



Flagler Street Premium Transit | PD&E Study

FM No: 437782-1-22-01 | Contract No: C-9P09



MIAMI-DADE
SMART
PLAN



2019



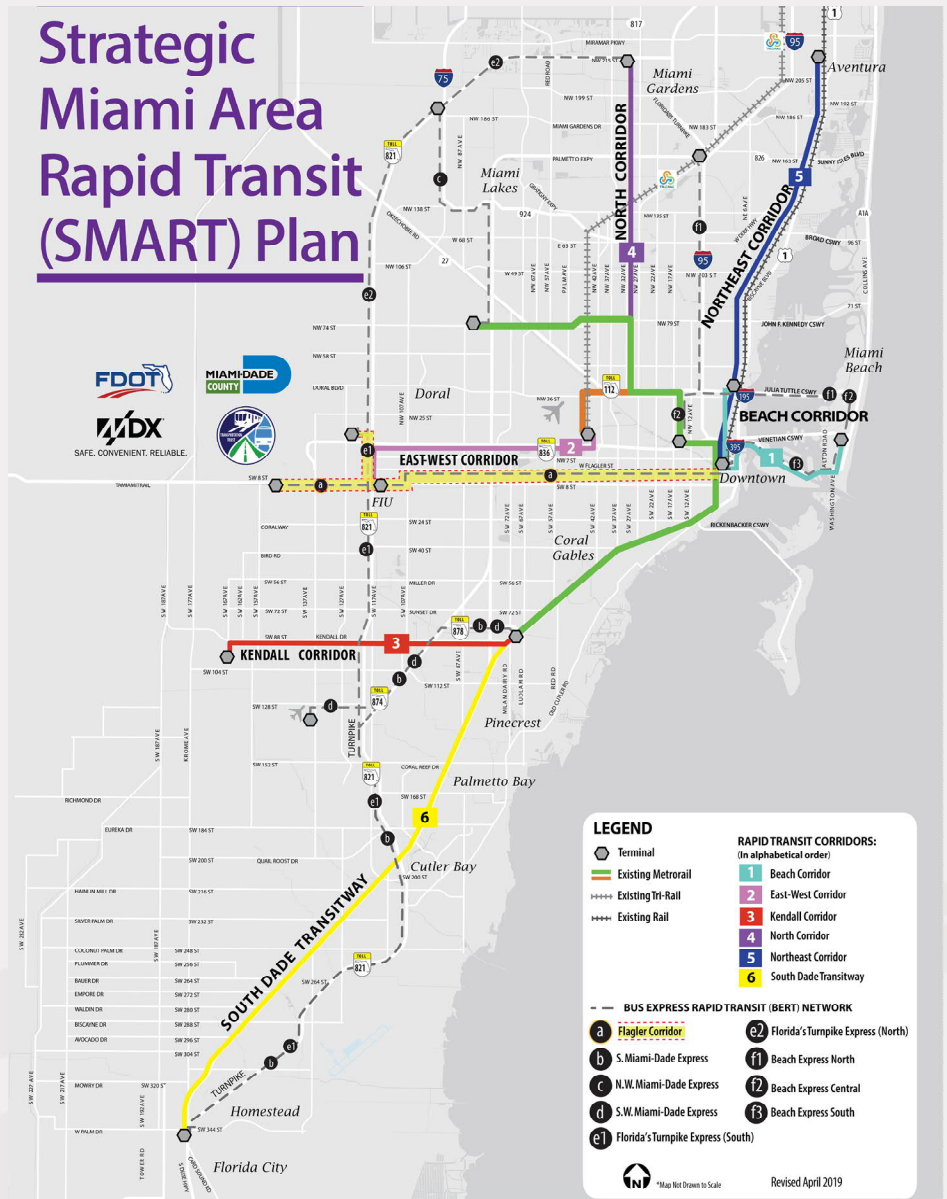
Why Flagler ?

The SMART Plan identified Flagler Street as one of the Premium Transit Corridors that will directly support the mobility of our future population and employment growth

TPO [MPO] Resolution #26-16 Resolution endorsing the Strategic Miami Area Rapid Transit (SMART) plan and directing the TPO [MPO] Executive Director to work with the TPO Fiscal Priorities Committee to determine the costs and potential sources of funding for Project Development and Environmental studies for said projects.

