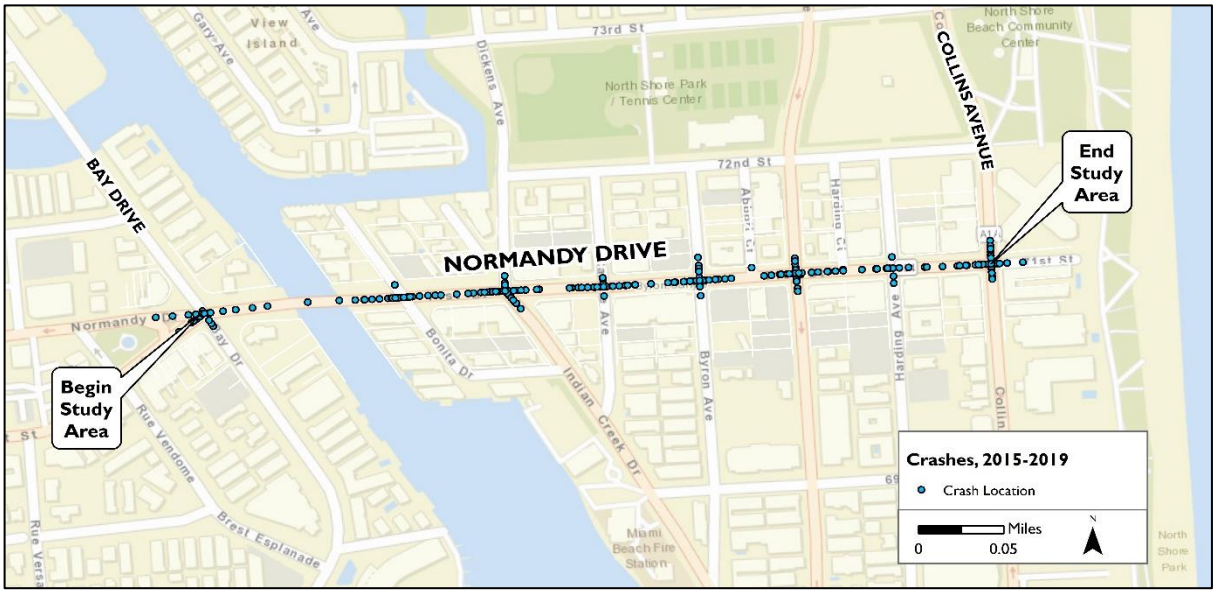


FIGURE 5-20 NORMANDY DRIVE CRASH SEVERITY

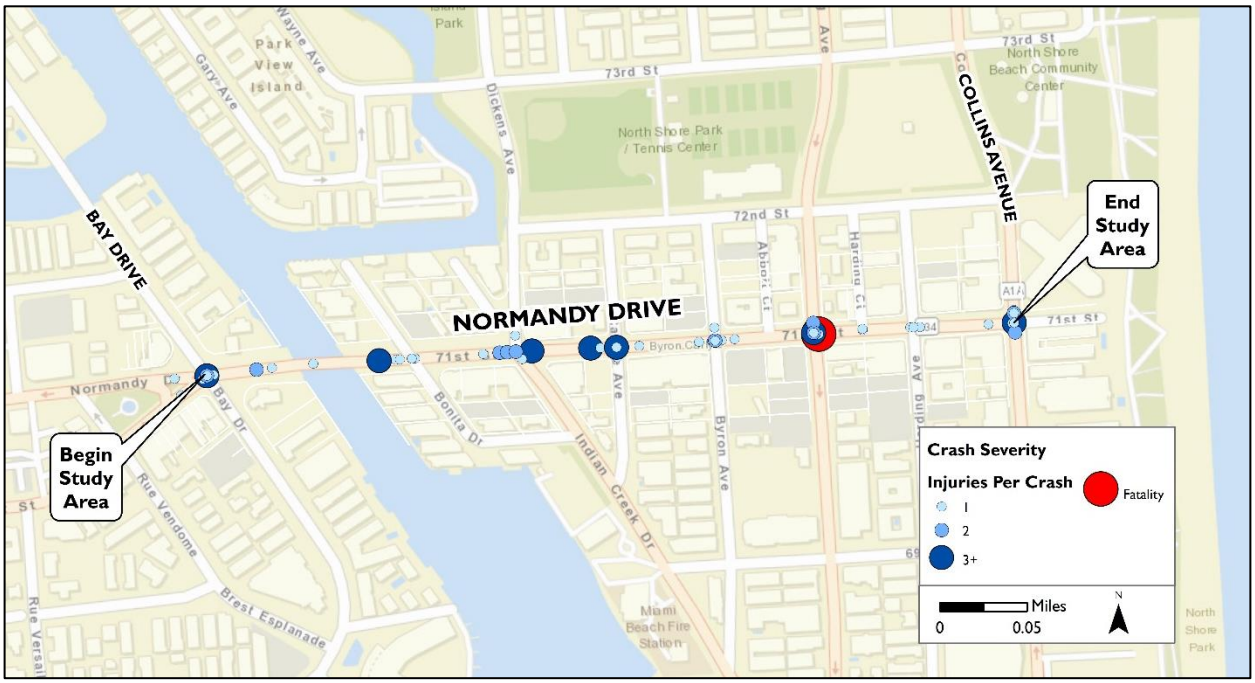
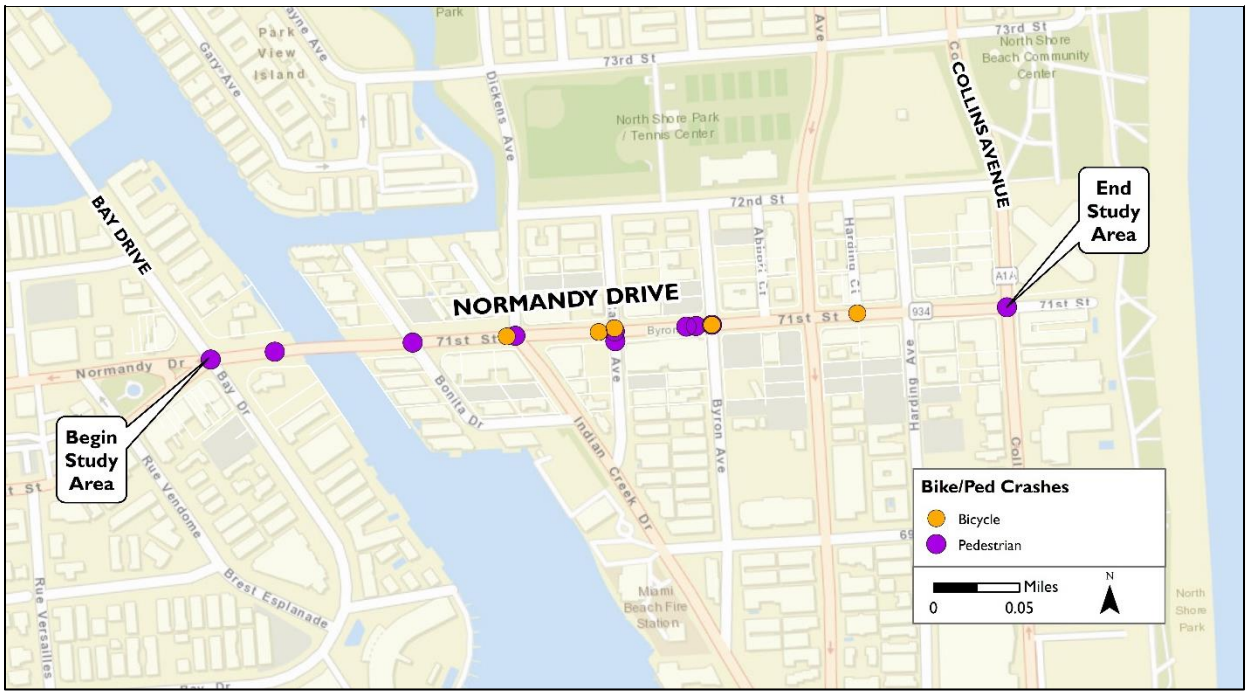


FIGURE 5-21 NORMANDY DRIVE BIKE/PED CRASHES



5.2.9 Traffic Analysis

There is one count station along the Normandy Drive corridor. Count Site 875189 is located approximately 200 feet west of Harding Avenue (SR A1A). As shown in **Table 5-3** Normandy AADT and LOSthe amount of traffic along the Quail Roost Drive Corridor has remained relative constant throughout the five-year period.

The Level of Service (LOS) was determined using the Generalized LOS Tables (Table 1) from the *FDOT QLOS Handbook, June 2020*. The LOS for the length of the corridor is C for the five-year time period.

TABLE 5-3 NORMANDY AADT AND LOS

Count Site	2015 (LOS)	2016 (LOS)	2017 (LOS)	2018 (LOS)	2019 (LOS)	% Change
875189	11,700 (C)	11,100 (C)	10,800 (C)	10,500 (C)	10,700 (C)	-8.5%

Vehicles along Normandy Drive. Source: Project Team, December 2021.

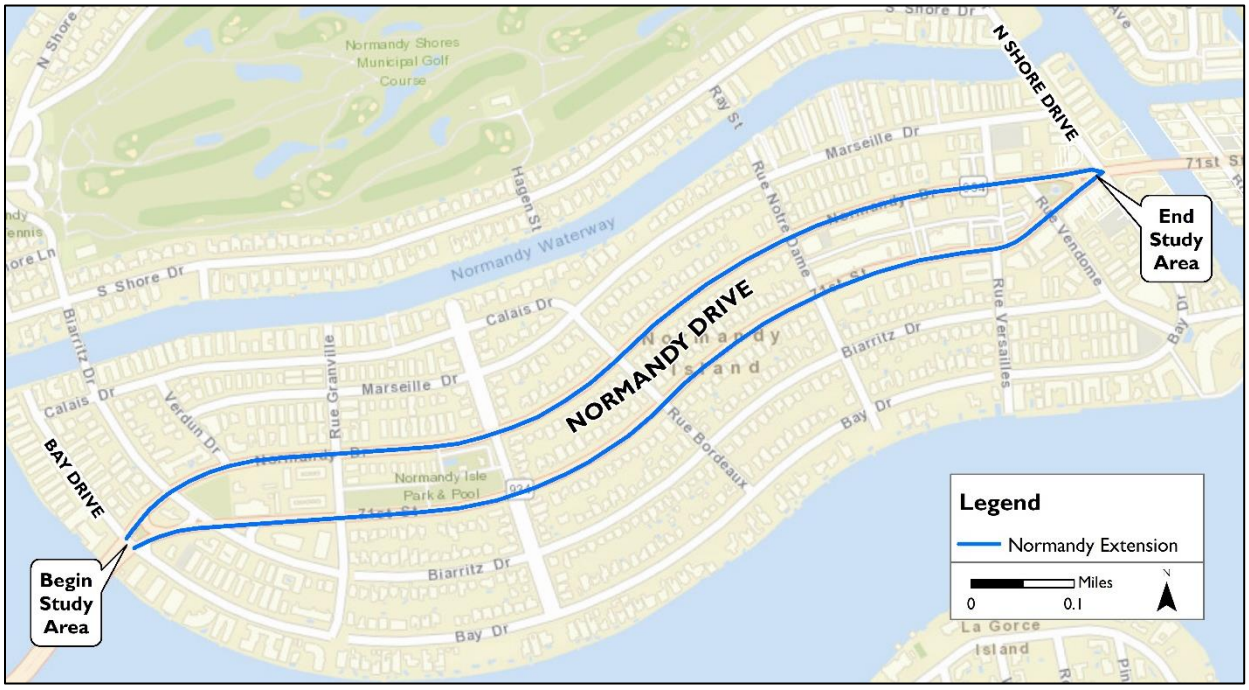
5.3 Normandy Drive Extension Analysis

During the third SAC meeting on October 21, 2021, the limits for the Normandy Drive corridor were requested to be extended to include the one-way pairs extending from Bay Drive to North Shore Drive. This segment will be referred to as the Normandy Drive Extension.

5.3.1 Study Corridor Description

The Normandy Drive Extension (SR 934) corridor is an east-west corridor located towards the northern end of Miami Beach east of North Bay Village. The study limits are from Bay Drive to North Shore Drive (**Figure 5-22**) and is approximately 1.05 miles long. The corridor is a set of one-way pairs (Normandy Drive and 71st Street) with three travel lanes with either bike lanes (western portion of the corridor) or a parking lane (eastern end). It is functionally classified by FDOT as an Urban Principal Arterial (Other). The study corridor is located in the City of Miami Beach.

FIGURE 5-22 NORMANDY DRIVE EXTENSION PROJECT LIMITS



71st Street at Biaritz Drive. Source: Google Maps, January 2021.

5.3.2 General Roadway Characteristics

- **2019 Annual Average Daily Traffic (AADT)**: 19,000
- **FDOT Functional Classification**: Urban Principal Arterial (Other)
- **Preliminary Context Classification**: C4 (Urban General)
- **Posted Speed Limit**: 35 mph
- **Sidewalks**: Sidewalks are present on both sides of roadway throughout the length of the corridor
- **Bike Lanes**: Bike lanes are present west of Rue Notre Dame
- **Paved Paths**: No paved paths exist along the corridor
- **On-Street Parking**: On-street parking is present east of Rue Notre Dame and interspersed along the remainder of the corridor
- **School Zones**: There are no school zones along the corridor
- **Lighting**: Lighting is present along the corridor
- **Drainage**: the drainage is a curb-and-gutter system
- **Signalized intersections**: There are eight (8) signalized intersections along the corridor
- **Crosswalks**: Each of the signalized intersections have marked crosswalks and there is one midblock crossing on Normandy. There are also marked crosswalks at two unsignalized intersections on Normandy Drive and one on 71st Street. It should also be noted that FDOT has completed a pedestrian evaluation for placing a new crosswalk on the east side of the Normandy/71st intersection with East Bay Drive. A design concept has been developed, and the project is pending approval.

View along 71st Street. Source: Project Team, December 2021.

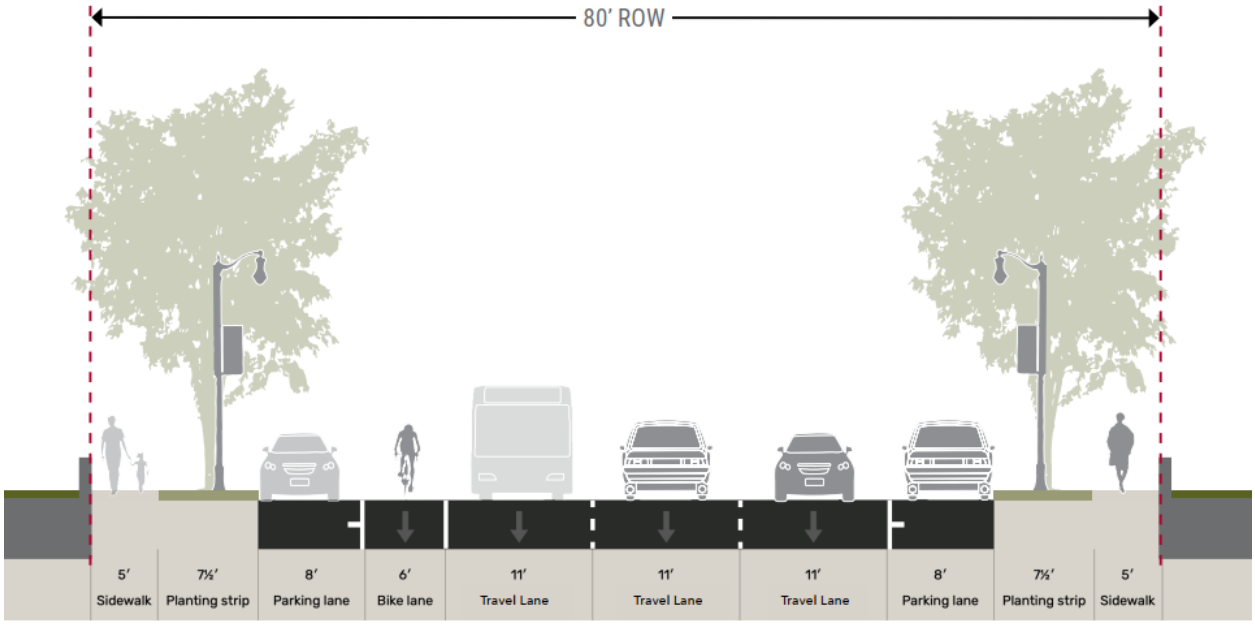
5.3.3 Typical Sections

Two typical sections were developed for the Normandy Drive Extension (see **Figure 5-23**):

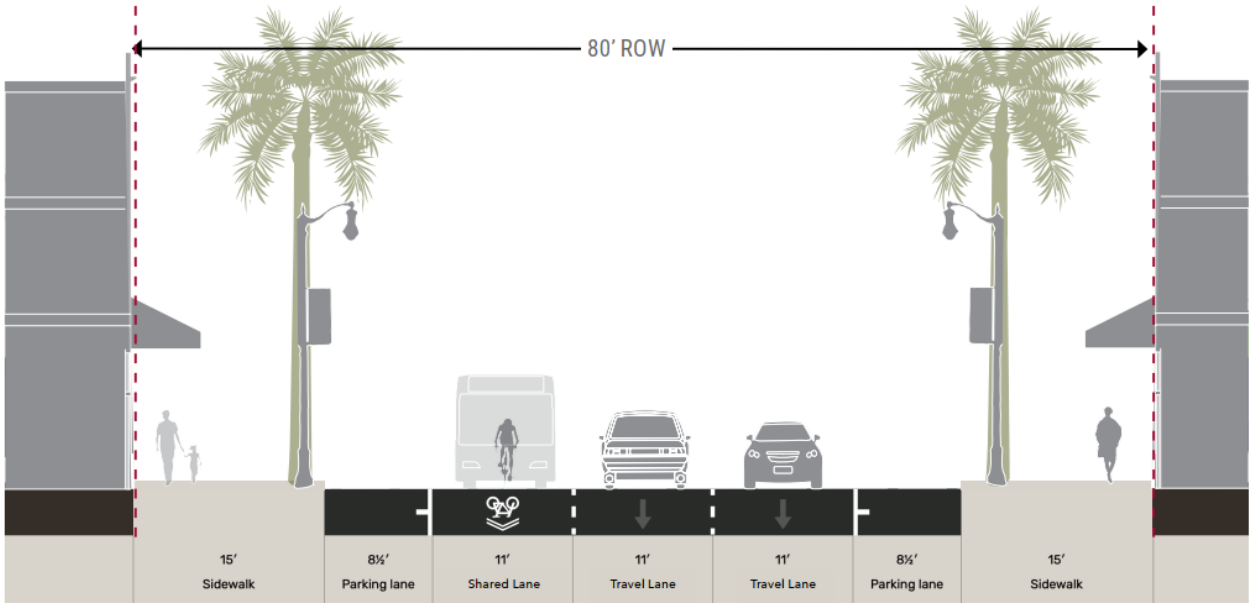
- Normandy Drive/71st Street from Bay Drive to Rue Notre Dame
- Normandy Drive/71st Street from Rue Notre Dame to Bay Drive

