Flagler Street Premium Transit | PD&E Study

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

Project Advisory Committee (PAC)
Meeting # 1

November 3, 2016

Agenda

- Introductions
- Study details
- Crafting the solution
  - Corridor overview
  - Potential Alternatives
- Next Steps

Introductions

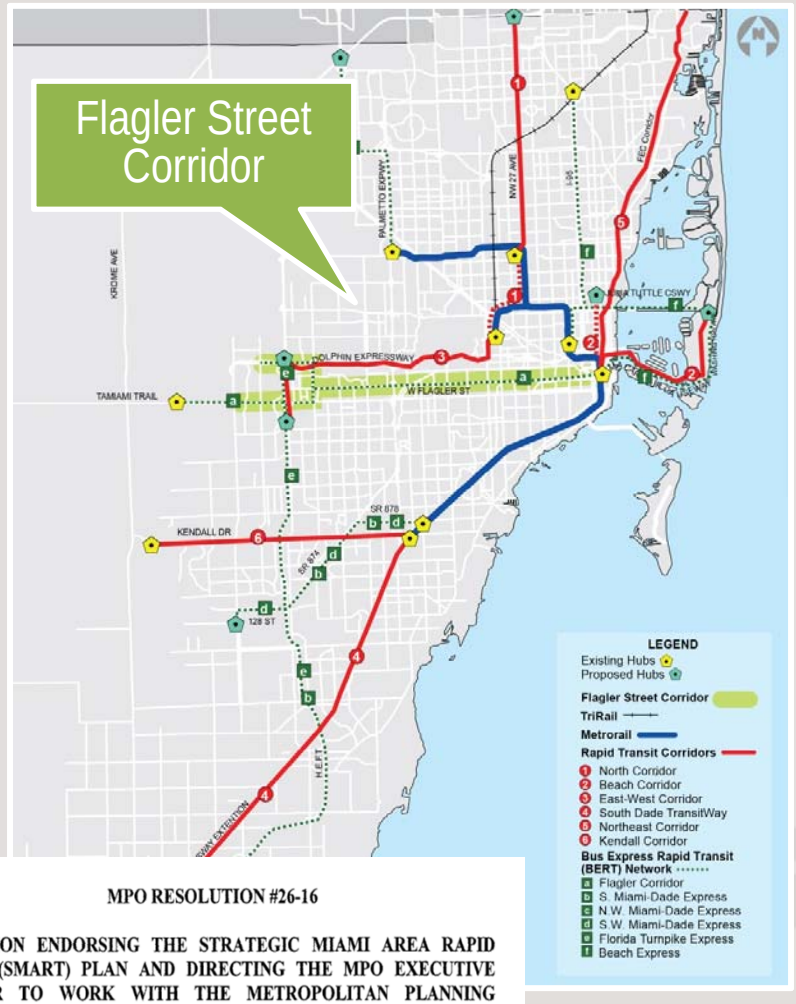
- Name
- Affiliation
- Interest in the study

Study Details

- Purpose
- Management
- Process
- Schedule

Study Details – Why this Corridor?

1. Flagler Street selected as the first corridor of the Bus Express Rapid Transit (BERT) Network
2. High levels of traffic congestion
3. Opportunity to serve major activity centers
4. One of the highest transit ridership in the County



MPO RESOLUTION #26-16

RESOLUTION ENDORSING THE STRATEGIC MIAMI AREA RAPID TRANSIT (SMART) PLAN AND DIRECTING THE MPO EXECUTIVE DIRECTOR TO WORK WITH THE METROPOLITAN PLANNING ORGANIZATION FISCAL PRIORITIES COMMITTEE TO DETERMINE THE COSTS AND POTENTIAL SOURCES OF FUNDING FOR PROJECT DEVELOPMENT AND ENVIRONMENT STUDY FOR SAID PROJECTS

Study Details – Purpose and Goals

Purpose

Provide multimodal improvements to accommodate Premium Transit along the corridor

Provide better transit access to major activity centers

Improve Mobility

Enhance mobility choices by offering alternate transportation options with competitive travel times

Provide Efficient Transit Service

Enhance transit service and improve connections with existing Metrorail and Metrobus routes

Preserve the Environment

Preserve and enhance the quality of the environment

Stimulate Economic Development

Increase potential for economic development and employment opportunities

Achieve Modal Balance

Incorporate multimodal options – transit, personal cars, pedestrians and bicycles

