MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION

#GPC-V-20

Countywide Bus and Auto/Rideshare Access to Transit Facility Assessment Study

prepared for:

Miami-Dade

Metropolitan Planning Organization

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submittal date:

September 2015








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

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1.0 Introduction

Miami-Dade Transit (MDT) and the Miami-Dade Metropolitan Planning Organization (MPO) both seek to optimize access, utilization, and connectivity for passengers at multimodal transit facilities. Therefore, the study objective is to assess the adequacy of bus, auto/rideshare and pedestrian access and propose improvement recommendations for five (5) transit facility locations as listed:

1.) SW 152nd Street Park-and-Ride;

2.) SW 168th Street Park-and-Ride;

3.) SW 112th Avenue Park-and-Ride;

4.) SW 244th Street Park-and-Ride;

5.) SW 296th Street Park-and-Ride.

Each of these facilities, which are adjacent to the South Miami-Dade Busway, have been the focus of MDT's planning efforts to implement various infrastructure, service and operational improvements to address existing and future travel demand. Many of the five facilities are currently at or quickly approaching parking capacity. This assessment will not only assist MDT with the identification of access deficiencies but will provide conceptual improvement plan recommendations that will increase parking capacity, improve auto access as well as passenger connectivity to MDT services. Each conceptual improvement plan also includes an estimated capital cost based upon a breakdown of quantities. Capital cost estimates were based according to the Florida Department of Transportation (FDOT) Average Unit Cost booklet as well as unit cost information from MDT.

1.1 Study Coordination

The conceptual plan development process involved extensive coordination with both the Miami-Dade MPO and MDT planning staff. Initial efforts involved an extensive field review of each location that involved members of the consultant team as well as Miami-Dade County planning, operations, and engineering staff. This field review facilitated the preliminary identification of facility deficiencies as well as desired improvements at each park-and-ride facility. Bi-weekly progress meetings were also utilized as a means to not only track progress but serve as a forum to develop and review conceptual improvements at these facilities until consensus was reached on an appropriate finalized improvement plan.

The study was also presented to the Transportation Planning Technical Advisory Committee (TPTAC) for purposes of obtaining additional input from a broader representation of stakeholders on proposed improvement plan recommendations for each of the five park-and-ride lots.

1.2 Transit Facility Inventory Assessment Tool

One other study objective was to develop an inventory assessment tool for purposes of identifying auto, pedestrian, bicycle, and transit infrastructure and accessibility deficiencies. The inventory assessment tool will assist MDT with planning improvements at existing transit

facilities as well as assuring the development of future facilities comply with specific MDT service and design standards.

The transit facility inventory assessment tool was developed based upon national research to identify best industry practices and in collaboration with both the Miami-Dade MPO and MDT planning staff. The inventory assessment tool was developed in Excel format to include conditional formatting based upon specific MDT service standards and the Rapid Transit System Extensions Compendium of Design Criteria. This format ensures immediate feedback as to whether a transit facility is substandard while also collecting physical condition information to determine if improvements are warranted. The inventory assessment tool will facilitate MDT's evaluation process of a transit facility location according to the condition of pedestrian facilities, bicycle facilities, bus transit facilities, kiss-and-ride areas and automotive facilities.

The transit facility inventory assessment tool is presented in the appendix.

2.0 Busway Park-and-Ride at SW 152nd Street (SR 992)

The SW 152nd Street Park-and-Ride facility is located at the Palmetto Golf Course on 9300 SW 152nd Street. This is a joint use parking facility shared between Miami-Dade Transit (MDT) and Miami-Dade Parks and Recreation. Presently, 200 parking spaces are designated for MDT use at this location, with a current parking utilization rate of 95 percent or higher.

Metrobus routes 31, 34, 38, 52, 287, and 252 all provide connecting service to the SW 152nd Street Miami-Dade Busway Station.

2.1 Goal

Improve parking lot circulation and pedestrian connectivity to the existing Miami-Dade Busway Station.

2.2 Objectives

1.) Create one designated parking location for busway passengers that is highly visible and provides logical automotive and pedestrian circulation.

2.) Increase parking lot capacity and improve circulation by removing the recreational facility located in the southeast corner of the parking facility.

3.) Provide a designated kiss-and-ride area adjacent to the busway station.

4.) Improve pedestrian connections between the parking lot and existing busway station.

5.) Improve passenger convenience through new wayfinding signage, station parking lot visibility, upgraded ADA compliant sidewalks, continuous passenger canopies, and additional covered bicycle storage.

2.3 Planned Projects near the SW 152nd Street Park-and-Ride Facility

- 2016-2017: Intersection improvements on SW 152nd Street between SW 93rd Avenue and U.S. 1.
- 2016-2017: SW 152nd Street resurfacing

2.4 Site Assessment

The existing conditions were evaluated and deficiencies identified based upon a field review and collaboration with the MPO and MDT. The field review included an assessment of physical and operational and safety conditions at the park-and-ride location. Field reviews occurred in October 2014.

1.) Fair Pavement Condition

a. Existing pavement is in fair condition, with evidence of cracking and depressions.

2.) Substandard Pedestrian Facilities

a. There is limited access between the parking lot and busway station - one connecting sidewalk to the station. Connecting walkway between the parking lot and busway station is substandard – the sidewalk is narrow, misaligned, and uneven, hindering ADA accessibility.

b. Crosswalk between parking lot and busway station is faded and needs to be restriped.

c. Inadequate pedestrian connection between parking lot and the multiuse pedestrian path on the south side of SW 152nd Street.

d. Crosswalk in between existing MDT bus stop (on SW 152nd Street) and the park-and-ride facility is faded.

3.) No Bicycle Facilities

a. There is no designated bicycle parking.

4.) No Kiss-and-Ride Area

a. Passengers are currently dropped off and picked up in the designated ADA accessible spaces or at locations throughout the existing parking lot.

b. No circulator stop.

5.) Disjointed Auto Parking Facilities

a. Designated transit parking spaces are not clearly identified.

b. Two-way circulation is disjointed throughout the parking lot as a result of the outdoor roller rink located in the southeastern section of the parking lot facility. Parking lot dead ends at the handicapped parking spaces adjacent to the passenger station entrance.

c. Insufficient number of stroller parking spaces: Currently, there are no stroller parking spaces. A minimum of two (2) designated stroller spaces are required in a parking lot of 200 spaces.

d. Insufficient number of ADA Accessible spaces: Currently, there are four (4) accessible parking spaces. A parking lot of 200 spaces requires a minimum of six (6) accessible parking spaces.

e. No short-term parking spaces.

f. No spaces designated for vanpools or carpools.

g. No designated parking space for MDT security.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Wayfinding signage is lacking: Signage identifying the park-and-ride facility site is not visible from SW 152nd Street and U.S. 1.

b. Insufficient signage that clearly identifies designated parking areas for MDT passengers.

c. Insufficient signage identifying park-and-ride area entry.

d. Parking lot exit should specify right turn only.

e. No designated location for a transit circulator stop within the park-and-ride lot.

f. Pavement markings are faded.

g. Stop bar lines are either faded or missing at the end of parking stalls.

h. No crosswalk pavement markings between station stop and parking lot.

i. Existing crosswalks are faded.

j. Accessible spaces not clearly marked.

7.) Landscaping

a. Maintenance is needed: Vegetation overhang creates vertical and horizontal obstructions for the existing sidewalk connection to the station.

2.5 Improvement Recommendations

Recommended improvements were proposed in consideration of existing conditions coupled with the input received from both the MPO and MDT planning and operations staff. These recommendations focus on improving the vehicle circulation and passenger connectivity at the park-and-ride facility.

1.) Pavement Condition

a. Mill and resurface existing parking lot

b. Upgrade all pavement markings

2.) Pedestrian Facilities

a. Construct two additional access points between the parking lot and busway station.

b. Reconstruct connecting walkway between the parking lot and busway station.

c. Construct a 12 foot wide multi-use path along SW 152nd Street that connects the existing local bus stop and the South Dade Trail.

d. Upgrade pavement markings for the SW 152nd Street crosswalk between existing MDT bus stop and the park-and-ride facility.

e. Construct a sidewalk on the south side of the parking lot.

f. Construct a continuous canopy over the sidewalk on the east-side of parking lot.

3.) Bicycle Facilities

a. Install a covered bicycle cage adjacent to busway station.

4.) Kiss-and-Ride Area

a. Provide a designated kiss-and-ride drop-off area. Remove hockey rink to open up dead end at southeast corner of parking lot and provide a 24' bi-directional lane that leads to the 10' kiss-and-ride lane with a local circulator stop.

5.) Auto Parking Facilities

a. Remove existing hockey rink facility and maintenance building and expand parking lot to increase capacity by spaces.

b. Reconfigure lot to improve automobile circulation and pedestrian connectivity.

c. Remove MDT parking spaces to the west of the main entrance street (keep MDT spaces to the eastern side of the property).

d. Provide two (2) stroller parking spaces.

e. Provide six (6) additional ADA accessible spaces.

f. Provide six (6) of short-term parking spaces.

g. Provide six (6) vanpool/carpool parking priority spaces.

h. Provide one (1) designated MDT parking space.

i. Reconstruct motorcycle/scooter parking area with a concrete surface.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Improve lighting throughout the parking lot (white source).

b. Install ticket vending machine (TVM) adjacent to busway station entrance.

c. Identify a location for a real-time information sign.

d. Provide a gateway feature (such as a tower) at the intersection of SW 152nd Street/Busway and southeast corner of the site to anchor the continuous canopy.

e. Provide park-and-ride lot monument sign

f. Provide a continuous canopy along southeast property line from gateway feature (tower) and end canopy with another tower at other end. Extend canopy to bus shelter in busway.

g. Provide real-time parking space counter estimate for MDT website and smart phone app.

h. Install circulator stop sign.

i. Install stop signs throughout parking lot.

j. Install a right turn only sign at exit point.

7.) Landscaping

a. Maintenance is needed

2.6 Conceptual Cost Estimate

Based upon the conceptual improvement plan recommendations a capital cost estimate was prepared (Table 2-1). The cost estimate is based upon the latest unit cost information as obtained from the Florida Department of Transportation (FDOT) and Miami-Dade County. In

addition, cost information was obtained from MDT based upon similar conceptual and final design plans.

2.7 Long Term Improvements

The Phase 2 Improvement plan proposes the construction of a 500-space multi-level mixed use parking garage. A highest and best use analysis will be utilized to determine the type of mixed use improvements.

Table 2-1: Capital Cost Estimate for SW 152nd Street Park-and-Ride Improvement Plan

Pay Item	UNIT	Unit Price	Quantity	Item Subtotal
SITEWORK				
DEMOLITION	ACRE	$ 10,000.00	1.24	$ 12,400.00
EARTHWORK	CY	$ 7.00	3107	$ 21,747.00
TYPE B STABILIZATION	SY	$ 5.00	4660	$ 23,300.00
LIMEROCK BASE	SY	$ 15.00	4660	$ 69,900.00
MILLING	SY	$ 4.00	4650	$ 18,600.00
ASPHALT PAVEMENT	TON	$ 100.00	900	$ 90,000.00
CONCRETE PAVEMENT	SY	$ 75.00	32	$ 2,400.00
CONCRETE CURB	LF	$ 25.00	1825	$ 45,625.00
CONCRETE CURB & GUTTER	LF	$ 18.00		$ -
CONCRETE GUTTER	LF	$ 15.00		$ -
TRAFFIC SEPARATOR	LF	$ 53.00		$ -
CONCRETE SIDEWALK	SY	$ 38.00	1825	$ 69,350.00
CURB STOP	EA	$ 65.00	196	$ 12,740.00
INLET TYPE D	EA	$ 4,500.00	8	$ 36,000.00
FRENCH DRAIN 18"	LF	$ 150.00	161	$ 24,118.00
SOLID PIPE 18"	LF	$ 55.00	300	$ 16,500.00
FENCING	LF	$ 15.00		$ -
GRAVITY WALL	CY	$ 407.00		$ -
PERFORMANCE TURF, SOD	SY	$ 17.00	1074	$ 18,258.00
Subtotal SiteWork				**$ 460,938.00**
SIGNING & PAVEMENT MARKINGS				
SIGNING & PAVEMENT MARKINGS	LS	$ 23,047.00	1	$ 23,047.00
LIGHTING				
LIGHTING	LS	$ 69,141.00	1	$ 69,141.00
LANDSCAPE & IRRIGATION				
LANDSCAPE	LS	$ 13,829.00	1	$ 13,829.00
IRRIGATION	LS	$ 9,219.00	1	$ 9,219.00
EROSION CONTROL				
EROSION CONTROL	LS	$ 4,610.00	1	$ 4,610.00
SITE FEATURES				
8' HIGH PRIVACY WALL	LF	$ 75.00		$ -
PARK & RIDE MONUMENT SIGN	EA	$ 5,000.00	1	$ 5,000.00
GATEWAY FEATURE	EA	$ 30,000.00	2	$ 60,000.00
COMFORT STATION	EA	$ 60,000.00		$ -
CANOPY	SY	$ 350.00	430	$ 150,500.00
BIKE CAGE	EA	$ 25,000.00	1	$ 25,000.00
REAL TIME SIGNAGE	EA	$ 15,000.00	1	$ 15,000.00
REAL TIME PARKING SPACE COUNTER	EA	$ 240,000.00	1	$ 240,000.00
TICKET VENDING MACHINES	EA	$ 12,000.00	2	$ 24,000.00
Subtotal Site Features				**$ 519,500.00**
	Const. Cost Subtotal =			**$ 1,100,284.00**
Mobilization (10% of const. cost Subtotal)				$ 110,029.00
Preliminary Engineering/Final Design (10% of const. cost Subtotal)				$ 110,029.00
Project Management and Construction Admin (10% of const. cost Subtotal)				$ 110,029.00
Legal/Permitting/Insurance/Review Fees (1.5% of const. cost Subtotal)				$ 16,505.00
Survey/Geotech/Other (3% of const. cost Subtotal)				$ 33,009.00
Public Art Allowance (1.5% of const. cost Subtotal)				$ 16,505.00
Land Acquisition/Legal Fees				$ -
	Construction Cost =			**$ 1,496,390.00**
Contingency (25% of total cost)				$ 374,098.00
TOTAL ESTIMATED COST=				**$ 1,870,488.00**

