

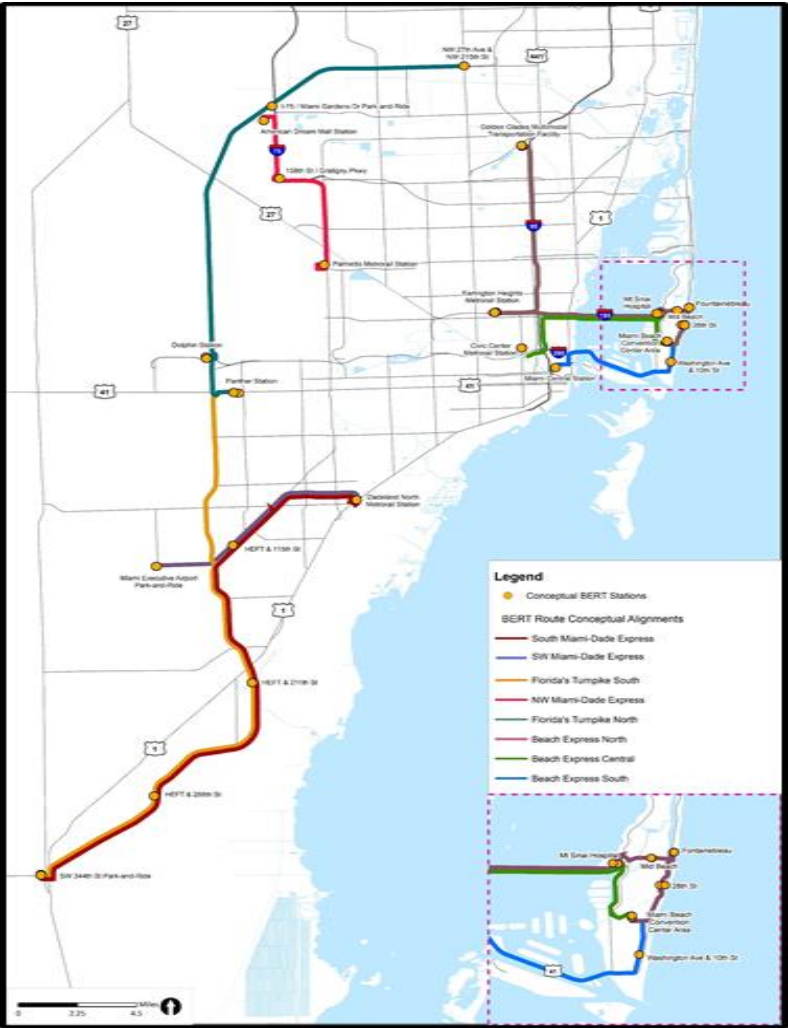
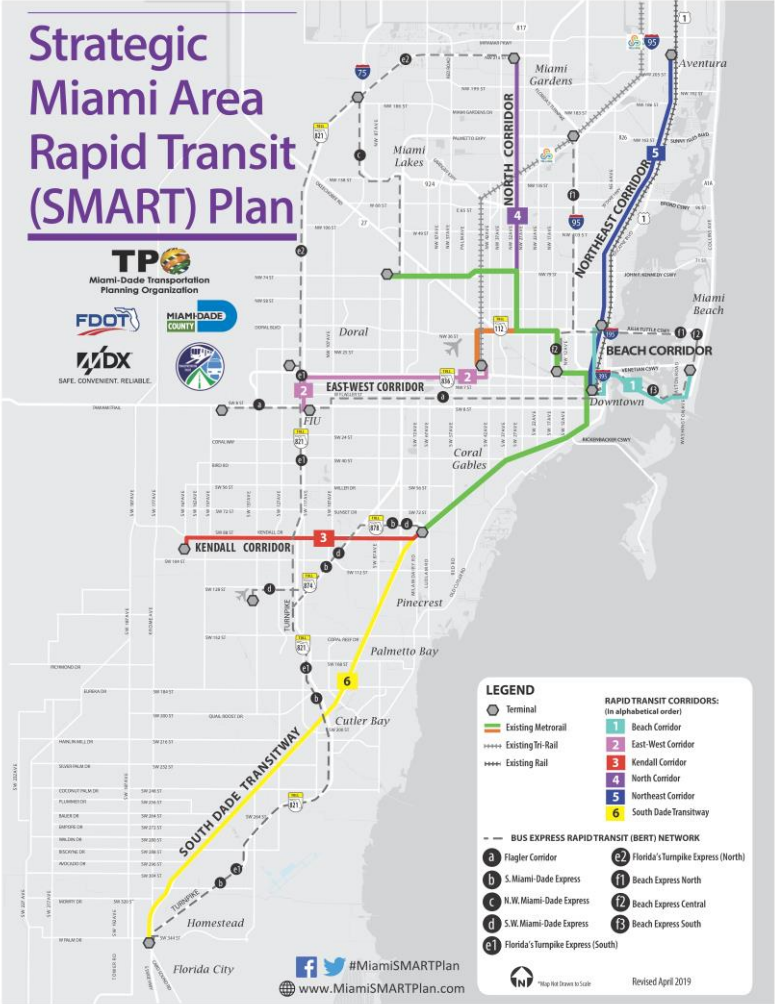
# Miami-Dade County SMART Plan