FIGURE 5-23 NORMANDY DRIVE EXTENSION TYPICAL SECTIONS

Bay Drive to Rue Notre Dame



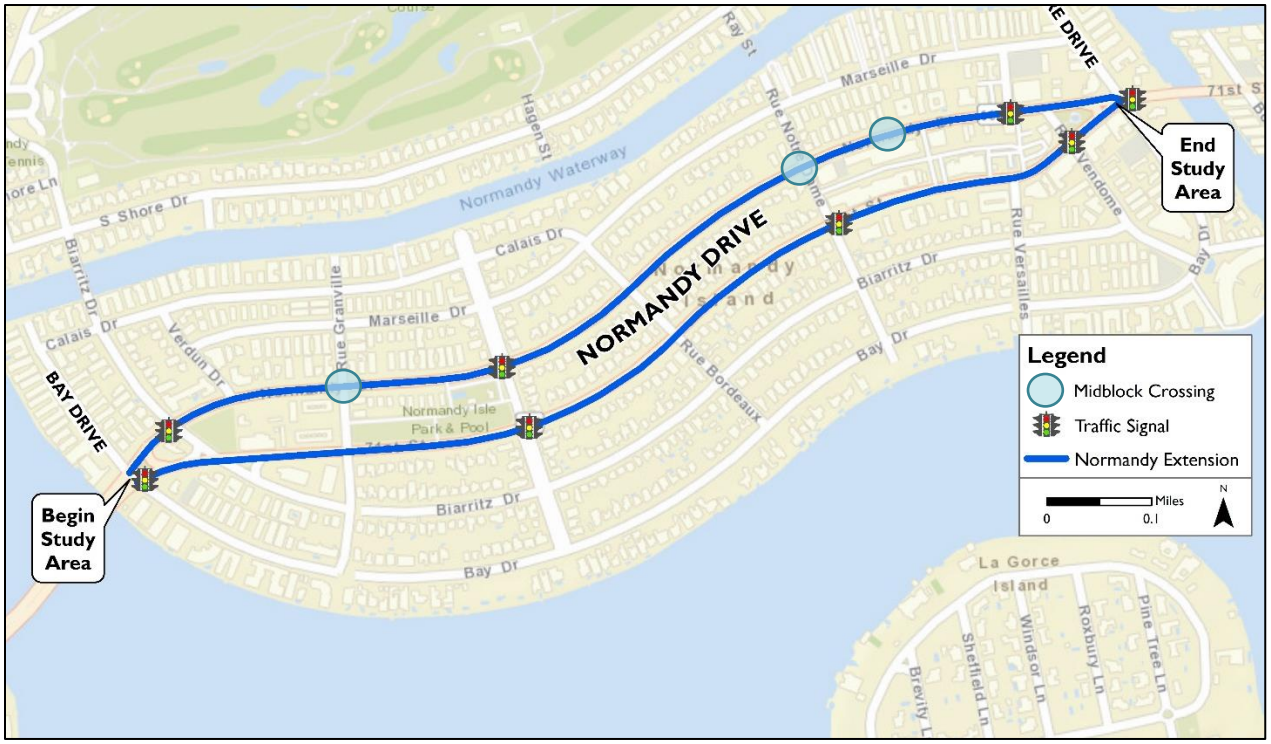
Rue Notre Dame to North Shore Drive



5.3.4 Signalized Intersections and Crosswalks

There are eight (8) signalized intersections along the corridor at the following locations (see **Figure 5-24**): Bay Drive, Biaritz Drive, Trouville Esplanade, Rue Notre Dame, Rue Versailles, Rue Vendome, and North Shore Drive. Crosswalks are present at each of these signal locations. Additionally, there are midblock crossings on Normandy Drive/Rue Notre Dame, Normandy Drive/west of Vichy Drive, and Normandy Drive/Rue Granville.

FIGURE 5-24 NORMANDY DRIVE EXTENSION TRAFFIC SIGNALS

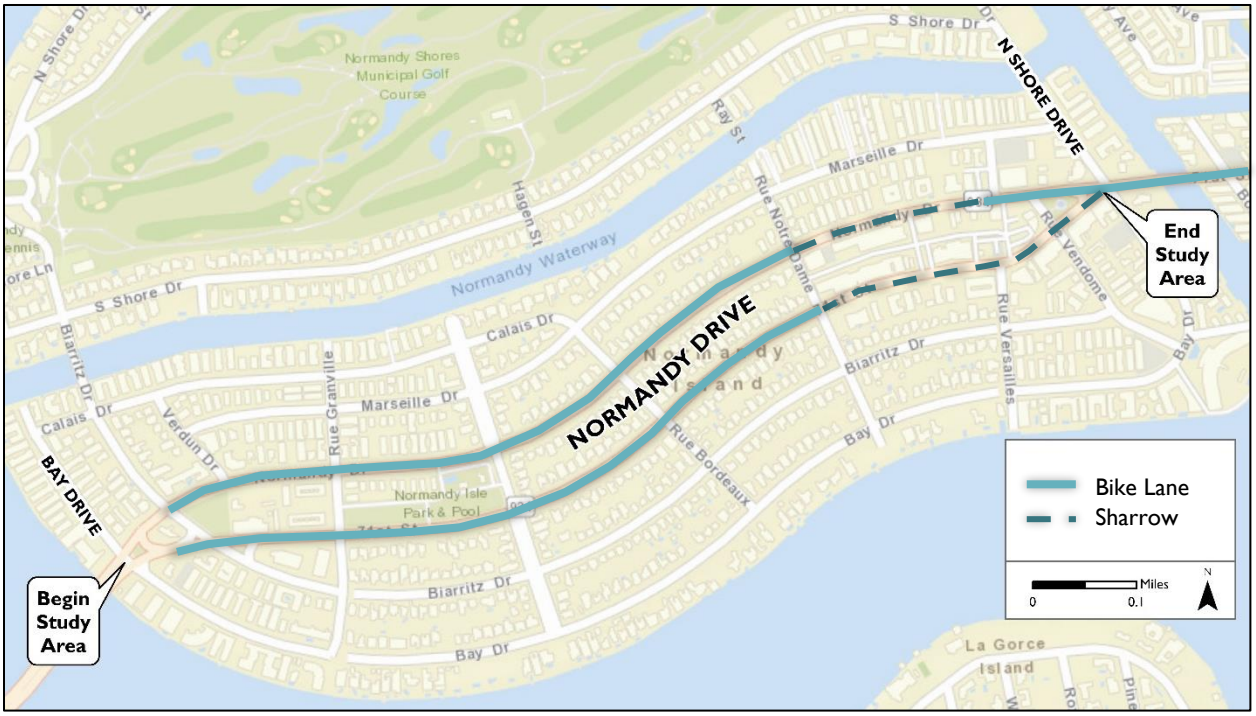


Normandy Drive/Rue Notre Dame midblock crossing. Source: Google Maps, January 2021.

5.3.5 Pedestrian and Bicycle Facilities

Sidewalks are present along both sides of Normandy Drive throughout the corridor. Bike lanes are present between Biarritz Drive and Rue Notre Dame on Normandy Drive and 71st Street. The bike lanes continue along Normandy Drive at Rue Versailles. There are sharrow markings along Normandy Drive between Rue Notre Dame and Rue Versailles and along 71st Street from Rue Notre Dame to North Shore Drive (see **Figure 5-25**).

FIGURE 5-25 NORMANDY DRIVE EXTENSION BIKE FACILITIES

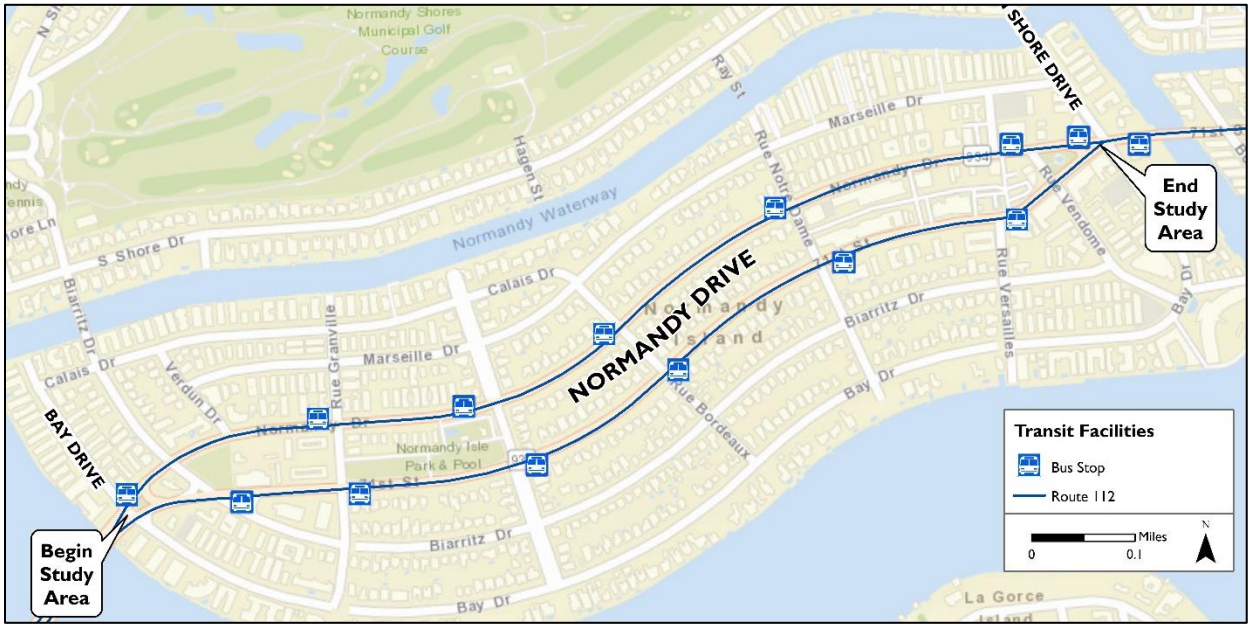


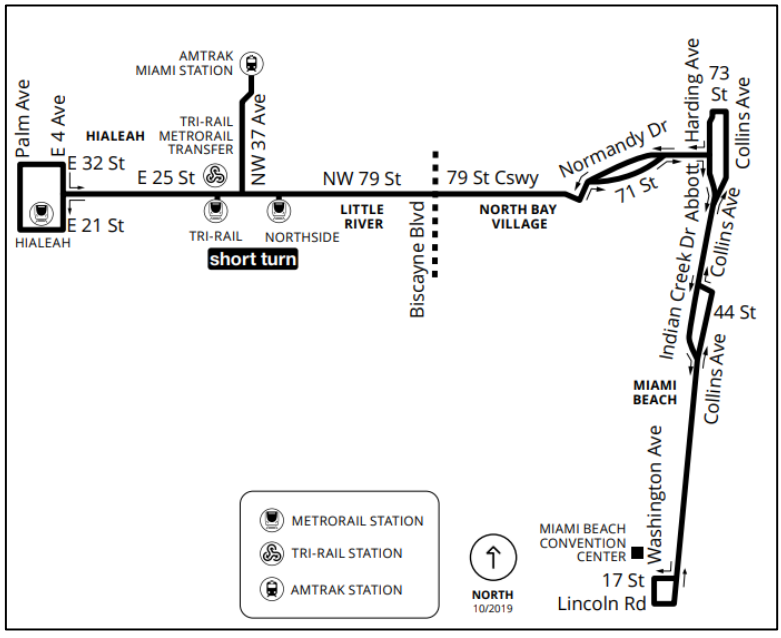
71st Street west of Rue Esplanade bike lane. Source: Google Maps, January 2021.

5.3.6 Transit

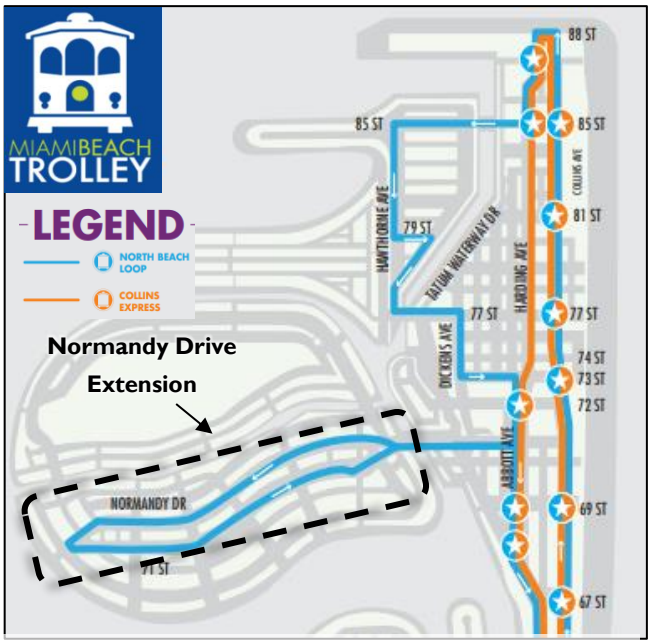
MDT Route 112 L traverses the study area in both directions and travels and provides service from the Hialeah Metrorail station to South Beach. Some trips travel from the Amtrak Miami station. Service is provided seven days a week from about 5 AM to approximately midnight. There are 14 stops along the study corridor (**Figure 5-26**). All stops along 71st have bus pull-off lanes; the stops along Normandy west of Rue Notre Dame also have bus pull-off lanes. All stops are equipped with at least a bench and trash cans. Some stops also have a shelter and bike racks. Additionally, The Miami Beach Trolley's North Beach Loop traverses the corridor.

FIGURE 5-26 NORMANDY DRIVE EXTENSION TRANSIT FACILITIES





Route 112 L Map. Source: MDT, June 2020.



Miami Beach Trolley routes near Normandy corridor. Source: Miamibeachtrolley.com, system map, 2020.

Existing Land Use and Zoning

The existing land use and zoning data were obtained from the Miami-Dade County Open Data Hub and were generalized. A 500-foot study area buffer (250 feet on either side of the corridor centerline) was used. The specific data sets utilized were:

- *Land Use* shapefile for the existing land use, dated October 2021
- *Municipal Zone* shapefile for the zoning, dated October 2021

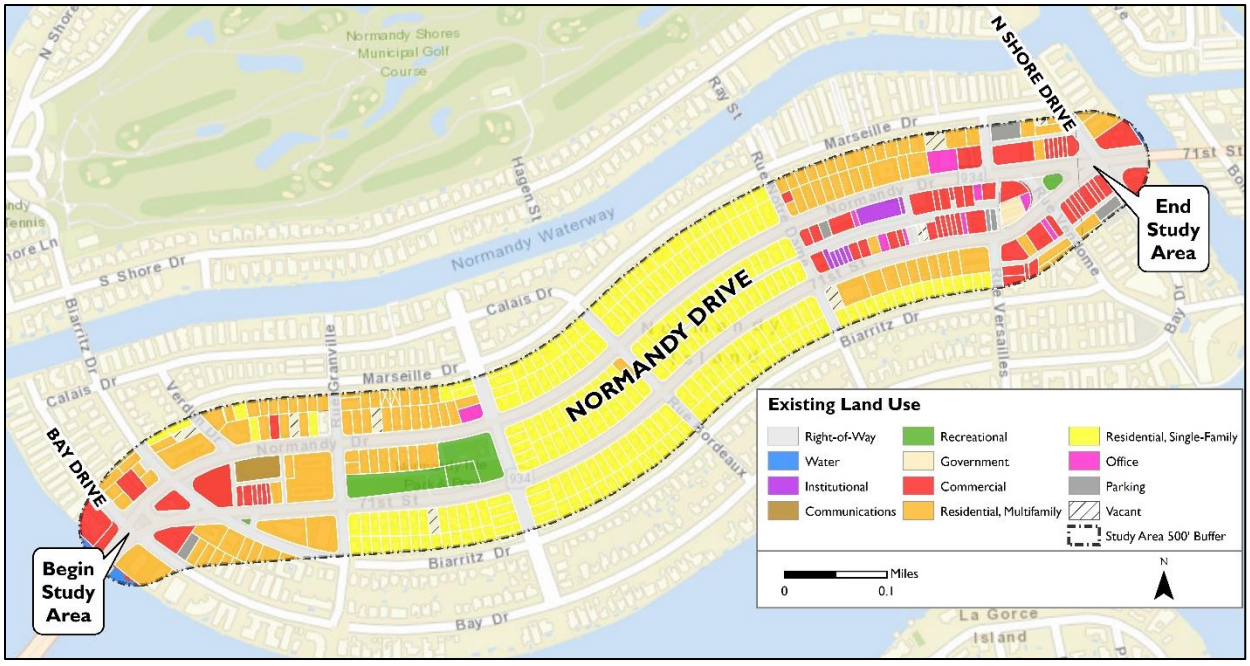
Existing Land Use

The existing land use is a mix of residential, single-family (yellow), residential, multi-family (orange), and commercial (red) uses along the corridor (see **Figure 5-27**). The residential, single family uses are concentrated within the middle of the corridor, mostly between Trouville Esplanade and Rue Notre Dame.

The single-family density is classified as either medium density (2-5 dwelling units (du)/acre) or high density (5+ du/acre). The residential, multi-family is primarily along the eastern and western thirds of the corridor. The multi-family densities range from high density (25+ du/acre) to low density (under 25 du/acre).

The commercial uses are concentrated towards either end of the corridor, with the most commercial uses concentrated east of Rue Notre Dame. Additionally, there is a public park (Normandy Isle Park & Pool) between Rue Granville and Trouville Esplanade.

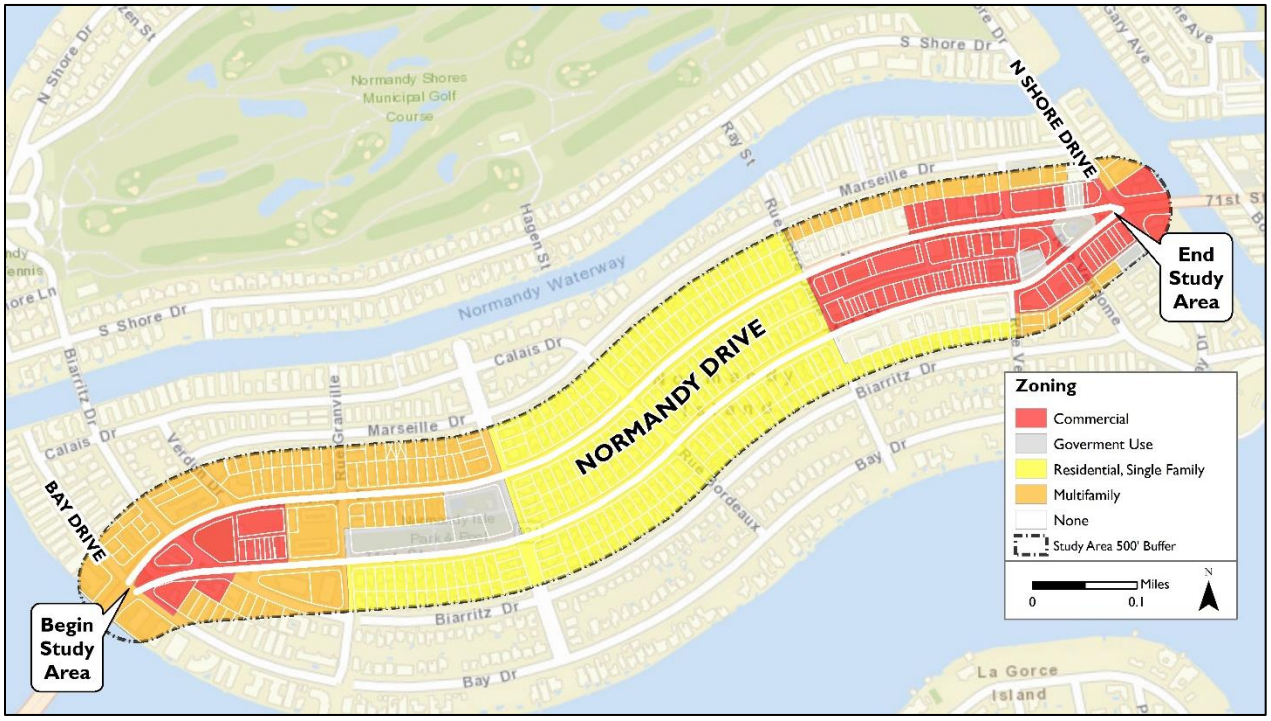
FIGURE 5-27 NORMANDY DRIVE EXTENSION EXISTING LAND USE



Zoning

Consistent with the existing land use, the zoning near the Normandy Drive Extension corridor is either multifamily residential (orange), single family residential (yellow), or commercial (red) (**Figure 5-28**).

