



DRIVE LESS.LIVE MORE.



BUS EXPRESS RAPID TRANSIT (BERT) NETWORK IMPLEMENTATION FOR THE STRATEGIC MIAMI RAPID TRANSIT (SMART) PLAN

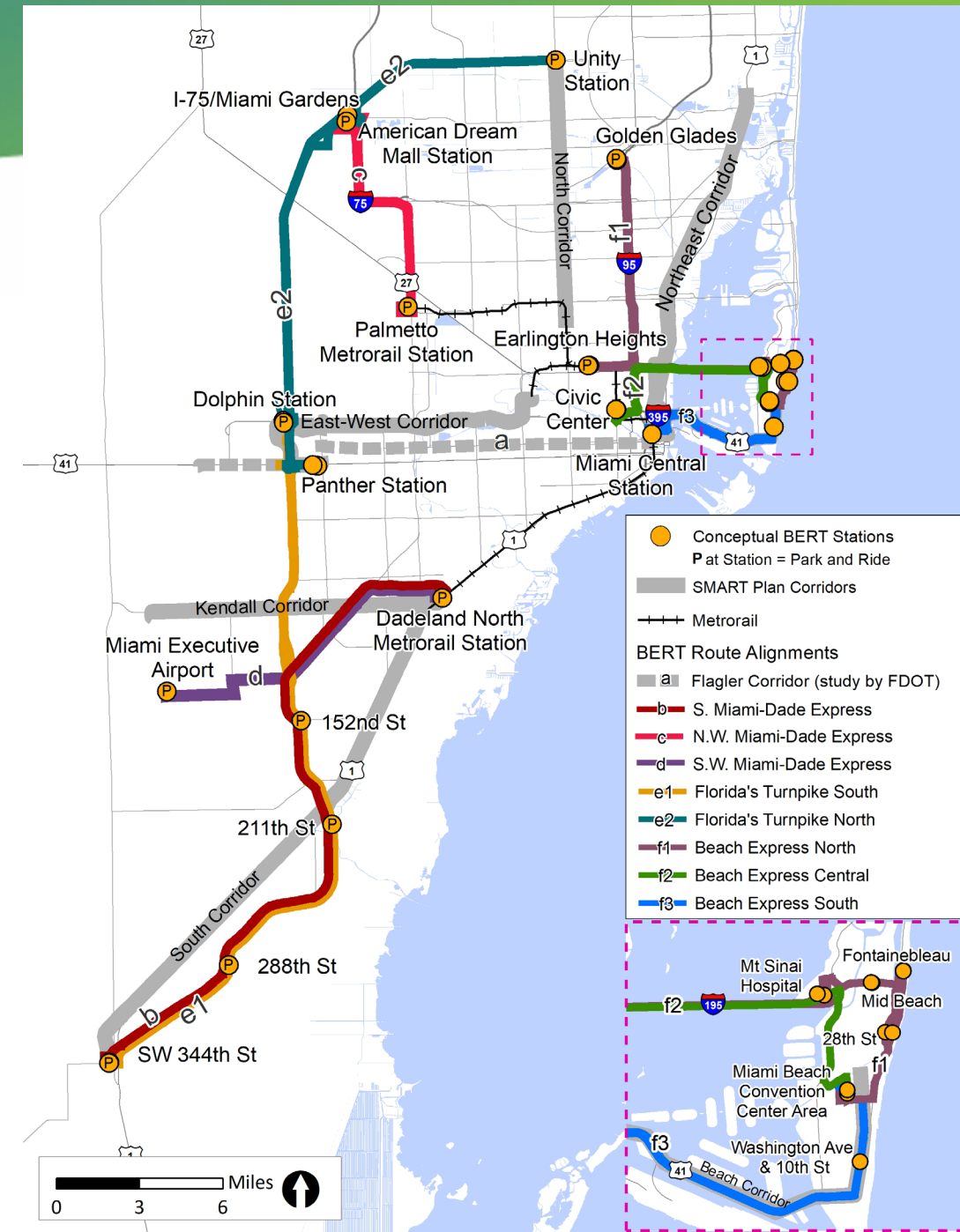
City of Miami Beach -Finance and Economic Resiliency Committee
February 19, 2021





OVERVIEW

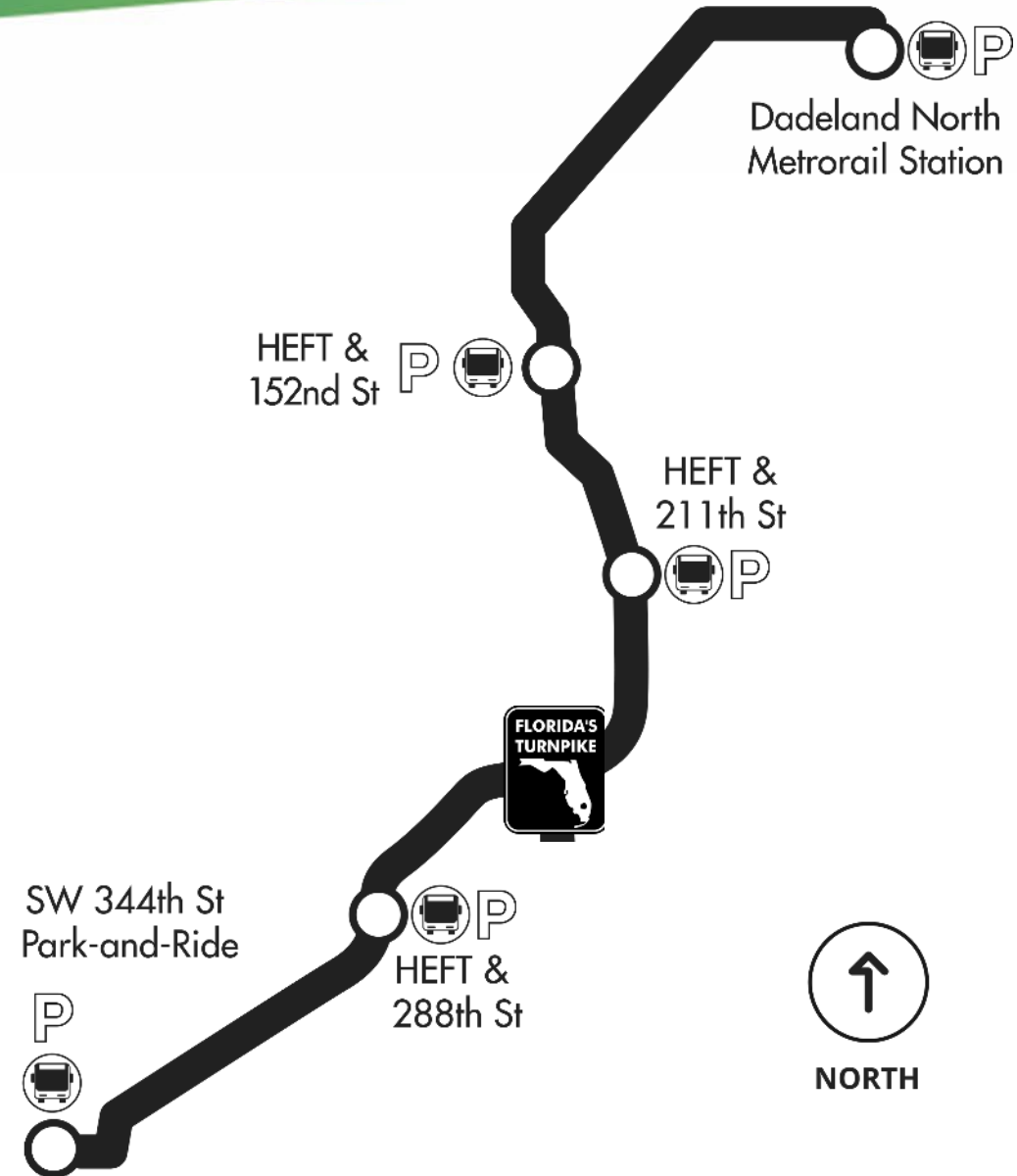
- Eight express bus routes connecting to SMART Plan premium transit corridors
- Along existing expressways and Transit Signal Priority (TSP)
- Limited stops
- Service to major origins/destinations
- Frequency from 10 – 20 minutes
- Existing and proposed Park and Rides





SOUTH MIAMI-DADE EXPRESS ROUTE

- From existing SW 344th Street Park and Ride to Dadeland North Metrorail Station (approx. 27 miles each way)
- Interim stops at proposed/improved Park and Ride locations at Homestead Extension of Florida Turnpike (HEFT) and SW 288th Street, SW 211th Street, and SW 152nd Street
- Service anticipated in 2021