Bus Rapid Transit (BRT)
on Flagler Street

Strategic Miami Area Rapid Transit (SMART) Plan



Project Goals

Project Goals

- ▶ Enhance mobility choices by offering alternate transportation options with competitive travel times
- ▶ Enhance transit service and better connections with existing Metrorail and Metrobus routes
- ▶ Provide better transit access to major activity centers including, but not limited to Transit Centers, Education Facilities, Hospitals, Major Shopping Malls, Recreational Attractions, and Major Employment Centers
- ▶ Increase potential for economic development and employment opportunities



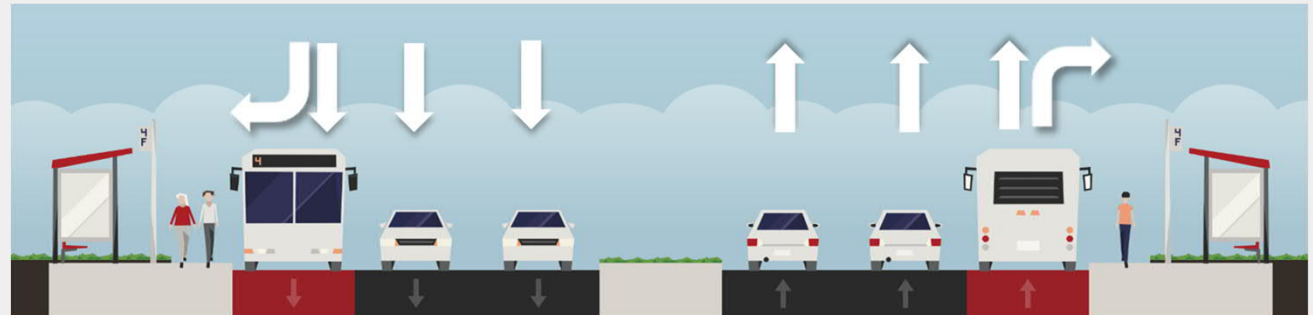
LEGEND | Flagler Street Corridor Activity Center Metrorail

Note: Infrastructure improvements end at 5th Avenue, west of the bridge over the Miami River

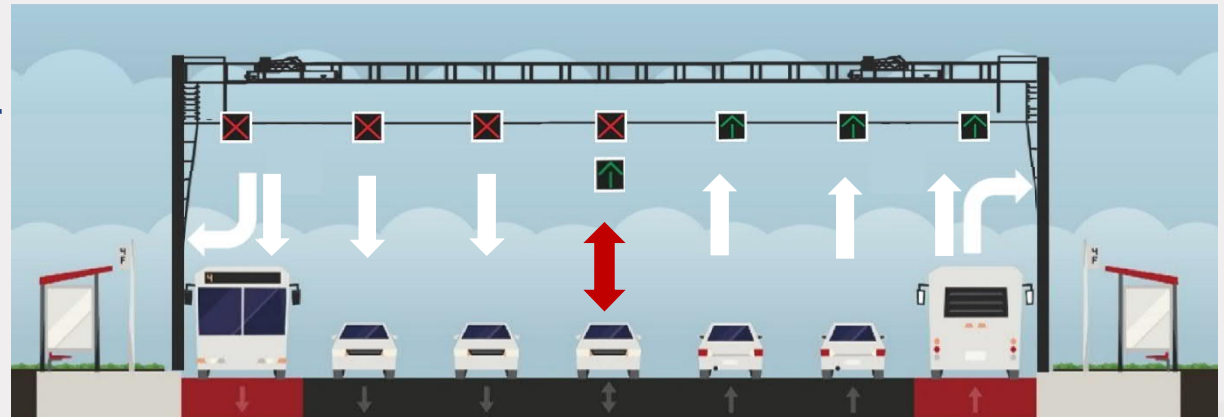
Evaluate Bus Rapid Transit

Identify ideal location for BRT

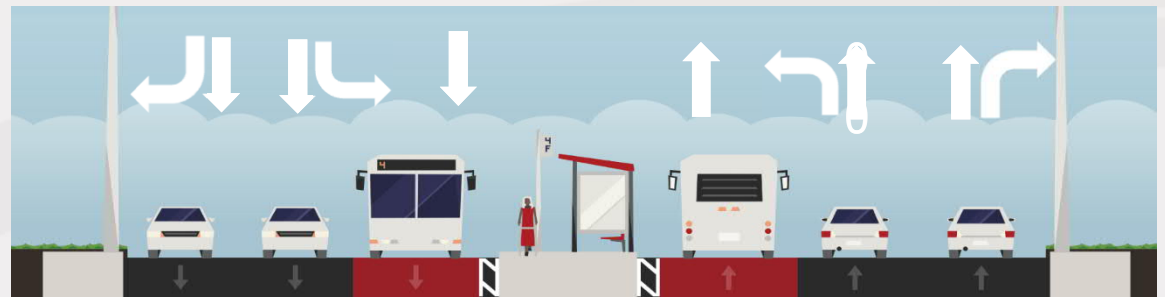
Right Side
BRT Option



Car Reversible Center
Lane and Right Side
BRT Option



Center Lanes
BRT Option





Existing Conditions

Population	
Corridor Population	395,000
Percentage of County Population	15%
Percentage of Corridor Transit Dependent	60%
Employment	
Corridor Employment (1/2 Mile Radius)	236,000
Jobs per Acre	17