FIGURE 5-28 NORMANDY DRIVE EXTENSION ZONING



Residential zoning along Normandy Drive east of Rue Granville. Source: Google Maps, February 2021.

5.3.7 Safety Analysis

Historical Safety Review

A historical safety review was conducted in the form of a crash analysis was performed using the Signal 4 Analytics (S4) database to summarize corridor-wide and intersection crash trends for the previous five years available (2015 through 2019). Crash trends are summarized below and displayed in **Figures 5-29 through 5-31**.

- **Total Crashes:** **577 total** crashes ranging from 102 to 129 crashes per year
- **Crash Type**: The top three crash types were **rear end** (147 crashes, 25%), **same direction sideswipe** (118 crashes, 20%) and **parked vehicle** (114 crashes, 20%)
- **Bicycle and Pedestrian Crashes:** 7 crashes involved **pedestrians** and 5 crashes involved **bicycles**
  - Four of the five bicycle crashes occurred between 5:00 PM and 7:15 PM
  - Two of bicycle crashes occurred at Bay Drive and Normandy Drive/71st Street
  - Three of the bicycle crashes occurred while crossing an intersection; two were in the crosswalk
  - Two of the pedestrian crashes resulted in incapacitating injuries. One occurred in a parking lot near Brest Esplanade and the other the pedestrian attempted to cross the street at a diagonal at Verdun Drive
- **High Crash Areas:** were near the following locations: between Rue Versailles and North Shore Drive, and at the intersections of Bay Drive, Biaritz Drive, Rue Granville, and Rue Notre Dame.
- **Crash Severity:** One crash resulted in two **fatalities** and 119 crashes (21%) resulted in **injuries,** and 16 resulted in **serious injuries (Figure 5-30)**. The crash resulting in two fatalities involved a speeding vehicle (80 mph in a 35 mph) traveling eastbound colliding with a tree just east of the Rue Versaille intersection in February 2019 at 7:30 PM. Neither victim was wearing a seatbelt.
- **Weather and Lighting**: Most crashes occurred in clear weather conditions (87%) and during daylight lighting conditions (71%)

FIGURE 5-29 NORMANDY DRIVE EXTENSION CRASH DENSITY

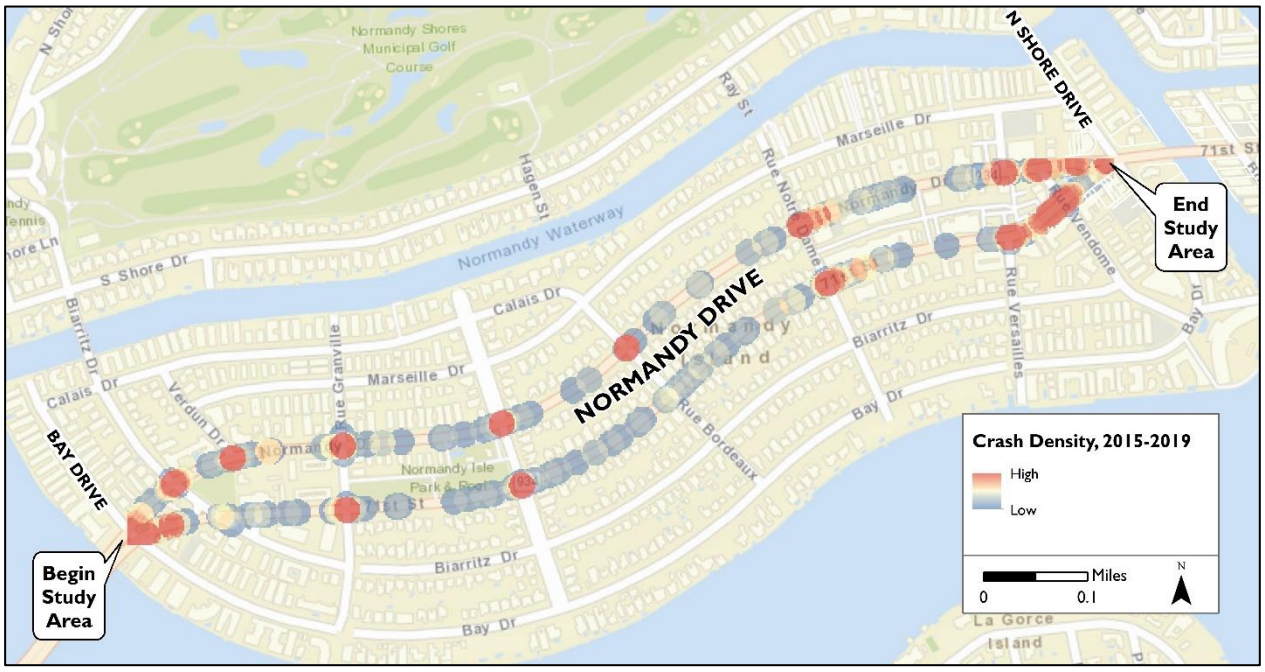


FIGURE 5-30 NORMANDY DRIVE EXTENSION CRASH SEVERITY

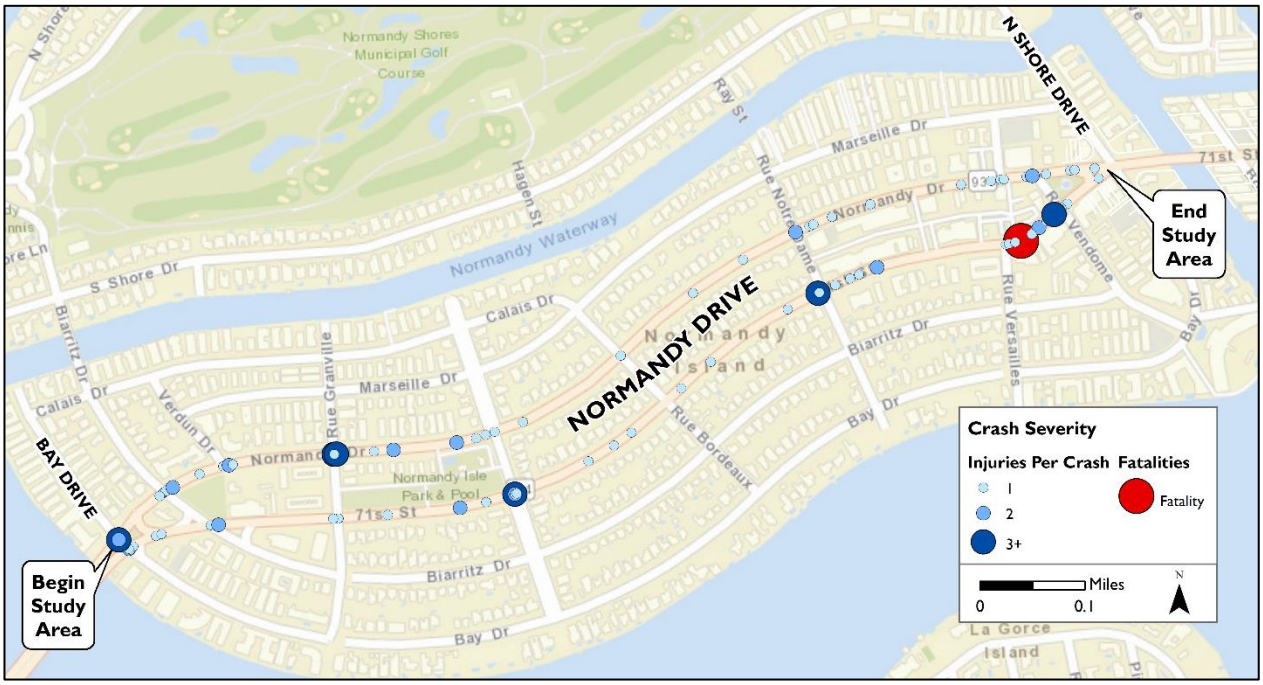
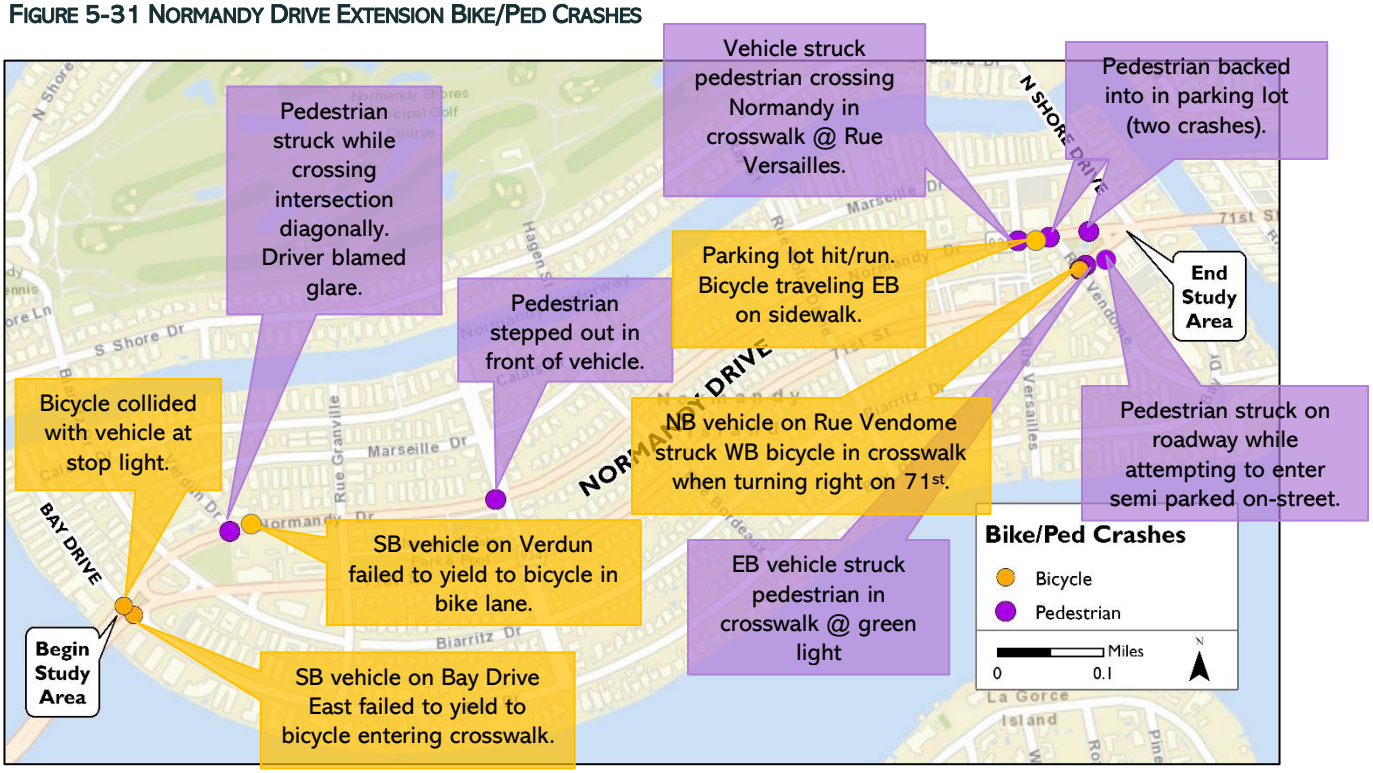


FIGURE 5-31 NORMANDY DRIVE EXTENSION BIKE/PED CRASHES



Crosswalk Evaluation

There are eight (8) signalized intersections along the study area, each with marked and signalized crosswalks. For pedestrian safety and visibility, crosswalks should be located along each intersection approach and with high visibility markings. Each intersection was evaluated for these two criteria (see **Table 5-4**). Based on this evaluation, most of the intersections had crosswalks at each intersection approach. The intersection of Normandy/71st/Bay Drive West does not provide a crosswalk for the eastern approach. Most of the crosswalks on Normandy have high visibility markings, with the exception of the Normandy Drive/Biaritz Drive intersection. The 71st Street/Trouville Esplanade and 71st Street/Rue Notre Dame intersections did not have high visibility crosswalk markings.

TABLE 5-4 NORMANDY DRIVE EXTENSION CROSSWALK ANALYSIS

Intersection	Number of Marked Crossings	High Visibility Crosswalks
Normandy Drive/Biaritz Drive	4/4	No
Normandy Drive/Trouville Esplanade	4/4	Yes
Normandy Drive/Rue Versailles	3/3	Yes
Normandy Drive/North Shore Drive	4/4	Yes
71st Street/ Bay Drive	3/4	Yes
71st Street/Trouville Esplanade	4/4	No
71st Street/ Rue Notre Dame	4/4	No
71st Street/ Rue Vendome	3/3	Yes

Normandy Drive/Rue Granville midblock crossing. Source: Google Maps, February 2021.

5.3.8 Traffic Analysis

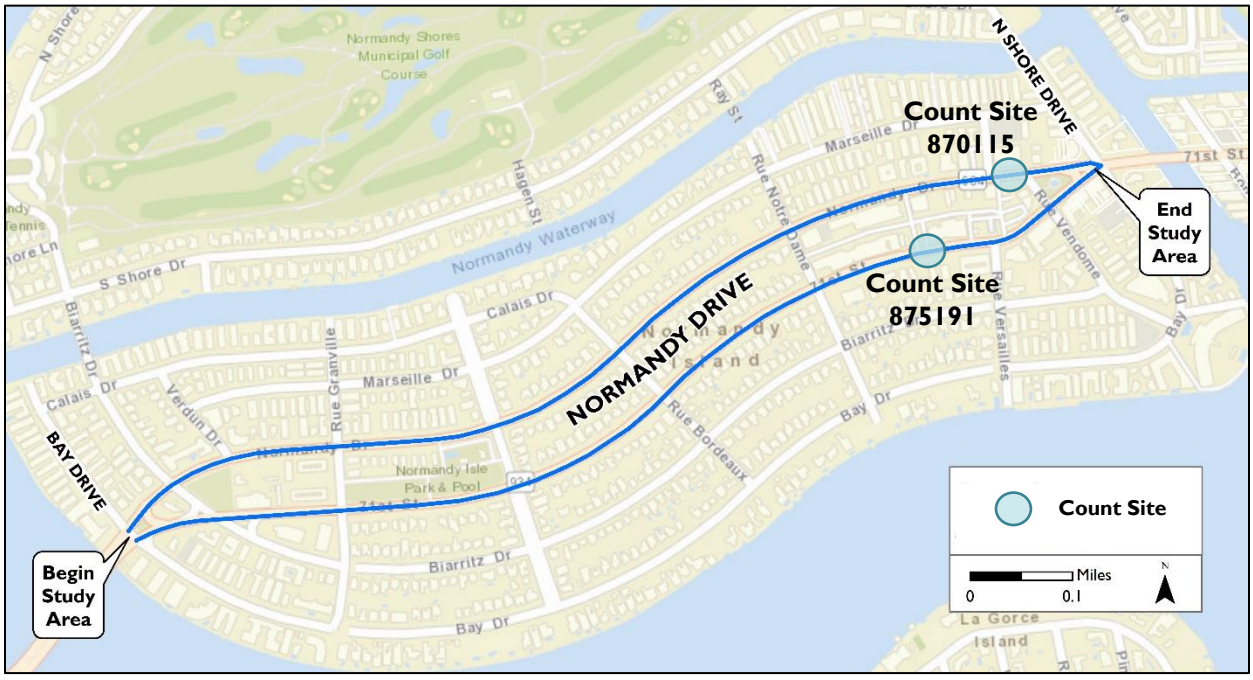
There are two count stations along the Normandy Drive Extension corridor; one on Normandy Drive (870115, westbound) and one on 71st Street (875191, eastbound) (see **Figure 5-32**). As shown in **Table 5-5,** traffic has increased along westbound Normandy Drive by 11% and decreased eastbound along 71st Street by 5% over the five-year period.

The Level of Service (LOS) was determined using the Generalized LOS Tables (Table 1) from the *FDOT QLOS Handbook, June 2020*. The LOS for the length of the corridor is D for the five-year time period.