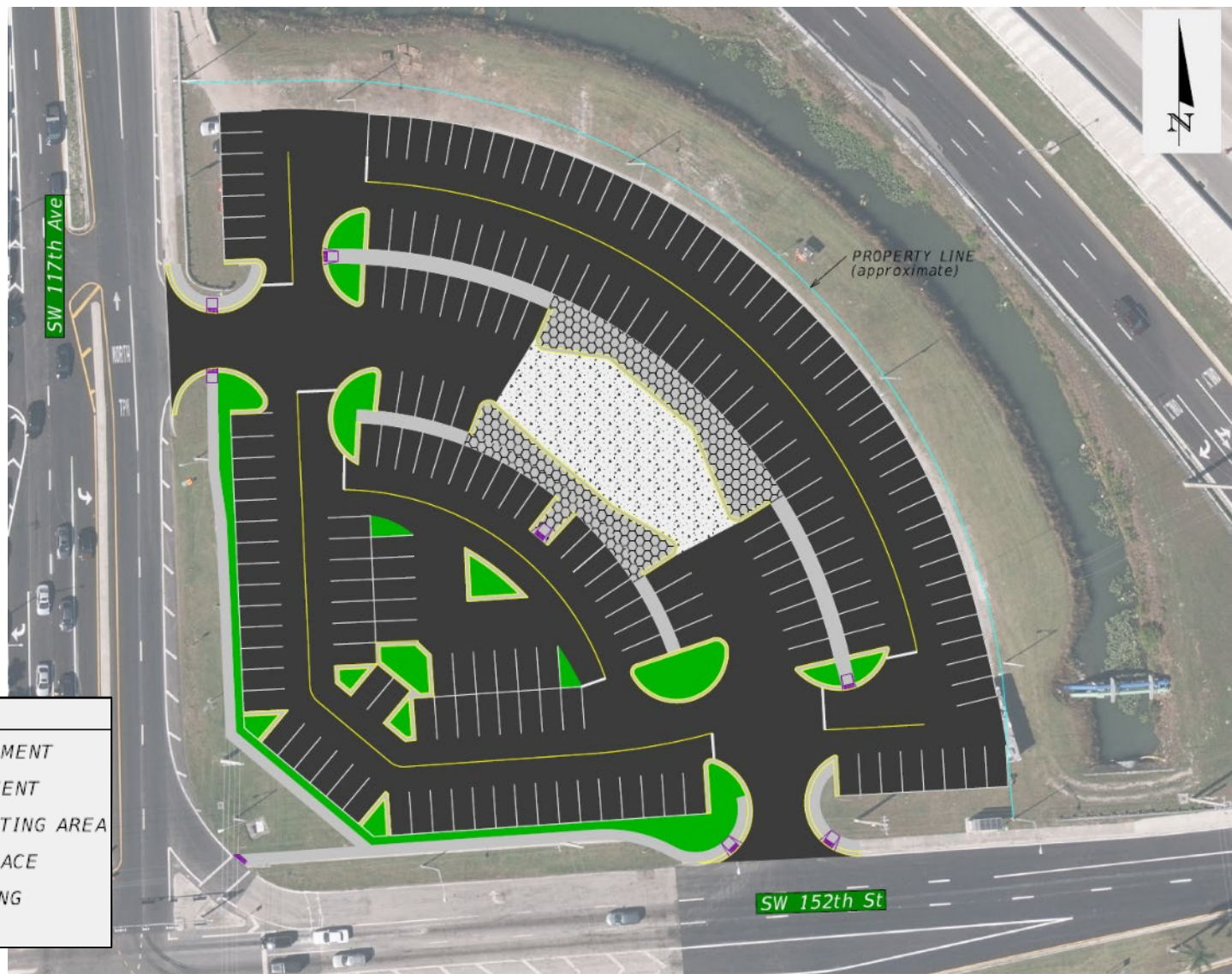




SW 152ND STREET IMPROVED PARK AND RIDE

- Proposed improvements: expand paved parking at an existing park and ride facility
- Existing entrances/exits to remain
- Total parking spaces: 194

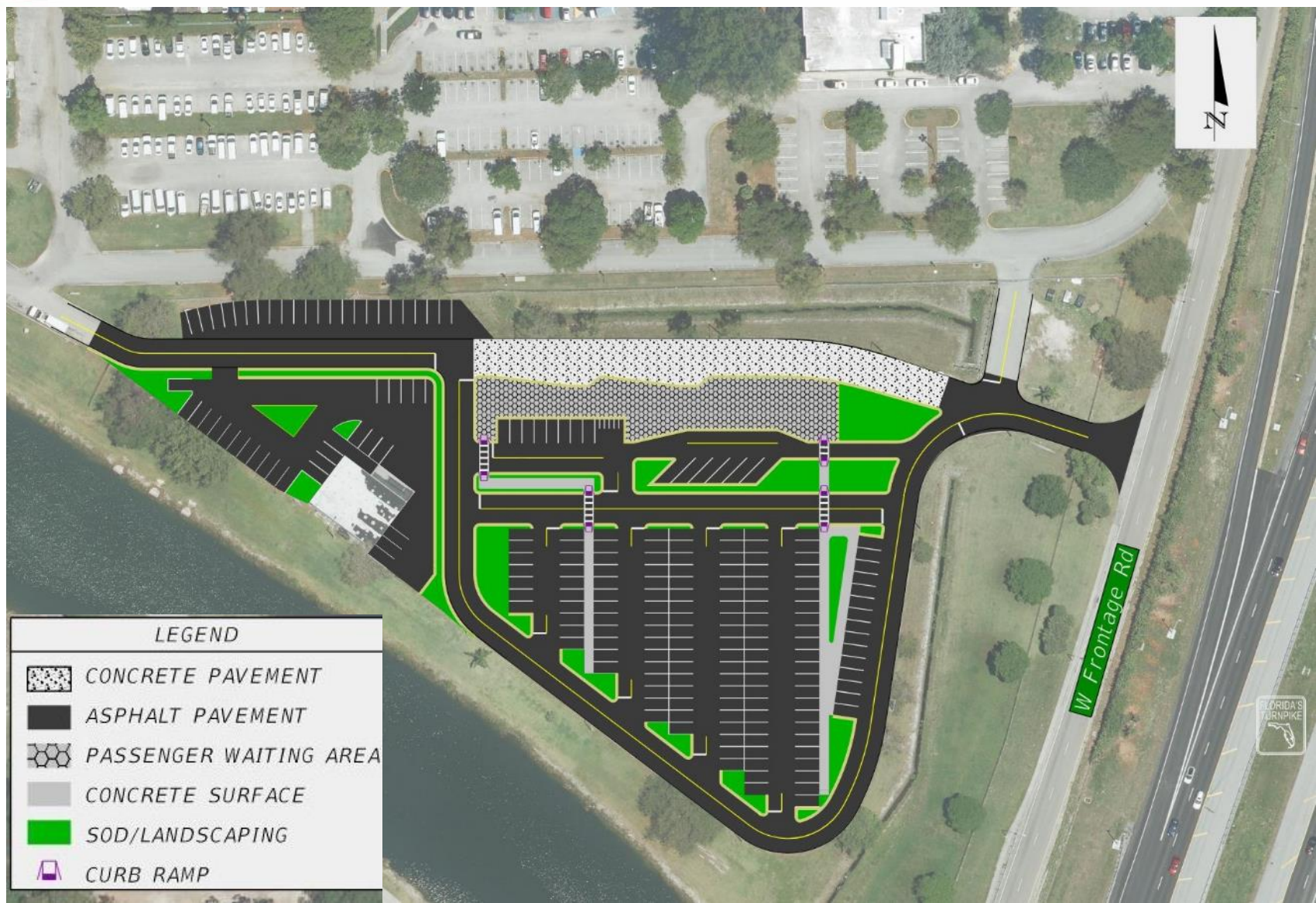
LEGEND	
	CONCRETE PAVEMENT
	ASPHALT PAVEMENT
	PASSENGER WAITING AREA
	CONCRETE SURFACE
	SOD/LANDSCAPING
	CURB RAMP