Note: Unit prices obtained from FDOT Miami-Dade Moving Average - January - December 2014 and Miami-Dade Unit Cost Data

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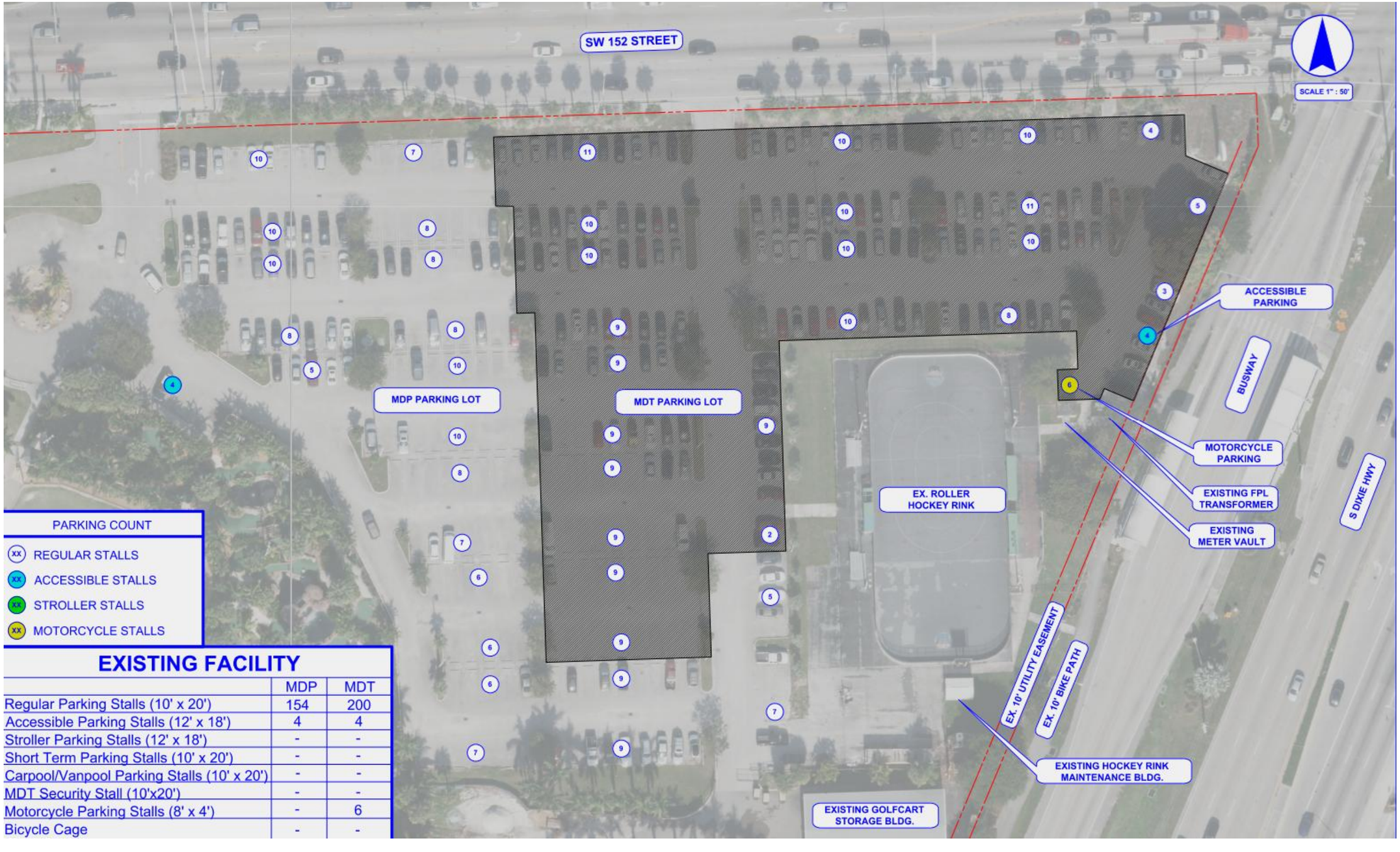
Figure 2-1: Busway Park-and-Ride at SW 152nd Street (SR 992) Existing Condition



EXISTING FACILITY

	MDP	MDT
Regular Parking Stalls (10' x 20')	154	200
Accessible Parking Stalls (12' x 18')	4	4
Stroller Parking Stalls (12' x 18')	-	-
Short Term Parking Stalls (10' x 20')	-	-
Carpool/Vanpool Parking Stalls (10' x 20')	-	-
MDT Security Stall (10'x20')	-	-
Motorcycle Parking Stalls (8' x 4')	-	6
Bicycle Cage	-	-

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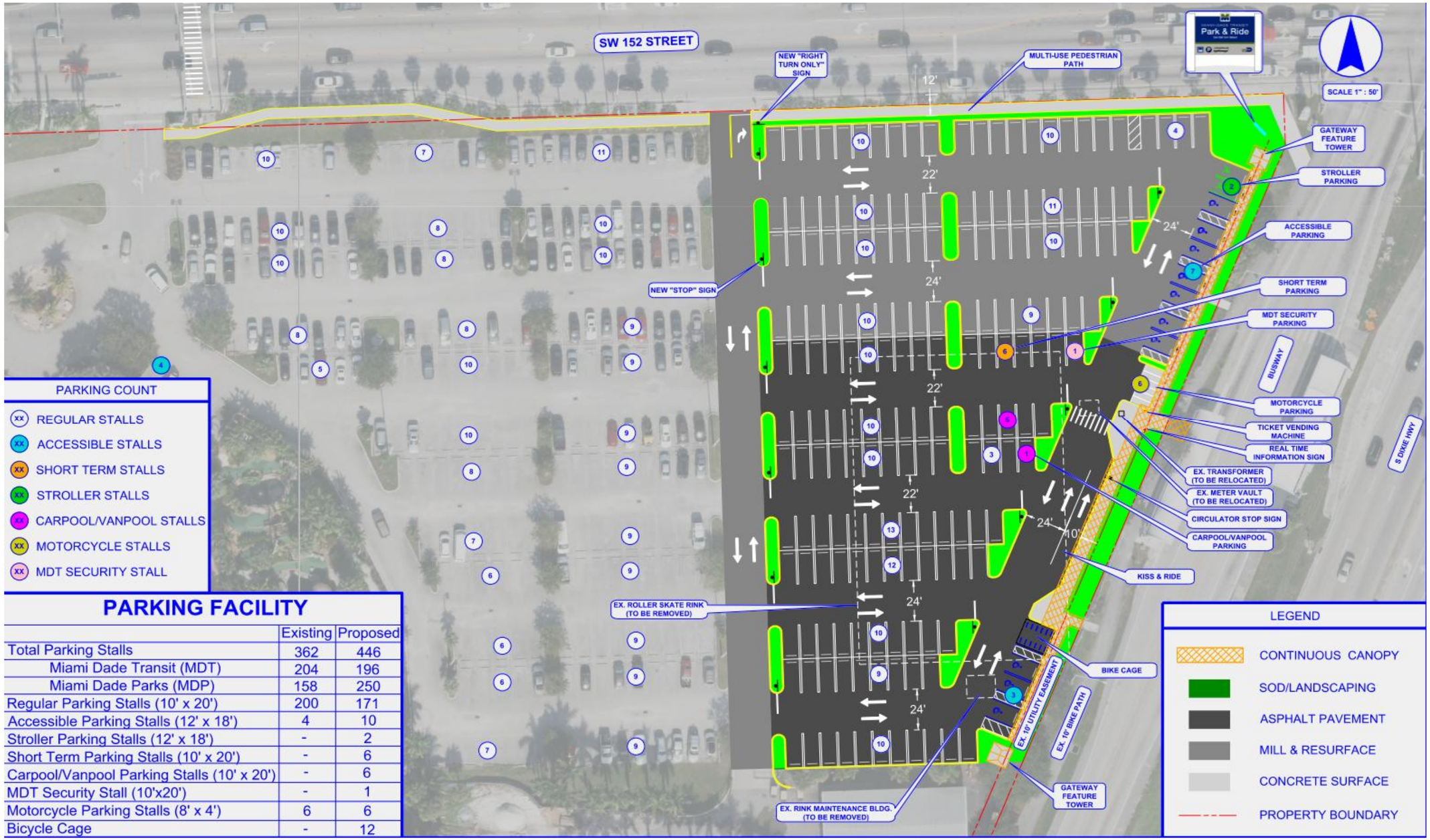
Figure 2-2: Busway Park-and-Ride at SW 152nd Street (SR 992) Proposed Improvement Plan



PARKING FACILITY

	Existing	Proposed
Total Parking Stalls	362	446
Miami Dade Transit (MDT)	204	196
Miami Dade Parks (MDP)	158	250
Regular Parking Stalls (10' x 20')	200	171
Accessible Parking Stalls (12' x 18')	4	10
Stroller Parking Stalls (12' x 18')	-	2
Short Term Parking Stalls (10' x 20')	-	6
Carpool/Vanpool Parking Stalls (10' x 20')	-	6
MDT Security Stall (10'x20')	-	1
Motorcycle Parking Stalls (8' x 4')	6	6
Bicycle Cage	-	12

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3.0 Busway Park-and-Ride at SW 168th Street

The SW 168th Street Park-and-Ride facility is a 145 space parking facility for exclusive use by MDT passengers. Current parking utilization is higher than 90 percent. During the field review, utilization exceeded lot capacity, resulting in cars parking illegally throughout the facility.

Metrobus routes 1, 31 Busway local, 34 Busway Flyer, 38 Busway MAX, and 287 Saga Bay MAX all provide connecting service to the SW 168th Street Miami-Dade Busway Station.

3.1 Goal

Increase parking capacity and improve pedestrian connections to the street network and Busway station.

3.2 Objectives

1.) Expand size of the parking lot to the east to create additional parking spaces.

2.) Provide a designated kiss-and-ride area.

3.) Improve pedestrian connections between the parking lot and neighboring residential community.

4.) Improve passenger convenience through wayfinding, station parking lot visibility, ADA accessibility, continuous passenger canopies, and additional bicycle storage.

3.3 Planned Projects within the vicinity of the SW 168th Street Parking Lot

- No planned projects were identified.

3.4 Site Assessment

The existing conditions were evaluated and deficiencies identified based upon field review and collaboration with the MPO and MDT. The field review included an assessment of physical, operational and safety conditions at the park-and-ride location. Field reviews occurred in October 2014.

1.) Pavement Condition

a. Asphalt is in fair condition.

b. Pavement markings are faded.

2.) Pedestrian Facilities

a. Limited access to busway station - one connecting sidewalk from the park and ride facility.

b. Crosswalks along SW 97th Avenue and SW 168th Street are faded or nonexistent.

c. There are no curb ramps provided between sidewalks and SW 97th Avenue and SW 168th Street.

3.) Bicycle Facilities

a. Inadequate bicycle facilities.

4.) No Kiss-and-Ride Facility

a. Passengers are currently being dropped off and picked up throughout the existing parking lot.

5.) Auto Parking Facilities

a. No short-term parking spaces.
b. No designated parking for vanpools or carpools.
c. No designated parking space for MDT security.
d. No designated motorcycle parking spaces.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Facility lacks wayfinding signage: Park-and-ride site is not visible from U.S. 1.
b. Insufficient signage identifying park-and-ride area entry.
c. No designated location for a transit circulator stop within the park-and-ride lot.
d. Pavement markings are faded.
e. Stop bar lines are either faded or missing at the end of parking stalls.
f. No crosswalk pavement markings between station stop and parking lot.
g. Existing crosswalks are faded.

3.5 Improvement Recommendations

Recommended improvements were developed in consideration of the existing conditions coupled with the input received from both MPO and MDT planning and operations staff. The proposed measures focus on improving the vehicle circulation and passenger access for this park-and-ride facility.

Project Components

1.) Pavement Condition

a. Mill and resurface existing parking lot.
b. New pavement on expanded parking area to the east.
c. Upgrade all pavement markings.

2.) Pedestrian Facilities

a. Construct a new sidewalk on the north side of the parking lot to improve pedestrian connectivity to the Busway station.
b. Construct curb ramps on SW 97th Avenue and SW 168th Street to provide an improved pedestrian connection to the park-and-ride lot from neighboring development.
c. Upgrade pavement markings on crosswalks at the SW 97th Avenue/SW 168th Street intersection as well as at the SW 168th Street and Busway intersection.
d. Construct continuous canopy along the east side of the parking facility.

3.) Bicycle Facilities

a. Install covered bicycle cage adjacent to busway station.

4.) No Kiss-and-Ride Area

a. Provide a kiss-and-ride drop-off with a local circulator stop.

5.) Auto Parking Facilities

a. Expand parking lot limits to the east to increase the parking capacity from 145 to 157 parking spaces.
b. Provide three (3) short-term parking spaces.
c. Provide three (3) vanpool/carpool parking priority spaces.
d. Provide one (1) designated MDT parking space.
e. Construct motorcycle/scooter parking area with a concrete surface.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Improve lighting throughout the parking lot (white source).
b. Install ticket vending machine adjacent to busway station entrance.
c. Identify a location for a real-time information sign.
d. Provide a gateway feature (such as a tower) at each end of the proposed continuous canopy.
e. Provide park-and-ride lot monument sign.
f. Provide real-time parking space counter adjacent to the busway station entrance.
g. Install circulator stop sign.
h. Install stop signs through parking lot.

3.6 Conceptual Cost Estimate

Based upon the conceptual improvement plan recommendations a capital cost estimate was prepared (Table 3-1). The cost estimate is based upon the latest unit cost information as obtained from the FDOT and Miami-Dade County. In addition, cost information was obtained from MDT based upon similar conceptual and final design plans.

A conceptual illustration of these improvements is presented in the following section.