## Bus Express Rapid Transit (BERT) Network

### Implementation Plan

Department of Transportation and Public Works  
Town of Cutler Bay Presentation  
January 15, 2020

# SMART Plan



## Bus Express Rapid Transit System

# BERT Network

- Express bus on freeways and express lanes
  - Extends SMART corridors
  - Planned using mostly existing infrastructure and ROW, limited infrastructure improvements

Route	Name	Start/End	Interim Stop	Proposed Facility
b	S Miami-Dade Express	344 St. Busway Station –Dadeland North Metrorail Station	HEFT/288th St. Park-and-Ride, HEFT/211 <sup>th</sup> St., HEFT/SW 152 <sup>nd</sup> St.	FTP Express Lanes
c	NW Miami-Dade Express	Palmetto Metrorail Station - I-75/Miami Gardens Dr Park-and-Ride	American Dream Station	I-75 & SR 826 Express Lanes
d	SW Miami-Dade Express	Miami Executive Airport Park-and-Ride - Dadeland North Metrorail Station	-	SR 874, SR 878
e1	Florida Turnpike (South)	344 St. Transitway Station - Dolphin Station	Panther Station	FTP Express Lanes
e2	Florida Turnpike (North)	Panther Station – Unity Station	I-75/Miami Gardens Dr. Park-and-Ride, American Dream Station	FTP Express Lanes
f1	Beach Express North	Golden Glades Intermodal Terminal - Miami Beach Convention Center	Earlington Heights Metrorail Station and Mt. Sinai Terminal	I-95 Express Lanes, I-195 shoulder
f2	Beach Express Central	Civic Center - Miami Beach Convention Center Terminal	Mt. Sinai Terminal	I-195 shoulder
f3	Beach Express South	Miami Central - Miami Beach Convention Center Terminal	-	I-395/ MacArthur Causeway

# BERT Route Estimated Implementation

Route	Name	Implementation Year	Assumptions
c	NW Miami-Dade Express	November 18, 2019	-
b	S Miami-Dade Express	2020	Completion of HEFT Express Lanes SW 184 <sup>th</sup> St to SW 104 <sup>th</sup> St Spring 2020
e1	Florida Turnpike (South)	2021	Completion of HEFT Express Lanes SW 40 <sup>th</sup> St to SR 836 Spring 2021; interim FIU Panther stop anticipated completion in 2022
f1	Beach Express North	2023	Completion of the I-195 inside shoulder construction (FDOT) delayed due to I-395
f2	Beach Express Central	2023	Completion of I-195 inside shoulder construction (FDOT) delayed due to I-395; also assumes terminal activity can be accommodated in Civic Center
f3	Beach Express South	2023	Assumes terminal activity can be accommodated in Convention Center area
d	SW Miami-Dade Express	2023	Assumes terminal can be completed by 2023
e2	Florida Turnpike (North)	TBD	HEFT Express Lanes north of SR 836 currently in bid review; prior estimate 2027