TABLE 5-5 NORMANDY DRIVE EXTENSION AADT AND LOS

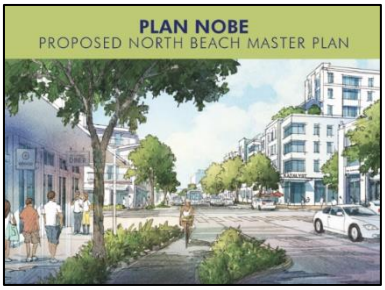
Count Site	2015 (LOS)	2016 (LOS)	2017 (LOS)	2018 (LOS)	2019 (LOS)	% Change
870115 - WB (Normandy Drive)	18,000 (D)	19,500 (D)	21,000 (D)	14,500 (D)	20,000 (D)	11.1%
875191 - EB (71st Street)	19,000 (D)	18,500 (D)	17,000 (D)	17,500 (D)	18,000 (D)	-5.3%

FIGURE 5-32 NORMANDY DRIVE EXTENSION COUNT SITES

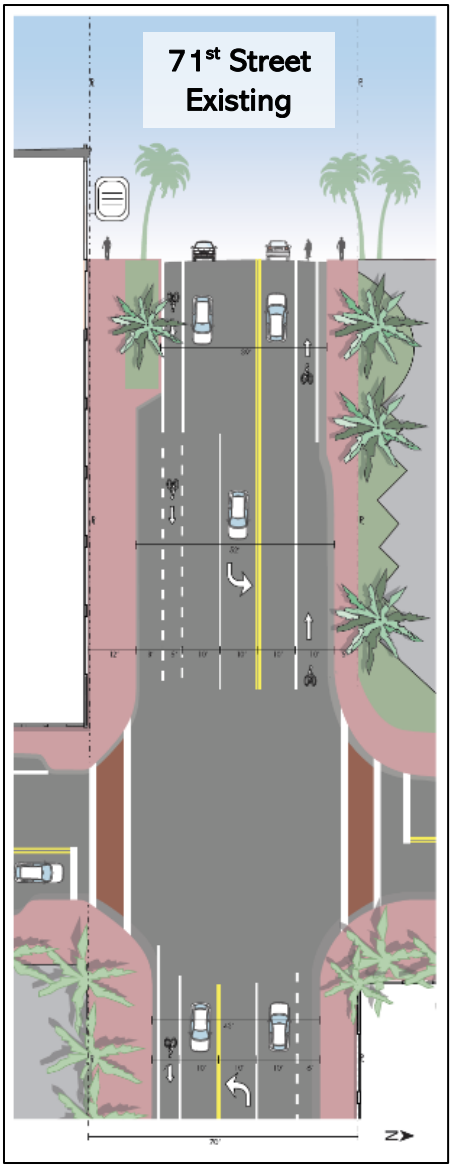


5.4 Review of Relevant Plans

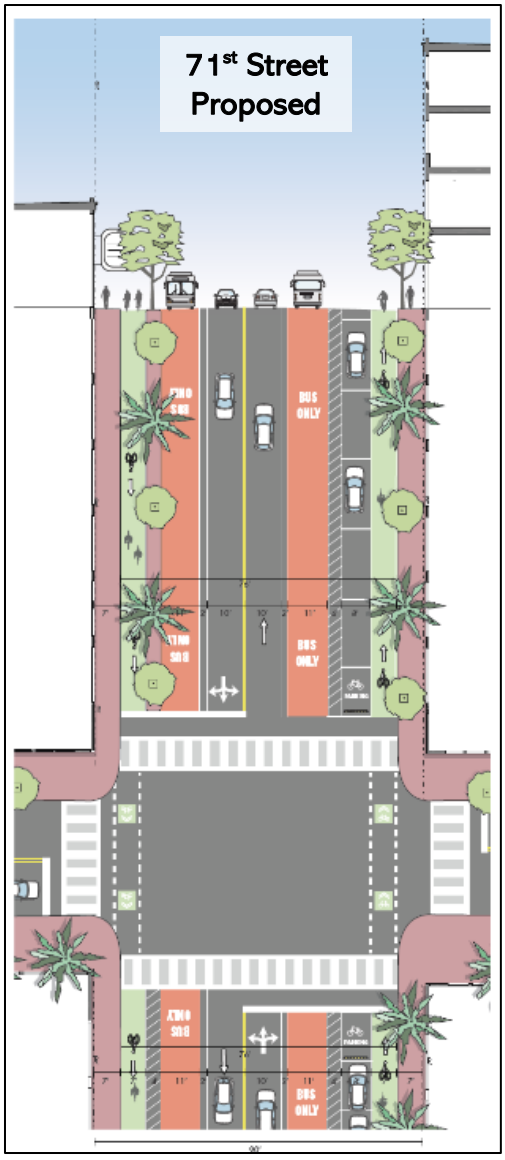
5.4.1 Plan NOBE: Proposed North Beach Master Plan



- Adopted in 2016, relevant to Normandy Corridors
- Proposes protected bike lane along Normandy
- Provide exclusive transit lanes along Normandy corridor
- 71st Street vision:
  - Step 1: Dedicated Transit Lanes; Two-Way Car Travel; On-Street Parking
  - Step 2: All above + protected bike lanes
  - Step 3: Step 1 + grade-separated protected bike lanes



Plan NOBE 71st Street Existing. Source: Plan NOBE Report, 2.26.



Plan NOBE 71st Street Step 2. Source: Plan NOBE Report, 2.28.

6.0 RECOMMENDATIONS AND CONCEPTS

6.0 RECOMMENDATIONS AND CONCEPTS

6.1 Quail Roost Drive Concepts

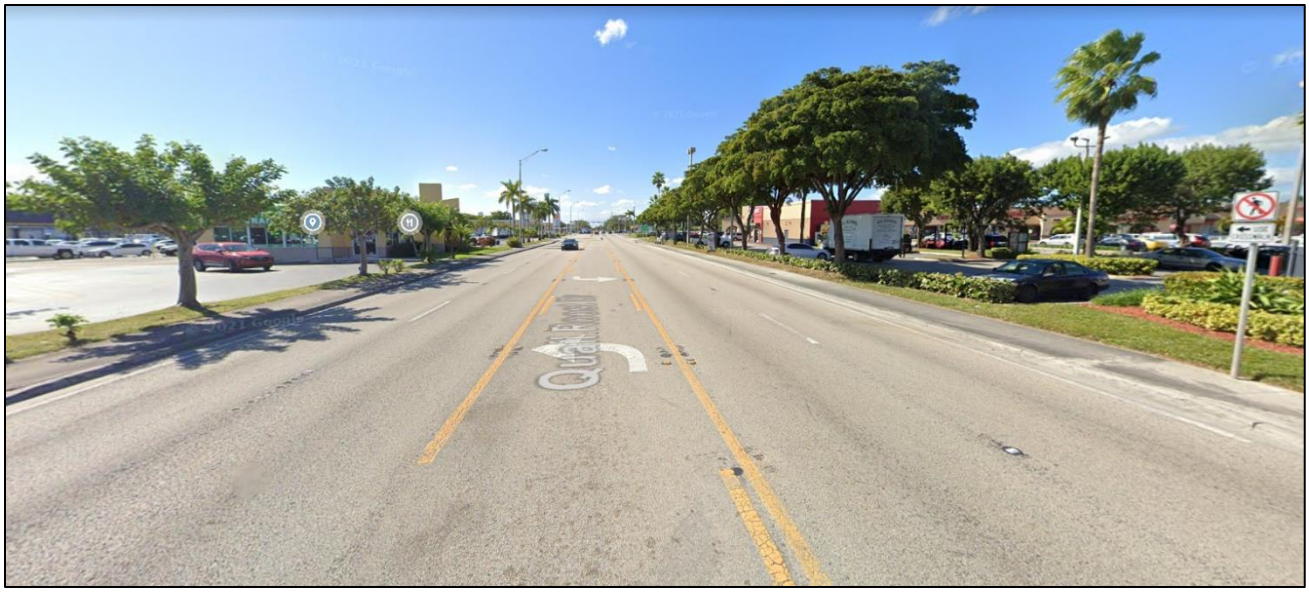
Concepts were developed for Quail Roost Drive that will enhance the safety of all users of the roadway as well as expand modal opportunities. The concepts are presented as follows in this section:

- Quail Roost Drive Segment A: West of the turnpike from SW 117th Avenue to SW 113th Avenue
- Quail Roost Drive Segment B: East of the turnpike to the busway
- Quail Roost Drive/SW 117th Avenue Intersection
- Quail Roost Drive/SW 114th Avenue Intersection

These concepts are displayed graphically via aerial imagery and/or typical street sections. As these proposed improvements are conceptual, further design and feasibility would be necessary to implement these improvements.

In addition to the concepts listed above, the following other improvements are recommended:

- Reduce posted speed from 40 mph to 35 mph
- Enhanced landscaping
- Increased lighting as necessary following a FDOT lighting study
- Midblock crossings between SW 114th Avenue and SW 117th Avenue and between SW104th Avenue and SW 105th Avenue to serve the commercial centers and bus stops in those areas (specific treatment to be determined based on FDOT Traffic Engineering Manual criteria)



Quail Roost Drive west of 114th Avenue. Source: Google Streetview, December 2020.

6.1.1 Quail Roost Drive Segment A

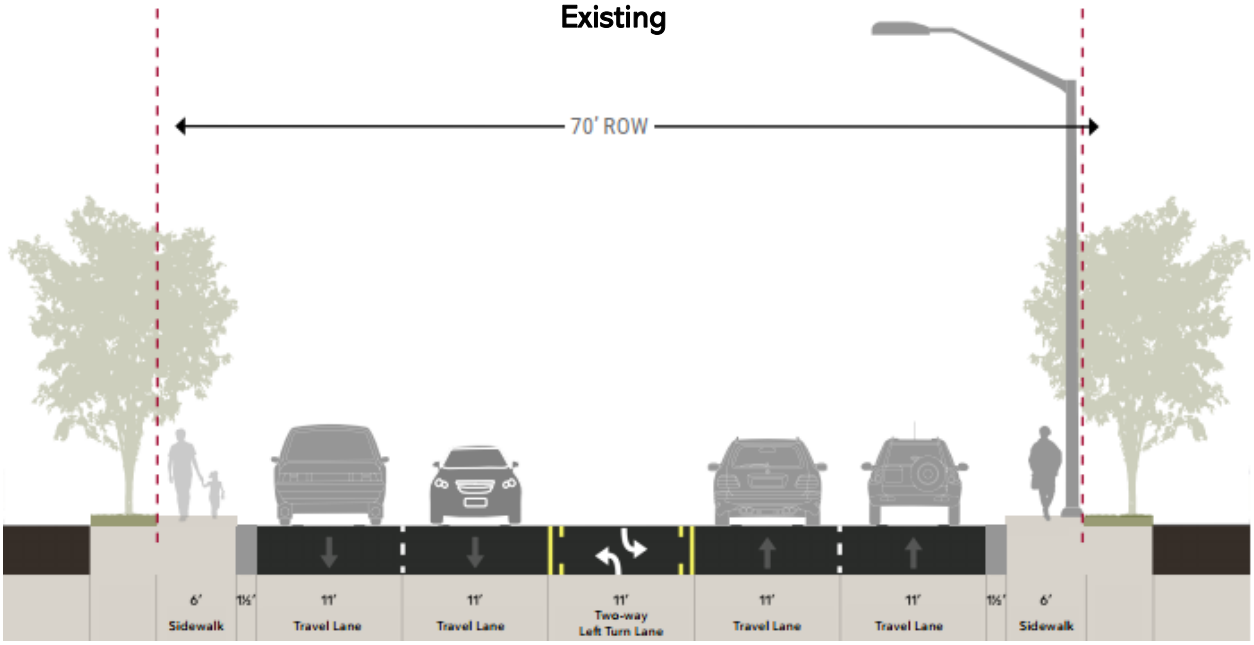
The following short-term and long-term roadway concepts were developed for Quail Roost Drive Segment A (see **Figure 6-1**), which is west of the turnpike from SW 117th Avenue to SW 113th Avenue.

Quail Roost Drive Segment A limits.

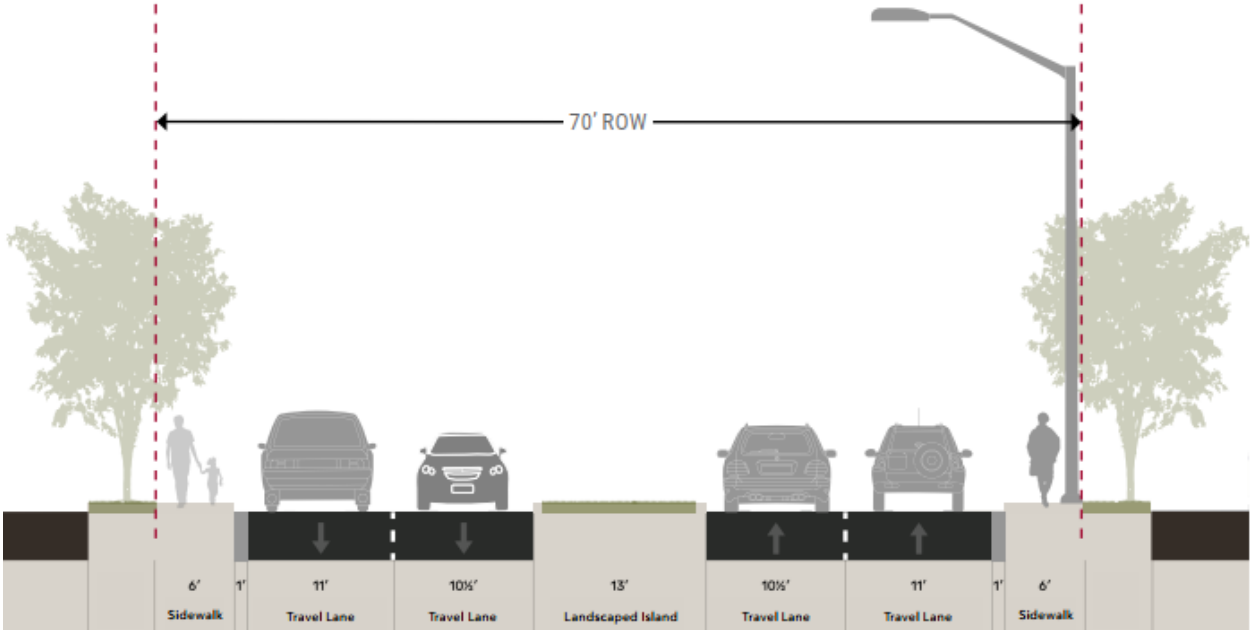
The short-term concept replaces the double center turn lane with a raised median or provides a left turn lane as needed. A raised median can provide a visual cue to motorists about the preferred vehicle speed. A median can also serve as a pedestrian refuge when a cut is provided along a marked crosswalk. This concept preserves existing curb and gutter, and may be implemented during a resurfacing project.

The long-term concept also concept replaces the double center turn lane with a raised median or provides a left turn lane as needed. Additionally, this concept includes providing a 4.5-foot raised, separated bike lane. This concept would not preserve the existing drainage and would require rebuilding of the roadway. It may also require easement agreements with adjacent properties, as some sidewalk areas would be outside the ROW.

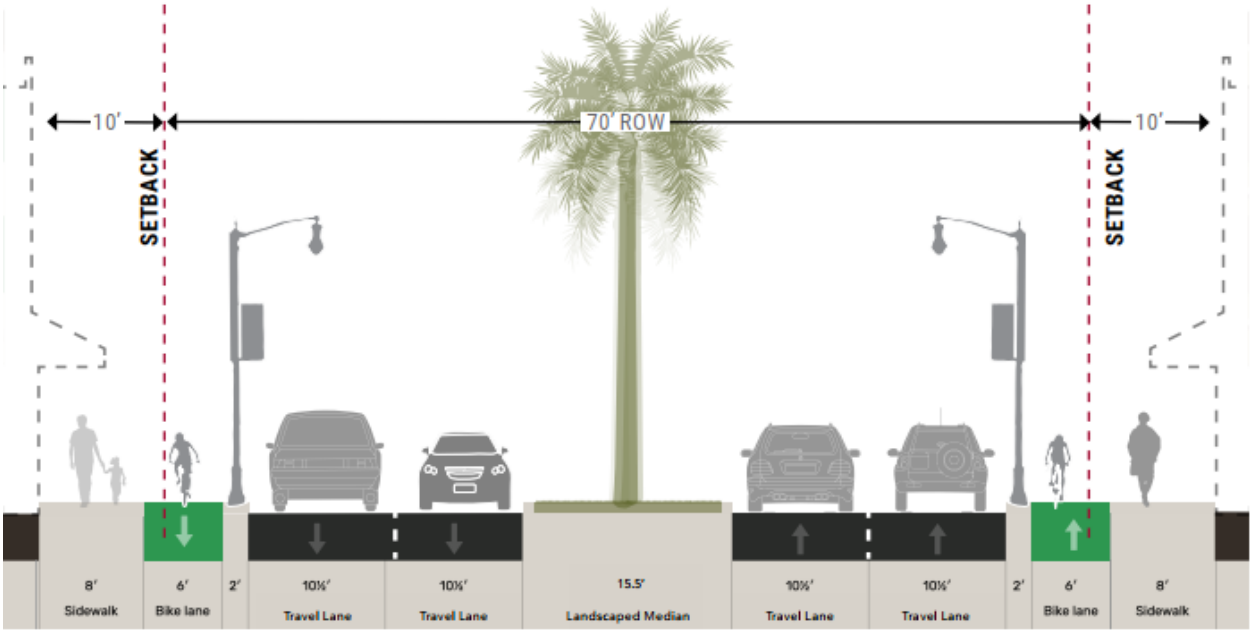
FIGURE 6-1 QUAIL ROOST DRIVE SEGMENT A CONCEPT



Short-Term Concept



Long-Term Concept



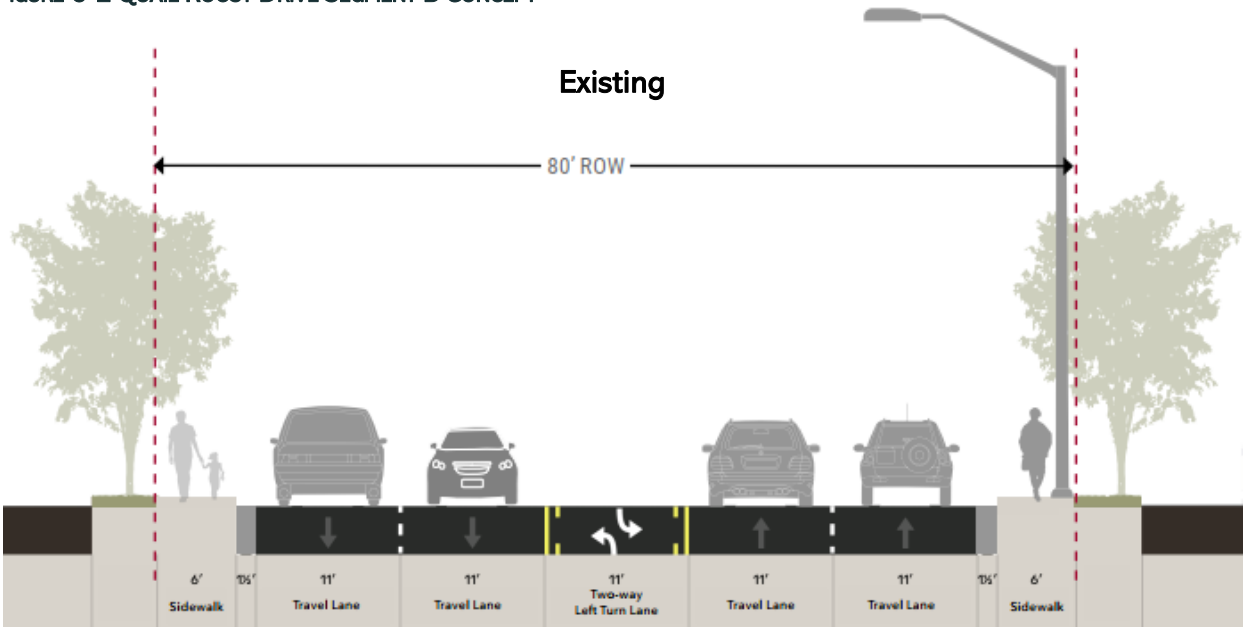
6.1.2 Quail Roost Drive Segment B

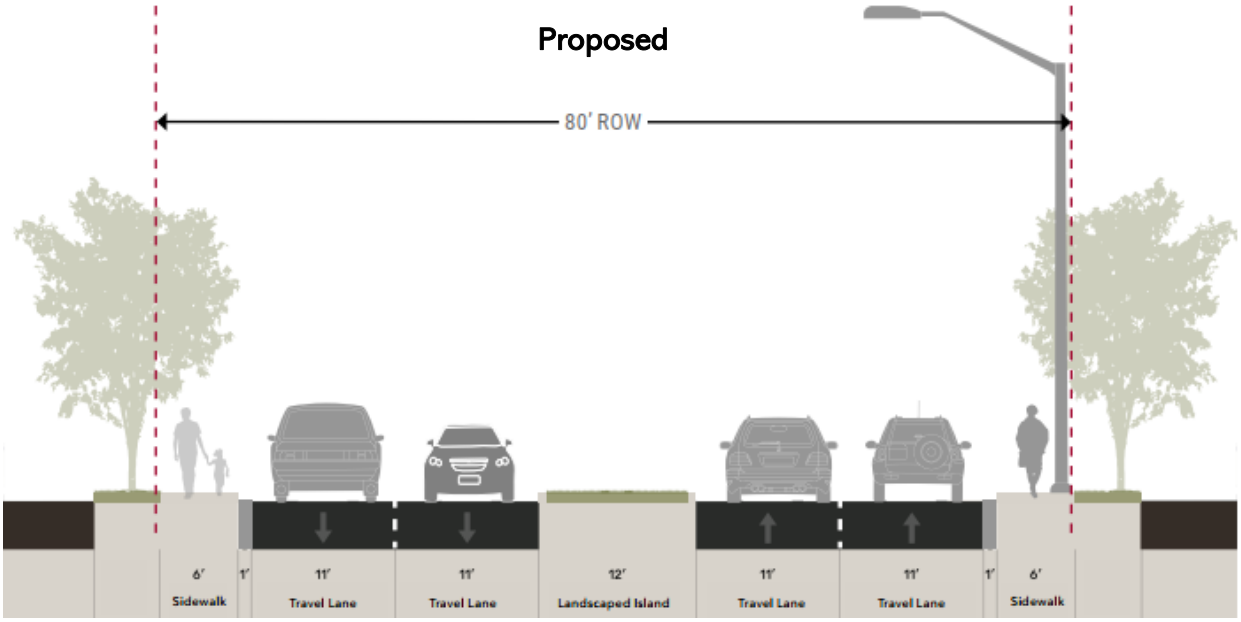
The following concept (**Figure 6-2**) was developed for Quail Roost Drive Segment B, which is from east of the turnpike to the busway.