SW 211TH STREET PROPOSED PARK AND RIDE

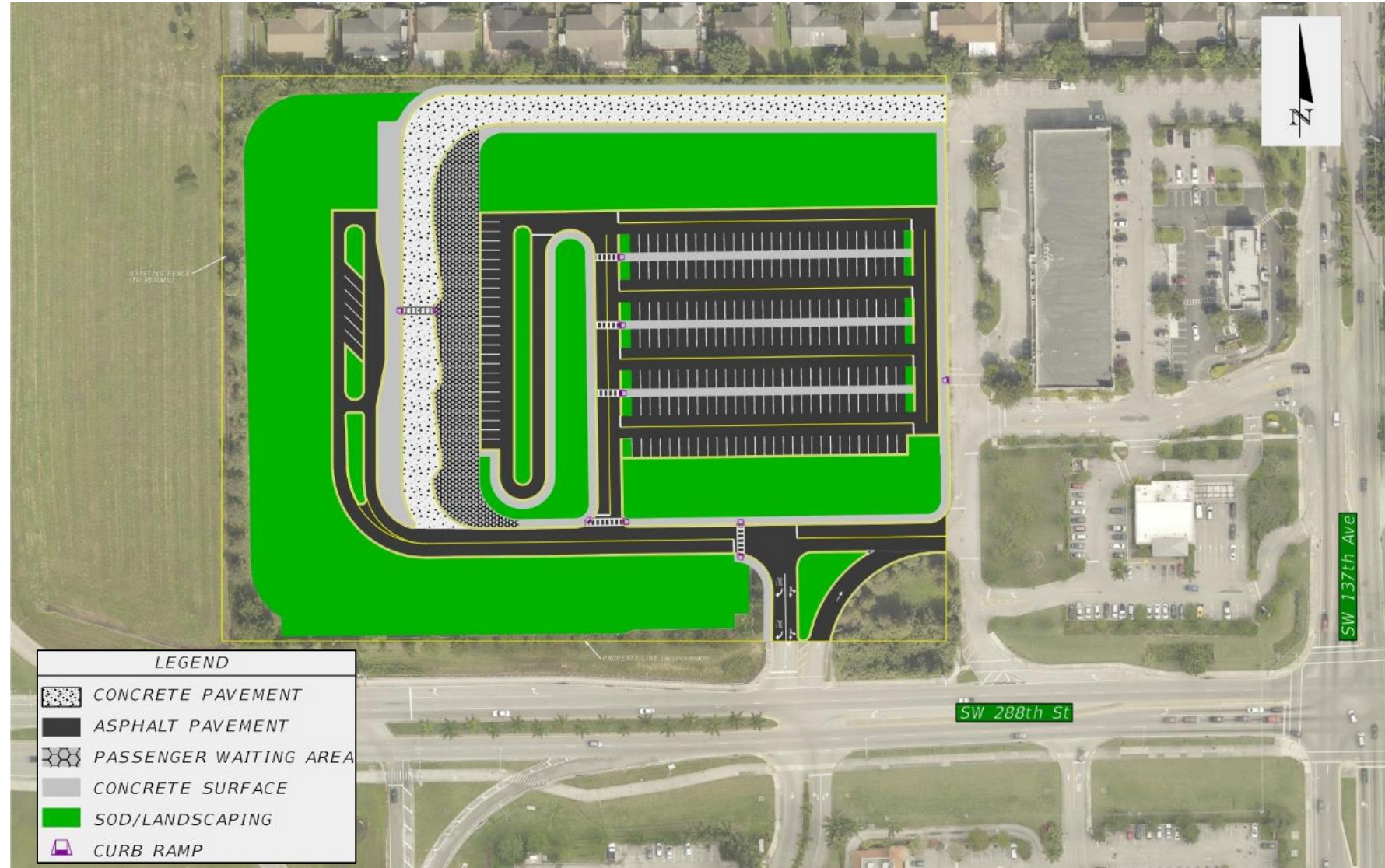
- Proposed improvements: repave an existing overflow parking area and add landscaping
- Preliminary environmental analysis completed – no adverse impacts
- Total parking spaces: 178





SW 288TH STREET PROPOSED PARK AND RIDE

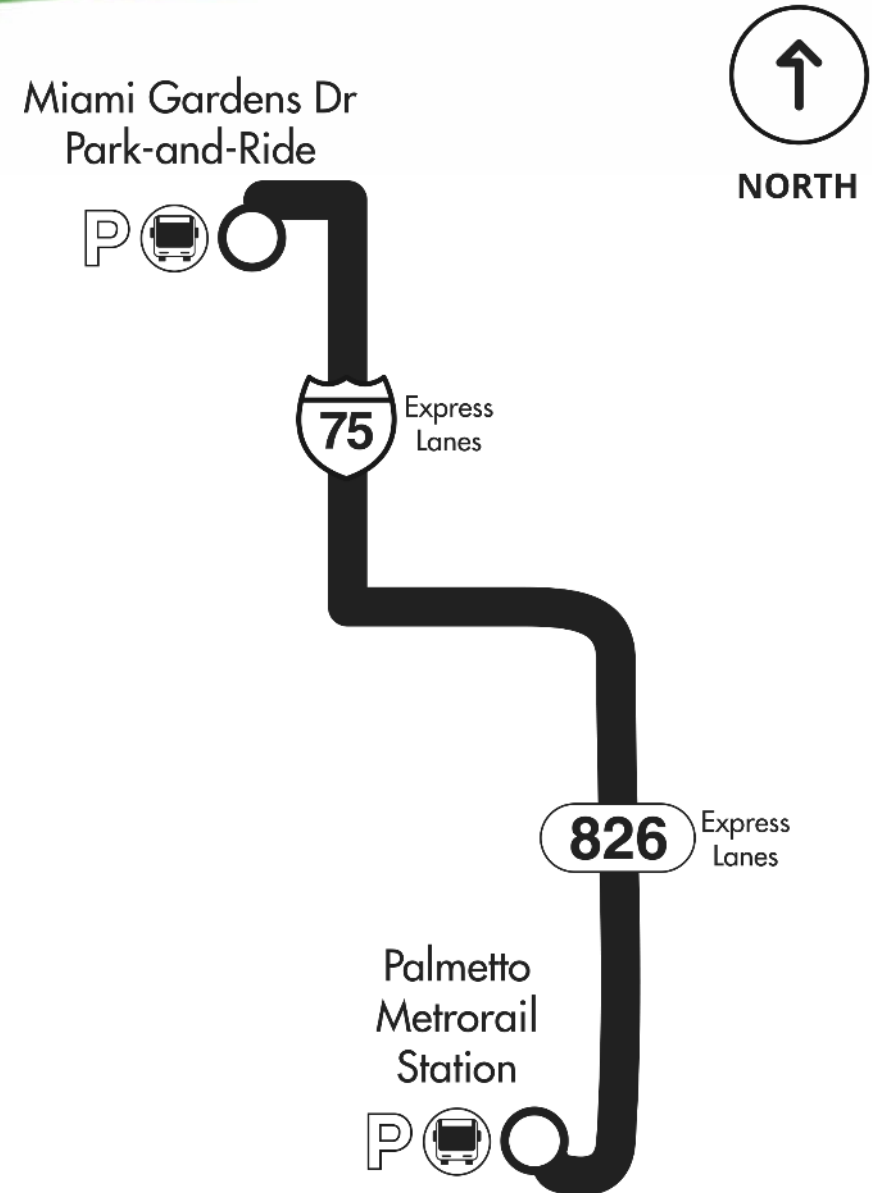
- Proposed improvements: repave a former Home Depot parking lot and construct bus bays and a stormwater pond.
- Preliminary environmental analysis completed – no adverse impacts
- Total parking spaces: 234





NORTHWEST MIAMI-DADE EXPRESS ROUTE

- From Palmetto Metrorail Station to existing Miami Gardens Drive Park and Ride (approx. 10 miles one way)
- No interim stops
- Service started in November 2019