Table 3-1: Capital Cost Estimate for SW 168th Street Park-and-Ride Improvement Plan

Pay Item	UNIT	Unit Price	Quantity	Item Subtotal
SITEWORK				
DEMOLITION	ACRE	$ 10,000.00	0.85	$ 8,500.00
EARTHWORK	CY	$ 7.00	1450	$ 10,150.00
TYPE B STABILIZATION	SY	$ 5.00	2175	$ 10,875.00
LIMEROCK BASE	SY	$ 15.00	2175	$ 32,625.00
MILLING	SY	$ 4.00	4220	$ 16,880.00
ASPHALT PAVEMENT	TON	$ 100.00	590	$ 59,000.00
CONCRETE PAVEMENT	SY	$ 75.00	21	$ 1,600.00
CONCRETE CURB	LF	$ 25.00	1151	$ 28,775.00
CONCRETE CURB & GUTTER	LF	$ 18.00		$ -
CONCRETE GUTTER	LF	$ 15.00		$ -
TRAFFIC SEPARATOR	LF	$ 53.00		$ -
CONCRETE SIDEWALK	SY	$ 38.00	370	$ 14,060.00
CURB STOP	EA	$ 65.00	172	$ 11,180.00
INLET TYPE D	EA	$ 4,500.00	2	$ 9,000.00
FRENCH DRAIN 18"	LF	$ 150.00	103	$ 15,490.00
SOLID PIPE 18"	LF	$ 55.00	150	$ 8,250.00
FENCING	LF	$ 15.00		$ -
GRAVITY WALL	CY	$ 407.00		$ -
PERFORMANCE TURF, SOD	SY	$ 17.00	1620	$ 27,540.00
Subtotal SiteWork				**$ 253,925.00**
SIGNING & PAVEMENT MARKINGS				
SIGNING & PAVEMENT MARKINGS	LS	$ 12,697.00	1	$ 12,697.00
LIGHTING				
LIGHTING	LS	$ 38,089.00	1	$ 38,089.00
LANDSCAPE & IRRIGATION				
LANDSCAPE	LS	$ 7,618.00	1	$ 7,618.00
IRRIGATION	LS	$ 5,079.00	1	$ 5,079.00
EROSION CONTROL				
EROSION CONTROL	LS	$ 2,540.00	1	$ 2,540.00
SITE FEATURES				
8' HIGH PRIVACY WALL	LF	$ 75.00	590	$ 44,250.00
PARK & RIDE MONUMENT SIGN	EA	$ 5,000.00	1	$ 5,000.00
GATEWAY FEATURE	EA	$ 30,000.00	2	$ 60,000.00
COMFORT STATION	EA	$ 60,000.00		$ -
CANOPY	SY	$ 350.00	300	$ 105,000.00
BIKE CAGE	EA	$ 25,000.00	1	$ 25,000.00
REAL TIME SIGNAGE	EA	$ 15,000.00	1	$ 15,000.00
REAL TIME PARKING SPACE COUNTER	EA	$ 240,000.00	1	$ 240,000.00
TICKET VENDING MACHINES	EA	$ 12,000.00	1	$ 12,000.00
Subtotal Site Features				**$ 506,250.00**
	Const. Cost Subtotal =			**$ 826,198.00**
Mobilization (10% of const. cost Subtotal)				$ 82,620.00
Preliminary Engineering/Final Design (10% of const. cost Subtotal)				$ 82,620.00
Project Management and Construction Admin (10% of const. cost Subtotal)				$ 82,620.00
Legal/Permitting/Insurance/Review Fees (1.5% of const. cost Subtotal)				$ 12,393.00
Survey/Geotech/Other (3% of const. cost Subtotal)				$ 24,786.00
Public Art Allowance (1.5% of const. cost Subtotal)				$ 12,393.00
Land Acquisition/Legal Fees				$ -
	Construction Cost =			**$ 1,123,630.00**
Contingency (25% of total cost)				$ 280,908.00
TOTAL ESTIMATED COST=				**$ 1,404,538.00**

Note: Unit prices obtained from FDOT Miami-Dade Moving Average - January - December 2014 and Miami-Dade Unit Cost Data

Figure 3-1: Busway Park-and-Ride at SW 168nd Street Existing Condition

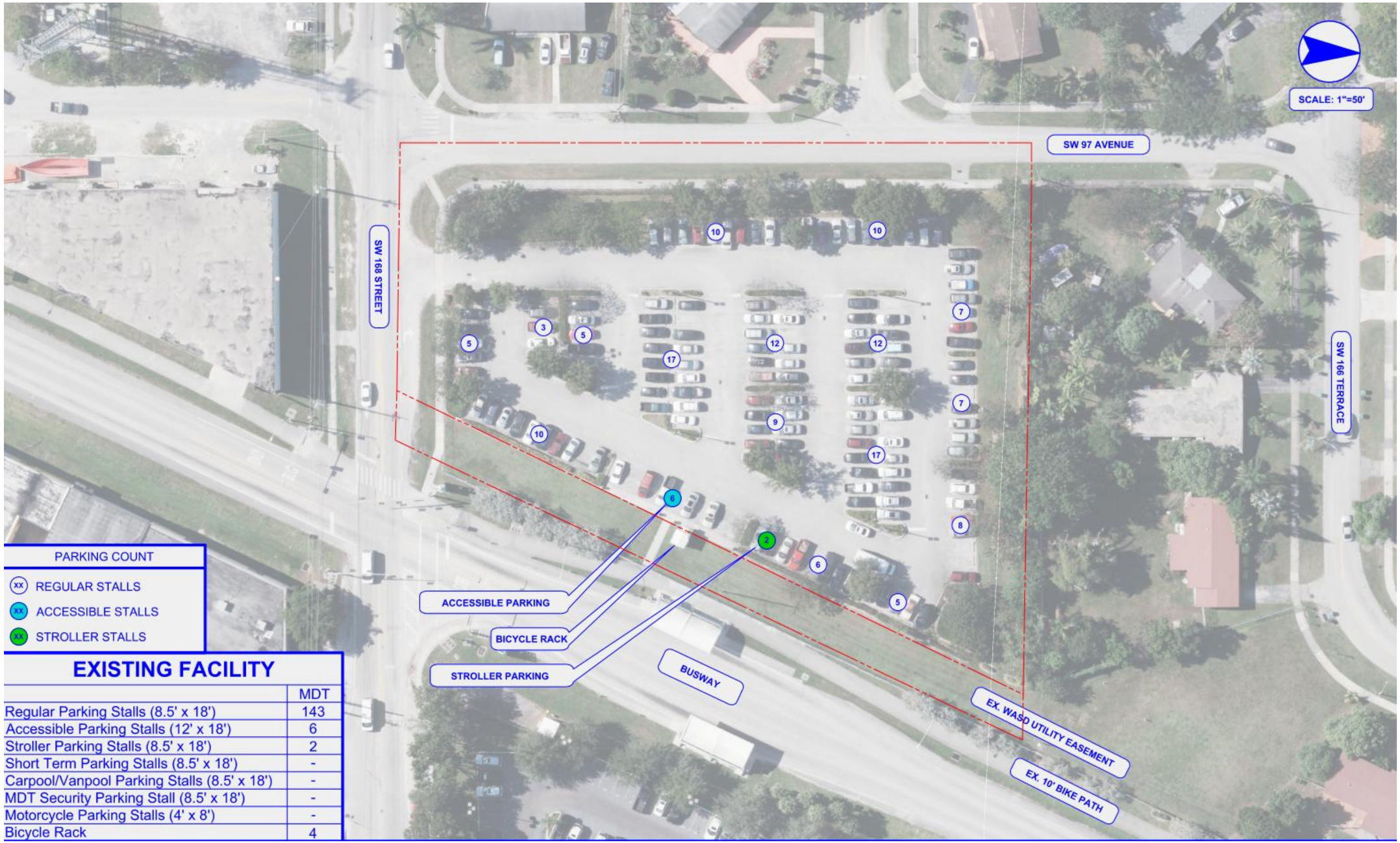

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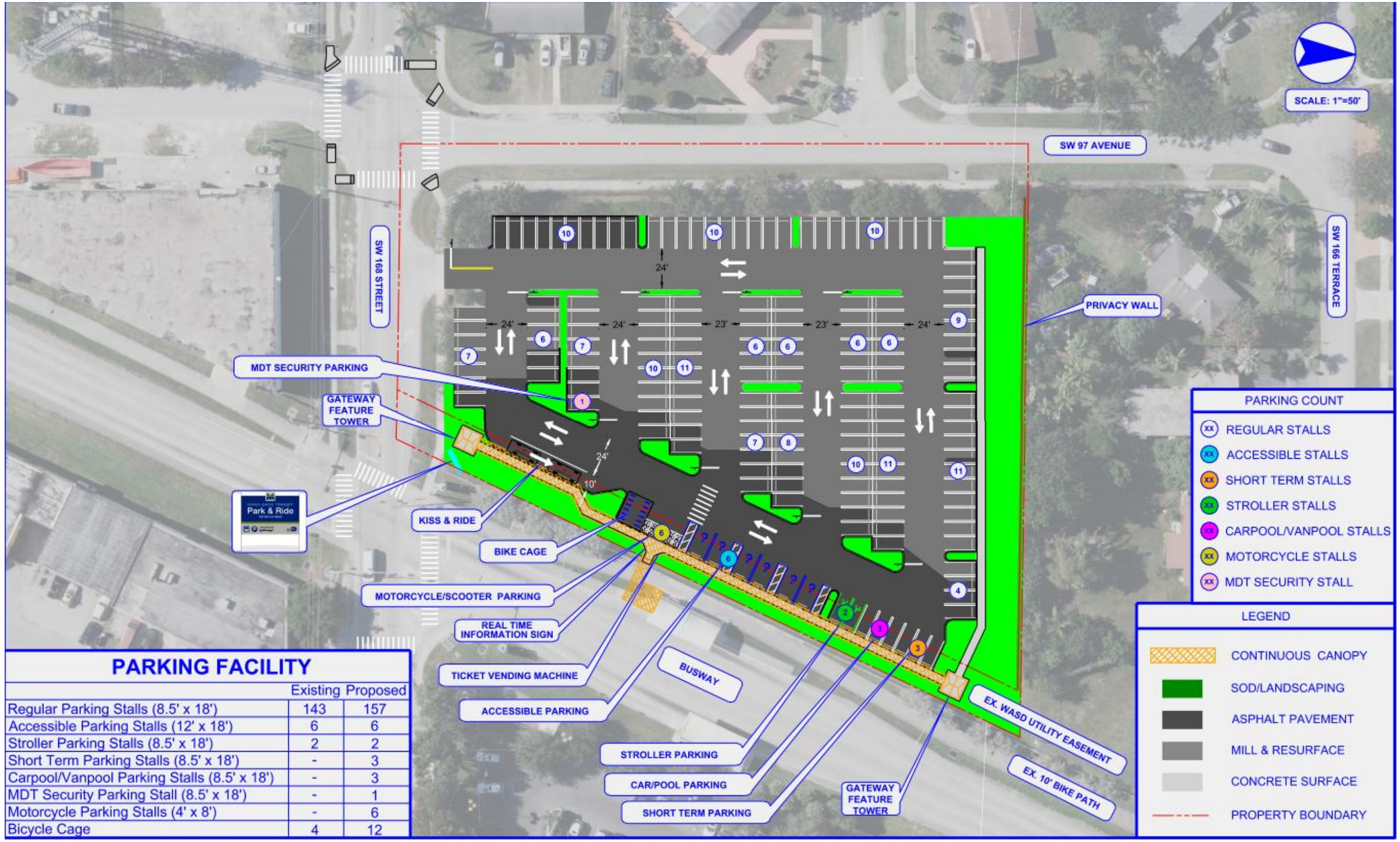
Figure 3-2: Busway Park-and-Ride at SW 168th Street Proposed Improvement Plan



PARKING FACILITY

	Existing	Proposed
Regular Parking Stalls (8.5' x 18')	143	157
Accessible Parking Stalls (12' x 18')	6	6
Stroller Parking Stalls (8.5' x 18')	2	2
Short Term Parking Stalls (8.5' x 18')	-	3
Carpool/Vanpool Parking Stalls (8.5' x 18')	-	3
MDT Security Parking Stall (8.5' x 18')	-	1
Motorcycle Parking Stalls (4' x 8')	-	6
Bicycle Cage	4	12

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4.0 Busway Park-and-Ride at SW 112th Avenue

The SW 112th Avenue Park-and-Ride facility is a 6.8 acre parking lot that is adjacent to an existing retail site (Target store). The northern portion of the parking lot is a large section of unpaved vacant land. There are 456 parking spaces currently designated for MDT passenger use and current parking utilization is about 45 percent.

The station configuration at this location is a split station where the southbound station is on the northwest side of the busway and the northbound station is on the southwest side of the busway. Therefore, station access is bifurcated such that passengers are required to cross either SW 208th Drive or SW 112th Avenue to depending on which station is being accessed.

Metrobus routes 31, 34, and 38 all provide connecting service to the SW 112th Avenue Miami-Dade Busway Station.

4.1 Goal

Improve parking lot configuration and provide a new bus layover facility as well as enhance passenger connectivity between the parking area and the Miami-Dade Busway Station.

4.2 Objectives

1.) Create a new bus layover facility to accommodate articulated buses.

2.) Provide a designated kiss-and-ride area adjacent to the busway station.

3.) Improve pedestrian connections between the parking lot and existing busway station.

4.) Improve passenger convenience through wayfinding, station parking lot visibility, ADA accessibility, continuous passenger canopies, and additional bicycle storage.

4.3 Planned Projects within the Vicinity of the SW 112th Avenue Parking Lot

- No planned projects were identified.

4.4 Site Assessment

The existing conditions were evaluated and deficiencies identified based upon field review and collaboration with the MPO and MDT. The field review included an assessment of physical, operational and safety conditions at the park-and-ride location. Field reviews occurred in October 2014.

1.) Pavement Condition

a. Existing pavement is in good condition.

2.) Pedestrian Facilities

a. Existing crosswalk on SW 208th Drive is too close to the SW 112th Avenue intersection. During both the am and pm travel periods vehicle cue lengths where observed to extend around the existing curve and beyond the existing crosswalk creating a conflict between automobiles and pedestrians.

b. Park and Ride facility driveway lacks a sidewalk and crosswalk.

c. Limited access between the parking lot and busway station – Direct access to the southbound busway station is restricted as a result of an existing chain link fence.

d. Crosswalks between existing MDT bus stop and the park-and-ride facility are faded.