Preserving this existing drainage, this concept replaces the double center turn lane with a raised median or provides a left turn lane as needed.

Quail Roost Drive Segment B limits.

FIGURE 6-2 QUAIL ROOST DRIVE SEGMENT B CONCEPT





6.1.3 Quail Roost Drive/SW 117th Avenue Intersection

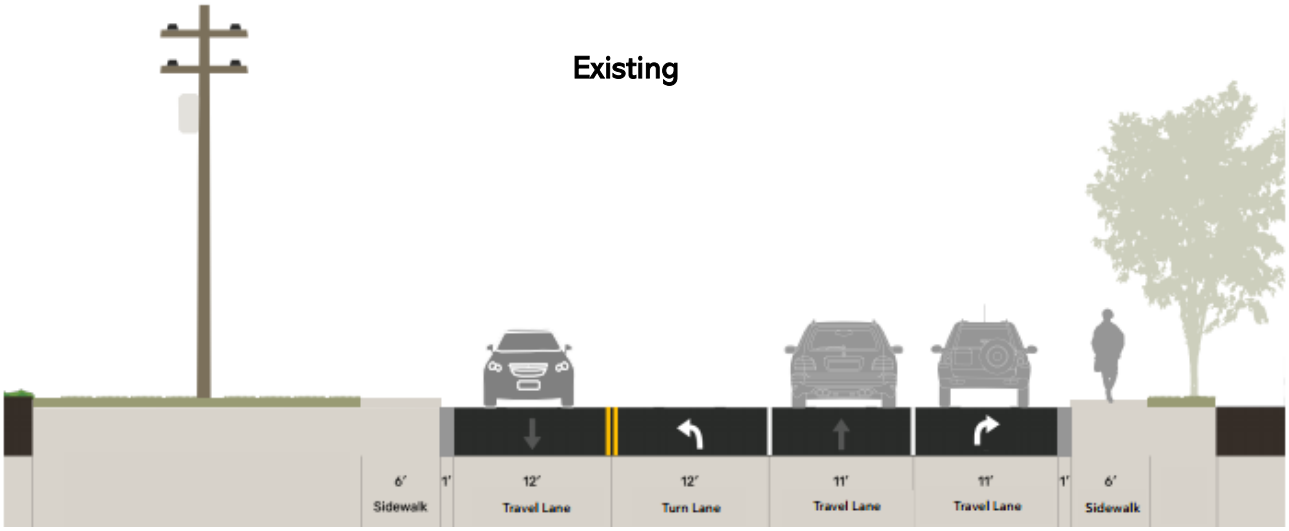
The Quail Roost Drive/SW 117th Avenue intersection provides the opportunity to implement a protected intersection that will enhance the safety of the future trail crossing for the Roberta Hunter Park Trail (**Figure 6-3**). The concept for this intersection includes adding the following:

- Extends crossing pavement on southwest corner
- Provides a more direct pedestrian path on the west crossing
- Provides enhanced and wider crosswalk to increase the visibility and safety of trail users

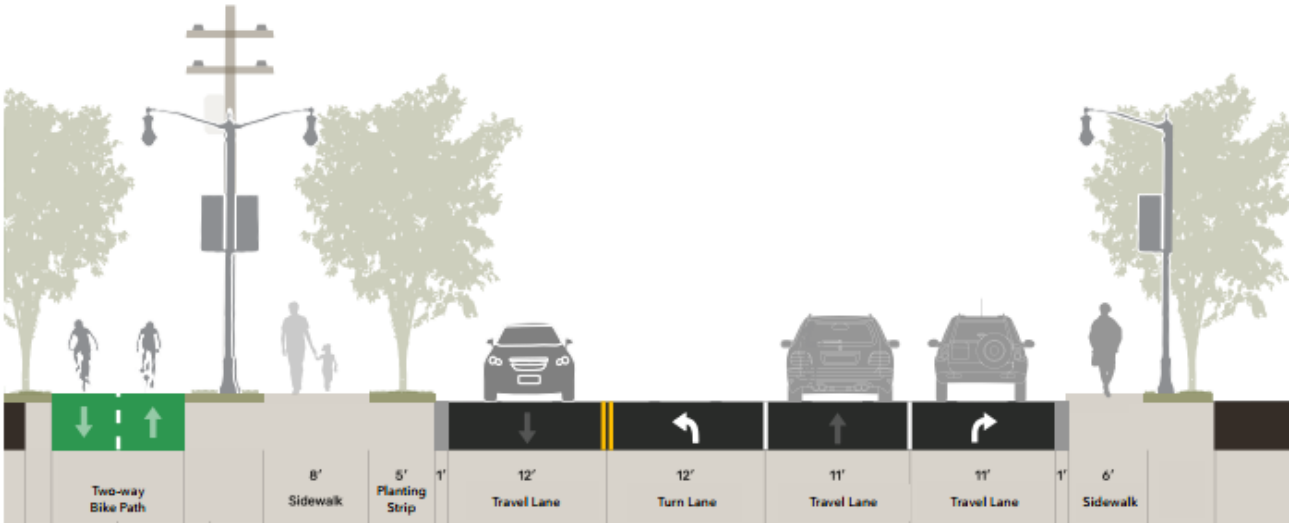
FIGURE 6-3 QUAIL ROOST DRIVE/SW 117TH CONCEPT

QUAIL ROOST DRIVE/SW 117TH CONCEPT TYPICAL SECTION

Existing



Proposed

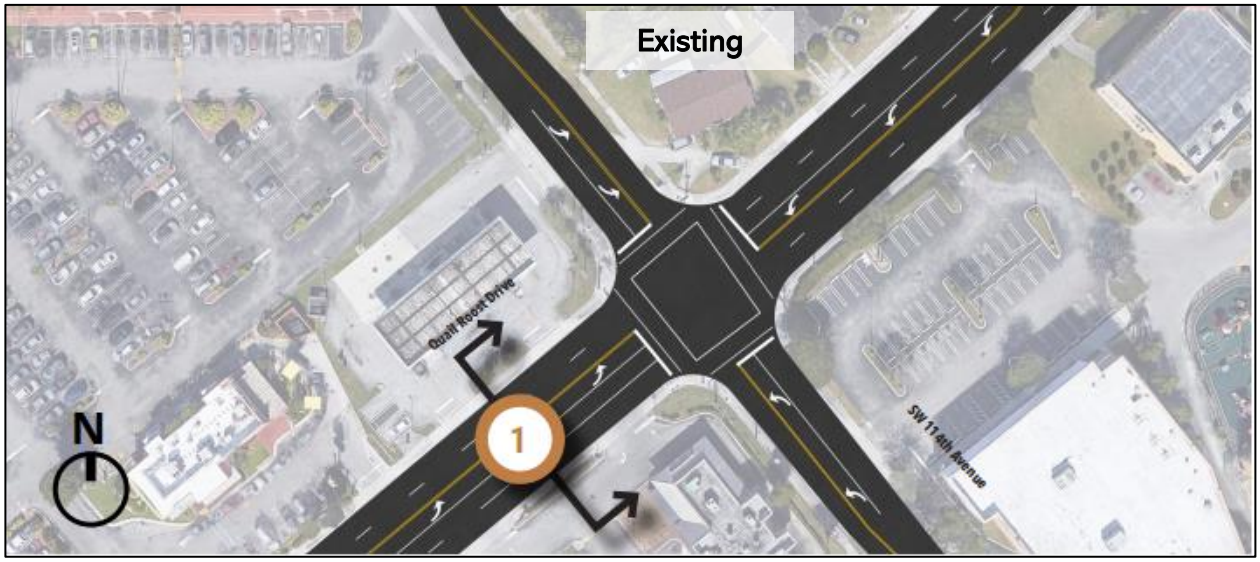


6.1.4 Quail Roost Drive/SW 114th Avenue Intersection

The Quail Roost Drive/SW 114th Avenue intersection provides another opportunity to implement a protected intersection to enhance the safety of all users (see **Figure 6-4**). The concept for this intersection includes adding the following:

- **Raised Median**: landscaped and concrete encouraging safe turning movements.
- **Pedestrian Safety Enhancements**: high visibility striping on all crosswalk approaches and hardening of curb radii to provided additional pedestrian protection.
- **Midblock Crossing**: including an RRFB or other signalization/treatment to provide safety at this high crash location. An RRFB would be permissable with a reduction in posted speed to 35 mph.
- **Bus Stop Relocation**: move existing crosswalk adjacent to midblock crossing.

FIGURE 6-4 QUAIL ROOST DRIVE/SW 114TH AVENUE CONCEPT



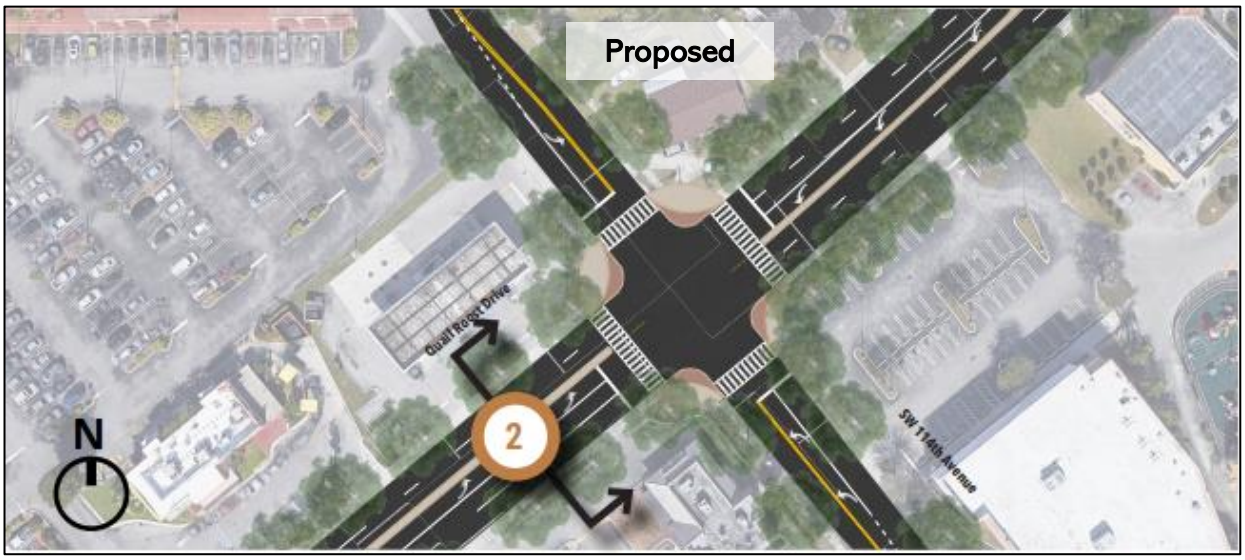
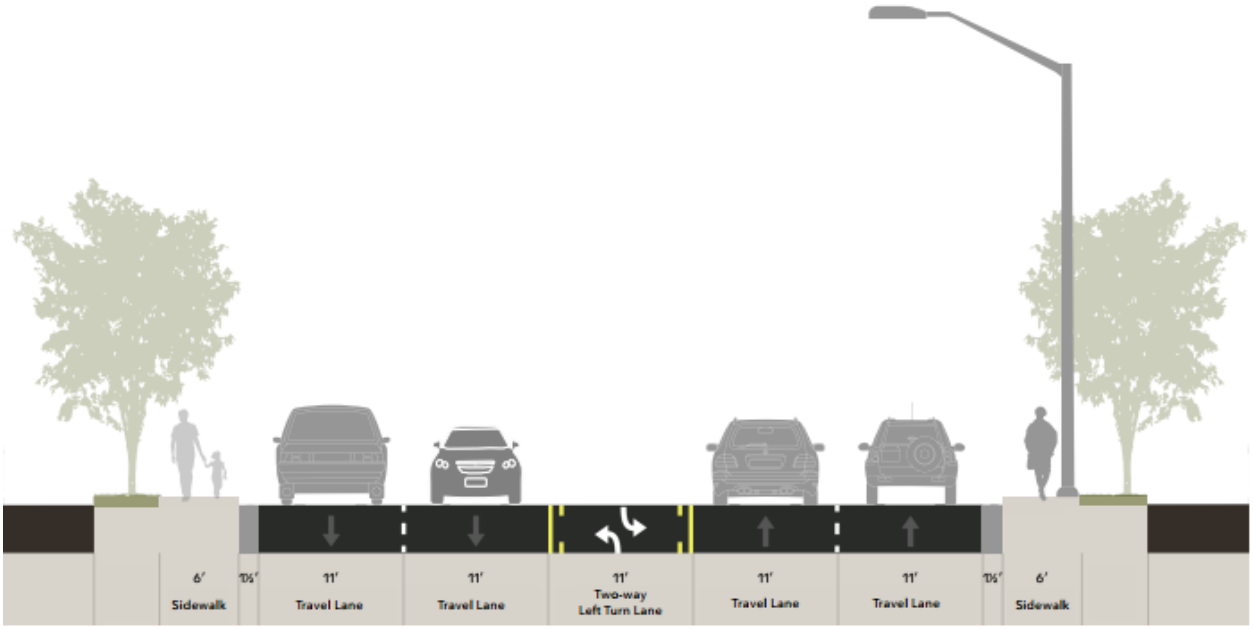
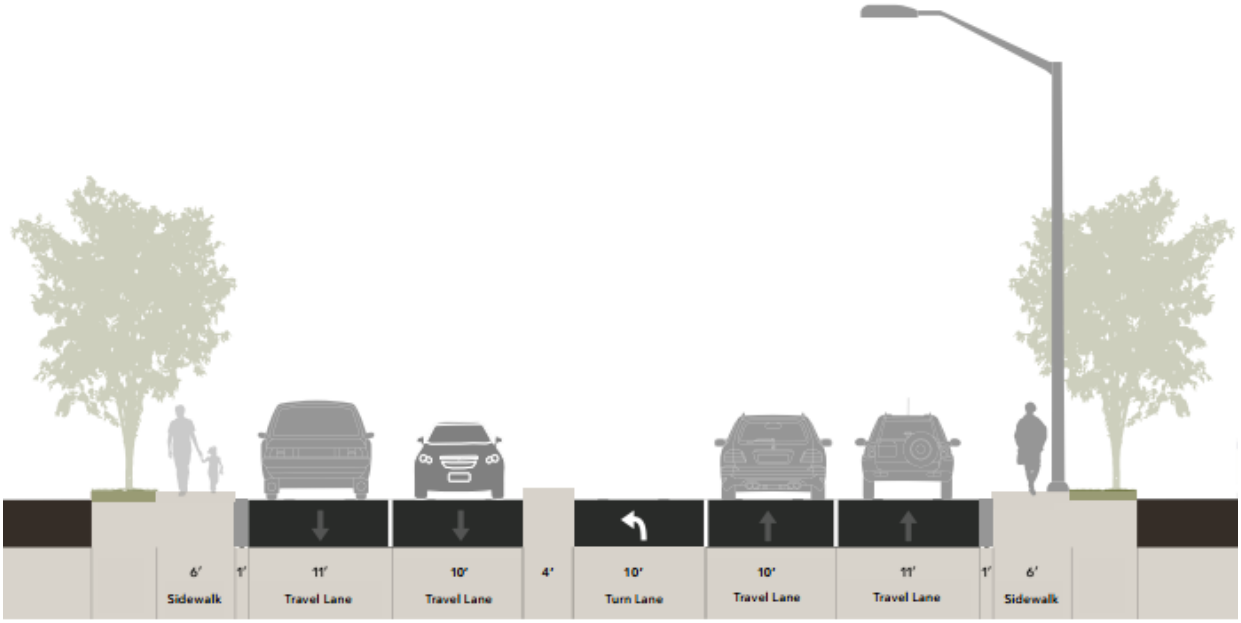


FIGURE 6-5 QUAIL ROOST DRIVE/SW 114TH AVENUE TYPICAL

Existing



Proposed



6.2 Normandy Drive Concepts

Concepts were developed for Normandy Drive that will enhance the safety of all users of the roadway as well as expand modal opportunities. The concepts are presented as follows in this section:

- Normandy Drive Key Design Enhancements
- Normandy Drive Segment A: One-way pairs from Bay Drive to Rue Notre Dame
- Normandy Drive Segment B: One-way pairs from Rue Notre Dame to Indian Creek Drive
- Normandy Drive Segment C: Indian Creek Drive to Abbott Avenue
- Normandy Drive Segment D: Abbot Avenue to Collins Avenue
- 71st Street/Indian Creek Drive intersection
- 71st Street Cross Section

In addition, the following other improvements are recommended:

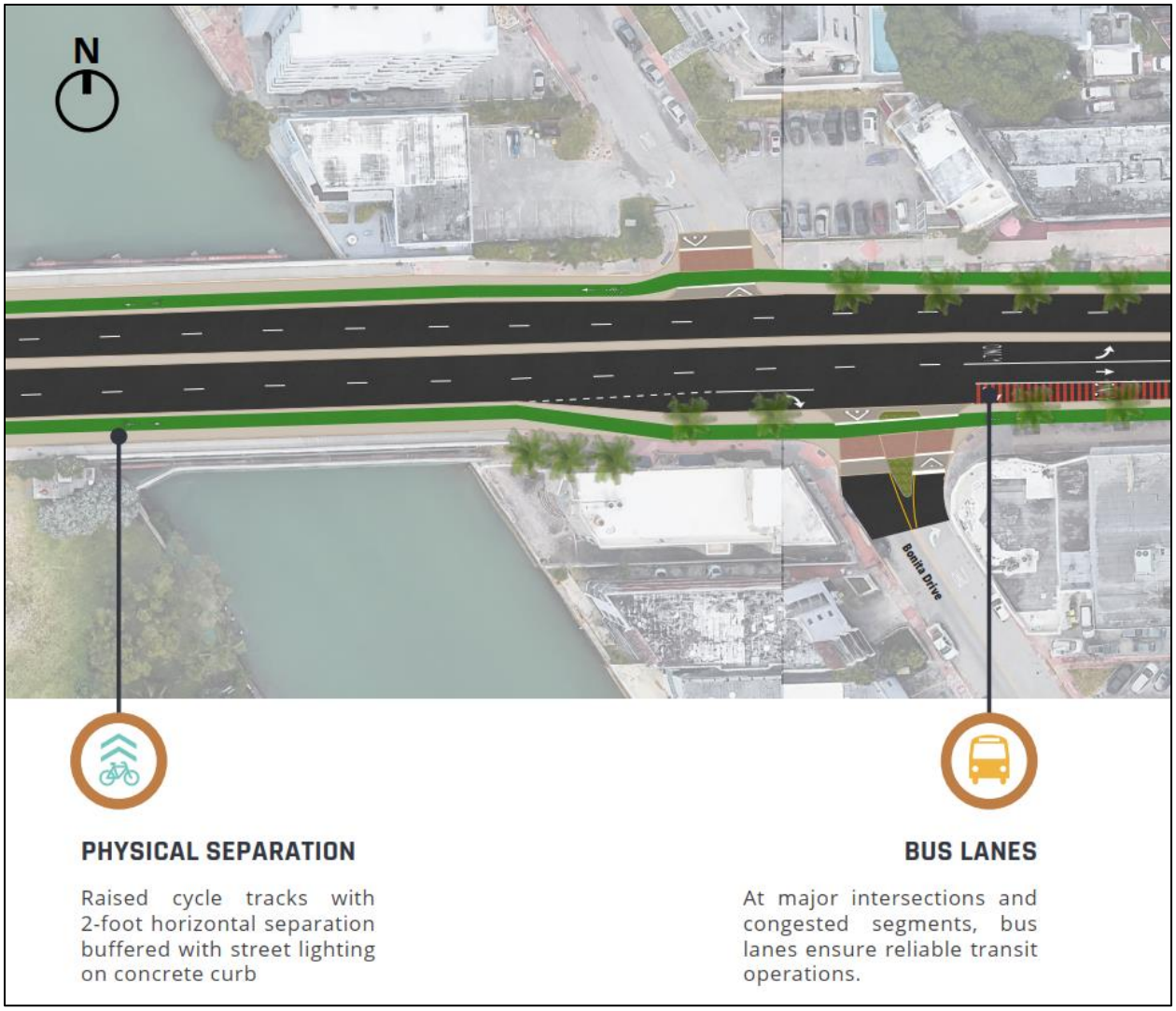
- Reducing the posted speed limit from 35 mph to 30 mph
- Enhancing landscaping and lighting as needed following completion of a lighting study
- Install additional bulbouts along the one-way pair at intersections to narrow crossing distance for pedestrians and slow turning vehicles
- Install a new signal at 71st Street/ Biarritz Drive (mirroring the one on Normandy Avenue) to provide enhanced pedestrian safety for adjacent commercial uses and bus stop at the skewed intersection
- New midblock crossings at 71st Street/Rue Granville (east side), 71st Street/Rue Bordeaux (west side) and Normandy/Rue Bourdeaux (east side)
- Explore the feasibility of installing new signals at Normandy/Rue Notre Dame, which has existing pedestrian crossings
- Add a new signal, midblock crossing, or other pedestrian safety treatment at 71st Street/Rue Versailles to address substantial pedestrian activity. The specific treatments would be determined based on FDOT Traffic Engineering Manual criteria.

Normandy Drive pedestrian crossing. Photo source: Project Team, December 2021.

6.2.1 Normandy Drive Key Design Enhancements

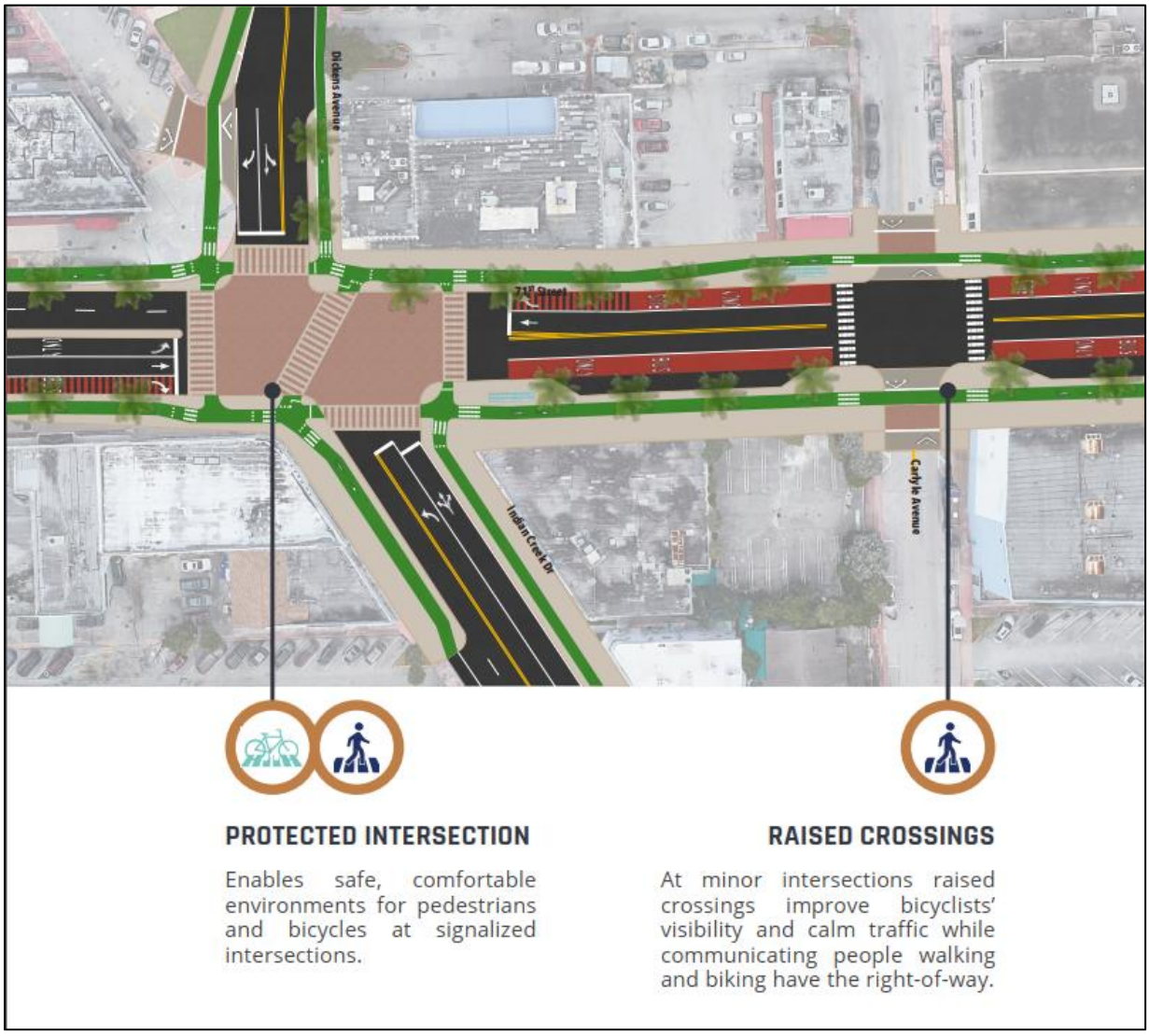
There are four key design enhancements that are within the Normandy Drive concepts: physical separation, dedicated bus lanes, protected intersections, and raised crossings (see **Figures 6-6** and **6-7**). These elements work to protect a variety of users of the roadway as well as increase overall safety while expanding mode opportunities.

FIGURE 6-6 NORMANDY DRIVE KEY DESIGNS 1



A note on physical separation: if the roadway is being rebuilt, the design for a separated bicycle facility is a raised, sidewalk level facility with at least a two-foot physical buffer from the concrete curb. The concepts display this design. However, alternatives to this include roadway-level bike lanes with a physical separator such as narrow concrete buffers, tubular separators, or other raised treatments such as the Zicla Zipper system.

FIGURE 6-7 NORMANDY DRIVE KEY DESIGNS 2



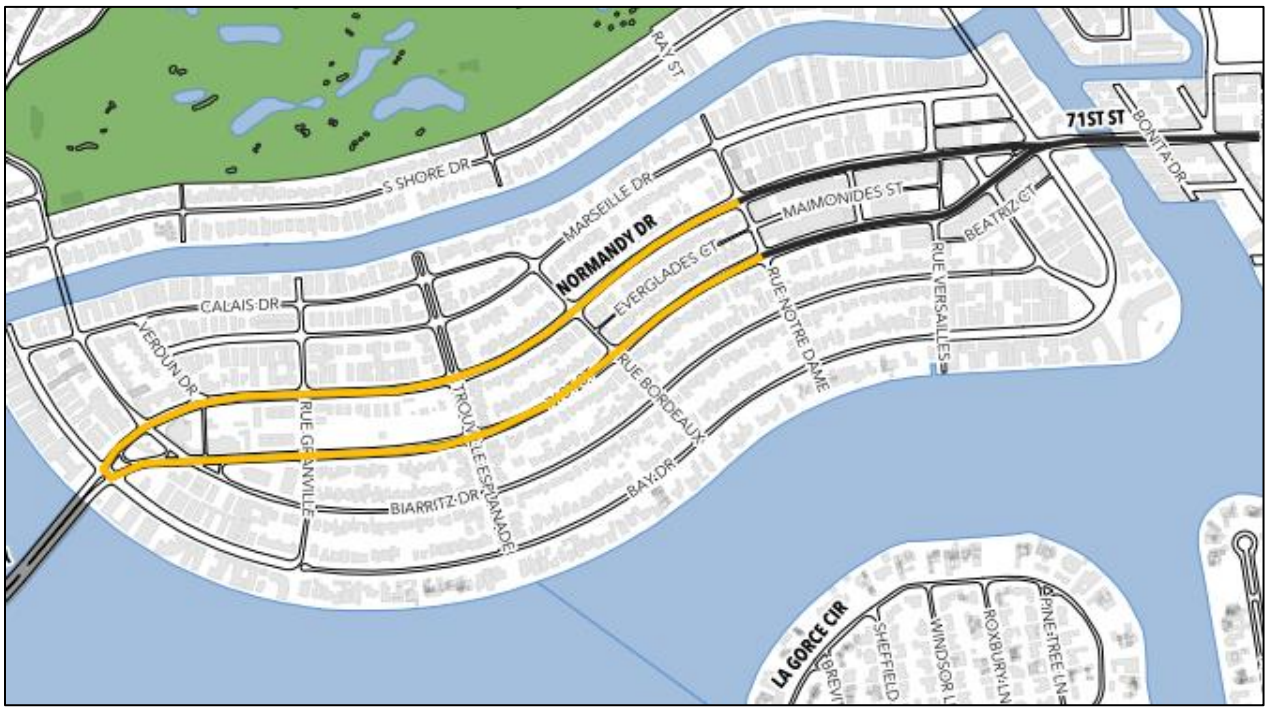
Normandy Drive Segment A

The first segment of the corridor, which consists of the one-way pairs of Normandy Drive and 71st Street from Bay Drive to Rue Notre Dame, is proposed to be enhanced by providing parking protected bicycle lanes. (see **Figures 6-8** and **6-9**),

The concept includes moving the bike lane adjacent to the sidewalk, adding a three-foot buffer to the bike lane, and reducing two of the travel lanes to 10.5 feet down from 11 feet.

In addition, the posted speed limit should be reduced to 30mph and intersection bulbouts should be installed to slow turning vehicles and reduce crossing distance for pedestrians. Studies should also be conducted for additional signals and/or pedestrians crossings along both streets.

There was also discussion during the study about potential lane repurposing along this segment, but the proposal is not included in this report.



Normandy Drive Segment A Study Area.

FIGURE 6-8 NORMANDY DRIVE SEGMENT A EXISTING

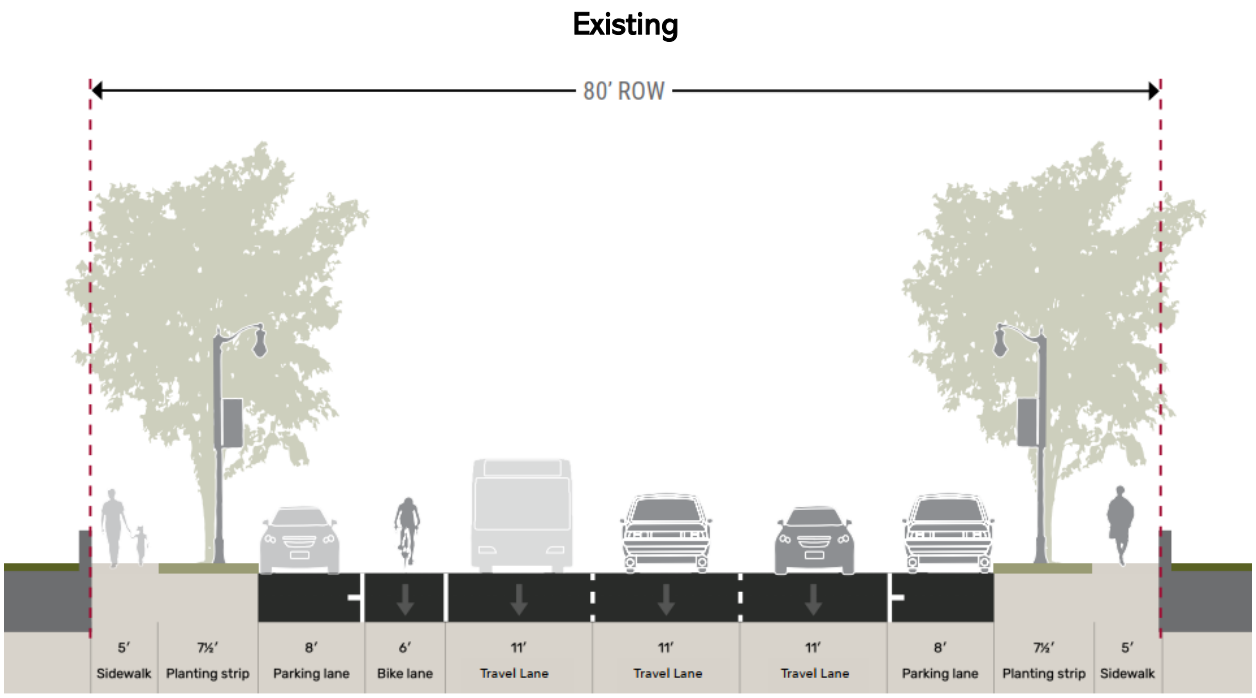
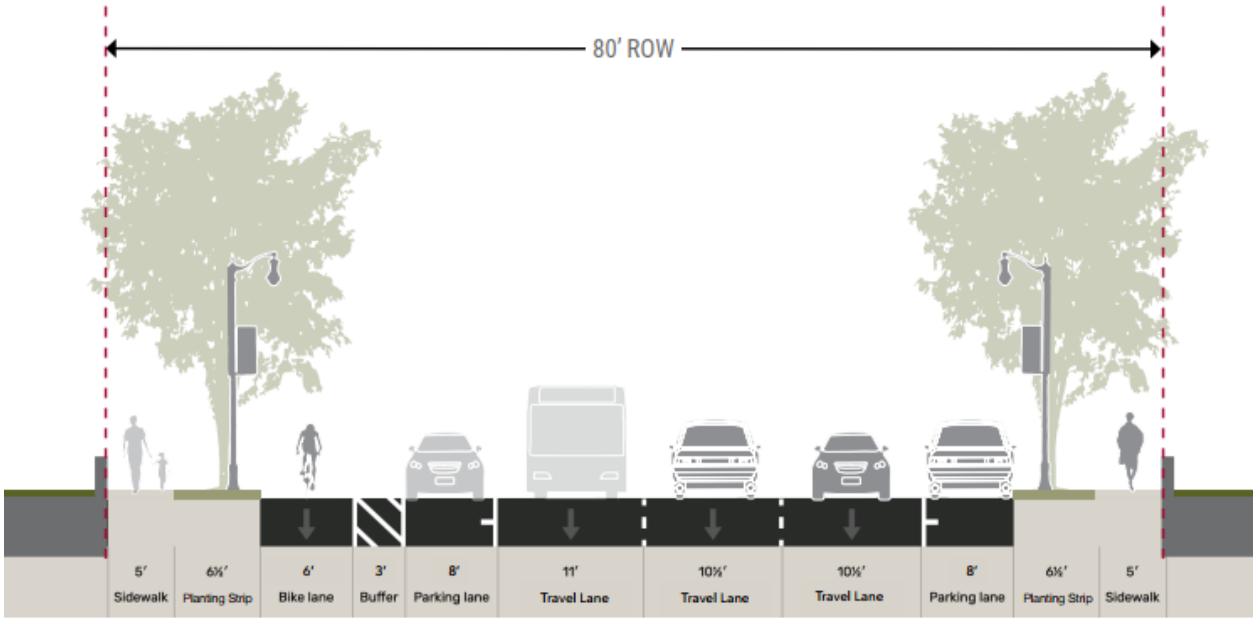


FIGURE 6-9 NORMANDY DRIVE SEGMENT A CONCEPT



6.2.2 Normandy Drive Segment B

The second segment of the Normandy Drive corridor is comprised of commercial land uses, abutting the roadway right-of-way. Segment B consists of the one-way pairs of Normandy Drive and 71st Street from Rue Notre Dame to North Shore Drive (see **Figures 6-10** for typical section). The segment then extends across the bridge eat to Indian Creek Drive (see **Figure 6-11** for typical section.

The City of Miami Beach is currently conducting a traffic study in this area which is evaluating the potential for lane reduction/repurposing. Lane repurposing would allow for the installation of continuous bike lanes through the commercial area, and potential gateway features on the bridge. this section. As with Segment A, there was discussion during this study about potential lane repurposing, but the proposal is not included in this report. It is recommended that the posted speed limit should be reduced to 30 mph, and additional marked pedestrian crossings should be provided.

Normandy Drive Segment B Study Area.