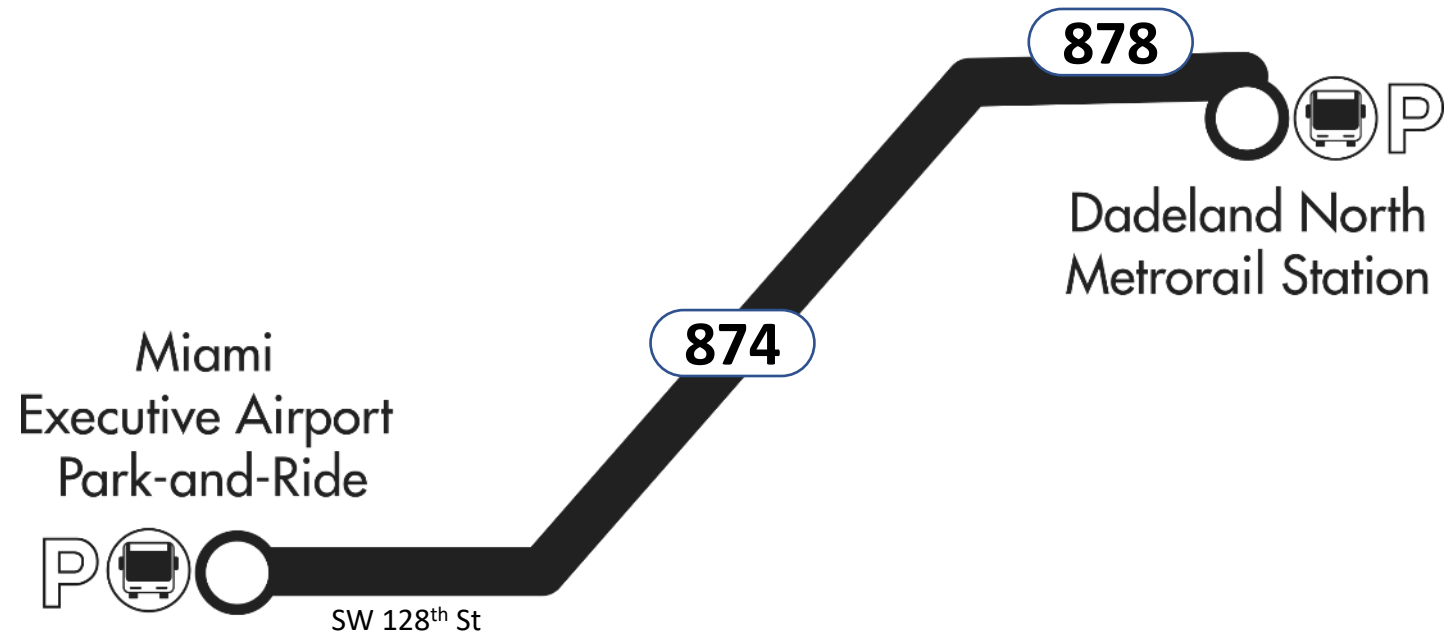


SOUTHWEST MIAMI-DADE EXPRESS ROUTE



NORTH

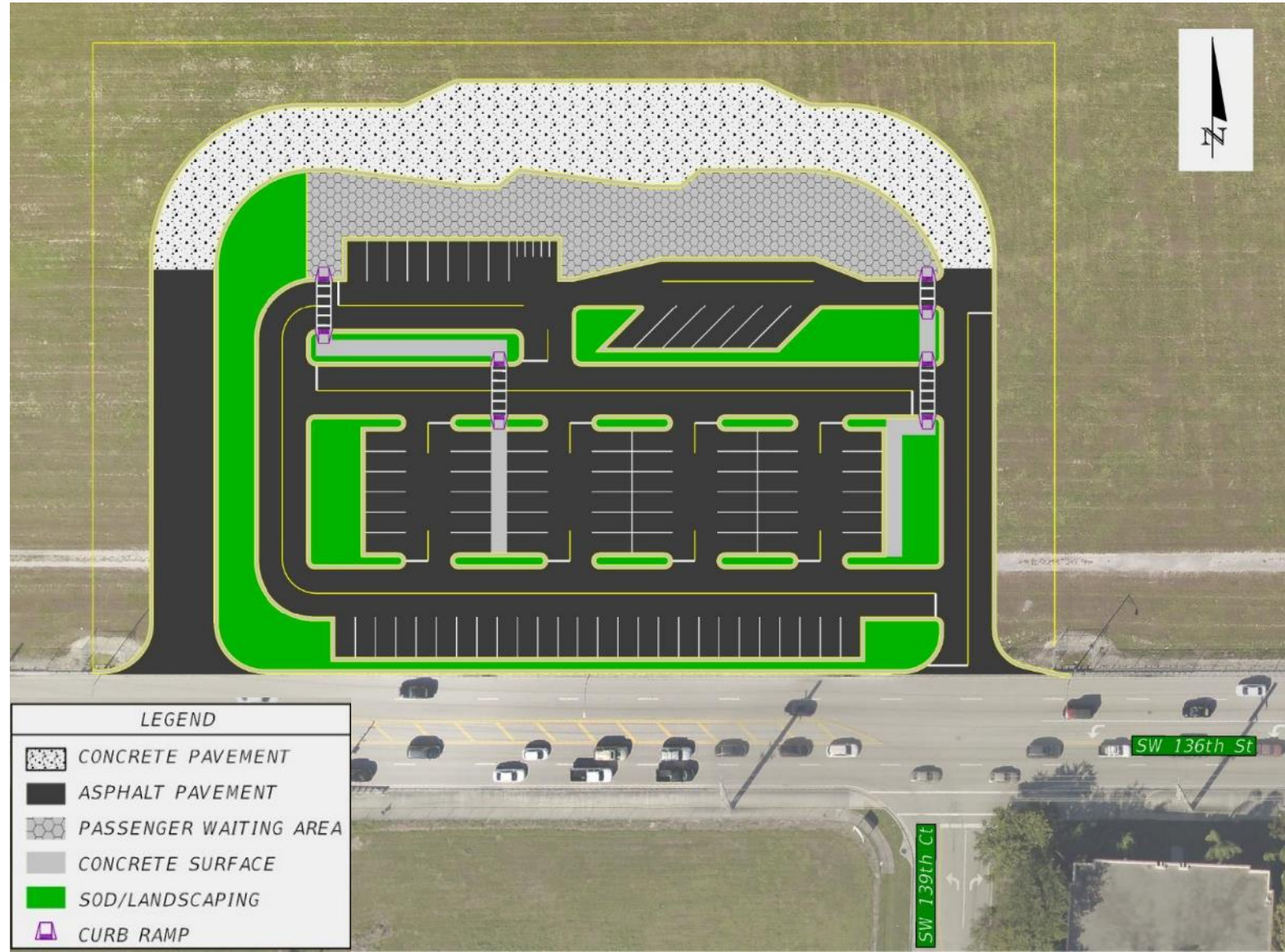
- From Miami Executive Airport proposed Park and Ride to Dadeland North Metrorail Station (approx. 10 miles one way)
- No interim stops
- Service anticipated 2023





MIAMI EXECUTIVE AIRPORT PROPOSED PARK AND RIDE

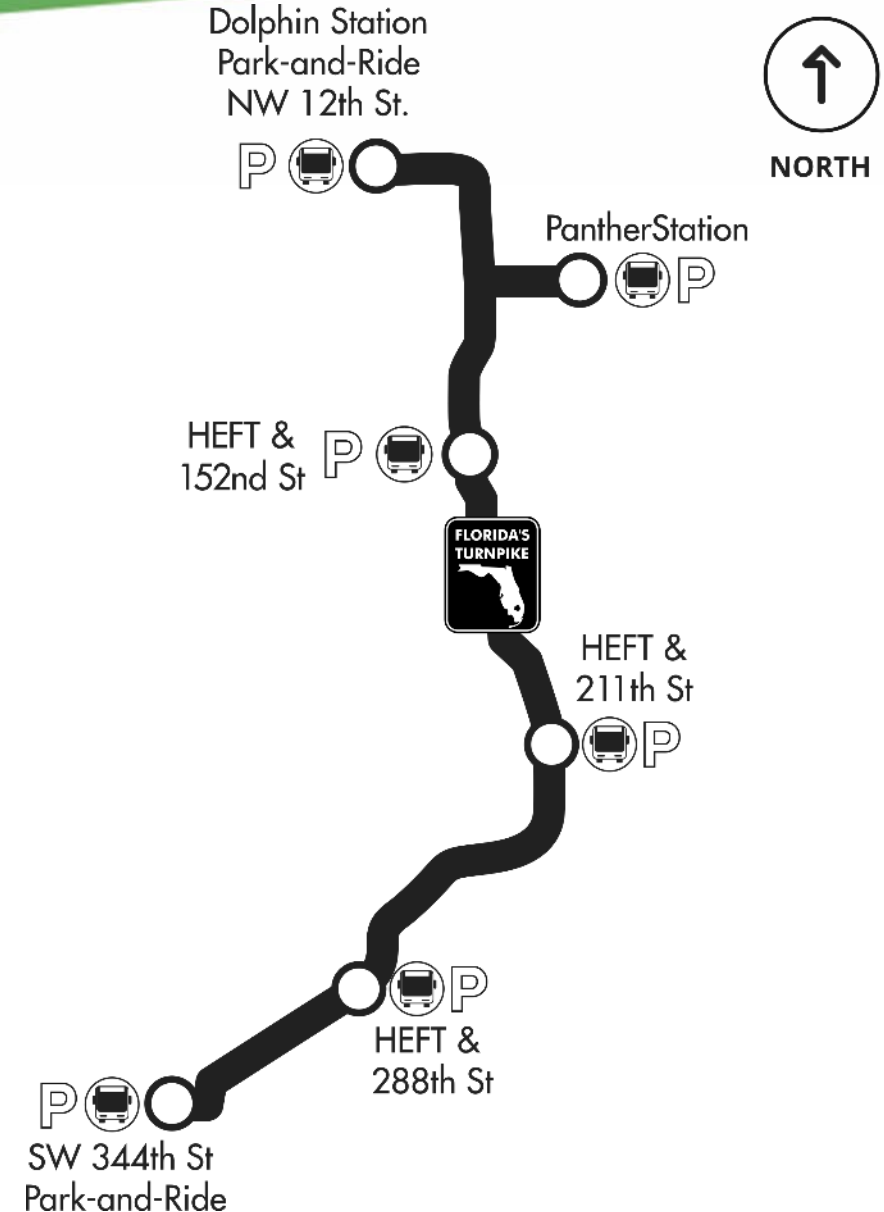
- Proposed improvements: construct a park and ride facility on a vacant County-owned property at the Miami Executive Airport
- Preliminary environmental analysis completed - no adverse impacts
- Total parking spaces: 94