3.) No Bicycle Facilities

a. There is no designated bicycle parking.

4.) No Kiss-and-Ride Area

a. Passengers are currently being dropped off and picked up throughout the existing parking lot.

5.) Auto Parking Facilities

a. Donation bins are currently located within two parking stalls closest to the busway station.

b. Portions of the parking lot are underutilized – the unpaved vacant section of the lot could be resurfaced to provide additional parking and a Metrobus layover facility.

c. Reconfigure parking lot to improve vehicular circulation

d. Expand parking lot to the north to bring parking spaces closer to the Busway station.

e. No short-term parking spaces

f. No parking spaces designated for vanpools or carpools.

g. No parking space designated for MDT security.

h. No designated motorcycle parking spaces.

i. Accessible parking, stroller parking and short term parking stalls are currently not provided adjacent to the southbound and northbound busway station stops.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Wayfinding signage is lacking: Designated park-and-ride site is not visible from U.S. 1.

b. Insufficient signage that clearly identifies designated parking areas for MDT passengers.

c. Insufficient signage identifying park-and-ride area entry.

d. No designated location for a transit circulator stop within the park-and-ride lot.

e. Pavement markings are faded.

f. Stop bar lines are either faded or missing at the end of parking stalls.

g. No crosswalk pavement markings between southbound station stop and parking lot.

h. Existing crosswalks are faded.

4.5 Improvement Recommendations

Recommended improvements were developed in consideration of the existing conditions coupled with the input received from both MPO and MDT planning and operations staff. The proposed measures focus on improving the vehicle circulation and passenger access for the park-and-ride facility.

Project Components

1.) Pavement Condition:

a. Mill and resurface existing parking lot

b. New pavement on the existing vacant area

c. Upgrade all pavement markings

2.) Pedestrian Facilities

a. Construct connecting walkway between the parking lot and busway station.

b. Relocate SW 208th Drive crosswalk further south to increase distance from SW 112th Avenue intersection.

c. Upgrade pavement markings on crosswalks for the SW 112th Avenue intersection, along the two entry driveways, and on SW 208th Drive.

d. Construct continuous canopy along the east side of the parking facility.

3.) Bicycle Facilities

a. Install covered bicycle cage adjacent to busway station.

4.) No Kiss-and-Ride Area.

a. Provide a kiss-and-ride drop-off with a local circulator stop.

5.) Auto Parking Facilities:

a. Reconfigure lot to improve automobile circulation and pedestrian connectivity.

b. Provide two (2) additional stroller parking spaces. Stroller parking spaces have been designated at two locations to improve access to the northbound and southbound stations.

c. Provide four (4) additional ADA Accessible spaces. ADA spaces have been designated at two locations to improve access to the northbound and southbound station.

d. Provide 18 short-term parking spaces. Short-term parking spaces have been designated at two locations to improve access to the northbound and southbound stations.

e. Provide six (6) vanpool/carpool parking priority spaces.

f. Provide one (1) designated MDT parking space.

g. Construct motorcycle/scooter parking area with a concrete surface.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Improve lighting throughout the parking lot (white source).

b. Install ticket vending machine adjacent to busway station entrance.

c. Identify a location for a real-time information sign.

d. Provide a gateway feature (such as a tower) at the intersection of SW 112th Avenue intersection.

e. Provide park-and-ride lot monument sign

f. Provide real-time parking space counter estimate adjacent to busway station entrance.

g. Install circulator stop sign

h. Install stop signs through parking lot.

7.) Transit Facility

a. Construct a new bus layover facility to accommodate up to four articulated buses in the northeastern section of the park-and-ride lot. The new bus layover facility will provide direct boarding and alighting access to the busway. The facility will also include a bus operator comfort station.

b. Install a privacy wall to obscure transit facility and the park-and-ride lot from adjacent residential neighborhood.

4.6 Conceptual Cost Estimate

Based upon the conceptual improvement plan recommendations a capital cost estimate was prepared (Table 4-1). The cost estimate is based upon the latest unit cost information as obtained from the FDOT and Miami-Dade County. In addition, cost information was obtained from MDT based upon similar conceptual and final design plans.

A conceptual illustration of these improvements is presented in the following section.

Table 4-1: Capital Cost Estimate for SW 112th Ave. Park-and-Ride Improvement Plan

Pay Item	UNIT	Unit Price	Quantity	Item Subtotal
SITEWORK				
DEMOLITION	ACRE	$ 10,000.00	3.7	$ 36,700.00
EARTHWORK	CY	$ 7.00	7352	$ 51,464.00
TYPE B STABILIZATION	SY	$ 5.00	11028	$ 55,140.00
LIMEROCK BASE	SY	$ 15.00	9301	$ 139,515.00
MILLING	SY	$ 4.00	4058	$ 16,232.00
ASPHALT PAVEMENT	TON	$ 100.00	1245	$ 124,500.00
CONCRETE PAVEMENT	SY	$ 75.00	79	$ 5,925.00
CONCRETE CURB	LF	$ 25.00	4181	$ 104,525.00
CONCRETE CURB & GUTTER	LF	$ 18.00		$ -
CONCRETE GUTTER	LF	$ 15.00		$ -
TRAFFIC SEPARATOR	LF	$ 53.00		$ -
CONCRETE SIDEWALK	SY	$ 38.00	594	$ 22,560.00
CURB STOP	EA	$ 65.00	452	$ 29,380.00
INLET TYPE D	EA	$ 4,500.00	12	$ 54,000.00
FRENCH DRAIN 18"	LF	$ 150.00	440	$ 66,075.00
SOLID PIPE 18"	LF	$ 55.00	585	$ 32,175.00
FENCING	LF	$ 15.00		$ -
GRAVITY WALL	CY	$ 407.00		$ -
PERFORMANCE TURF, SOD	SY	$ 17.00	2087	$ 35,479.00
Subtotal SiteWork				**$ 773,670.00**
SIGNING & PAVEMENT MARKINGS				
SIGNING & PAVEMENT MARKINGS	LS	$ 38,684.00	1	$ 38,684.00
LIGHTING				
LIGHTING	LS	$ 116,051.00	1	$ 116,051.00
LANDSCAPE & IRRIGATION				
LANDSCAPE	LS	$ 23,211.00	1	$ 23,211.00
IRRIGATION	LS	$ 15,474.00	1	$ 15,474.00
EROSION CONTROL				
EROSION CONTROL	LS	$ 7,737.00	1	$ 7,737.00
SITE FEATURES				
8' HIGH PRIVACY WALL	LF	$ 75.00	350	$ 26,250.00
PARK & RIDE MONUMENT SIGN	EA	$ 5,000.00	1	$ 5,000.00
GATEWAY FEATURE	EA	$ 30,000.00	1	$ 30,000.00
COMFORT STATION	EA	$ 60,000.00	1	$ 60,000.00
CANOPY	SY	$ 350.00	428	$ 149,723.00
BIKE CAGE	EA	$ 25,000.00	1	$ 25,000.00
REAL TIME SIGNAGE	EA	$ 15,000.00	1	$ 15,000.00
REAL TIME PARKING SPACE COUNTER	EA	$ 240,000.00	2	$ 480,000.00
TICKET VENDING MACHINES	EA	$ 12,000.00	2	$ 24,000.00
Subtotal Site Features				**$ 814,973.00**
	Const. Cost Subtotal =			**$ 1,789,800.00**
Mobilization (10% of const. cost Subtotal)				$ 178,980.00
Preliminary Engineering/Final Design (10% of const. cost Subtotal)				$ 178,980.00
Project Management and Construction Admin (10% of const. cost Subtotal)				$ 178,980.00
Legal/Permitting/Insurance/Review Fees (1.5% of const. cost Subtotal)				$ 26,847.00
Survey/Geotech/Other (3% of const. cost Subtotal)				$ 53,694.00
Public Art Allowance (1.5% of const. cost Subtotal)				$ 26,847.00
Land Acquisition/Legal Fees				$ -
	Construction Cost =			**$ 2,434,128.00**
Contingency (25% of total cost)				$ 608,532.00
TOTAL ESTIMATED COST=				**$ 3,042,660.00**

Note: Unit prices obtained from FDOT Miami-Dade Moving Average - January - December 2014 and Miami-Dade Unit Cost Data

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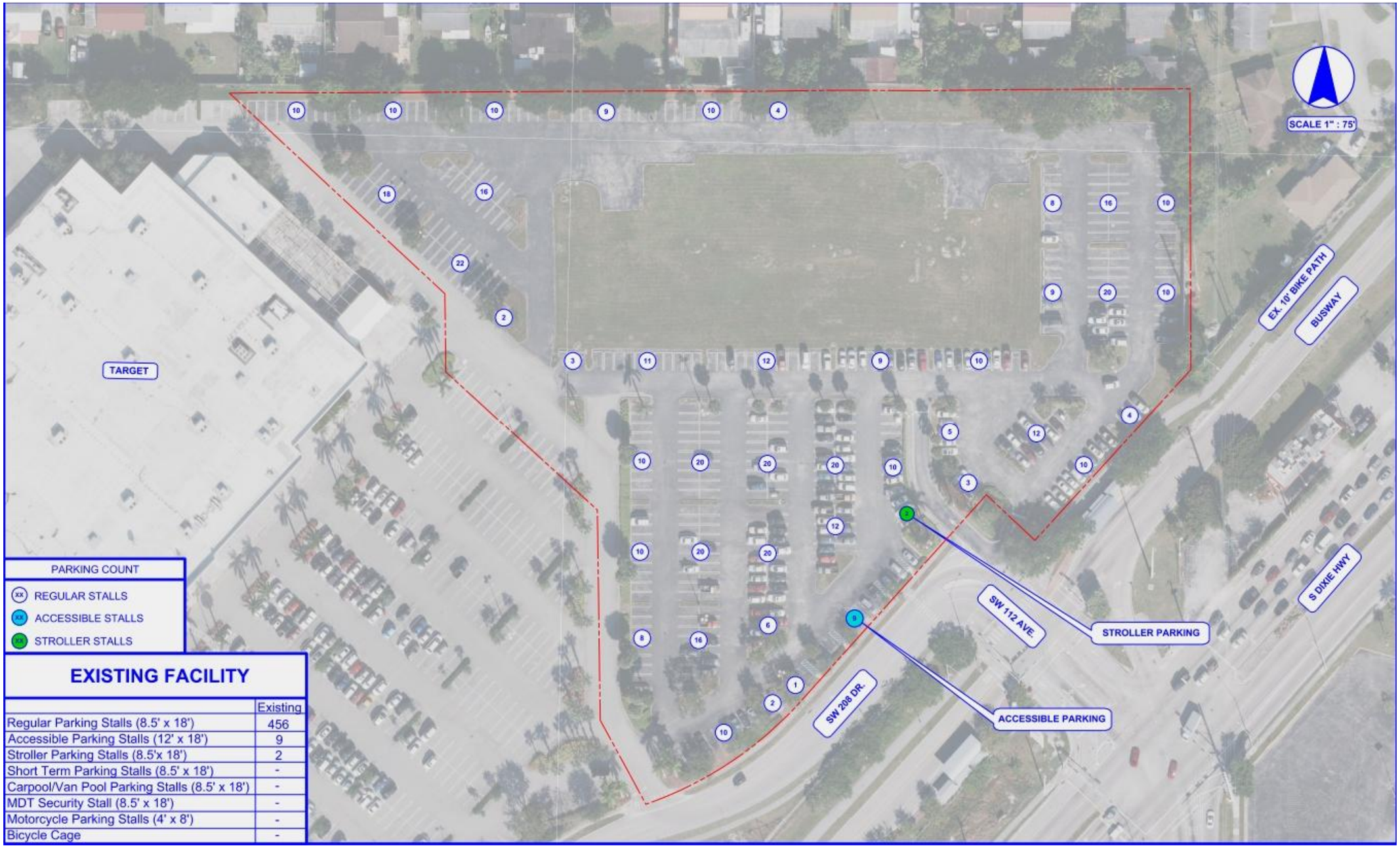
Figure 4-1: Busway Park-and-Ride at SW 112th Avenue Existing Condition



EXISTING FACILITY

	Existing
Regular Parking Stalls (8.5' x 18')	456
Accessible Parking Stalls (12' x 18')	9
Stroller Parking Stalls (8.5'x 18')	2
Short Term Parking Stalls (8.5' x 18')	-
Carpool/Van Pool Parking Stalls (8.5' x 18')	-
MDT Security Stall (8.5' x 18')	-
Motorcycle Parking Stalls (4' x 8')	-
Bicycle Cage	-