FIGURE 6-10 NORMANDY DRIVE SEGMENT B EXISTING TYPICAL

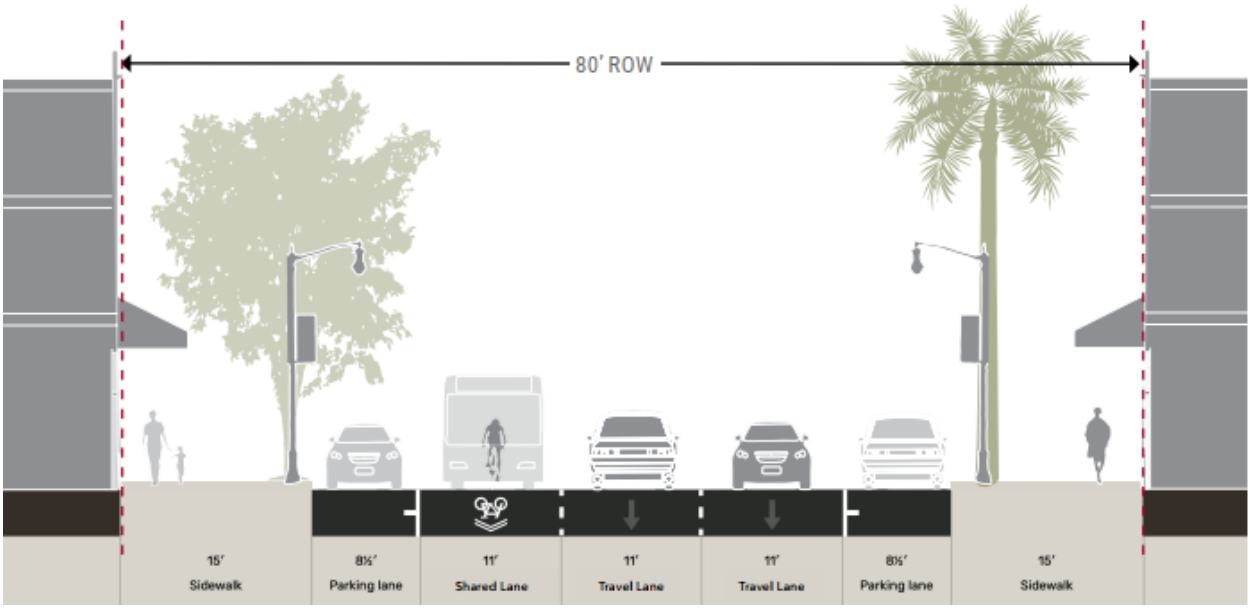
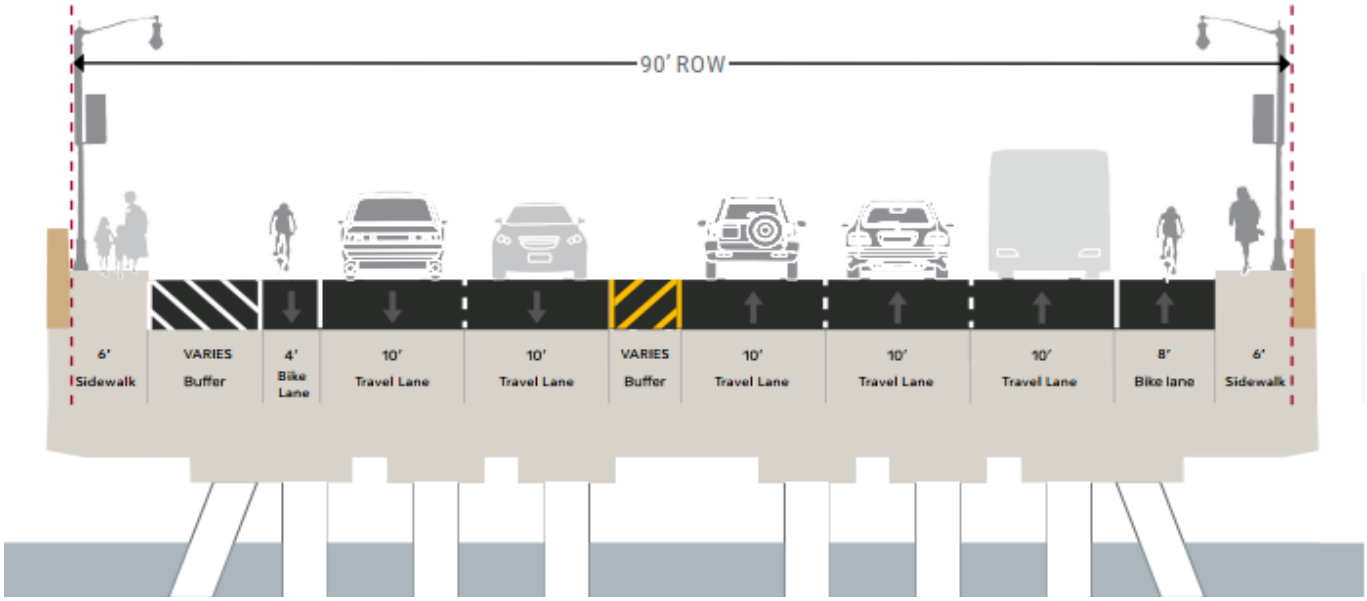


FIGURE 6-11 NORMANDY DRIVE SEGMENT B EXISTING TYPICAL (BRIDGE)



6.2.3 Normandy Drive Segment C

The following short-term and long-term concepts were developed for Normandy Drive Segment C with limits from Indian Creek Drive to Abbot Avenue (see **Figures 6-12** and **6-13**).

The short-term concept includes the following improvements:

- Removing the center dual left turn lane
- Adding 12-foot shared bus-bike lanes
- Widening the sidewalks to 13 feet

The long-term concept includes:

- Adding 10-foot dedicated bus lanes
- Adding an eight-foot flex lane
- Adding six-foot raised bike lanes
- Widening the sidewalks to 11 feet

Normandy Drive Segment D limits.

FIGURE 6-12 NORMANDY DRIVE SEGMENT C EXISTING TYPICAL

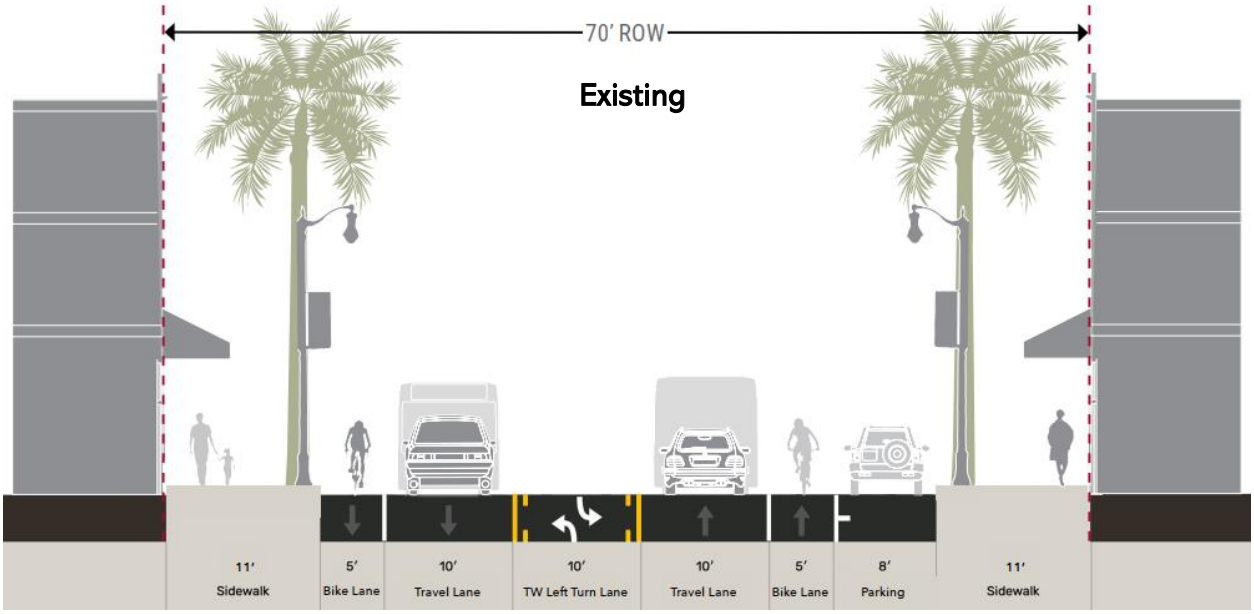
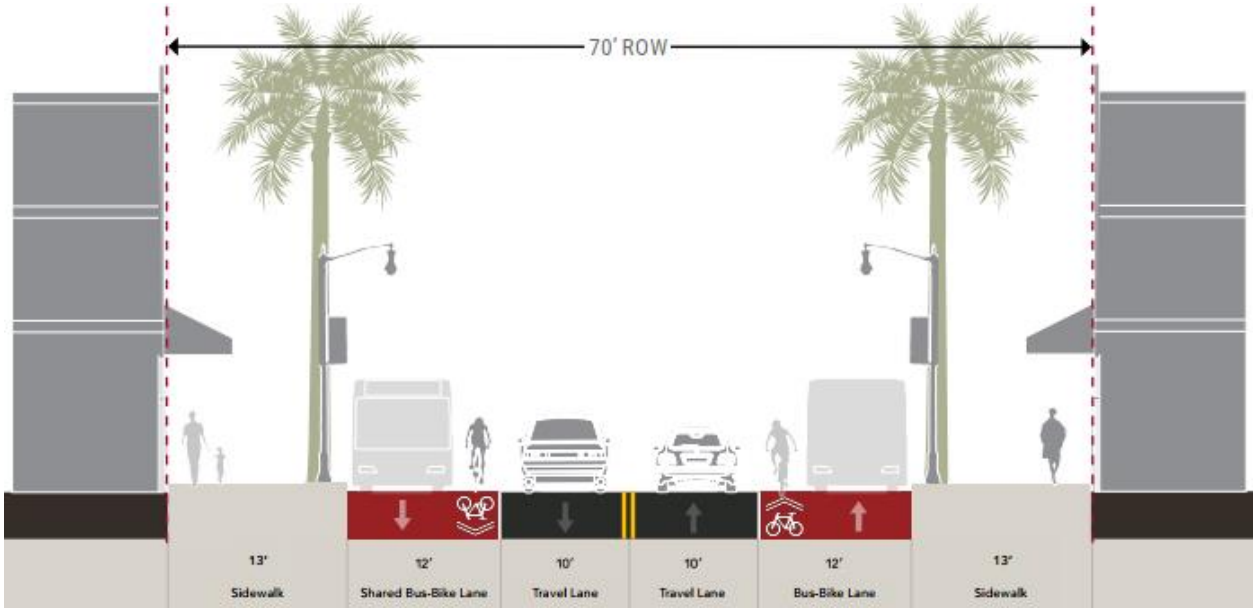
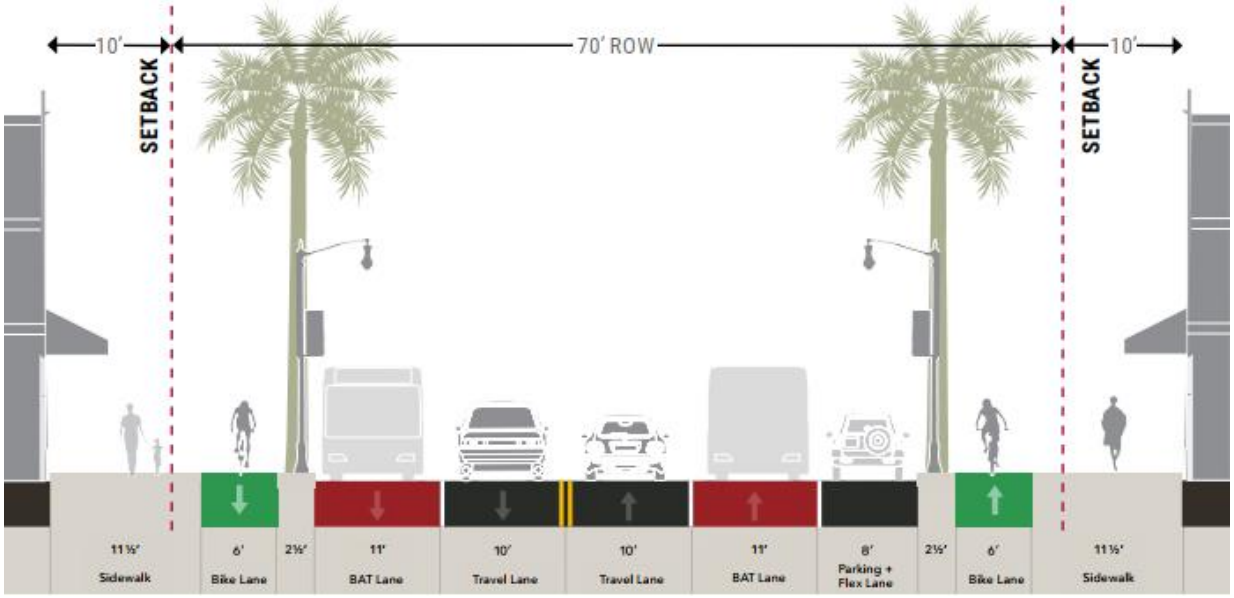


FIGURE 6-13 NORMANDY DRIVE SEGMENT C CONCEPTS

Short-Term Concept



Long-Term Concept



6.2.4 Normandy Drive Segment D

The following short-term and long-term concepts were developed for Normandy Drive Segment D with limits Abbot Avenue to Collins Avenue (see **Figures 6-14** and **6-15**).

The short-term concept includes the following improvements:

- Removing the center dual left turn lane
- Potential provision of a Business Access and Transit (BAT) lane
- Six-foot raised, separated bike lanes

The long-term concept includes the following improvements:

- Five-foot raised median
- Eight-foot flex zones
- Six-foot raised, separated bike lanes
- 16-foot sidewalks that could function as dining/commercial areas

Normandy Drive Segment E limits.

FIGURE 6-14 NORMANDY DRIVE SEGMENT D EXISTING TYPICAL

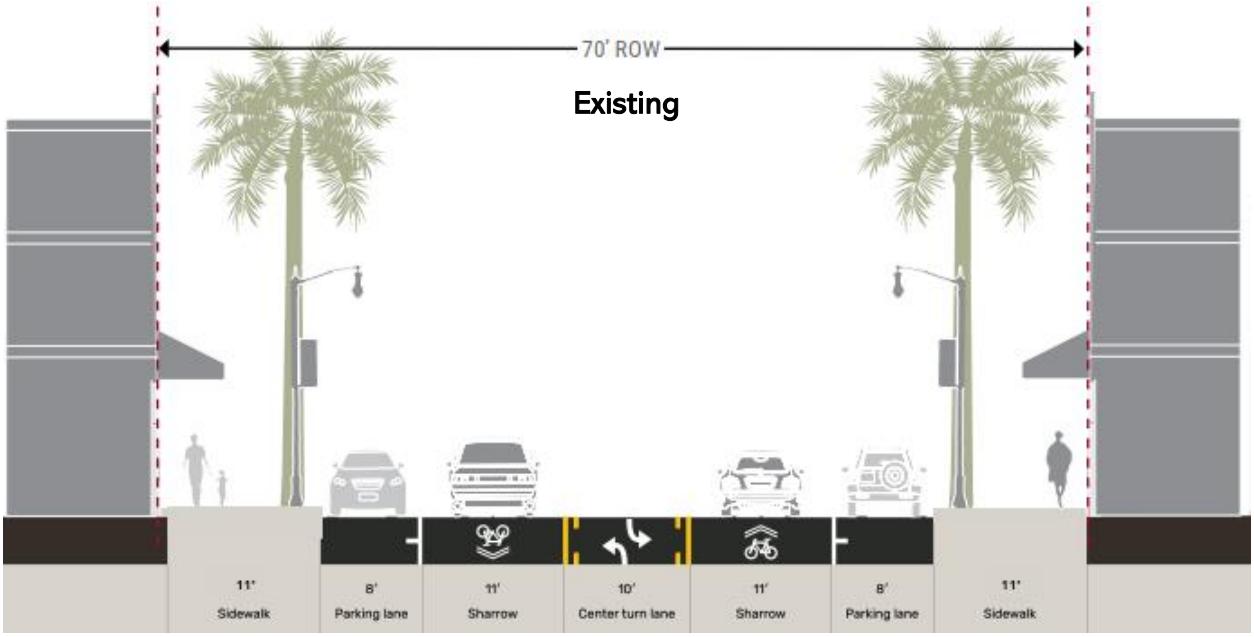
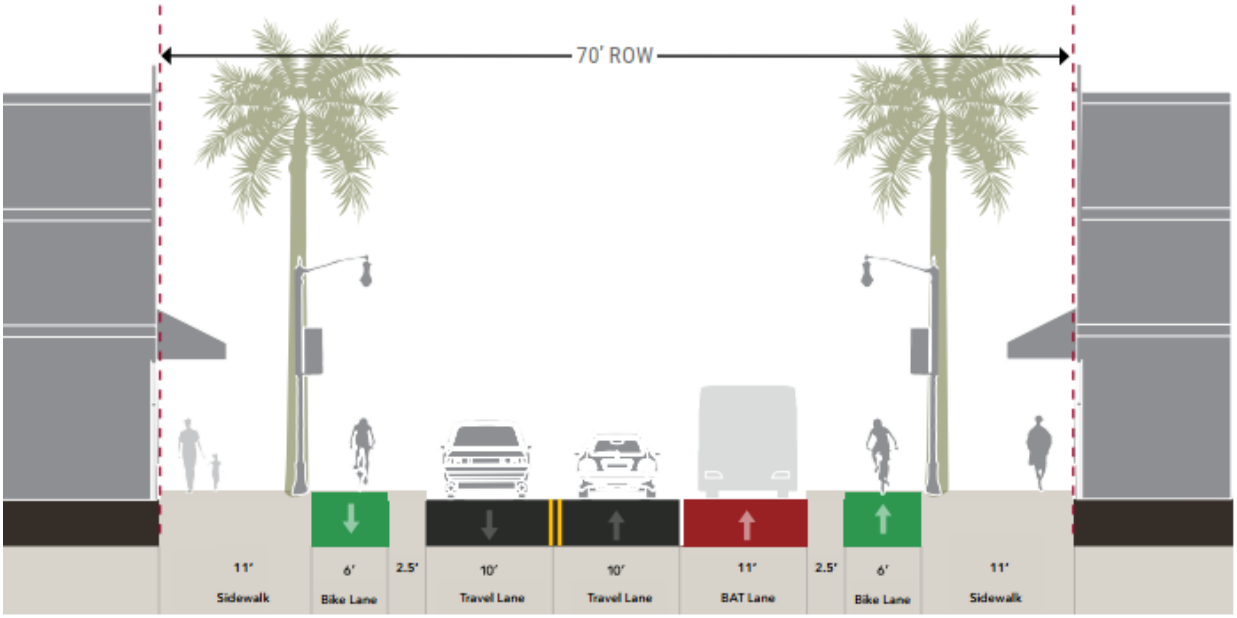
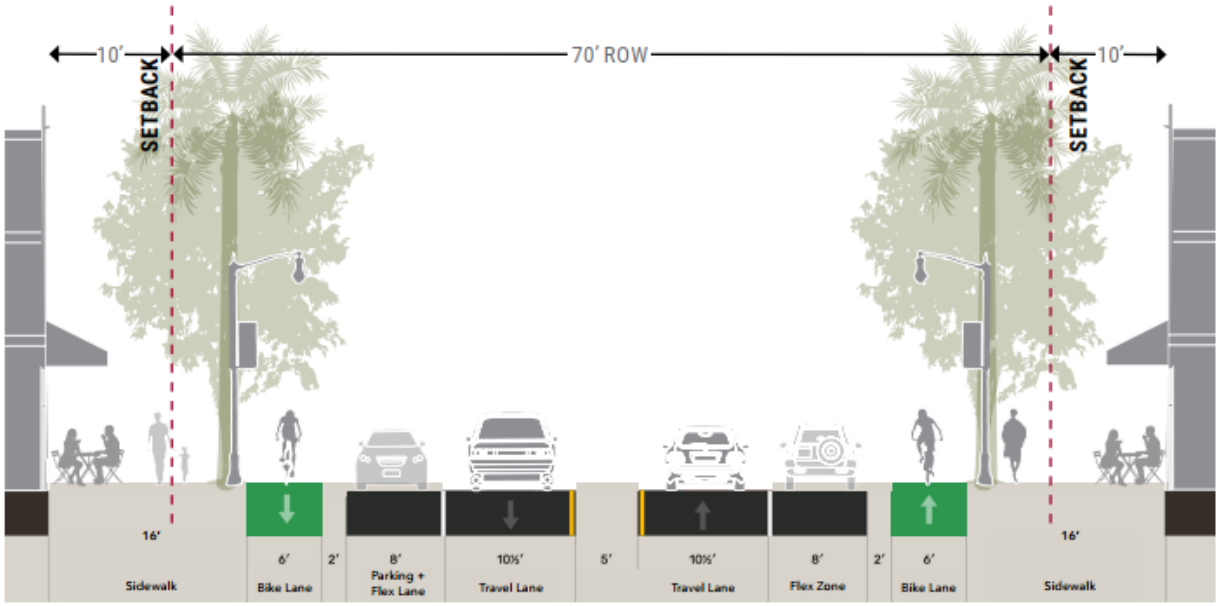