FLORIDA'S TURNPIKE SOUTH EXPRESS ROUTE

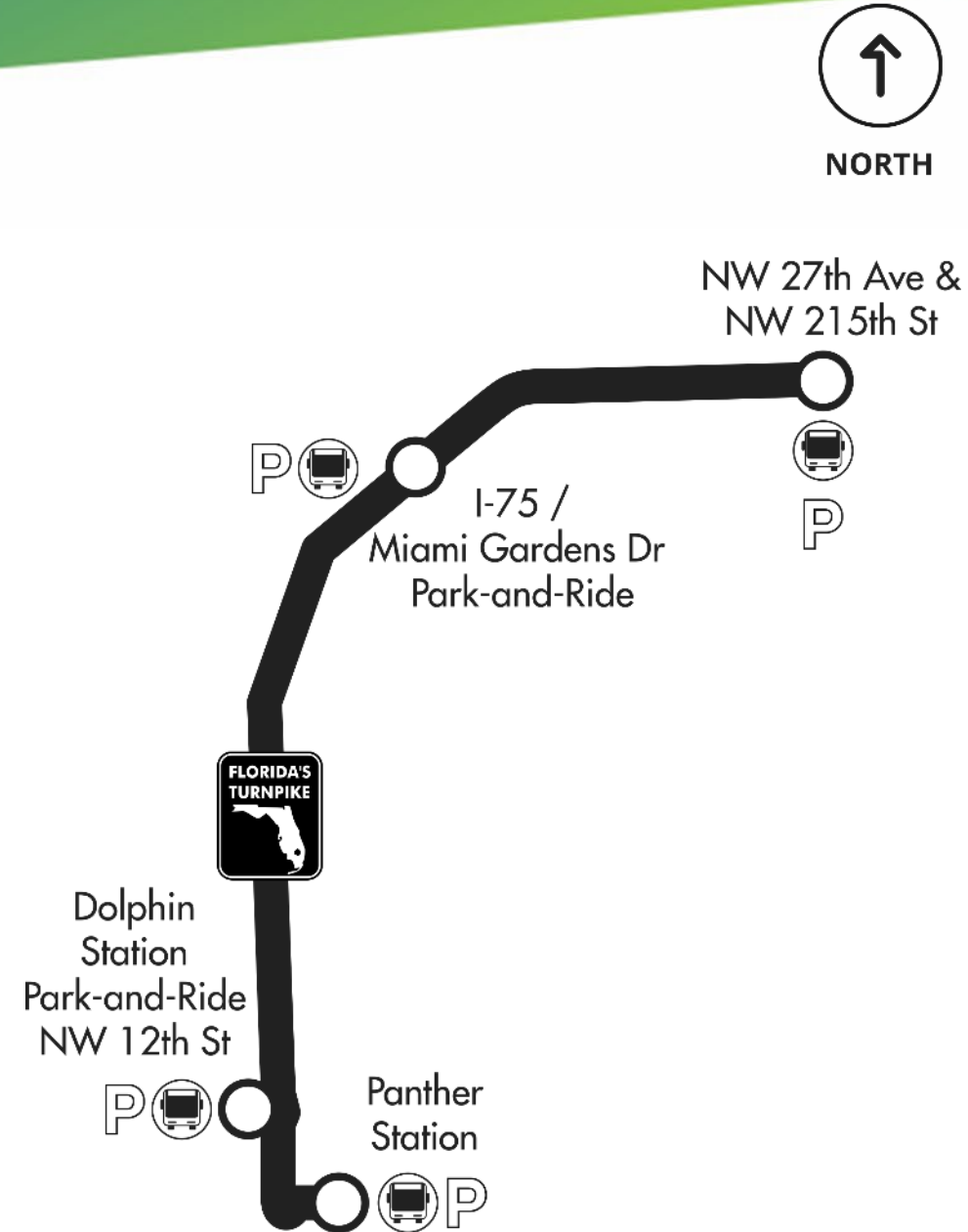
- From SW 344th Street existing Park and Ride to Dolphin Station existing Park and Ride (approx. 30 miles one way)
- Interim stops at proposed Park and Rides at Florida's Turnpike and SW 288th Street, SW 211th Street, and Panther Station
- Service anticipated 2023





FLORIDA'S TURNPIKE NORTH EXPRESS ROUTE

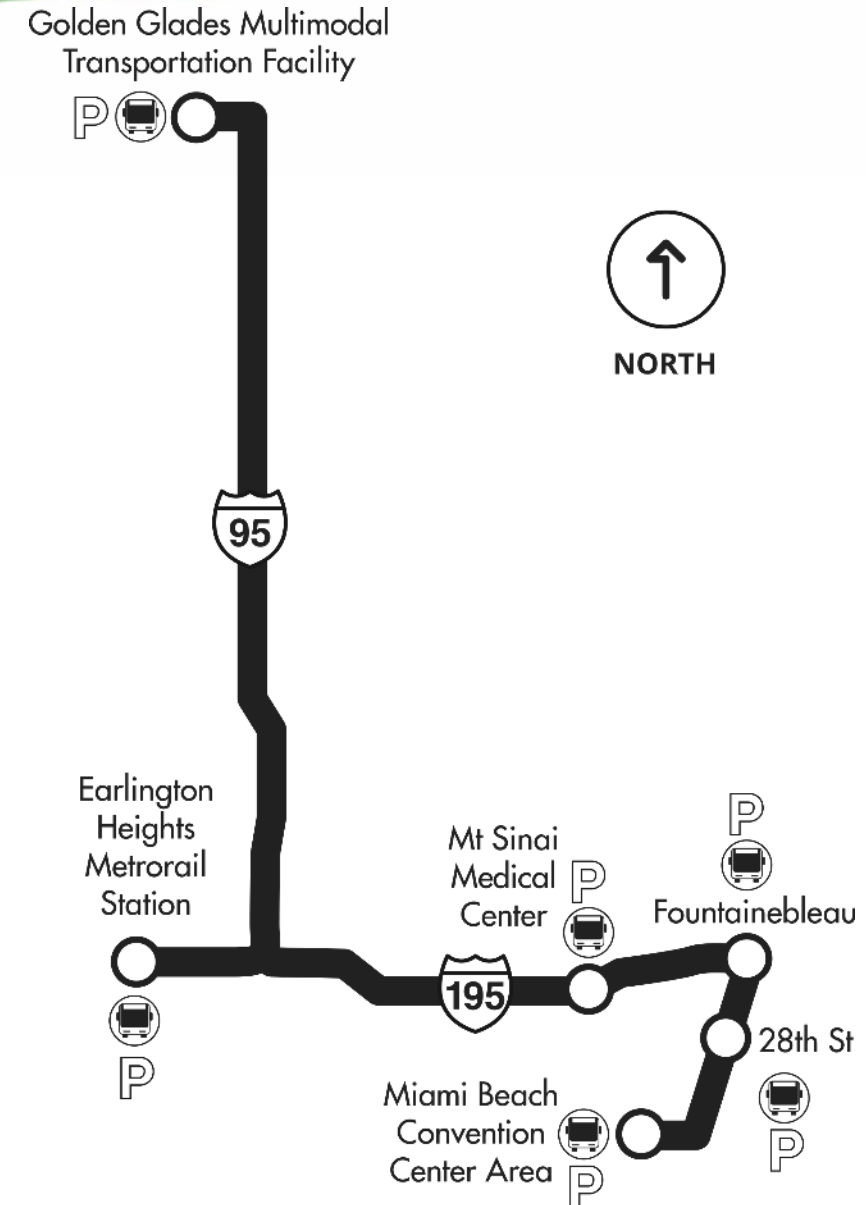
- From existing Panther Station to proposed Unity Station at NW 27th Avenue/215th Street (approx. 30 miles one way)
- Interim stops at existing Dolphin Park and Ride and existing I-75 Miami Gardens Park and Ride
- Service anticipated in 2027





BEACH EXPRESS NORTH ROUTE

- From existing Golden Glades Multi Modal Terminal to Miami Beach Convention Center (approx. 17 miles one way)
- Interim stops at existing MIC Earlington Heights Metrorail Station, proposed Mt. Sinai Medical Center, Fontainebleau Hotel, 28th Street existing bus stop
- Ultimate use of the I-195 inside shoulders for local buses to bypass congestion (2023)
- Interim use of the I-195 outside shoulders for local buses to bypass congestion (2021)





MT SINAI MEDICAL CENTER PROPOSED PARK AND RIDE

- Proposed improvements:
repave an existing parking lot and expand an existing bus stop to include four bus bays
- Preliminary environmental analysis completed - no adverse impacts
- Total parking spaces: 83



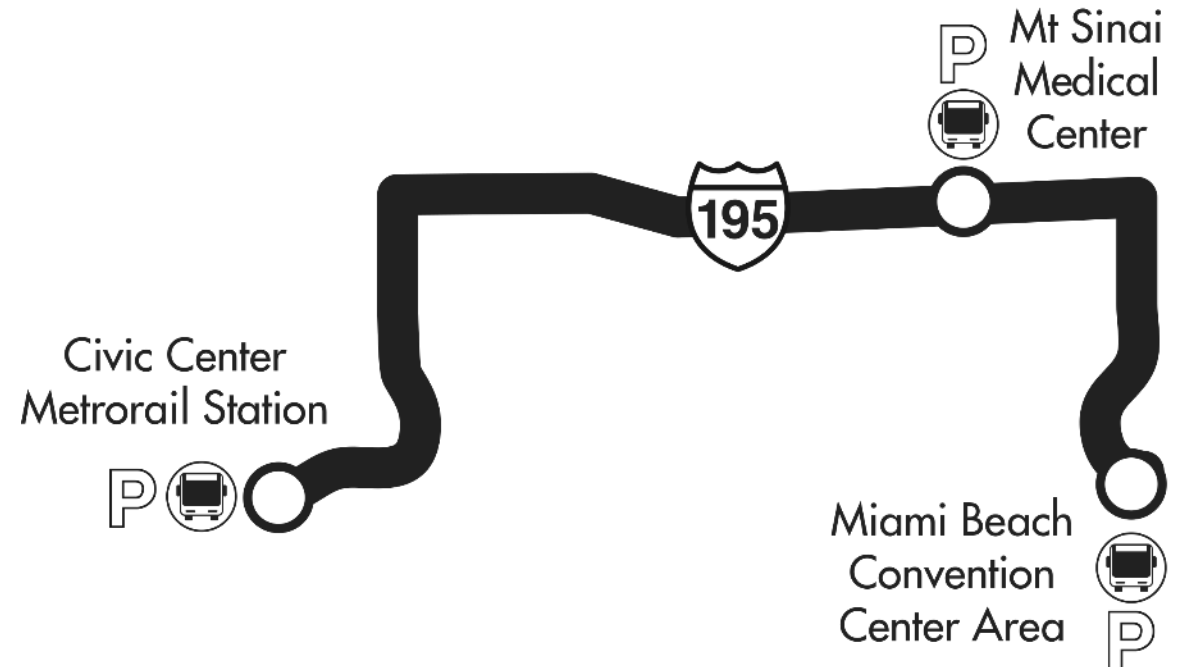


BEACH EXPRESS CENTRAL ROUTE

- From existing Civic Center Metrorail Station to Miami Beach Convention Center (approx. 9 miles one way)
- Interim stop at proposed Mt. Sinai Medical Center Park and Ride
- Ultimate use of the I-195 inside shoulders for buses to bypass congestion (2023)