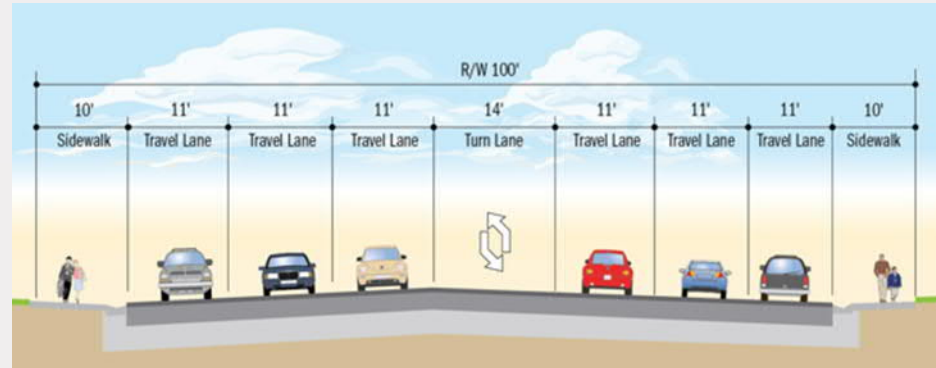
Urbanized Corridor	
Project Length (miles)	20
Number of Unsignalized Intersections	119
Number of Signalized Intersections	71
Daily Traffic Volume (AADT)	
Highest number of Vehicles per Day (FDOT Database)	57,600
Daily Transit Ridership (Average Weekday Riders)	
Route 11 and Route 51	14,300



Existing Typical Sections

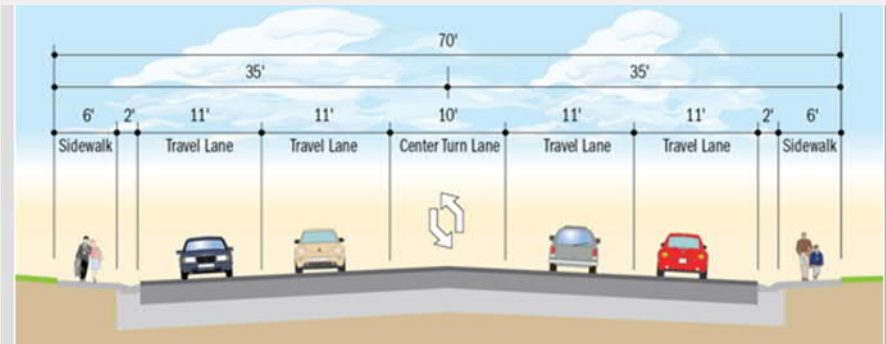
6-Lane Section

SR 90/US 41/SW 8th Street - SW 147th
Avenue to SW 107th Avenue
Flagler Street - SR 985/NW/SW 107th
Avenue to SR 826/Palmetto Expressway
SR 985/NW/SW 107th Avenue – SW 8th
Street to NW 12th Street
NW 12th Street - SR 985/NW 107th Avenue
to NW 122nd Avenue



4-Lane Section

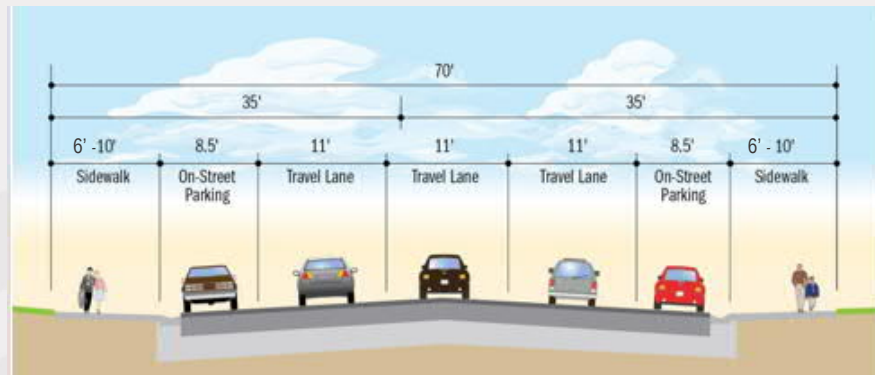
Flagler Street - SR 826/Palmetto
Expressway to NW 24th Avenue