FIGURE 6-15 NORMANDY DRIVE SEGMENT D CONCEPTS

Short-Term Concept



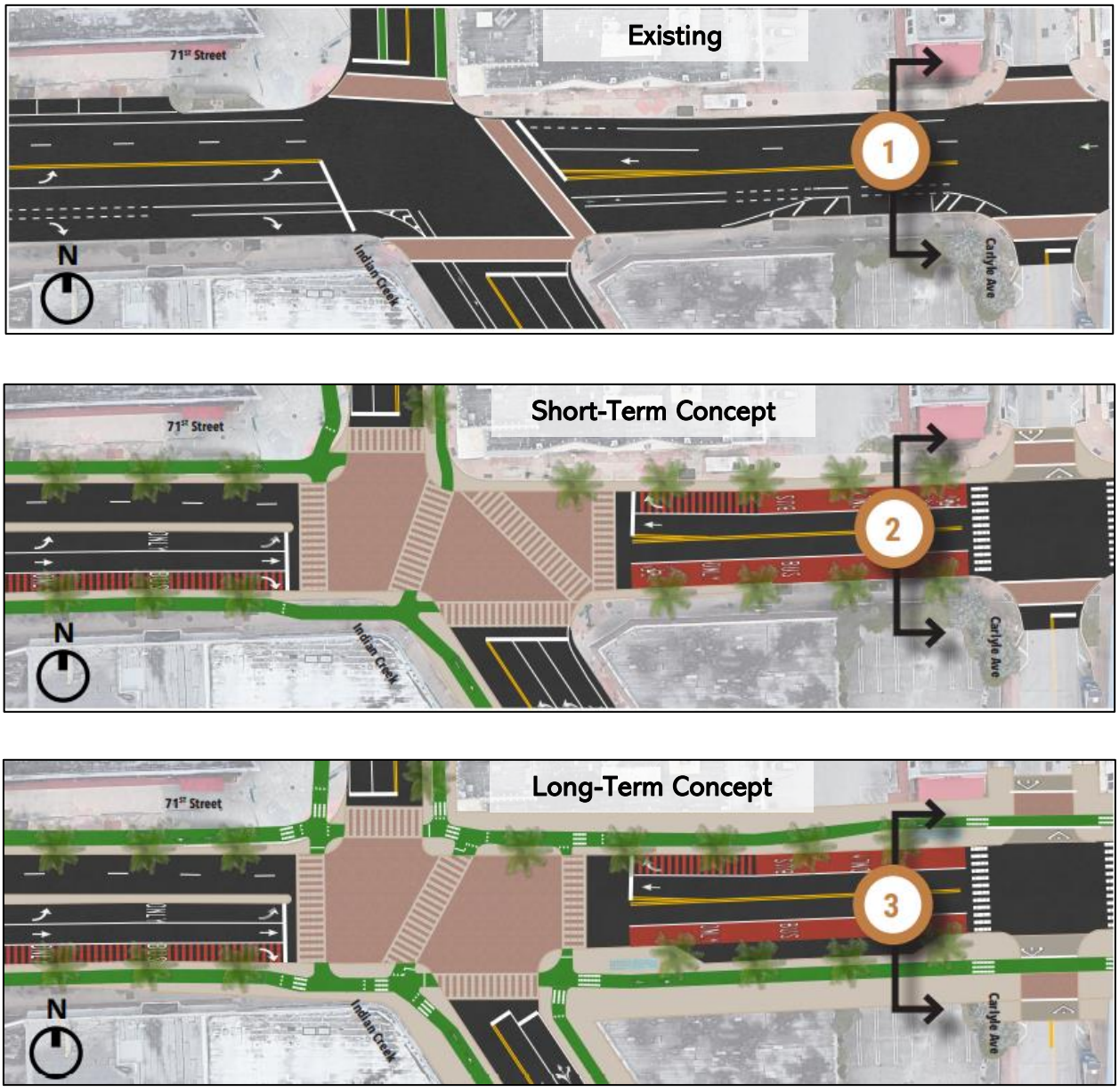
Long-Term Concept



6.2.5 71st Street/Indian Creek Drive

A short-term and long-term concept is proposed for the 71st Street/Indian Creek Drive intersection (see **Figure 6-16**). Both concepts feature a pedestrian scramble crossing intersection in which vehicular traffic stops in all directions and pedestrians have the opportunity to freely cross in any direction. Both options also provided enhanced Business Access and Transit (BAT) lanes that will serve as an upgrade to the existing bus pull-off lanes. Moreover, the short-term concept provides a separated path west of the intersection whereas the long-term option provides a separated path to the west and east of the intersection.

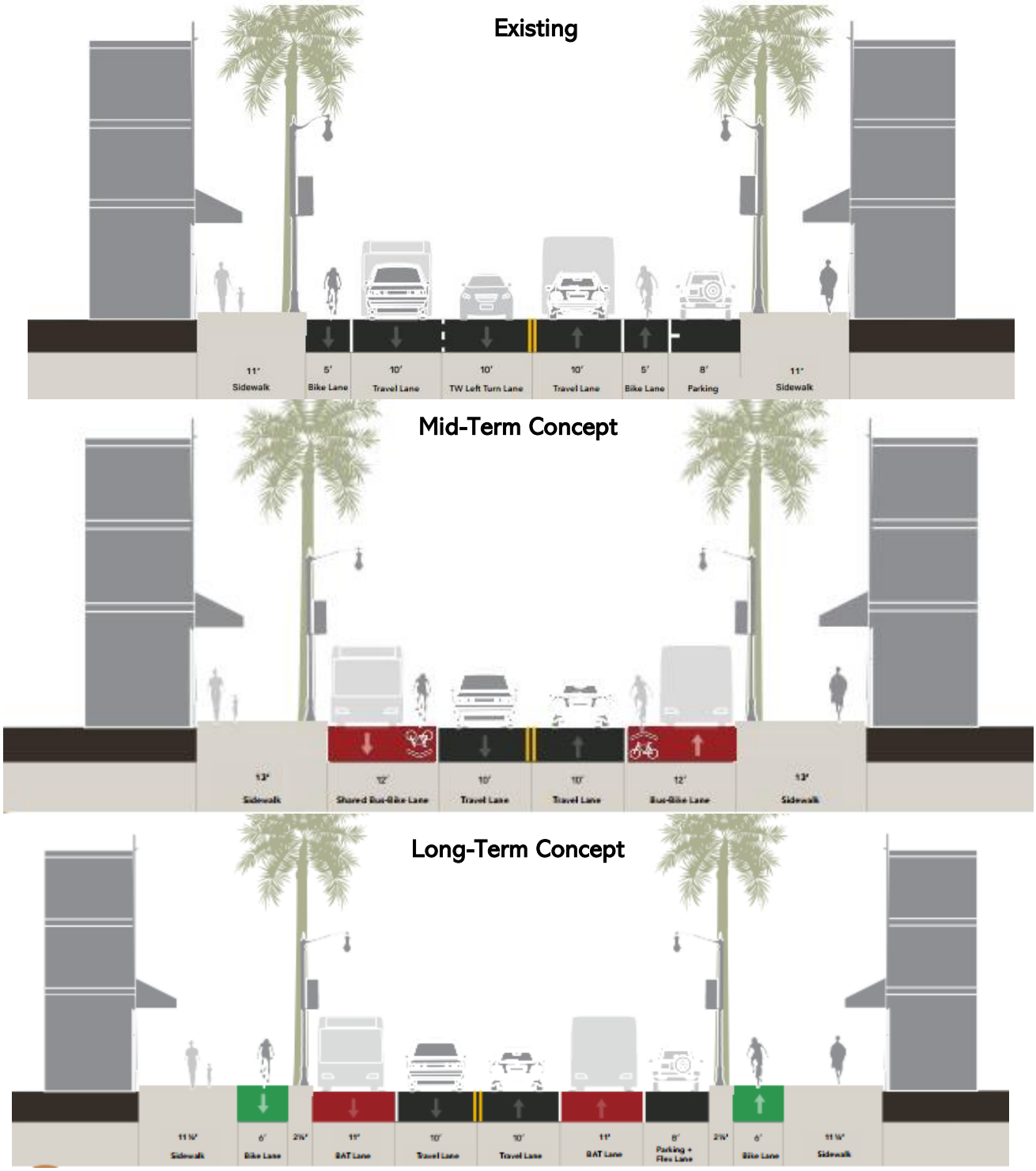
FIGURE 6-16 71ST STREET/INDIAN CREEK CONCEPTS

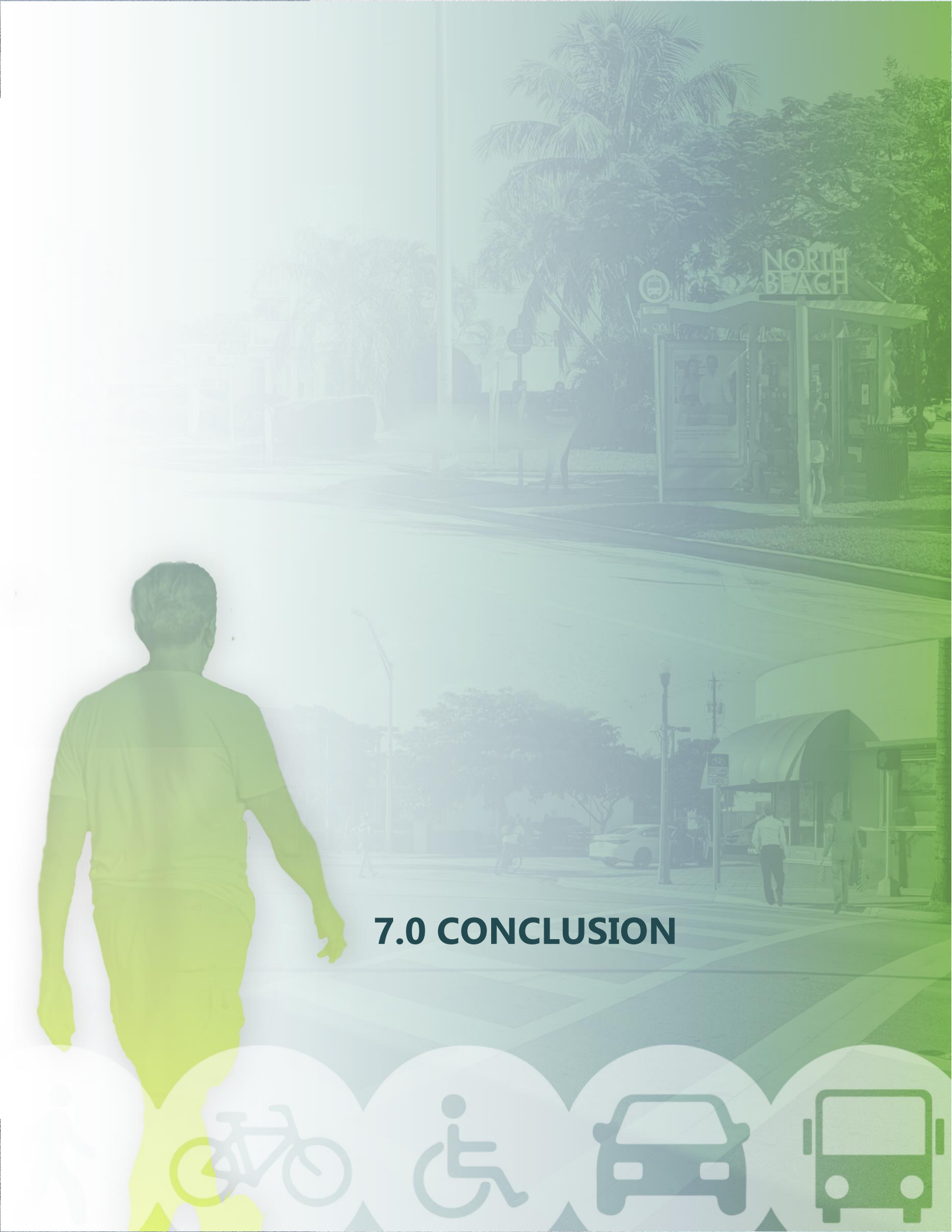


6.2.6 71st Street Cross-Section

The two concepts developed for 71st Street are categorized as mid-term and long-term concepts (see **Figure 6-17**). The mid-term concept features adding 12-foot bus-bike lanes and widening the sidewalk to 13 feet. The long-term concept includes a 10-foot dedicated bus lane and six-foot raised cycle tracks.

FIGURE 6-17 71ST STREET CROSS-SECTION CONCEPTS





7.0 CONCLUSION

7.0 CONCLUSION

As stated earlier in this report, Complete Streets are about people first, whereby, pedestrians, bicyclists, transit riders, and motorists of all ages and abilities must be able to safely move along streets. Complete Streets provide several benefits in addition to mobility such as public health, economic vitality, aging, safety, and environmental quality. The primary purpose of this study was to develop a methodology for identifying candidate state-maintained roadway corridors in Miami-Dade County in need of having Complete Streets strategies applied to.

A diverse Study Advisory Committee (SAC) was formed and provided guidance throughout the study. Forty corridors were initially identified, screened, and scored based on evaluation criteria. The SAC recommended a refined list of 20 priority corridors to evaluate further. These corridors were then screened using additional data, and two corridors selected for further evaluation in this study. Quail Roost Drive (SR 994) and Normandy Drive / 71st Street (SR 934) were selected in part due to the different geographical areas and demographic compositions of the corridor areas. Complete Streets recommendations, focused on bicycle and pedestrian enhancements, were identified for both corridors. Some of the recommendations may be able to be implemented through resurfacing and other safety projects. Others will require additional analyses. The sections below outline the potential costs and phasing of implementation for the two corridors.

While focused on Quail Roost Drive and Normandy Drive/71st Street, the strategies and conceptual recommendations outlined in this report may be applicable to other corridors throughout Miami-Dade County. This effort included development of a screening process that can be repeated when evaluating and identifying Complete Streets strategies that enhance the safety and mobility of all users of roadway corridors in the county. Finally, it is important to note that many of the Complete Streets enhancements identified in this study require further analyses prior to implementation. For example, speed studies must be conducted prior to modifying posted speed limits, and lighting studies are recommended to identify areas in need of enhancements. Furthermore, while not proposed here, lane repurposing studies must be conducted by local municipalities in coordination with FDOT prior to eliminating existing travel lanes.

71st Street in Miami Beach. Source: Project Team, December 2021.

7.1 Implementation Plan

The proposed improvements are summarized in **Table 7-1** along with an estimated time frame that they could be implemented (near-term, mid-term, or long-term). The improvements are listed in the order they appear in the document and not in a prioritized order. In compliance with FDOT's ADA policy, every new construction or alteration project, including these proposed improvements, must include ADA accessible elements and features.

TABLE 7-1 IMPLEMENTATION PLAN

	Improvement	Resurfacing Project	Road Rebuild	Other
Quail Roost Drive Concepts	**Segment A: Short-Term Concept** *Raised Median + Landscaping*			
	Segment A: Long-Term Concept *Short-term concept + separated bike lanes*			
	Segment B: Short-Term Concept *Raised Median + Landscaping*			
Normandy Drive Concepts	**Segment A Concept** *Buffered Bike Lanes*			
	Segment B Concept *Buffered Bike Lanes*			
	Segment C: Short-Term Concept *Bus/Bike Lanes, Wider Sidewalk*			
	Segment C: Long-Term Concept *Dedicated Bus Lanes, Separated Bike Lanes*			
	Segment D: Short-Term Concept *BAT Lane, Separated Bike Lanes*			
	Segment D: Long-Term Concept *Raised Median, Flex Zones, Separated Bike Lanes, Wider Sidewalk*			
Intersections	**Quail Roost/SW 117th Avenue**			
	Quail Roost/SW 114th Avenue			
	71st Street/Indian Creek Drive			
Other	**Speed Limit Reduction**			
	Midblock Crossings			
	Lighting Enhancement			
	New Mast Arm Signals			

7.2 Cost Estimates

Generalized planning cost estimates are provided in **Table 7-2** below for the proposed improvements. The purpose of these estimates is to provide order of magnitude costs. Ranges are shown, as components to be included have not been determined yet. Estimates based on recent projects completed in Florida and the country.

TABLE 7-2 COST ESTIMATES

	Improvement	Approximate Cost
Quail Roost Drive Concepts	**Segment A: Short-Term Concept** *Raised Median + Landscaping (includes resurfacing)*	$600,000 - $800,000
	Segment A: Long-Term Concept *Raised Median + Landscaping and Separated Bike Lanes*	$800,000 - $1.2 million
	Segment B: Short-Term Concept *Raised Median + Landscaping (includes resurfacing)*	$800,000 - $1.2 million
Normandy Drive Concepts	**Segment A Concept** *Buffered Bike Lanes (includes resurfacing)*	$800,000 - $1.2 million
	Segment B Concept *Buffered Bike Lane (includes resurfacing)*	$700,000 - $1.1 million
	Segment C: Short-Term Concept *Bus/Bike Lanes, Wider Sidewalk (includes resurfacing)*	$200,000 - $400,000
	Segment C: Long-Term Concept *Dedicated Bus Lanes, Separated Bike Lanes*	$400,000 - $600,000
	Segment D: Short-Term Concept *BAT Lane, Separated Bike Lanes*	$150,000 - $300,000
	Segment D: Long-Term Concept *Raised Median, Flex Zones, Separated Bike Lanes, Wider Sidewalk*	$500,000 - $800,000
Intersections	**Quail Roost/SW 117th Avenue**	$200,000 - $300,000
	Quail Roost/SW 114th Avenue	$50,000 - $150,000
	71st Street/Indian Creek Drive	$200,000 - $400,000
Other	**Speed Limit Reduction** *(new signage per mile)*	$50,000 - $100,000
	Midblock Crossings *(each)*	$100,000 - $200,000
	Lighting Enhancements *(per mile)*	$250,000 - $350,000
	New Mast Arm Signals *(each)*	$300,000 - $500,000