NORTH





BUS ON SHOULDER

- Bus will use shoulder to bypass congested traffic on Julia Tuttle Causeway
 - Routes F1 and F2
- Can travel up to 35 mph
- Improve speed and reduce delay for bus passengers
- Bus only signs – roadside and trailers; enforced by Florida Highway Patrol
- Buses will initially use the outside shoulder
 - *Bikes can use alternate Causeways (Venetian and MacArthur)*
- From 2023, buses will use the inside shoulder



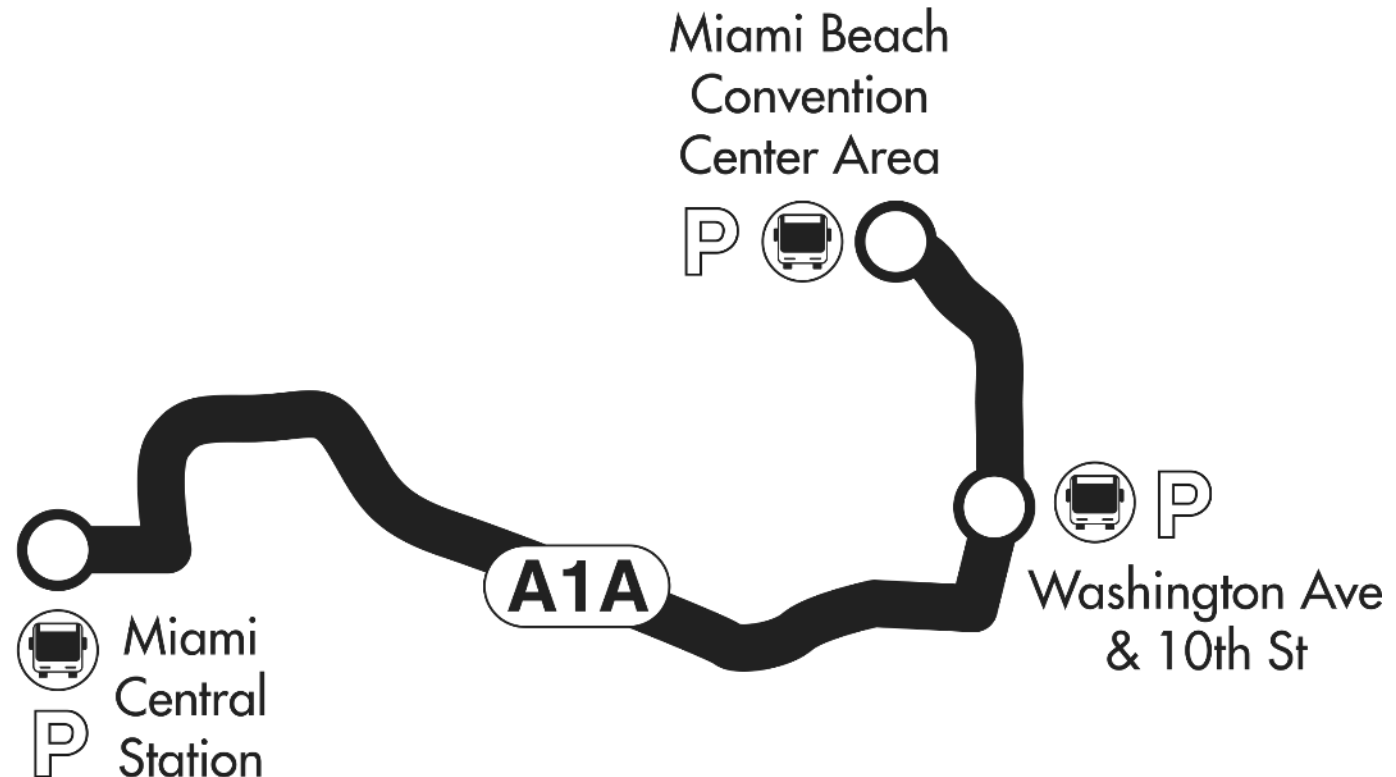


BEACH EXPRESS SOUTH

- From existing Miami Central Station to Miami Beach Convention Center (approx. 6.5 miles one way)
- Interim stop at existing Washington Avenue and 10th Street Bus Stop
- Use of dedicated lanes on Washington Avenue from 5th Street to Convention Center (funded with Florida Department of Transportation funds)
- Service anticipated 2023



NORTH





BERT IMPLEMENTATION ANALYSIS

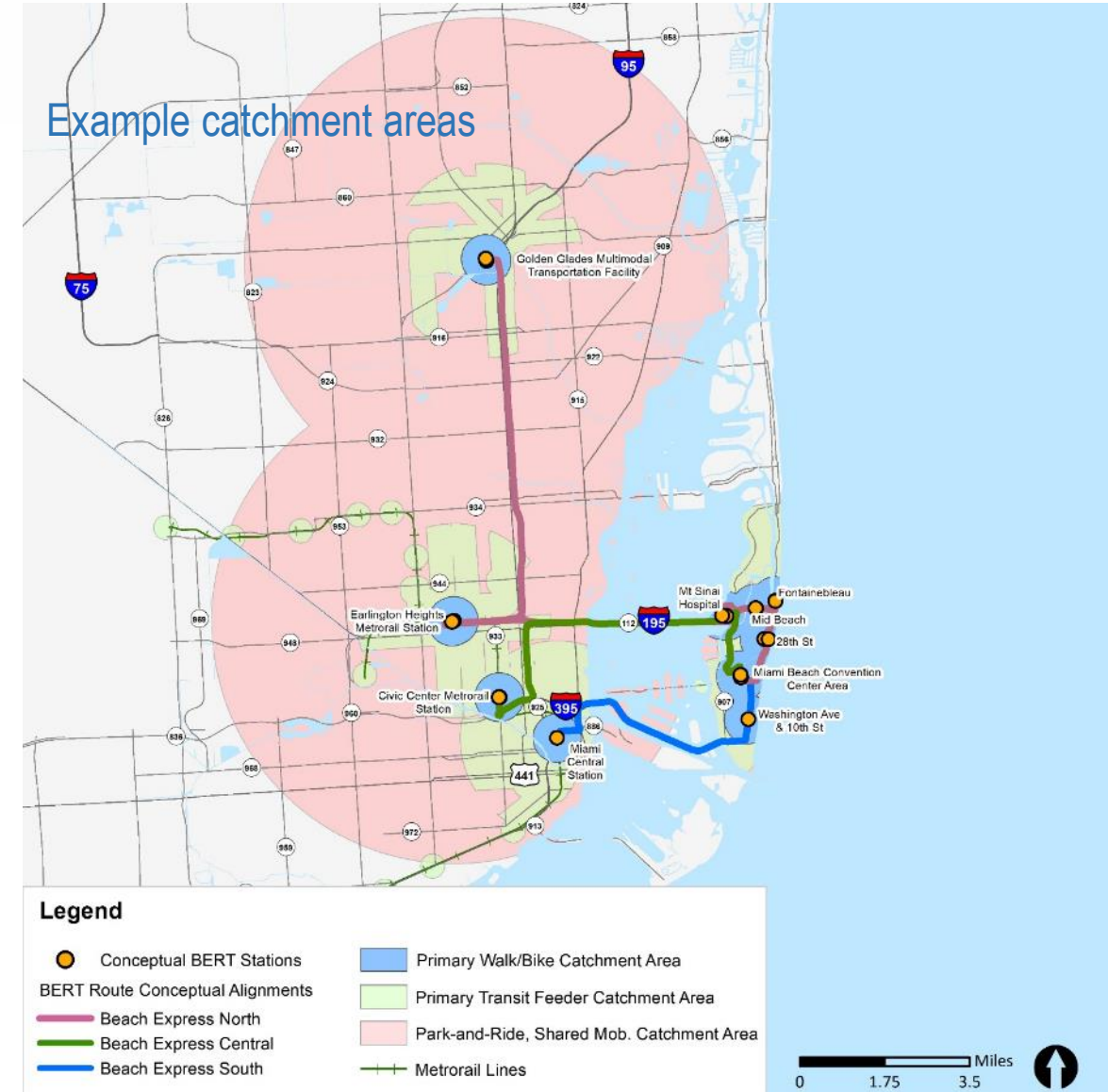
- Market Analysis
- Service Frequency and Ridership estimates
- Traffic Signal Improvements
- Title VI Analysis
- Implementation Schedule