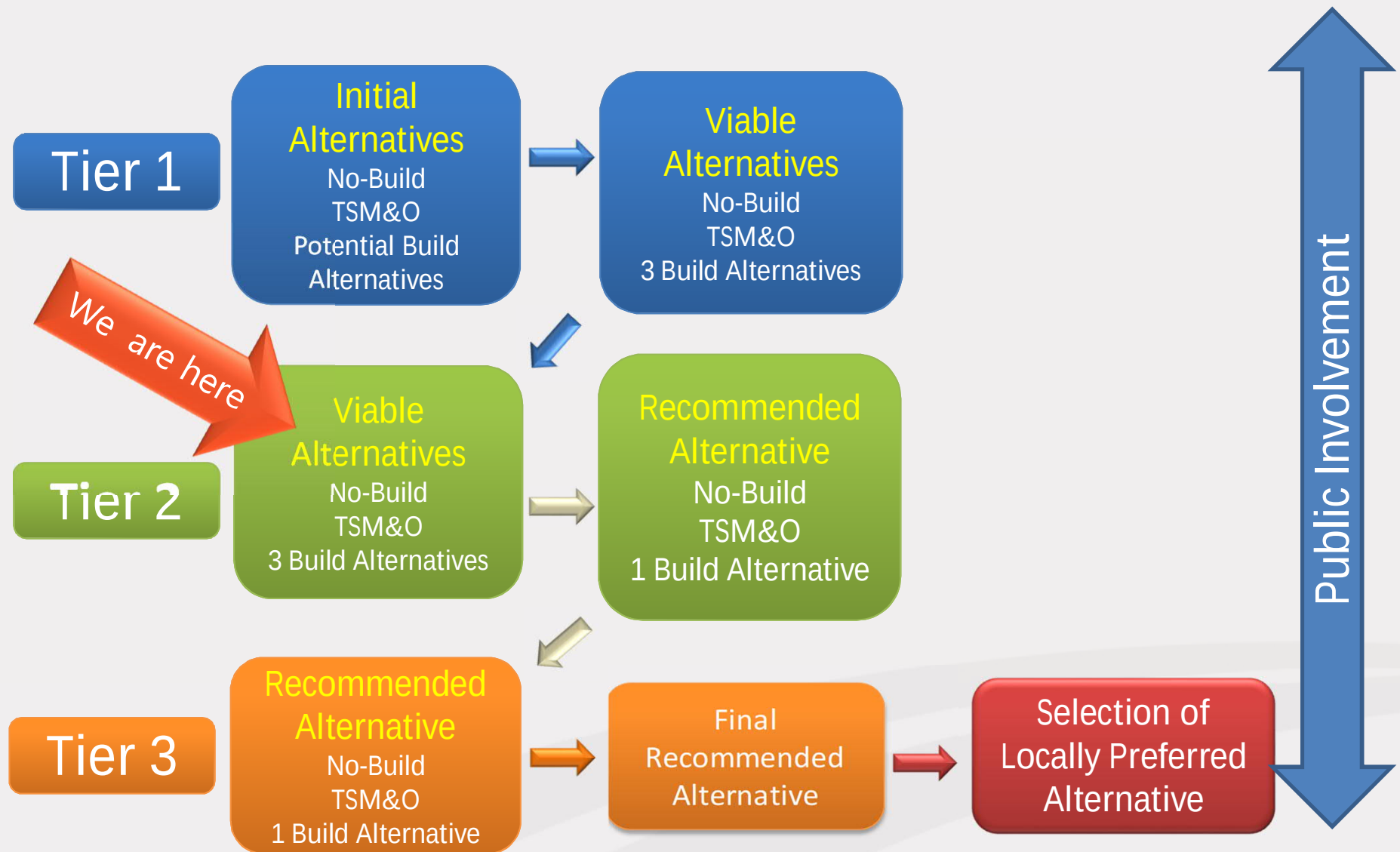
One-Way Pair Section

Flagler Street/1st Street – NW/SW 24th Avenue
to NW/SW 6th Avenue

Note: Bike lanes are dis-continuous throughout the corridor and are currently provided on Flagler Street near FIU at 107th Avenue and the eastern section of the Corridor.