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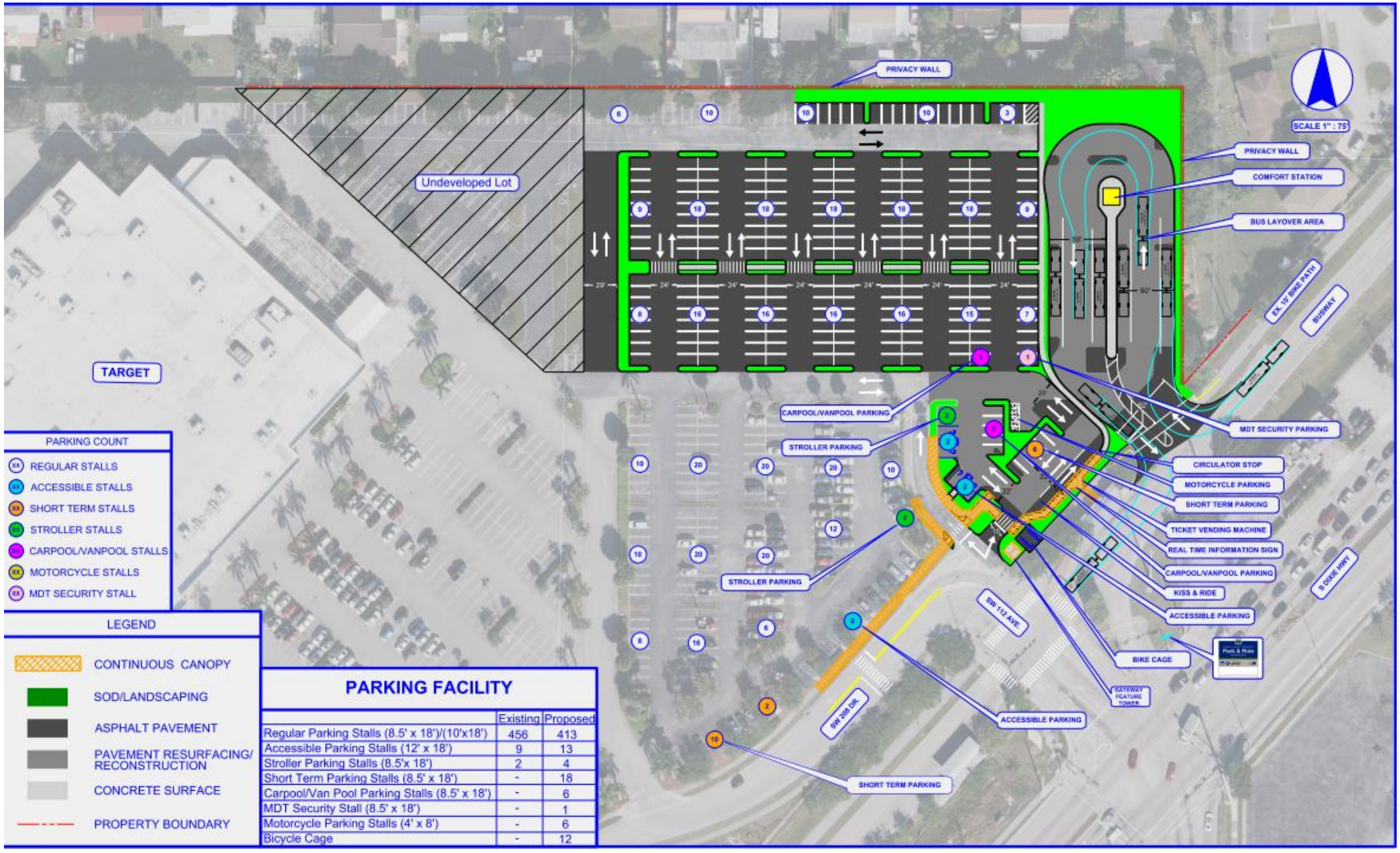
Figure 4-2: Busway Park-and-Ride at SW 112th Avenue Proposed Improvement Plan



PARKING FACILITY

	Existing	Proposed
Regular Parking Stalls (8.5' x 18')/(10'x18')	456	413
Accessible Parking Stalls (12' x 18')	9	13
Stroller Parking Stalls (8.5'x 18')	2	4
Short Term Parking Stalls (8.5' x 18')	-	18
Carpool/Van Pool Parking Stalls (8.5' x 18')	-	6
MDT Security Stall (8.5' x 18')	-	1
Motorcycle Parking Stalls (4' x 8')	-	6
Bicycle Cage	-	12

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5.0 Busway Park-and-Ride at SW 244th Street

The SW 244th Street Park-and-Ride facility is located at the corner of 244th Street and South Dixie Highway. This is a 96 space parking facility with a current utilization rate that exceeds 70 percent. During the field review the parking lot was near capacity.

Metrobus routes 34 (Busway Flyer), 35 and (38 Busway) Max provide connecting service to the SW 244th Street Miami-Dade Busway Station.

5.1 Goal:

Increase parking capacity and reconfigure parking lot to improve vehicle circulation.

5.2 Objectives:

1.) Reconfigure parking lot entrance.

2.) Expand limits of the parking lot to the west to create additional parking spaces.

3.) Provide a designated kiss-and-ride area.

4.) Improve pedestrian connections between the parking lot and busway station.

5.) Improve passenger convenience through wayfinding, station parking lot visibility, ADA access, continuous passenger canopies, and additional bicycle storage.

5.3 Planned Projects within the vicinity of the SW 244th Street Parking Lot:

- No planned projects were identified.

5.4 Site Assessment

The existing conditions were evaluated and deficiencies identified based upon field review and collaboration with the MPO and MDT. The field review included an assessment of physical, operational and safety conditions at the park-and-ride location. Field reviews occurred in October 2014.

1.) Pavement Condition

a. Asphalt is in fair condition.

b. Pavement markings are faded.

2.) Pedestrian Facilities

a. Poor ADA access between the Busway station and the parking lot

b. Walkway ramp and sidewalk to the station is ADA deficient. Existing handrail is corroded and loose, requiring immediate replacement. The connecting sidewalk requires a hand rail.

c. Crosswalks at SW 244th Street and at the Busway intersection are faded.

d. No crosswalk between parking lot and busway station

3.) No Bicycle Facilities

a. This station has no bicycle facilities.

4.) No Kiss-and-Ride Facility

a. Passenger pick up and drop off occurs throughout the existing parking lot.

5.) Auto Parking Facilities

a. Entry/exit configuration of the facility increases automobile conflicts, creating safety issues.

b. No short-term parking spaces.

c. No designated parking spaces for vanpools or carpools.

d. No designated parking spaces for stroller parking.

e. No designated parking space for MDT security.

f. No designated motorcycle parking spaces.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Wayfinding signage is lacking: Designated park-and-ride site is not visible from South Dixie Highway.

b. Insufficient signage identifying park-and-ride area entrance.

c. Stop bar lines are either faded or missing at the end of parking stalls.

5.5 Improvement Recommendations

Recommended proposed improvements were developed in consideration of the existing conditions coupled with the input received from both MPO and MDT planning and operations staff. The proposed measures focus on increasing parking capacity, improving vehicle circulation and passenger access for the park-and-ride facility.

Project Components

1.) Pavement Condition

a. Mill and resurface existing parking lot

b. New pavement on expanded parking area to the northwest

c. Upgrade all pavement markings

2.) Pedestrian Facilities

a. Construct a new sidewalk on both the northeast and northwest sides of the parking lot

b. Upgrade pavement markings on crosswalks at the SW 244th Street and Busway intersection

c. Construct continuous canopy along the east side of the parking facility.

d. Widen and install new handrails on sidewalk ramp leading to the busway station. Install handrails on the sidewalk that parallels SW 244th Street when approaching the busway station entrance.

3.) Bicycle Facilities

a. Install covered bicycle cage adjacent to busway station.

4.) No Kiss-and-Ride Area

a. Provide a kiss-and-ride drop-off.

5.) Auto Parking Facilities

a. Expand parking lot to the northwest and reconfigure parking
b. Provide two (2) of short-term parking spaces.
c. Provide two (2) vanpool/carpool parking priority spaces.
d. Provide two (2) stroller parking spaces.
e. Provide one (1) designated MDT parking space.
f. Construct motorcycle/scooter parking area with a concrete surface.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Improve lighting throughout the parking lot (white source).
b. Reconfigure entry/exit point
c. Install ticket vending machine adjacent to busway station entrance.
d. Identify a location for a real-time information sign.
e. Provide a gateway feature (such as a tower) at each end of the proposed continuous canopy.
f. Provide park-and-ride lot monument sign
g. Provide real-time parking space counter adjacent to the busway station entrance.
h. Install stop signs through parking lot.

5.6 Conceptual Cost Estimate

Based upon the conceptual improvement plan recommendations a capital cost estimate was prepared (Table 5-1). The cost estimate is based upon the latest unit cost information as obtained from the FDOT and Miami-Dade County. In addition, cost information was obtained from MDT based upon similar conceptual and final design plans.

A conceptual illustration of these improvements is presented in the following section.

Table 5-1: Capital Cost Estimate for SW 244th Street Park-and-Ride Improvement Plan

Pay Item	UNIT	Unit Price	Quantity		Item Subtotal
SITEWORK					
DEMOLITION	ACRE	$ 10,000.00	1.41		$ 14,100.00
EARTHWORK	CY	$ 7.00	3973		$ 27,814.00
TYPE B STABILIZATION	SY	$ 5.00	5960		$ 29,800.00
LIMEROCK BASE	SY	$ 15.00	5960		$ 89,400.00
MILLING	SY	$ 4.00			$ -
ASPHALT PAVEMENT	TON	$ 100.00	500		$ 50,000.00
CONCRETE PAVEMENT	SY	$ 75.00	18		$ 1,350.00
CONCRETE CURB	LF	$ 25.00	2225		$ 55,625.00
CONCRETE CURB & GUTTER	LF	$ 18.00			$ -
CONCRETE GUTTER	LF	$ 15.00			$ -
TRAFFIC SEPARATOR	LF	$ 53.00			$ -
CONCRETE SIDEWALK	SY	$ 38.00	200		$ 7,600.00
CURB STOP	EA	$ 65.00	112		$ 7,280.00
INLET TYPE D	EA	$ 4,500.00	5		$ 21,411.00
FRENCH DRAIN 18"	LF	$ 150.00	162		$ 24,338.00
SOLID PIPE 18"	LF	$ 55.00	235		$ 12,925.00
FENCING	LF	$ 15.00			$ -
GRAVITY WALL	CY	$ 407.00	12		$ 5,065.00
PERFORMANCE TURF, SOD	SY	$ 17.00	384		$ 6,528.00
Subtotal SiteWork					**$ 353,236.00**
SIGNING & PAVEMENT MARKINGS					
SIGNING & PAVEMENT MARKINGS	LS	$ 17,662.00	1	5%	$ 17,662.00
LIGHTING					
LIGHTING	LS	$ 52,986.00	1	15%	$ 52,986.00
LANDSCAPE & IRRIGATION					
LANDSCAPE	LS	$ 10,598.00	1	3%	$ 10,598.00
IRRIGATION	LS	$ 7,065.00	1	2%	$ 7,065.00
EROSION CONTROL					
EROSION CONTROL	LS	$ 3,533.00	1	1%	$ 3,533.00
SITE FEATURES					
8' HIGH PRIVACY WALL	LF	$ 75.00			$ -
PARK & RIDE MONUMENT SIGN	EA	$ 5,000.00	1		$ 5,000.00
GATEWAY FEATURE	EA	$ 30,000.00	2		$ 60,000.00
COMFORT STATION	EA	$ 60,000.00			$ -
CANOPY	SY	$ 350.00	291		$ 101,889.00
BIKE CAGE	EA	$ 25,000.00	1		$ 25,000.00
REAL TIME SIGNAGE	EA	$ 15,000.00	1		$ 15,000.00
TICKET VENDING MACHINES	EA	$ 12,000.00	1		$ 12,000.00
Subtotal Site Features					**$ 218,889.00**
	Const. Cost Subtotal =				**$ 663,969.00**
Mobilization (10% of const. cost Subtotal)				10%	$ 66,397.00
Preliminary Engineering/Final Design (10% of const. cost Subtotal)				10%	$ 66,397.00
Project Management and Construction Admin (10% of const. cost Subtotal)				10%	$ 66,397.00
Legal/Permitting/Insurance/Review Fees (1.5% of const. cost Subtotal)				2%	$ 9,960.00
Survey/Geotech/Other (3% of const. cost Subtotal)				3%	$ 19,920.00
Public Art Allowance (1.5% of const. cost Subtotal)				1.5%	$ 9,960.00
Land Acquisition/Legal Fees				0%	$ -
	Construction Cost =				**$ 903,000.00**
Contingency (25% of total cost)				25%	$ 225,750.00
TOTAL ESTIMATED COST=					**$ 1,128,750.00**

Note: Unit prices obtained from FDOT Miami-Dade Moving Average - January - December 2014 and Miami-Dade Unit Cost Data

Figure 5-1: Busway Park-and-Ride at SW 244th Street Existing Condition

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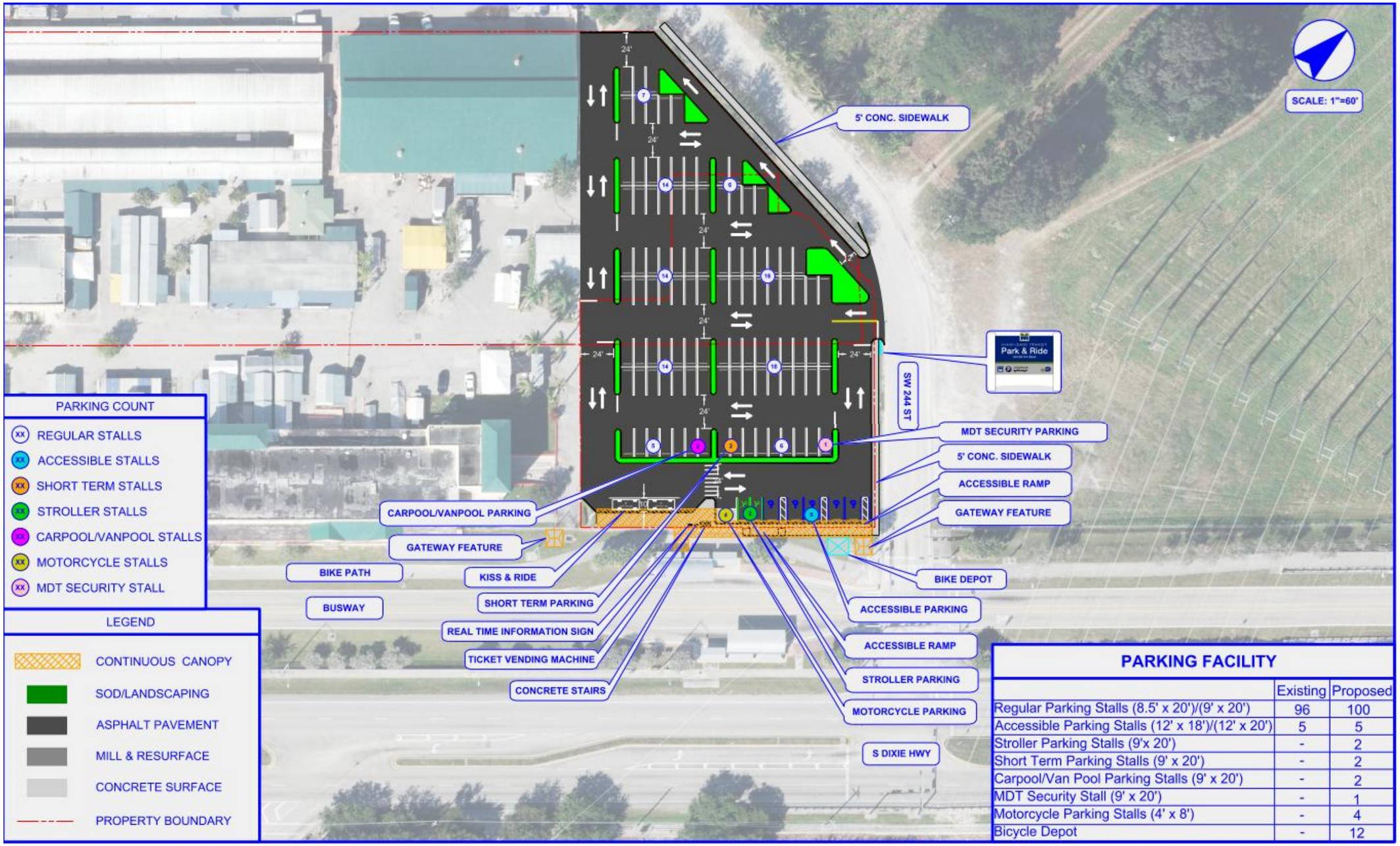
Figure 5-2: Busway Park-and-Ride at SW 244th Street Proposed Improvement Plan



PARKING FACILITY

	Existing	Proposed
Regular Parking Stalls (8.5' x 20')/(9' x 20')	96	100
Accessible Parking Stalls (12' x 18')/(12' x 20')	5	5
Stroller Parking Stalls (9'x 20')	-	2
Short Term Parking Stalls (9' x 20')	-	2
Carpool/Van Pool Parking Stalls (9' x 20')	-	2
MDT Security Stall (9' x 20')	-	1
Motorcycle Parking Stalls (4' x 8')	-	4
Bicycle Depot	-	12

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6.0 Busway Park-and-Ride at SW 296th Street

The SW 296th Street park-and-ride facility is a 133 space parking facility located at 29500 South Dixie Highway. Current parking utilization is approximately 50 percent. During the field review the parking lot was at about 50 percent capacity.