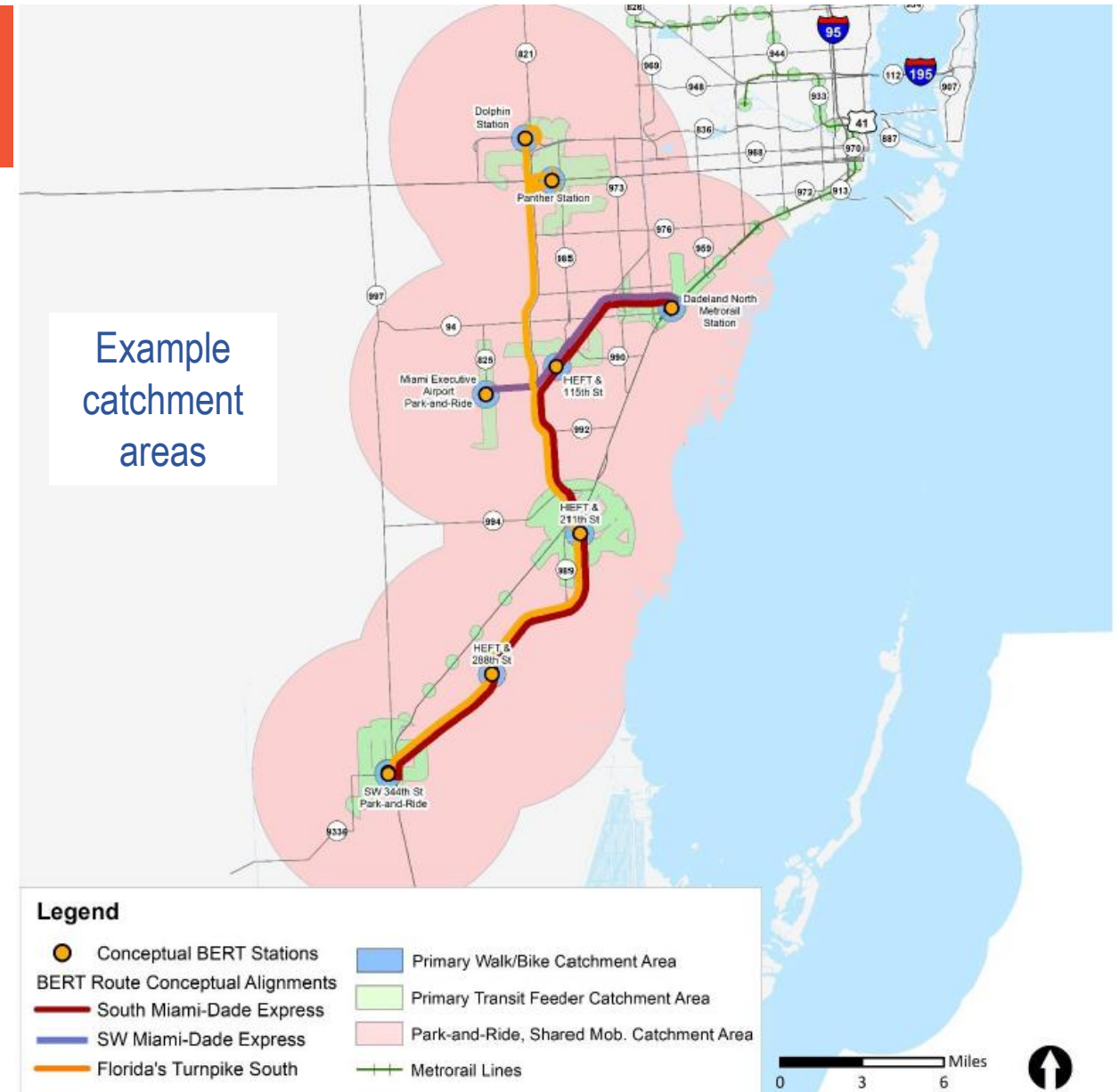
# BERT Implementation Analysis - Progress

	Bch North (f1)	BERT Network
• Market analysis	✓	✓
• Travel times	✓	✓
• Ridership estimates	✓	✓
• Service plan refinement	✓	✓
• Community coordination	→	→
• Terminal operations	✓	→
• Engineering and Traffic analysis	→	→
• Environmental analysis	→	→
• Vehicle needs	✓	✓
• Cost estimates	✓	→