Crafting the Solution – Process





Project Alternatives

No-Build Alternative

No change from existing conditions

Transportation System Management & Operation (TSM&O)

Existing roadway geometry, improved transit service

Alternative 1 : Bus Rapid Transit (BRT) with
Business Access and Transit (BAT) Lane

Alternative 2 : Bus Rapid Transit (BRT) with
Exclusive Reversible Car Center Lane

Alternative 3 : Bus Rapid Transit (BRT) with
Exclusive Bus Center Lanes



Alternative 1: BRT with Business Access and Transit (BAT) Lane

Roadway Configuration

Re-purpose curbside lane in each direction to allow bus only and right turning vehicles

Transit Improvement

3 new BRT Routes

Dedicated new transit lane

New stations

Service Frequency

BRT Dolphin – 10/15 minutes

BRT Panther – 10/15 minutes

BRT Tamiami – 20/30 minutes

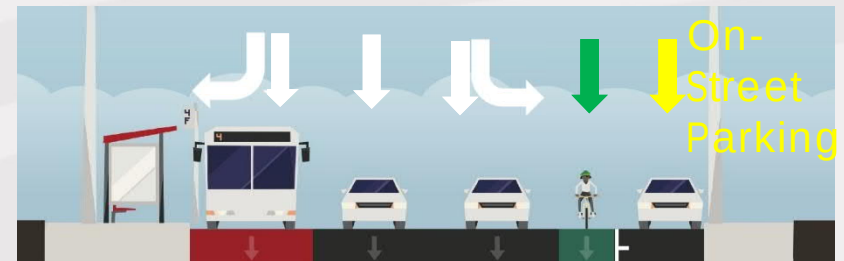
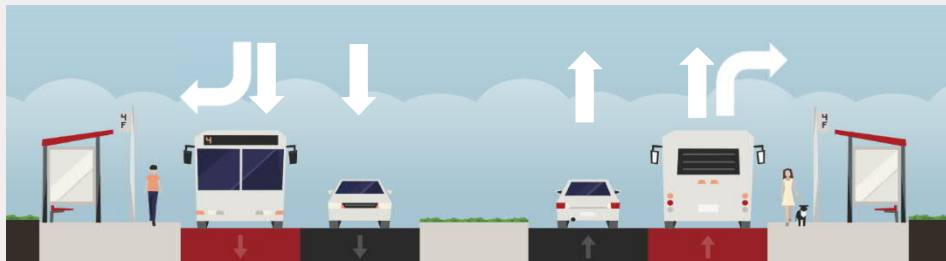
Route 11 – 15/20 minutes

Cons

1. Loss of roadway capacity/lane repurposing
2. Traffic diversion to other streets (23% AM/20% PM)
3. Access management impacts at station locations
4. Lane enforcement

Pros

1. Maintains curbside access to businesses and residences
2. Maintains left turns and mid-block access
3. Increases transit speed and ridership
4. Improved transit infrastructure and service





Transit Options - Alternative 1 Simulation – 6-Lane Option

**Business Access &
Transit (BAT) Lanes**





Alternative 2: BRT with Exclusive Reversible Car Center Lane

Roadway Configuration

Re-purpose curbside lane in each direction to allow bus only and right turning vehicles

Reversible car lane in median

Transit Improvement

3 new BRT Routes

Dedicated new transit lane

New stations

Service Frequency

BRT Dolphin – 10/15 minutes

BRT Panther – 10/15 minutes

BRT Tamiami – 20/30 minutes

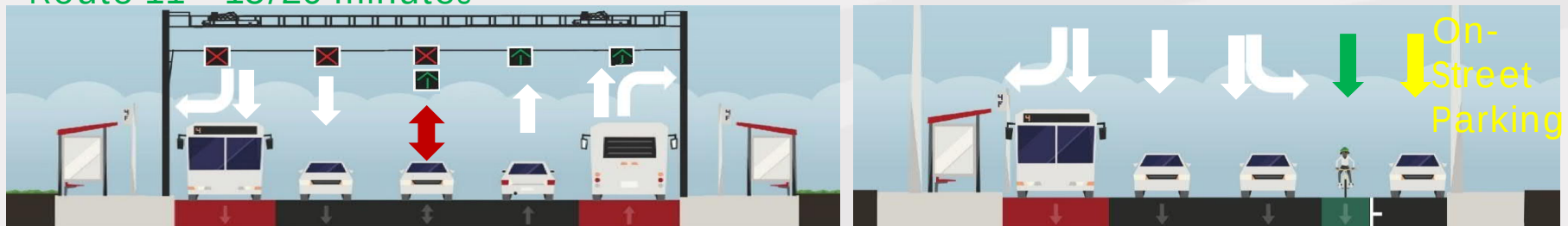
Route 11 – 15/20 minutes

■ Cons

1. Loss of roadway capacity/lane repurposing and left turns elimination
2. Traffic diversion to other streets (11% AM/19% PM)
3. Access management impacts at station locations
4. Lane enforcement