Metrobus routes 34 (Busway Flyer) and 38 (Busway) Max provide connecting service to the SW 296th Street Miami-Dade Busway Station.

6.1 Goal

Increase parking capacity, improve pedestrian circulation, and vehicle access.

6.2 Objectives

1.) Expand limits of the parking lot to the southwest to create additional parking spaces.

2.) Provide a designated kiss-and-ride area.

3.) Improve pedestrian connections between the parking lot and busway station.

4.) Improve passenger convenience through wayfinding, station parking lot visibility, ADA access, continuous passenger canopies, and additional bicycle storage.

6.3 Planned Projects within the vicinity of the SW 296th Street Parking Lot

- No planned projects were identified.

6.4 Site Assessment

The existing conditions were evaluated and deficiencies identified based upon field review and collaboration with the MPO and MDT. The field review included an assessment of physical, operational and safety conditions at the park-and-ride location. Field reviews occurred in October 2014.

1.) Pavement Condition

a. Asphalt is in good condition.

b. Pavement markings are faded.

2.) Pedestrian Facilities

a. Limited access to busway station - one connecting sidewalk.

3.) Bicycle Facilities

a. Bicycle racks are provided.

4.) No Kiss-and-Ride Facility.

a. Passengers are currently being dropped off and picked up throughout the existing parking lot.

5.) Auto Parking Facilities

a. Limited vehicle access to the parking facility. Entry/exit point is from South Dixie Highway. No convenient point of entry from SW 296th Street.

b. No short-term parking spaces.
c. No parking spaces designated for vanpools or carpools.
d. No parking space designated for MDT security.
e. No designated motorcycle parking spaces.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Wayfinding signage is lacking: Designated park-and-ride site is not visible from South Dixie Highway.
b. Insufficient signage identifying park-and-ride area entry.
c. Pavement markings are faded.
d. No crosswalk pavement markings between station stop and parking lot.
e. Existing crosswalks on the busway are faded.

6.5 Improvement Recommendations

Recommended proposed improvements were developed in consideration of the existing conditions coupled with the input received from both MDT planning and operations staff as well as from the MPO. The proposed measures focus on parking lot expansion, improving vehicle access for the park-and-ride facility.

Project Components

1.) Pavement Condition

a. Mill and resurface proposed reconfiguration of existing parking lot.
b. New pavement on expanded parking area to the southwest.
c. Upgrade all pavement markings.

2.) Pedestrian Facilities

a. Construct a new connection from the parking lot to the busway station on the southeast end of the parking facility.
b. Widen multi-use path (Mowry Trail) between Dixie Highway and the busway alone SW 296th Street.
c. Extend existing sidewalk on the west side of the parking lot to the north end of the parking lot.
d. Extend existing sidewalk for the southbound station to the north.
e. Provide pedestrian walkway along center parking islands throughout the parking facility.
f. Upgrade pavement markings on busway crosswalks that connect the northbound and southbound station.
g. Construct continuous canopy along the west side of the parking facility.

3.) Bicycle Facilities

a. Install covered bicycle cage adjacent to busway station.

4.) No Kiss-and-Ride Area

a. Provide a kiss-and-ride drop-off.

5.) Auto Parking Facilities

a. Increase parking capacity from 133 spaces to 188 spaces.

b. Increase the number of accessible parking spaces from five (5) to seven (7) spaces.

c. Provide three (3) of short-term parking spaces.

d. Provide three (3) vanpool/carpool parking priority spaces.

e. Provide one (1) designated MDT parking space.

f. Construct motorcycle/scooter parking area with a concrete surface.

6.) Ancillary Facilities - Facility Entry/Wayfinding/Regulatory Signage

a. Improve lighting throughout the parking lot (white source).

b. Construct new entry/exit point further north on South Dixie Highway. The new entry point will also extend the existing right hand turn lane further to the north on South Dixie Highway to facilitate turning movement into the parking lot.

c. Construct a new entry/exit point from SW 296th Street into the park-and-ride facility.

d. Extend the left turn lane on SW 296th Street to the west to facilitate a left hand turn movement into the new entry point on SW 296th Street into the park-and-ride facility.

e. Install ticket vending machine adjacent to busway station entrance.

f. Identify a location for a real-time information sign.

g. Provide a gateway feature (such as a tower) at each end of the proposed continuous canopy.

h. Provide park-and-ride lot monument sign.

i. Provide real-time parking space counter adjacent to the busway station entrance.

6.6 Conceptual Cost Estimate

Based upon the conceptual improvement plan recommendations a capital cost estimate was prepared (Table 6-1). The cost estimate is based upon the latest unit cost information as obtained from the FDOT and Miami-Dade County. In addition, cost information was obtained from MDT based upon similar conceptual and final design plans.

A conceptual illustration of these improvements is presented in the following section.

Table 6-1: Capital Cost Estimate for SW 296th Street Park-and-Ride Improvement Plan

Pay Item	UNIT	Unit Price	Quantity		Item Subtotal
SITEWORK					
DEMOLITION	ACRE	$ 10,000.00	1.4		$ 13,900.00
EARTHWORK	CY	$ 7.00	2375		$ 16,623.00
TYPE B STABILIZATION	SY	$ 5.00	3562		$ 17,810.00
LIMEROCK BASE	SY	$ 15.00	3562		$ 53,430.00
MILLING	SY	$ 4.00	1360		$ 5,440.00
ASPHALT PAVEMENT	TON	$ 100.00	467		$ 46,700.00
CONCRETE PAVEMENT	SY	$ 75.00	79		$ 5,925.00
CONCRETE CURB	LF	$ 25.00	2260		$ 56,500.00
CONCRETE CURB & GUTTER	LF	$ 18.00	170		$ 3,060.00
CONCRETE GUTTER	LF	$ 15.00	125		$ 1,875.00
TRAFFIC SEPARATOR	LF	$ 53.00			$ -
CONCRETE SIDEWALK	SY	$ 38.00	1300		$ 49,400.00
CURB STOP	EA	$ 65.00	204		$ 13,260.00
INLET TYPE D	EA	$ 4,500.00	4		$ 18,000.00
FRENCH DRAIN 18"	LF	$ 150.00	206		$ 30,902.00
SOLID PIPE 18"	LF	$ 55.00	250		$ 13,750.00
FENCING	LF	$ 15.00			$ -
GRAVITY WALL	CY	$ 407.00			$ -
PERFORMANCE TURF, SOD	SY	$ 17.00	2087		$ 35,479.00
Subtotal SiteWork					**$ 382,054.00**
SIGNING & PAVEMENT MARKINGS					
SIGNING & PAVEMENT MARKINGS	LS	$ 19,103.00	1	5%	$ 19,103.00
LIGHTING					
LIGHTING	LS	$ 57,309.00	1	15%	$ 57,309.00
LANDSCAPE & IRRIGATION					
LANDSCAPE	LS	$ 11,462.00	1	3%	$ 11,462.00
IRRIGATION	LS	$ 7,642.00	1	2%	$ 7,642.00
EROSION CONTROL					
EROSION CONTROL	LS	$ 3,821.00	1	1%	$ 3,821.00
SITE FEATURES					
8' HIGH PRIVACY WALL	LF	$ 75.00			$ -
PARK & RIDE MONUMENT SIGN	EA	$ 5,000.00	1		$ 5,000.00
GATEWAY FEATURE	EA	$ 30,000.00			$ -
COMFORT STATION	EA	$ 60,000.00			$ -
CANOPY	SY	$ 350.00	376		$ 131,639.00
BIKE CAGE	EA	$ 25,000.00	1		$ 25,000.00
REAL TIME SIGNAGE	EA	$ 15,000.00	1		$ 15,000.00
TICKET VENDING MACHINES	EA	$ 12,000.00	1		$ 12,000.00
Subtotal Site Features					**$ 188,639.00**
	Const. Cost Subtotal =				**$ 670,030.00**
Mobilization (10% of const. cost Subtotal)				10%	$ 67,003.00
Preliminary Engineering/Final Design (10% of const. cost Subtotal)				10%	$ 67,003.00
Project Management and Construction Admin (10% of const. cost Subtotal)				10%	$ 67,003.00
Legal/Permitting/Insurance/Review Fees (1.5% of const. cost Subtotal)				2%	$ 10,051.00
Survey/Geotech/Other (3% of const. cost Subtotal)				3%	$ 20,101.00
Public Art Allowance (1.5% of const. cost Subtotal)				1.5%	$ 10,051.00
Land Acquisition/Legal Fees				0%	$ -
	Construction Cost =				**$ 911,242.00**
Contingency (25% of total cost)				25%	$ 227,811.00

TOTAL ESTIMATED COST=	**$ 1,139,053.00**

Note: Unit prices obtained from FDOT Miami-Dade Moving Average - January - December 2014 and Miami-Dade Unit Cost Data