# 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 Estimates

	BERT Route	Revised Frequency		Ridership Forecast (2015 Base Year)
		Peak Hr	Off Peak	
f1	Beach Express North	10	20	7,800
b	South Miami-Dade Express	10	30	5,200
f3	Beach Express South	15	15	2,000
e1	Florida's Turnpike South	15	30	2,000
f2	Beach Express Central	15	30	1,900
d	Southwest Miami-Dade Express	20	(peak only)	800
c	Northwest Miami-Dade Express	20	(peak only)	100
e2	Florida's Turnpike North	20	(peak only)	100

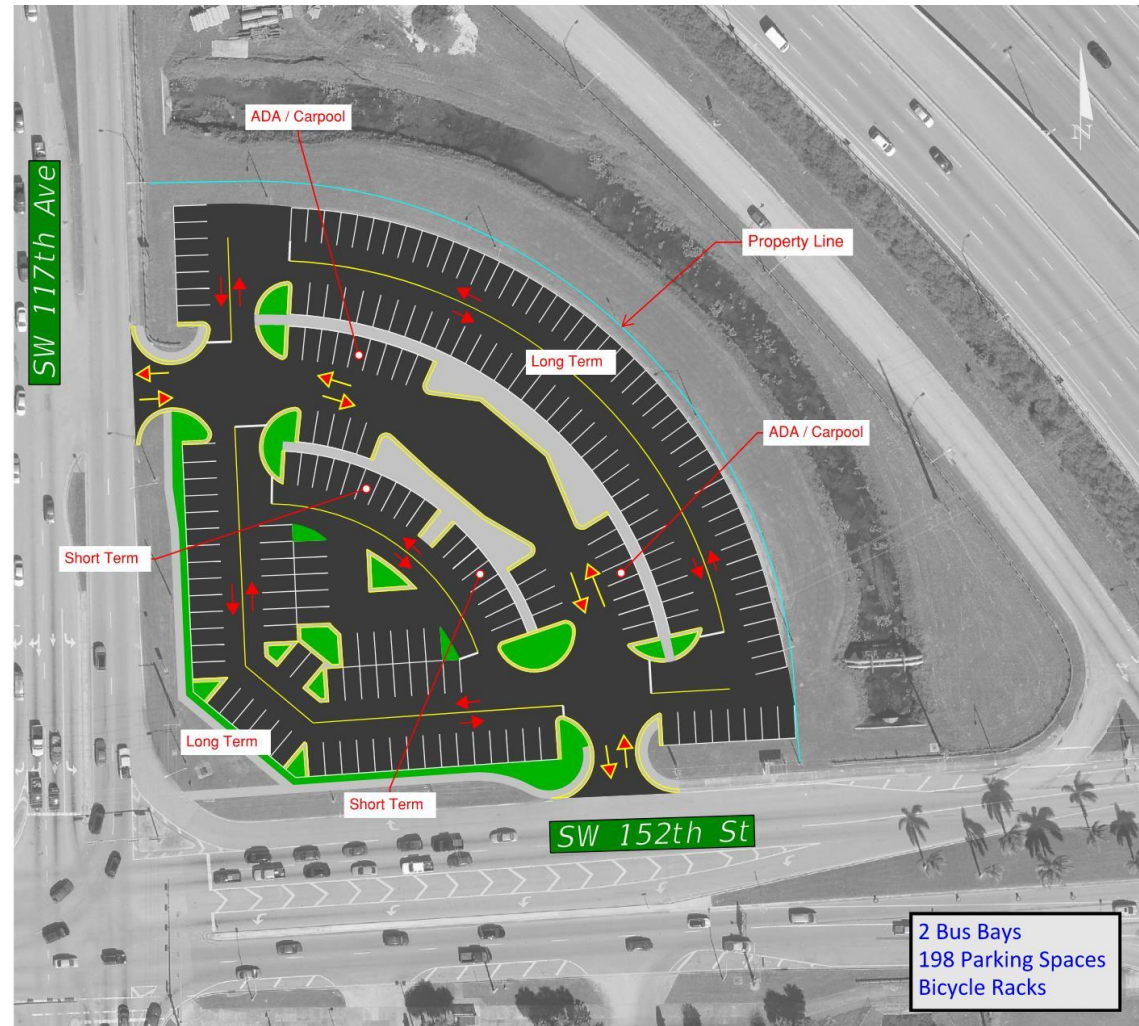
# Costs: Capital and Operations & Maintenance