■ Pros

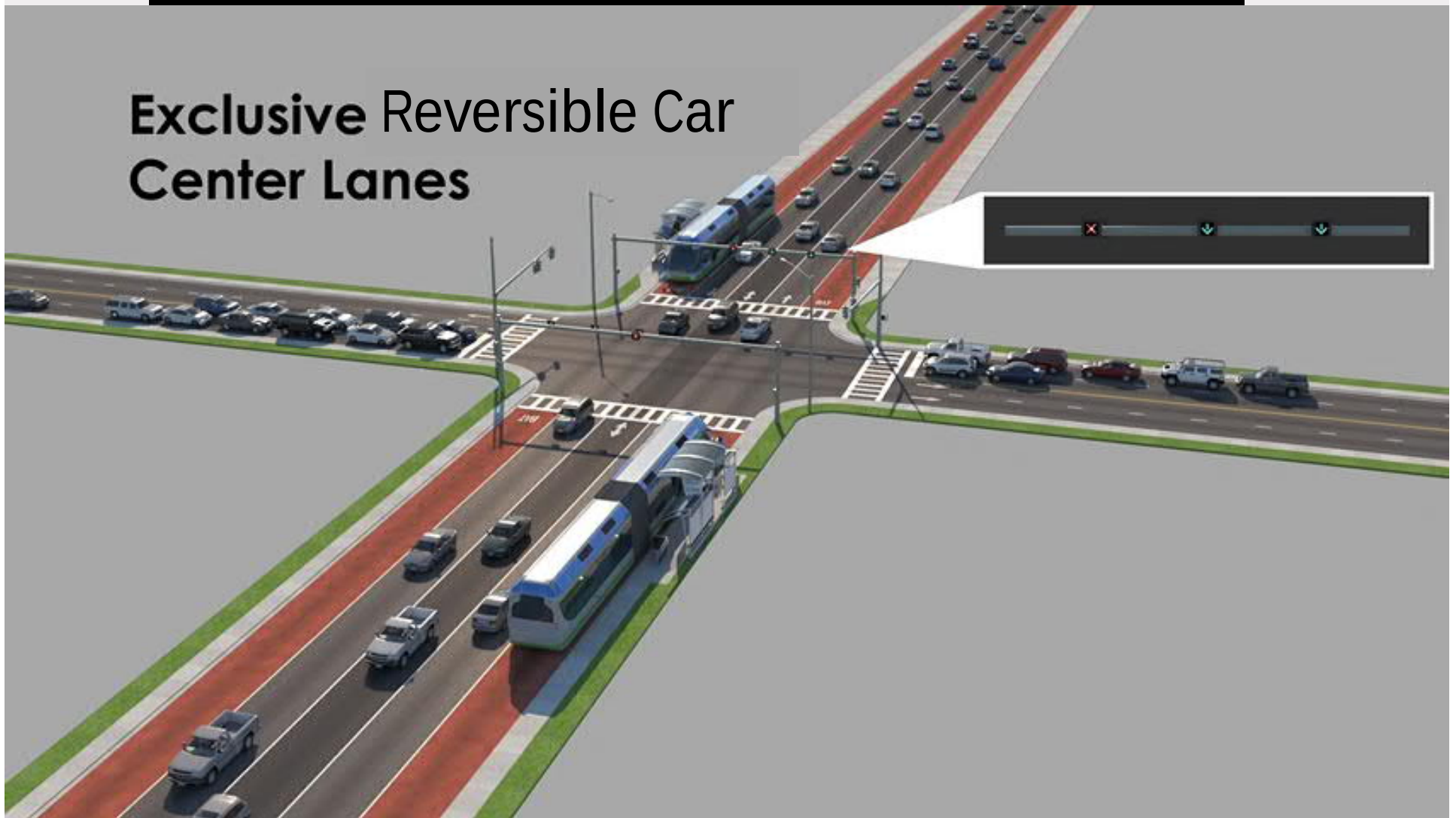
1. Maintains curbside access to businesses and residences
2. Maintains existing number of lanes in peak direction
3. Increases transit speed and ridership
4. Improved transit infrastructure and service