MARKET ANALYSIS

- Socioeconomic profile
 - Demographics
 - Transit propensity
- Commute Patterns
 - LEHD (Census)
- Transit Propensity
 - Findings

High	Route f1- Beach Express North Route f3 - Beach Express South
Moderate	Route f2- Beach Express Central Route b - South Miami-Dade Express Route e1- Florida's Turnpike South
Low	Route d - Southwest Miami-Dade Express Route c - Northwest Miami-Dade Express Route e2 - Florida's Turnpike North





SERVICE FREQUENCY AND RIDERSHIP

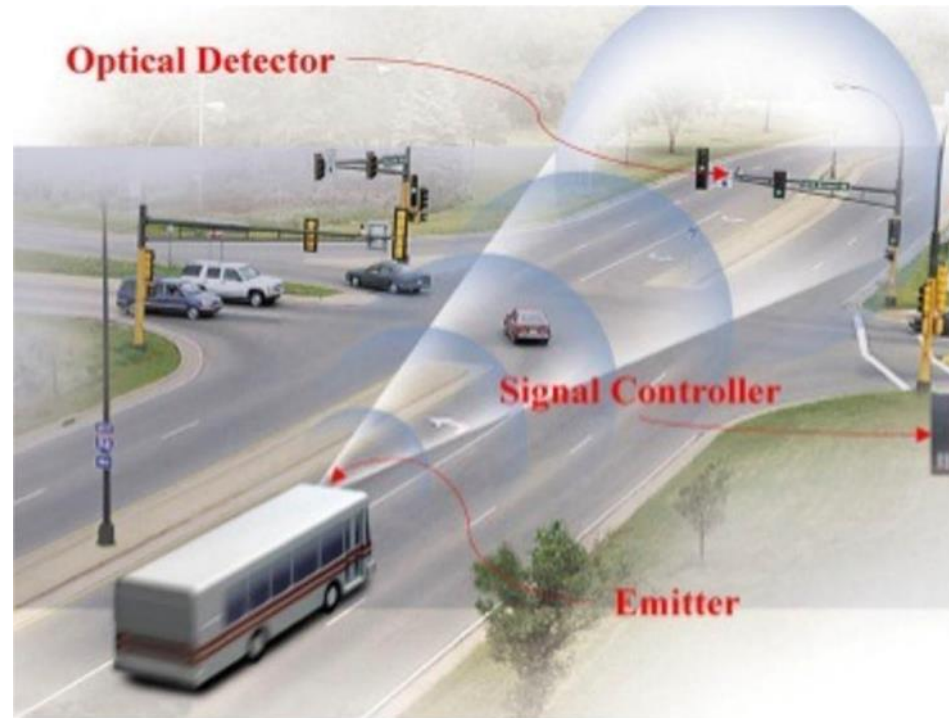
BERT Route Map ID	BERT Route	Frequency		2015 Ridership Range	Peak Travel Time
		Peak Hour	Off-Peak		
b	South Miami-Dade Express	10	30	5,200-8,500	75
c	Northwest Miami-Dade Express	20	n/a	100-500	30
d	Southwest Miami-Dade Express	20	n/a	800-1,600	25
e1	Florida's Turnpike South	15	30	500-2,000	95
e2	Florida's Turnpike North	20	n/a	100-200	50
f1	Beach Express North	10	20	7,800-8,100	75
f2	Beach Express Central	15	30	1,900-2000	30
f3	Beach Express South	15	15	2,000-2,300	40



TRAFFIC SIGNAL IMPROVEMENTS

EARLY GREEN/GREEN EXTENSIONS

- Early Green/Green Extension is a form of Transit Signal Priority (TSP)
- This phase is only activated by a transit vehicle - it is not a pre-programmed signal phase



Kamila Widulinski and Matthew Lapointe (2013)

- Green extension
Early Green
- (a) An onboard priority request generator
TSP request is sent when:
1) on-route,
2) doors are closed, and
3) >30 seconds late.
- (b) A detection system that receives the priority request and informs the traffic controller
- (c) A priority control strategy at the signal controller determines whether to grant a TSP phase, which TSP phase should be granted, and when the TSP phase should start and end

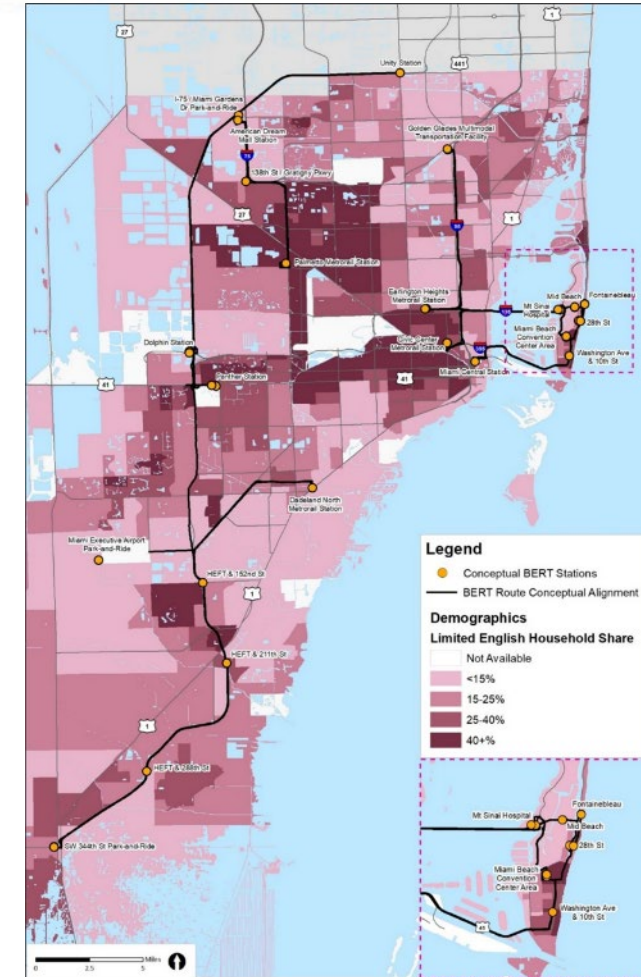
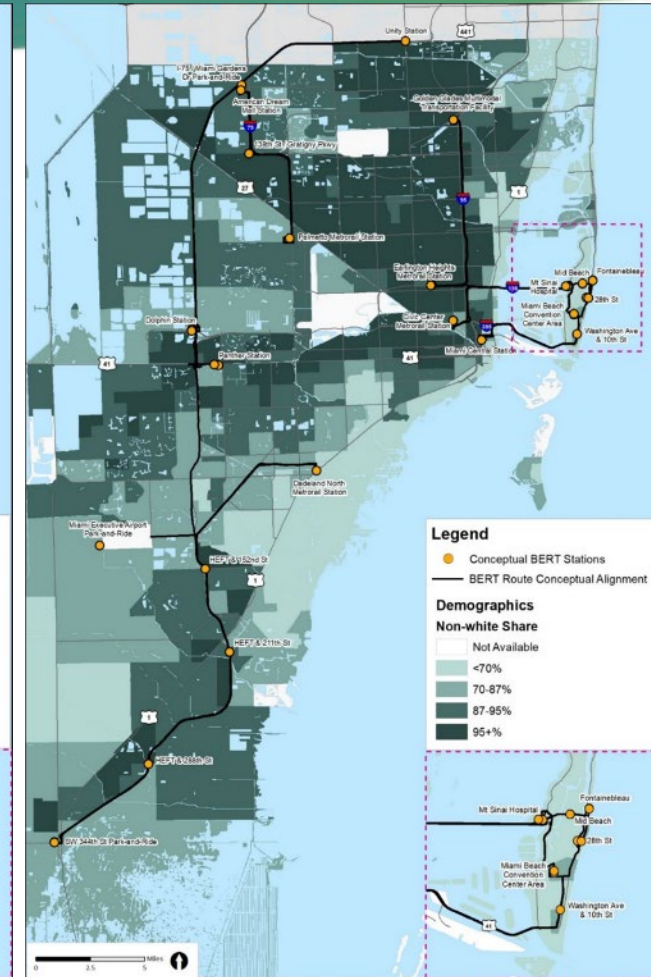
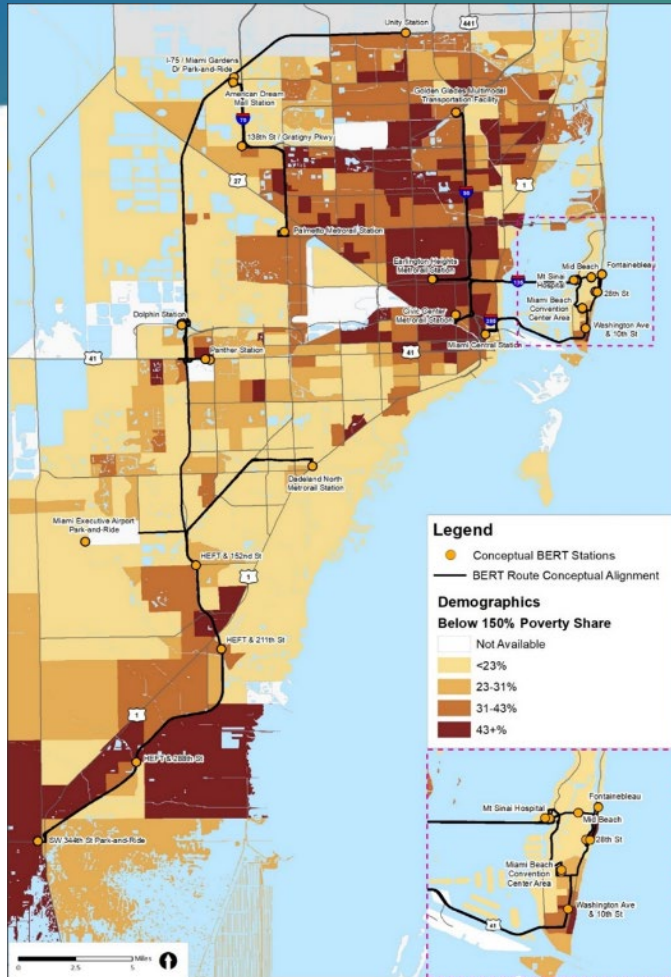