Route	Capital Cost (\$ millions)	Operations and Maintenance (Annual, \$ millions)
Southwest Miami Dade Express	\$1.8	\$0.90
South Miami Dade Express	\$8.1	\$4.49
Florida's Turnpike South	\$7.2	\$4.17
Northwest Miami Dade Express	\$2.7	\$1.20
Florida's Turnpike North	\$3.6	\$1.54
Beach Express North	\$10.8	\$9.00
Beach Express Central	\$3.6	\$2.50
Beach Express South	\$3.6	\$6.30

Cost based on 60-ft CNG bus,  
\$900,000 each  
Costs only include buses  
Add 10% spare vehicles

O&M rate \$217.65/hour  
from Service Planning per DTPW Bus Productivity Report,  
April 2019 for 6 existing express routes

# Proposed Park and Ride – 152<sup>nd</sup> street

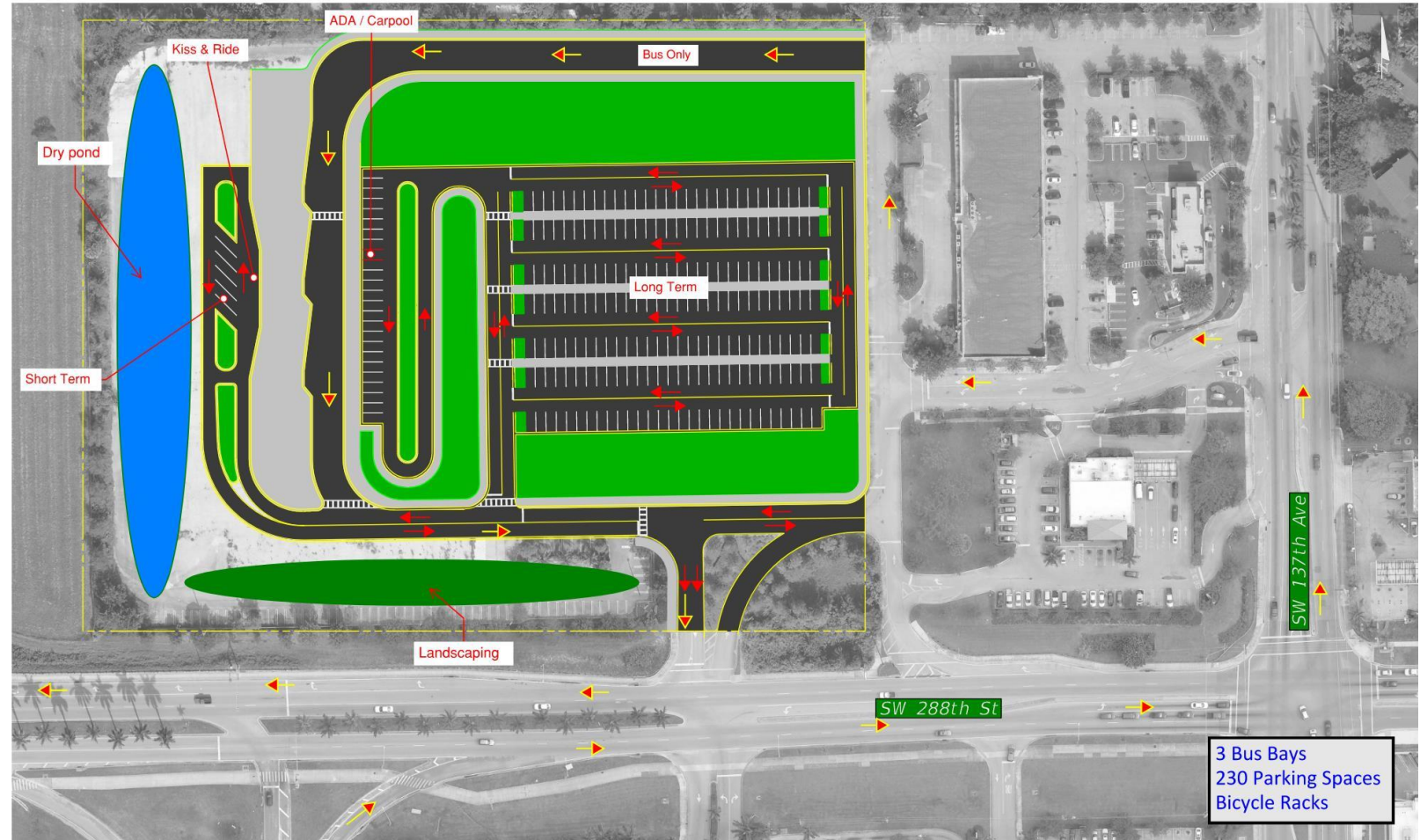


# Proposed Park and Ride- 211 street

Any impacts to existing trees to be mitigated/minimized

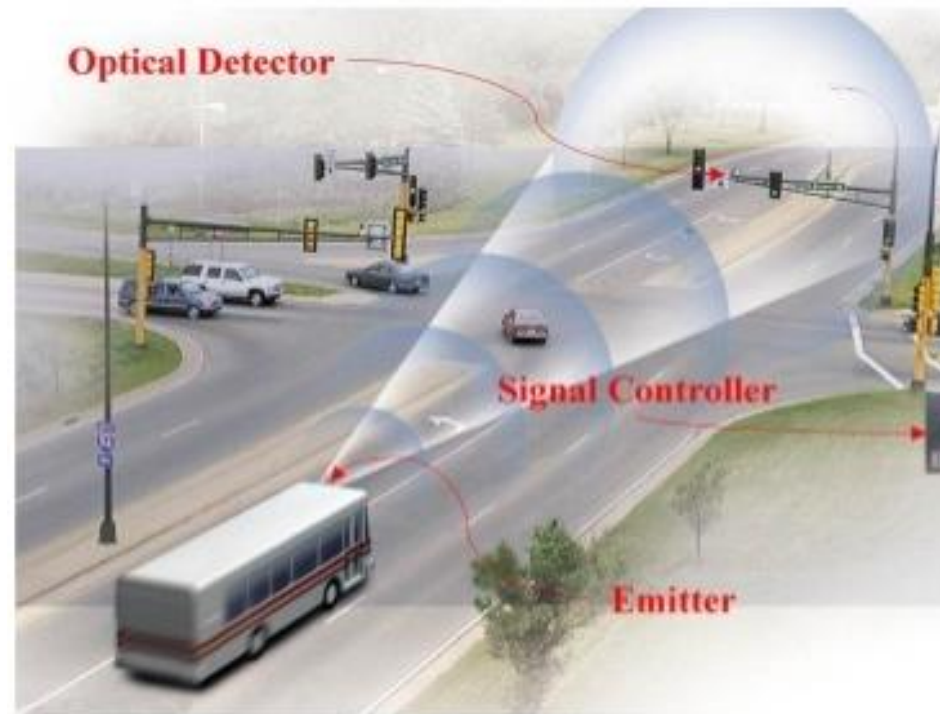


# Proposed Park and Ride- 288 street



# Traffic Signal Improvements- Early Green/Green Extension

Early Green/Green extension is a form of Transit Signal Priority. This phase is only activated by a transit vehicle, it is not a pre-programmed signal phase.



*Kamila Widulinski and Matthew Lapointe (2013)*

(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		
South Miami Dade Express	HEFT @ 117 <sup>th</sup> and 152 <sup>nd</sup> Avenues	Early green/green extension
Beach Express North	Old Alton Rd @ 41 Street 41 Street @ Indian Creek Dr Collins Ave @ Lincoln Rd.	Early green/green extension Early green/green extension Early green/green extension
SW Miami Dade Express	SW 137 <sup>th</sup> Avenue @ SW 128 <sup>th</sup> 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 <sup>th</sup> Street ramps Snapper Creek Rd. @ SW 8 <sup>th</sup> Street SW 8 <sup>th</sup> 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 <sup>th</sup> Avenue ramps	Early green/green extension
Beach Express Central	NW 12 <sup>th</sup> Avenue @ NW 14 and NW 12 St	Early green/green extension
Beach Express South	Biscayne Blvd. @ NE 8 <sup>th</sup> , 9 <sup>th</sup> , 10 <sup>th</sup> , 13 St and 11 Terrace	Early green/green extension

# For more information

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