Transit Options – Alternative 2 Simulation – 4-Lane Section

Exclusive Reversible Car Center Lanes





Alternative 3: BRT with Exclusive Bus Center Lanes

Roadway Configuration

Re-purpose center lane in each direction to allow bus only

Transit Improvement

3 new BRT Routes

Dedicated new transit lane

New stations

Service Frequency

BRT Dolphin – 10/15 minutes

BRT Panther – 10/15 minutes

BRT Tamiami – 20/30 minutes

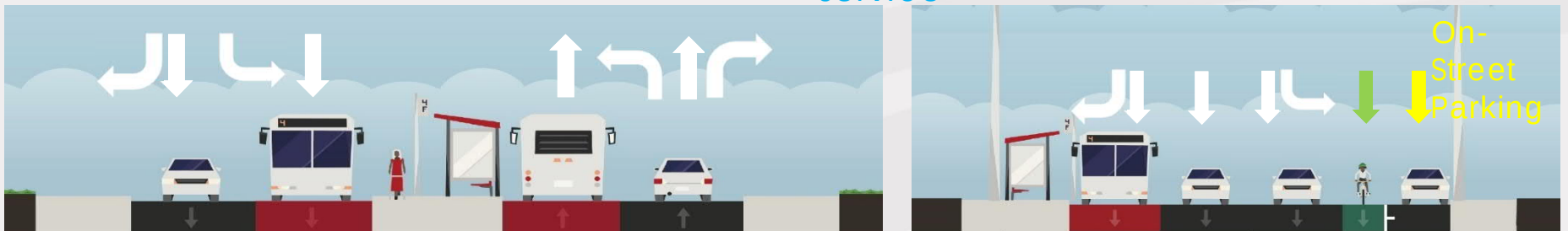
Route 11 – 15/20 minutes

■ Cons

1. Loss of roadway capacity/lane repurposing
2. Traffic diversion to other streets (23% AM/20% PM)
3. Access management impacts at station locations
4. Lane enforcement

■ Pros

1. Maintains curbside access to businesses and residences
2. Maintains left turns at major intersections
3. Dedicated BRT only lanes (No local bus use)
4. Improved transit infrastructure and service





Transit Options – Alternative 3

Simulation – 6-Lane Option

BRT with Exclusive Bus
Center Lanes





Tier 2 Alternatives Evaluation

■ Approach

- Matrix developed by Technical Oversight Committee (FDOT, DTPW, TPO, and Consultants)
- More than 80 different criteria were assessed

■ Criteria Evaluated

- Project Cost
- Travel Operation and Safety
- Multimodal Measures
- Social and Economic Environment
- Cultural Environment
- Natural Environment
- Physical Environment
- Stakeholder Comment/Public Sentiment



Project Cost (2018\$)

Alternative	Estimated Total Capital Cost Including Right-of-Way (millions)	Estimated Operating and Maintenance Costs (millions)
No-Build	\$0	\$20
TSM&O	\$90	\$33
Alternative 1: BRT with Business Access and Transit (BAT) Lane	\$478	\$55
Alternative 2: BRT with Exclusive Reversible Car Center Lane	\$656	\$55
Alternative 3: BRT with Exclusive Bus Center Lanes	\$511	\$56



Travel Operation and Safety

Alternative	Mixed Motorized Vehicles (No. of Vehicles/Day)	Person (No. of Persons/Day)	Minutes (PM Peak - Westbound)	
			Route 11	Route 51/BRT
No-Build	44,380 - 55,480	92,870	56	50
TSM&O	44,440 - 55,550	102,340	43	36
Alternative 1: BRT with Business Access and Transit (BAT) Lane	31,220 - 39,020	84,230	20	12
Alternative 2: BRT with Exclusive Reversible Car Center Lane	33,300 - 41,620	86,430	20	13
Alternative 3: BRT with Exclusive Bus Center Lanes	33,930 - 42,410	87,090	70	53

Note: Travel time estimated between NW/SW 72nd Avenue and NW/SW 2nd Avenue(Vissim model).



Multimodal Measures

Alternative	New Transit Service on the Corridor Number of Weekday Daily Trips	Mode Shift from Auto to Transit (Countywide) Increase in Transit Trips Compared to No-Build
No-Build	0	0.00%
TSM&O	10,800	1.25%
Alternative 1: BRT with Business Access and Transit (BAT) Lane	17,700	2.79%
Alternative 2: BRT with Exclusive Reversible Car Center Lane	17,800	2.42%
Alternative 3: BRT with Exclusive Bus Center Lanes	19,300	2.52%

Social and Economic Environment

Alternative	Estimated Potential Number of Parcels Impacted (business/residential)	Additional Low Income Household Served with new Transit Service on the Corridor	Visual and Aesthetic Impacts (tree and landscaping impacts, bridges and other infrastructure)
No-Build	0	0	None
TSM&O	7/1	3,140	None
Alternative 1: BRT with Business Access and Transit (BAT) Lane	146/45	62,267	Medium
Alternative 2: BRT with Exclusive Reversible Car Center Lane	163/221	62,267	High *
Alternative 3: BRT with Exclusive Bus Center Lanes	89/87	56,407	Medium