Figure 6-1: Busway Park-and-Ride at SW 296th Street Existing Condition

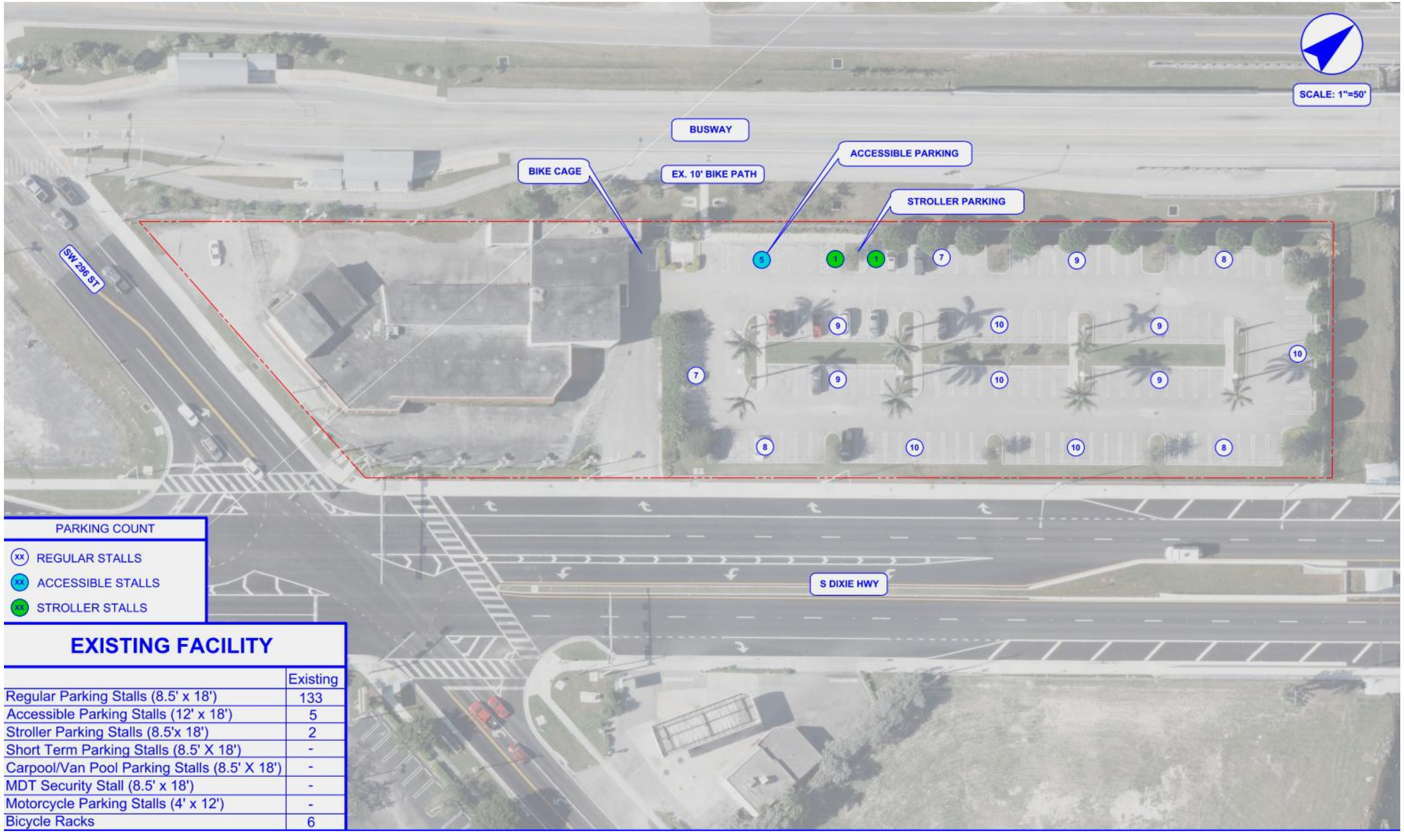

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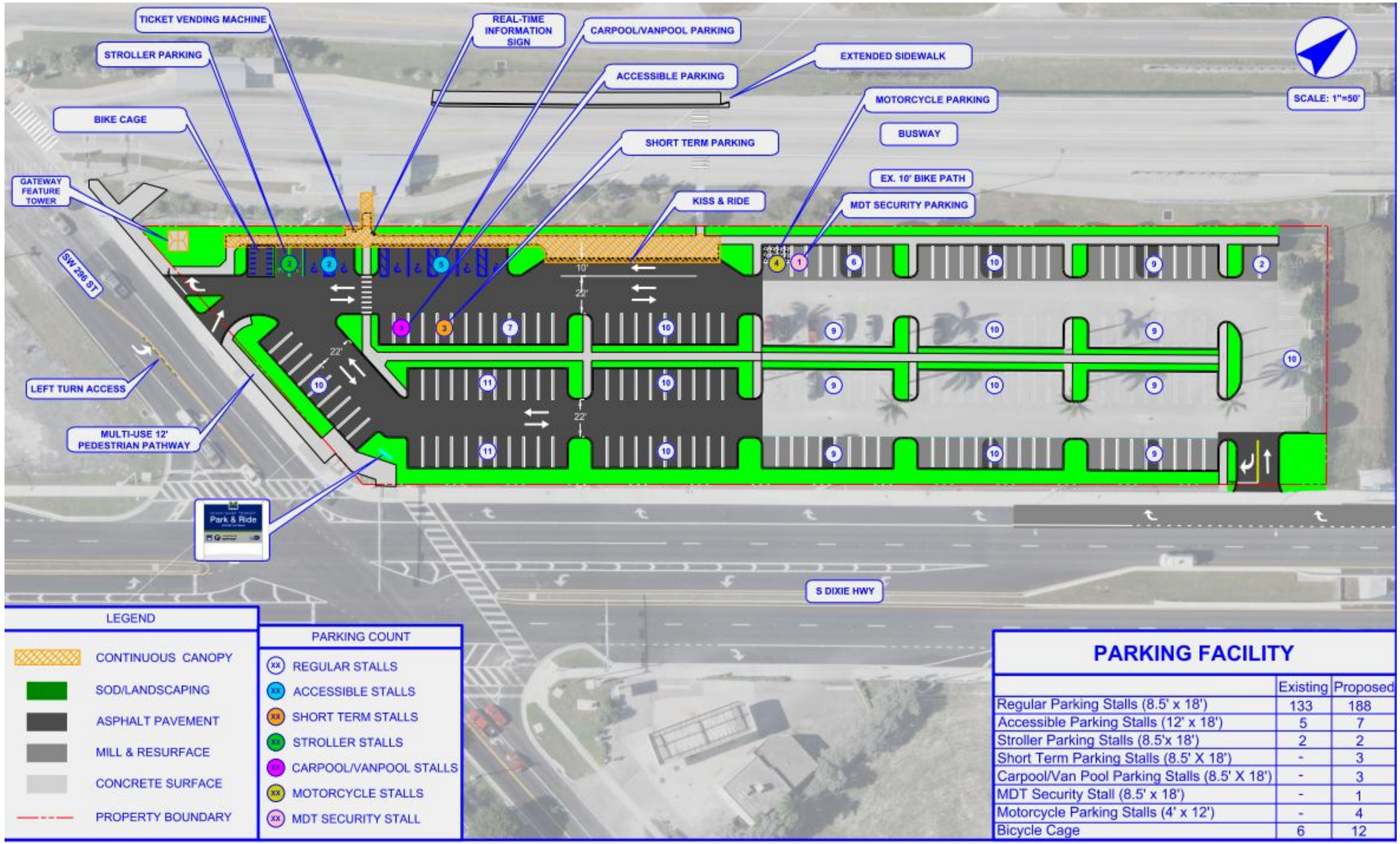
Figure 6-2: Busway Park-and-Ride at SW 296th Street Proposed Improvement Plan



PARKING FACILITY

	Existing	Proposed
Regular Parking Stalls (8.5' x 18')	133	188
Accessible Parking Stalls (12' x 18')	5	7
Stroller Parking Stalls (8.5'x 18')	2	2
Short Term Parking Stalls (8.5' X 18')	-	3
Carpool/Van Pool Parking Stalls (8.5' X 18')	-	3
MDT Security Stall (8.5' x 18')	-	1
Motorcycle Parking Stalls (4' x 12')	-	4
Bicycle Cage	6	12

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7.0 Potential Funding Sources

The funding for the implementation of improvement plan recommendations as presented herein can be obtained from several different sources to include federal, state, and/or local funding. A brief overview of eligible park-and-ride funding programs and other viable funding sources recommended for consideration is presented below.

7.1 Federal Funding Sources

Both the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) administer funding for park-and-ride facilities. Title 23, U.S. Code Chapter 1 Section 137, provides federal funding for park-and-ride areas located in conjunction with an existing or planned public transportation facility. FHWA typically funds park-and-ride facilities as related to a congestion mitigation strategy or part of a Congestion Mitigation and Air Quality (CMAQ) Improvement program for a designated Interstate highway.

FTA administers funding for park-and-ride facilities that are directly associated with transit and certain rideshare activities under Title 49, U.S. Code Chapter 53. Specifically, through Section 5307 formula grants, Section 5309 (Capital Investment Program – New Starts) funds which provide up to 80% of funding requiring a 20% state and/or local funding match. Each of these programs offers capital investment grants related to the implementation of a new fixed guideway project or extension of an existing transit system.

7.2 State Funding Sources

FDOT has Park-and-Ride Program that was established to be administered at the District level for funding the planning, implementation, and evaluation phases of a park-and-ride facility. For park-and-ride locations to be eligible to receive state funding each must be included on a FDOT District park-and-ride list or eligible plan such as a Transit Development Plan (TDP). All five park-and-ride locations of this study are included within MDT's latest FDOT approved TDP.

MDT may request the use of FDOT Park-and-Ride program funds by submitting a project proposal with FDOT District VI which then enters a prioritization process with Central Office determining which projects are awarded funding. Up to 100% of a park-and-ride facility's costs are eligible for funding under this State program providing a project is being implemented by FDOT, the title of a facility is retained by FDOT or when approved for the Local Advance Program (LAP) agreement. Otherwise, FDOT will fund up to 50% of a non-federal portion of the capital costs. Under this program, land value is eligible to be used as a match when federal or state funds were not used to acquire property. A grantee must comply with all applicable federal, state and local requirements to include obtaining environmental clearance for a proposed park-and-ride project.

Other potential state funding sources for park-and-ride facilities include:

Transit Service Development: Discretionary State funding allocated to initiate new transit service of which a park-and-ride facility may be part of the new proposed service.

Strategic Intermodal System (SIS): Funding for regionally significant transportation facilities such as improving mobility on intercity corridors.

Intermodal Development: Funding program for improved accessibility and connections to other modes, promotes multimodal connections.

Public Transit Block Grants: Funding source for eligible local transit operators to be used on capital and operating expenditures.

State Infrastructure Bank (SIB) Loans: Provides a low interest loan for transit.

Transit Research Inspection Procurement Services (TRIPS): Provides up to a 50% share of project costs to improve travel on regionally significant facilities.

7.3 Local Funding Sources

Local funding can be obtained from a variety of sources such as special taxes (e.g., local option gas tax, transit surtax) that are fully or partially dedicated to fund transportation improvements and a county's or municipal general fund. For transit capital improvement projects, Miami-Dade County utilizes both the general fund and revenues from the ½ cent sales tax or the People's Transportation Plan.

One other source of funding for the implementation of park-and-ride facilities is through private sector participation in the form of joint development projects. This typically involves an agreement between the local operator (e.g., MDT) and private developer regarding the development of County owned land as well as provisions such that a number of parking spaces be designated for transit use. This partnership helps to fund capital improvements as well as provide a potential source for long term operation and maintenance of a facility.

7.4 Other Funding Sources

Other park-and-ride funding sources include the selling of naming rights as well as providing opportunities for the purchase of advertising at a facility. Potential revenues could also be generated from paid parking ($2.00 to $4.00 per space). Generally, the amount of revenue generated from these sources will not fund a significant portion of a park-and-ride facility's capital cost but could help to offset ongoing operation and maintenance expenses.

Appendix

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Miami-Dade Transit Park-and-Ride Inventory Assessment Tool

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Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Field Inspection Data			
Facility Name		Date	
Address		Begin Time	
Inspector			

Recommended Corrective Measures
Pedestrian Facilities
#VALUE!
Bicycle Facilities
#VALUE!
Bus Transit Facilities
#VALUE!
Kiss-and-Ride Drop-off/Pick-up Facilities
#VALUE!
Auto Parking Facilities
0

Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Facility Type				Rapid Transit System Extensions Compendium of Design Criteria
Exclusive/ Dedicated-use		Joint/Shared-use		
Surface Lot	Operating Hours	Pavement Type		Large parking lots should be subdivided into sections to reduce scale. Walkways and landscaping may be used for this purpose. Vehicular movement from each section to the nest shall not be restricted. Volume II - Section 1.03.7.1 Page 29 Vehicular area - floor material: Portland cement or asphalt concrete paving. Volume II - Section 1.09.10 Page 123
		Asphalt		
		Concrete		
		Other		
Structured Garage	Operating Hours	Number of Levels		Space shall be provided for elevators in the event the parking structures exceed 3 levels (2 levels above grade). Volume II - Section 1.03.7.3 Page 30
		Vertical Clearance/ Maximum Permissible Height		Minimum vehicular clearance height = 7'-6". ADA requires 8'-2" for accessible vans. Volume II - Section 1.03.7.3 Page 30
		Posted Sign(s)		
Parking Fees and Fines				
Daily Fee		Enforcement		Payment for parking should be made when vehicle exits the area or by some metering method. Volume II - Section 1.03.7.1 Page 28
Monthly Fee		Fine	Tow	
Fine/Penalty for Violation				

Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Pedestrian Facilities					Rapid Transit System Extensions Compendium of Design Criteria
Connecting walkways/pathways	Width	Off-site			Minimum walkway width is 8 feet. Minimum width near station entrance is 20 feet. Volume II - Section 1.03.3.3 Page 23
		On-site	Concrete		
			Asphalt		
			Other		
Crosswalks	Width	Off-site			Minimum crossing width should be at least equal to the width of the adjacent pedestrian walk, but not less than 7 feet. Volume II - Section 1.03.3.2 Page 22
		On-site			
Pedestrian Overpass					
Pedestrian Railing or Fencing					
Pedestrian Lighting and Source	Light Poles				Street or site lighting shall be placed at every pedestrian crosswalk. Volume II - Section 1.03.3.2 Page 22 Uniformity should be maintained and high quality light giving good color rendition shall be provided. Volume II - Section 1.02.5.5 Page 10
	Bollards				
ADA Features	Ramp Grades (%)	Parking on ramp			Parking on ramp: 5 % maximum. Volume II - Section 1.03.7.3 Page 31
		No parking on ramp			No parking on ramp: 5 % desirable. Volume II - Section 1.03.7.3 Page 31
	Detectable Warning Surface				All pedestrian ramps shall meet ADA guidelines. Volume II - Section 1.03.3.2 Page 22
Handrails (adjacent to drop-offs)					
Retaining Walls					
Walkway Condition	Cracking				Walkways should have a continuing common surface, not interrupted by steps or abrupt changes in level. Volume II - Section 1.03.3.3 Page 24
	Misalignment				
	Physical				
Recommended Corrective Measures					

Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Bicycle Facilities					
Off-site Connecting Bike Lanes			Width		
Off-site Connecting Bike paths			Width		
On-site Bike Parking					
Bike Lockers	Number		Occupancy		
	Type		Condition		
Bike Racks	Number		Condition		
	Occupancy		Type	Inverted U	
				Other	
Bike Cages	Number		Condition		
	Occupancy		Access		
Undesignated Bicycle Parking					
Fencing			Support Posts		
Railings			Other		
Recommended Corrective Measures					

Rapid Transit System Extensions Compendium of Design Criteria
Bicycle paths shall be a minimum of 8 feet wide. Volume II - Section 1.03.9.2 Page 32
Bicycle lockers should be placed near station entrance, or in parking structures. Placement should not compromise pedestrian walkways. Volume II - Section 1.03.9.1 Page 32
Bicycle racks should be placed near station entrance, preferably under the guideway at the end of the concourse. Volume II - Section 1.03.9.1 Page 32

Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Bus Transit Facilities						Rapid Transit System Extensions Compendium of Design Criteria
Drive Access Points						
Location	Inbound Right Side					Lower volume access points, such as those for buses will be evaluated on a station - by - station basis. Volume II Section 1.03.4.1 Page 24
	Outbound Right Side					
Number		Type		Traffic Separator		To ensure the uninterrupted flow of bus traffic, separate access into and through the transit site shall be provided. Volume II Section 1.03.5.2 Page 25
Pavement Type		Pavement Condition				
Asphalt		Cracking		Potholes		
Concrete		Shoving		Depressions		
		Edge Raveling				
Connecting Bus Routes						
Express or Limited Stop						
Local All Stop						
Local Circulator						
On-site Bus Bays						
Internal	Number		Dimensions			To alleviate the necessity of buses backing up to maneuver and to reduce the length required by in line bus bays, saw tooth bus bays shall be used wherever possible. Volume II - Section 1.03.5.3 Page 25
	Configuration	Linear Berth/Bay				
		Sawtooth Berths				
		Bus Loop	Clockwise Loop			
			Counter-clockwise Loop (Center Island)			
External	Number		Dimensions			Where buses stop outside the site on adjacent public streets, a minimum of 11 feet wide by 50 feet long, shall be provided if possible. Volume II Section 1.03.5.3 Page 26
	Pavement Type					
Bus Passenger Waiting Areas						Minimum platform width for center platform is 25 feet 3 inches. Minimum width for side platform is 12 feet 6 inches. Volume II - Section 1.04.6.2 Page 45
Platform	Length		Width			
	Height		Edge Stip	Width		Platforms shall have a 24 inch wide, anti-skid tactile surface installed continuously along all platform boarding edges. Edge strip may be natural stone, concrete, terrazzo, or synthetic material as approved by MDT. Volume II - Section 1.04.6.4 Page 46
	Condition			Material		
Shelters	Number		Size			The station platform shall be designed to accommodate a canopy structure which will afford adequate weather protection against conditions that can reasonably be anticipated in Miami -Dade County. Volume II - Section 1.04.7.2 Page 48
	Seating		Weather Protection/Wind Screen			
	Lighting		Transit Route Maps and Schedules			
	Condition					
Internal/On-site Bus Layover Area						
Number		Dimension		Pavement Type		
Bus Operator Rest/Welfare Building						
Size			Facilities			At each station, provisions will be made for the use of toilet facilities by authorized transit personnel. Volume II - Section 1.07.3.4 Page 87
Recommended Corrective Measures						

Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Kiss-and-Ride Drop-off/Pick-up Facilities					
Posted Use Policies and/or Restrictions					
Drop-off/Pick-up Bay	Length	Width	Orientation		Condition
			Right Hand	Left Hand	
External/Off-site					
Internal/On-site					
Internal/On-site Short-term Parking Spaces					
Number		Length		Width	
Alignment	Pull-through	Angled(45,60,75 degrees)			
	Pull-in	90 degree			
		Angled(45,60 degrees)			
Condition					
Passenger Waiting Area / Shelter					
Number		Size		Seating	
Lighting		Weather Protection/Wind Screen		Condition	
Recommended Corrective Measures					

Rapid Transit System Extensions Compendium of Design Criteria
Each drop-off space shall be a minimum of 10 feet wide by 30 feet long. Volume II - Section 1.03.6.3 Page 28 Right hand drop off shall be provided where sight constraints allow. Volume II - Section 1.03.2.4 Page 21
Spaces shall be a minimum of 10 feet by 20 feet. Volume II - Section 1.03.6.3 Page 27
The preferred configuration is that of an angle of 45 to 60 degrees to the direction of travel to enhance maneuvering. Volume II - Section 1.03.6.3 Page 27

Miami Dade Transit Park-and-Ride Facility Physical Elements/Components

Auto Parking Facilities						Rapid Transit System Extensions Compendium of Design Criteria
Posted Use Policies and/or Restrictions						
Driveway Access points						If more than one access point into the site and these points front on the same street, they shall be at least 150 feet apart. Volume II Section 1.03.4.1 Page 24
Location	Inbound Right Side		Type	Full Access		
	Outbound Right Side			Directional		
Number			Traffic Separator			
Circulation	Two-way		One way			Internal circulation for parking areas should be separate from other vehicular modes. Volume II - Section 1.03.7.1 Page 28
General Use Parking Spaces						
Type	Number		Length		Width	Parking spaces shall be 9 feet by 20 feet minimum. Volume II - Section 1.03.7.1 Page 29
Standard						
Compact						
Alignment	90 degree			Occupancy		90 degree parking is preferred and should be used wherever possible. Volume II Section 1.03.7.1 Page 29
	Angled (45,60,75 degrees)					
Accessible Parking Spaces						
Number		Dimensions	Space			
Alignment			Buffer Area			
Occupancy						
Parking Type	Number	Length	Width	Alignment	Occupancy	Motorcycle spaces shall be 4 feet wide by 8 feet long. Volume II - Section 1.03.7.1 Page 29
Stroller Parking						
Motorcycle Parking						
Hybrid Vehicle Priority Parking						
Carpool/Vanpool Priority Parking						
Reserved Spaces	Employee		Illegal Parking			
	Permit					
Pavement Deck Condition						
Cracking	Potholes	Shoving	Depressions	Edge Raveling		
Recommended Corrective Measures						

Ancillary Facilities					Rapid Transit System Extensions Compendium of Design Criteria
Signing and Pavement Marking					
Facility Entry/Identification Sign	Fixed Surface	Illuminated			
		Unilluminated			
	Internally Illuminated				
Guide Signs	External Trailblazer				
	Internal				
Regulatory Signs	Stop Signs		Accessible Space Signs		
	No Parking Signs		Stroller Parking Signs		
	Do Not Enter Signs				
Sign Conditions					
Pavement Markings					
Space Demarcation Lines	Standard Spaces				
	Accessible Spaces				
	Stroller Spaces				
Stop Bar Lines					
Crosswalks	Standard Longitudinal Line Markings				Pedestrian crosswalks should be emphasized with a strongly contrasting change in pavement material, surface texture or color. Volume II - Section 1.03.3.2 Page 22
	Special Emphasis Transverse Line Markings				
Double Yellow Centerlines					
Symbol Markings	Accessible Spaces				
	Stroller Spaces				
	Turn Arrows				
	Other				
Pavement Markings Conditions					
Reflective Pavement Markings					
ITS					
Wi-Fi					
Real Time Traveler Information Dynamic Message Sign (Next Bus)					
Parking Guidance/Management Dynamic Message Sign (Real Time Parking Availability)					
Drainage Facilities					
Curb and Gutter		Inlets and grates		Pipes	
Valley Gutter		Flumes		Ditches or Swales	
Ponds					
Condition					

Landscaping			
Ground Cover	Type		
	General Condition		
	Overgrown/Mowing		
	Turf Condition and Undesired Vegetation		
	Encroachment into Sidewalk Edge		
Shrubs	Leaf Accumulation		
	General Condition (weeds, dead or dying plants, overgrown)		
Trees	Leaf Accumulation		
	Trimming/Pruning (encroachments)		
	General Condition (weeds, dead or dying)		
	Root Damage to Pavements		
Irrigation			
Lighting			
Condition			

Area Lighting					
Parking Areas	Number of Poles	Light Source		Light Levels (average intensity and uniformity)	Number of Luminaries not Working
		white/non-white	LED		
Surface lots					
Garages					
Bus Drive/Loop Area					

Security					
Security Perimeter Fencing			Fence Height		
Other Form of Boundary Identification (plantings, curb, etc)					
Access Gates		Cameras (CCTV, other)		Emergency Phones/Call Boxes	
Security Booth		Security Guard(s)		Roving Security vehicles	
Police Substation		Emergency Lighting			

User Amenities					
Trash Receptacles		Newspaper Rack		Public Restrooms	
Vending Machines		Pay Telephones		Water Fountains	
Passenger Oriented Retail		Other			

Public Art			
Location		Visual Focal Point	

LEED Features			
Solar Power		LED Lighting	
Other			

General Maintenance	
Trash/Litter Control/ Removal	
Pavement Sweeping	
Graffiti Control	

Critical decision areas such as entrances and intersections shall receive higher levels of illumination. Volume II - Section 1.02.5.5 Page 11

The mouth of the waste receptacle shall remain close when not in use and shall be operable with a gentle push. It should be constructed of stainless steel . It shall contain a removable watertight, receptacle module. Volume II - Section 1.11.6 Page 143
Public telephones shall be of the wall panel type, recess mounted, without enclosure, doors or seating. Volume II - Section 1.11.3 Page 141

Works of art shall be located and configure so as not to distract or conflict with informational or directional transit related signage. Volume II - Section 1.12.3.6 Page 150

Walls accessible to public must be durable and show non permanent discoloration when removing spray paint by scraping, brushing or solvent and removers. Volume II - Section 1.09.5 Page 116

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Filed Observations and Photographs

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Busway Park-and-Ride at SW 152nd Street (SR 992)

Lack of wayfinding and signage to identify MDT designated parking

Faded pavement markings

MDT parking lot at capacity

Busway Park-and-Ride at SW 168th Street

Illegal parking - MDT parking lot at capacity

Vacant area east of parking lot

Connecting sidewalk between the parking lot and Busway station

Busway Park-and-Ride at SW 112th Avenue

Proximity of SW 208th Drive crosswalk to SW 112th Avenue/US-1 intersection.

Limited access between parking lot and Busway station

Donation bins occupying parking spaces adjacent to the Busway station

Busway Park-and-Ride at SW 244th Street

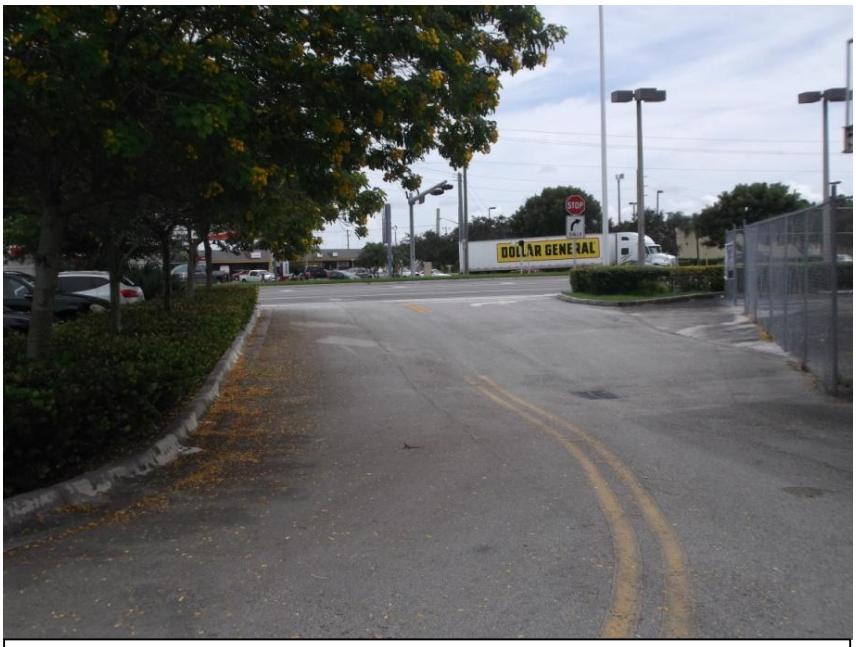
ADA Deficient sidewalk that requires a handrail

Limited access from parking lot to between Busway station

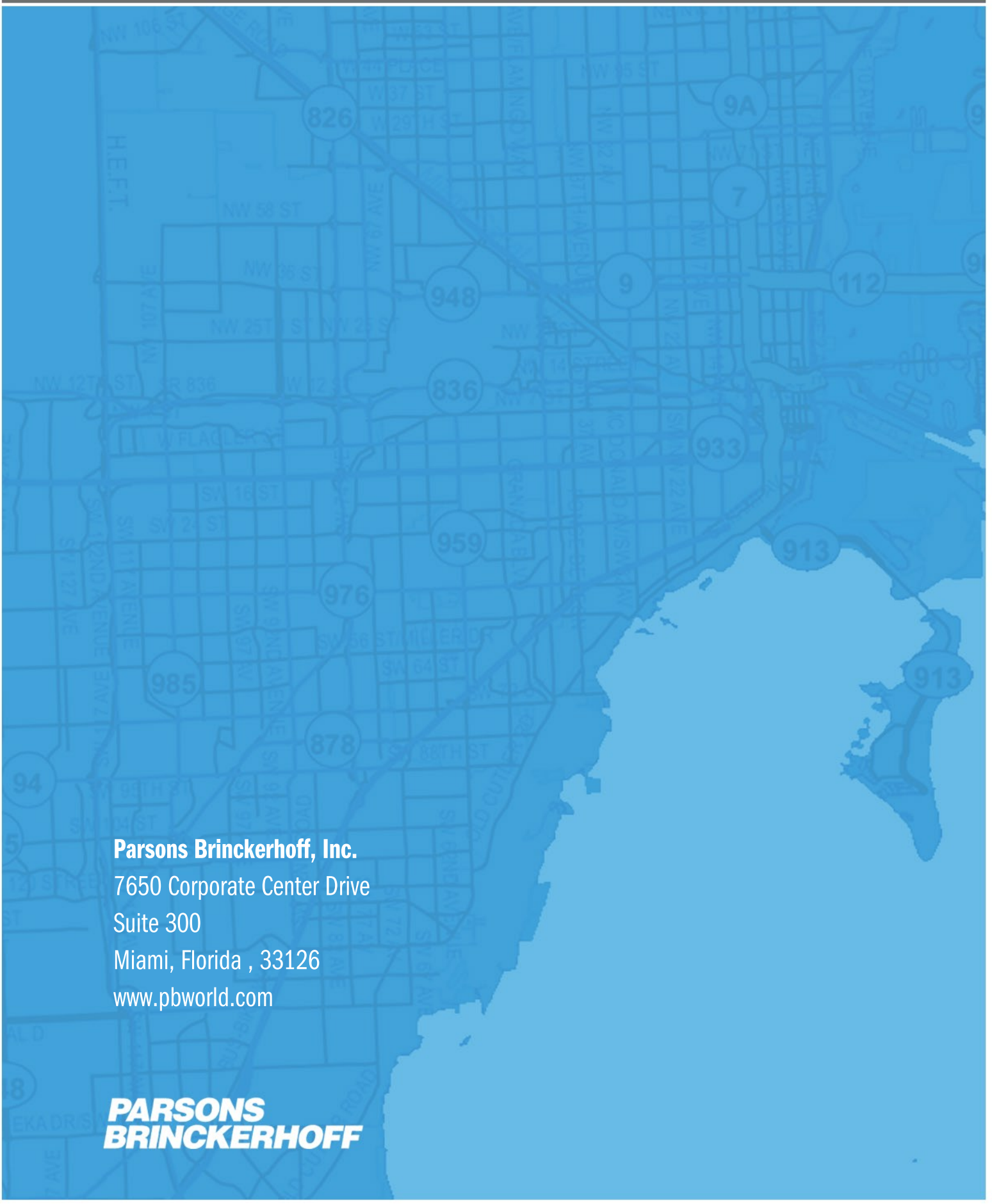
Entry/Exit point of the SW 244th Street Park-and-Ride facility

Busway Park-and-Ride at SW 296th Street

Bicycle racks



Single entry/exit point



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