TRAFFIC SIGNAL RECOMMENDATIONS

Route	Intersection	Recommendation
South Miami Dade Express	HEFT @ 117 th and 152 nd Avenues	Early green/green extension
Beach Express North (<i>same signal recommendations for Beach Express Central for City of Miami Beach</i>)	Old Alton Road @ 41 Street 41 Street @ Indian Creek Drive Collins Ave @ 17 th Street	Early green/green extension Early green/green extension Early green/green extension
SW Miami Dade Express	SW 137 th Avenue @ SW 128 th Street	Early green/green extension
Northwest Miami Dade Express	SR 826 @ NW 74 street On/Off ramps NW 77 Ct. @ NW 74 Street	Signal phase insertion for transit use Early green/green extension
Turnpike Express South	HEFT @ SW 8 th Street ramps Snapper Creek Rd. @ SW 8 th Street SW 8 th Street @ SW 109 and SW 112 Ave	Early green/green extension Early green/green extension Early green/green extension
Turnpike Express North	HEFT @ NW 27 th Avenue ramps	Early green/green extension
Beach Express Central	NW 12 th Avenue @ NW 14 and NW 12 St	Early green/green extension
Beach Express South	Biscayne Blvd. @ NE 8 th , 9 th , 10 th , 13 Streets and 11 Terrace. TSP at each Miami Beach signalized intersection	Early green/green extension



TITLE VI EQUITY ANALYSIS



Low Income (Below 150% Poverty) Share

Minority (Hispanic and/or Non-White) Share

Limited English Household Share

SYSTEMWIDE EFFECTS

The BERT Network provides access to populations with a greater level of disadvantaged representation than County averages.

This is true for each of the three Title VI metrics analyzed to identify disadvantaged populations.





TITLE VI EQUITY ANALYSIS

PROPOSED BERT PARK AND RIDE FACILITIES

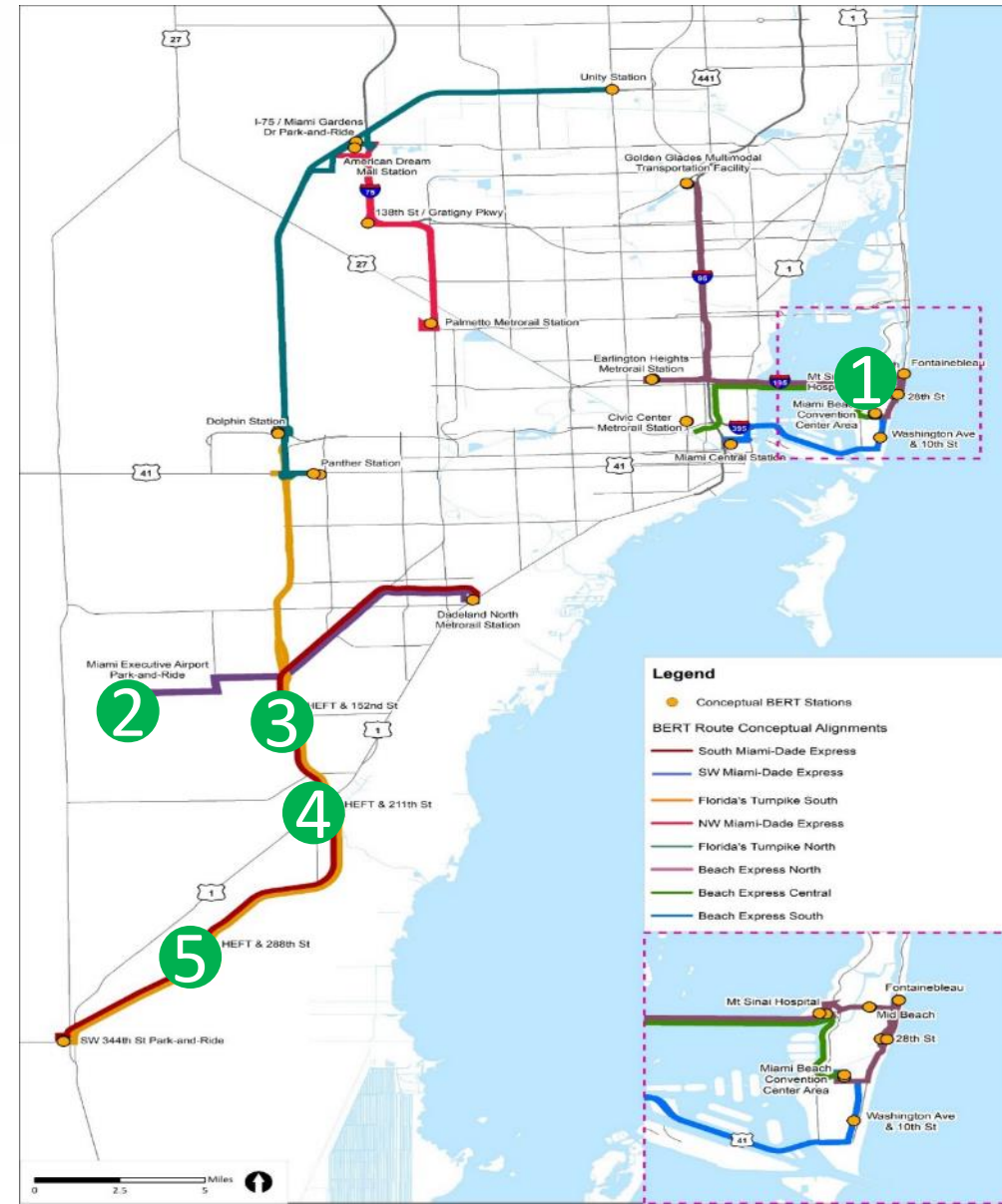
- ① Mt. Sinai Medical Center Park and Ride
- ② Miami Executive Airport Park and Ride
- ③ Proposed SW 152nd Street Park and Ride
- ④ Proposed SW 211th Street Park and Ride
- ⑤ Proposed SW 288th Street Park and Ride

POTENTIAL EFFECTS

The proposed BERT network is not expected to generate operational noise impacts nor impact air quality.

Construction activities for the proposed improvements may have minor and temporary traffic flow, air, noise, vibration, and visual impacts for residents, businesses, and travelers in the vicinity of the project.

DTPW will require the construction contractor to maintain access and use control measures to minimize noise, dust, and vibrations that could occur during construction.





IMPLEMENTATION SCHEDULE AND COSTS

BERT Route	Route Name	Estimated Implementation Year	Total Buses	(2020 \$) in Millions			
				Buses ²	O&M ³ Cost	Park and Ride Facilities Capital Cost	
b	S Miami-Dade Express	2021 ¹	17	\$15.51	\$5.29	\$1.91 \$3.12 \$6.42	HEFT & SW 152 nd Street HEFT & SW 211 th Street HEFT & SW 288 th Street
c	NW Miami-Dade Express	November 18, 2019	4	\$3.32	\$0.97	-	N/A
d	SW Miami-Dade Express	2023	5	\$4.43	\$1.22	\$3.5	Miami Executive Airport
e1	Florida Turnpike (South)	2023	14	\$13.30	\$4.54	-	N/A
e2	Florida Turnpike (North)	2027	6	\$5.54	\$2.04	-	N/A
f1	Beach Express North	2023 ¹	18	\$16.62	\$7.48	\$ 1.67	Mt. Sinai Medical Center
f2	Beach Express Central	2023	6	\$5.54	\$2.07	-	N/A
f3	Beach Express South	2023	6	\$5.54	\$3.39	-	N/A
Total			76	\$69.80	\$27.00	\$16.62	

¹ Interim service is proposed for this route. The details of the interim service are currently in the planning phase.

² Vehicle cost based on 60-ft CNG bus at \$900,000 each, 20% spare vehicles ratio added

³ Operations and Maintenance



FOR MORE INFORMATION

Contacts

- Project Manager
 - Franchesca Taylor, AICP
 - Franchesca.Taylor@miamidade.gov
 - 786-469-5098
- Public Information Officer
 - Yvette Holt
 - Yvette@HoltCommunications.net
 - 786-476-2852