* Gantries placed every 300 to 600 feet to show direction of reversible lane by time of day



Environmental – Cultural/Natural

- Each Build Alternative scores the same across the following criteria:
 - Recreational areas
 - Protected species and habitat impacts
 - Floodplains
 - Historic and archeological sites

Alternative	Section 4(f) Sites Impact Assesment (No. of Sites)	Wetlands and Surface Waters Impact Assessment (No. of Acres)
No-Build	0	0.000
TSM&O	2	0.026
Alternative 1: BRT with Business Access and Transit (BAT) Lane	2	0.026
Alternative 2: BRT with Exclusive Reversible Car Center Lane	6	1.180
Alternative 3: BRT with Exclusive Bus Center Lanes	0	0.026

Environmental - Physical

- Each Build Alternative scores the same across the following criteria:
 - Vibration Impact Assessment
 - Energy Use
 - Resiliency to sea level rise

Alternative	Contamination/ Hazardous Waste Impacts (No. of Sites)	Greenhouse Gas Emission Impacts (Percent change from No-Build)	Construction Impacts
No-Build	0	0.00%	None
TSM&O	58	0.11%	Low
Alternative 1: BRT with Business Access and Transit (BAT) Lane	58	-29.96%	Low-Medium
Alternative 2: BRT with Exclusive Reversible Car Center Lane	66	-25.27%	High
Alternative 3: BRT with Exclusive Bus Center Lanes	66	-23.85%	High



Stakeholder Comments/Public Sentiment

Participated in 55 meetings to date.

- Extensive Workshops

- Elected Official & Public Kick-Off Meetings
- 3 Project Advisory Committee Meetings
- 3 Corridor Workshops (East, West, Central)
- 3 Alternative Public Workshop Meetings

- Outreach to Elected Officials

- County Mayor
- County Commissioners
- Transportation Chair

- Outreach to Local Municipalities

- City of Doral
- City of Sweetwater
- City of Miami

- Resolutions to Date Endorsing Alternative 1: BRT with Business Access and Transit (BAT) Lane

- City of Doral
- TPO – Freight Transportation Advisory Committee

- Outreach to Key Stakeholders

- Dolphin Mall
- Mall of the Americas
- International Mall
- Flagler Corporate Center
- Live Healthy Little Havana
- Little Havana Neighbors Association

- Coordination with Key Public Partners

- Florida International University
- Florida's Turnpike
- Miami-Dade Expressway Authority
- Miami-Dade County Aviation Department
- Miami Downtown Development
- 3 Local NET Offices, including Little Havana
- Downtown Development Authority

- TPO – Bicycle Pedestrian Advisory Committee
- TPO – Citizen's Transportation Advisory Committee



Tier 2 Evaluation Matrix

Carried through
PD&E Process

Recommended
Alternative

Item	Evaluation Criteria	No-Build	Transportation System Management & Operations (TSM&O)	Alternative 1 - Business Access Transit (BAT) Lanes	Alternative 2 - Exclusive Reversible Center Car Lanes	Alternative 3 - Exclusive Bus Bi-Directional Center Lanes
A	Project Cost	55	47	22	15	20
B	Travel Operations and Safety	66	76	48	65	56
C	Multimodal Measures	19	35	55	53	55
D	Social and Economic Environment	29	31	39	26	32
E	Cultural Environment	16	15	15	12	16
F	Natural Environment	35	35	33	29	33
G	Physical Environment	49	34	41	35	38
H	Stakeholder Comment/Sentiment	4	4	18	11	9
Total Score		273	277	271	246	259



Next Steps

- Ongoing Public Involvement
 - Three Public Workshops
 - Community Meetings, Miami-Dade County Citizens' Independent Transportation Trust (CITT), and Transportation Planning Organization (TPO) Committees
- TPO Endorsement of Recommended Alternative
- Environmental Class of Action Determination
- Complete Environmental Documentation/Financial Analysis
- Request Entry into FTA Project Development
- Public Hearing
- TPO Selection of Locally Preferred Alternative/LRTP & TIP Amendments
- Submit New Starts Criteria Package to FTA
- Commitment of 30% non-New Starts Funding



Next Steps – Milestone Schedule





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Stay Informed and Involved!

■ Project Website:

- FDOTMiamiDade.com/FlaglerPremiumTransit

■ FDOT Project Manager:

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