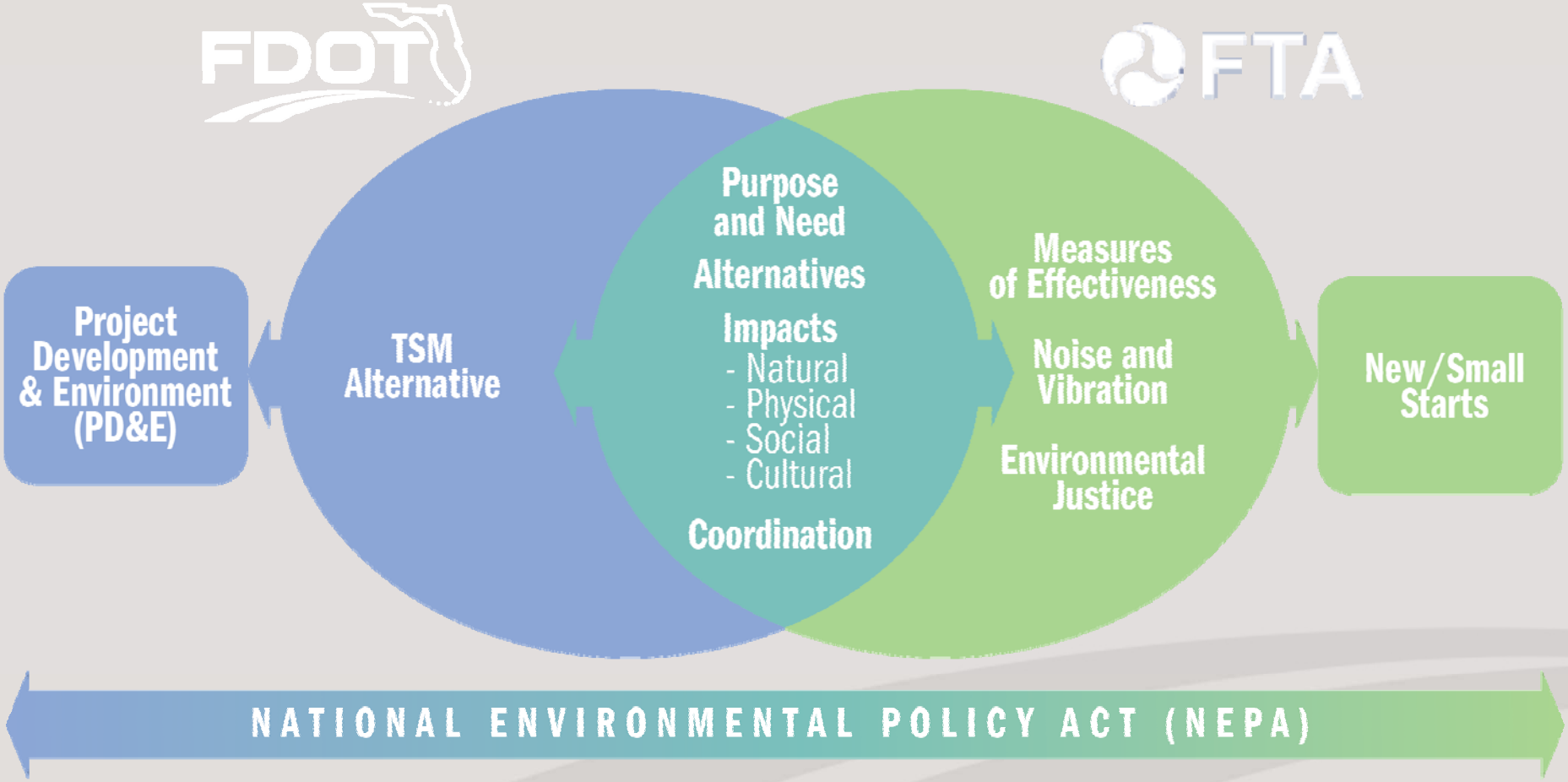
Study Details – Management

FDOT

MIAMI-DADE METROPOLITAN PLANNING ORGANIZATION

MIAMI-DADE COUNTY

Study Details – Study Process



Study Details – Study Elements

Data Collection

Review of all existing corridor conditions

Engineering Analysis

Develop alternatives that meet the project goals

Environmental Evaluations

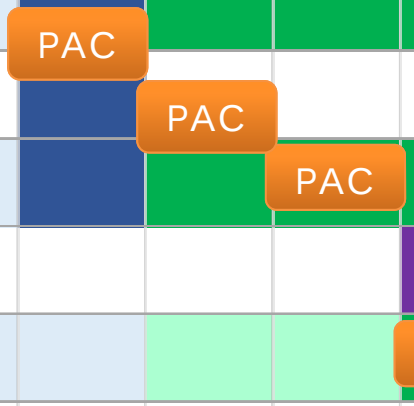
Identify potential impacts to social, natural, and physical environments

Public Involvement

Continuous outreach and coordination with community and stakeholders

Study Details - Schedule

Major Project Tasks	2016			2017				2018		
	Spring	Summer	Fall	Winter	Spring	Summer	Fall	Winter	Spring	Summer
Project Initiation										
Elected Officials/Agency/Public Kick-Off Meeting										
Environmental and Engineering Analysis										
Alternatives Public Meetings										
Identify Recommended Alternatives										
Federal Environmental Class of Action Determination (NEPA)										
Draft Preliminary Engineering Report (PER)/CatEx (CE)										
Public Hearing										
Selection of Locally Preferred Alternative (LPA)										
FTA Acceptance into Project Development										
Final Engineering and Environmental Documents										
Public Involvement - TOC, PAC, Workshops, Mtgs										



Crafting the Solution – Corridor Overview

20 Miles

3 Jurisdictions

4 Major Freeways

Crafting the Solution – Corridor Overview

- **Study Area**

20,000 People live in the Corridor Today

20,000 People work in the Corridor Today

3% Of the County Population

3% Of the County Work Force

20,000 People will live in the Corridor in 2040

20,000 People will work in the Corridor in 2040

3% Transit Dependant Population

Parks – 22
Churches – 34
Schools – 30
Contaminated Sites – 74
Other Community Features - 99

- **Roadway Network**

20,000 Highest Number of Cars per day

20 Un-signalized Intersections

3 Signalized Intersections

200 Crashes per Year

3 Pedestrian Crashes per year

3 Bicycle Crashes per year

- **Transit Network**

3	Routes on Flagler
20	Routes Intersecting the Corridor
2,000	Total Daily Riders
3	Average Speeds (mph)
300	Transit Stops
3	Time Between Buses (min)

Crafting the Solution – Opportunities

Looking west on Flagler Street from East 1st Avenue
1870 and 1889

Looking west on East Flagler Street from 1st Avenue
c. 1920

Looking down East Flagler Street
1926

Parade on Flagler Street
1925

Looking down a very busy East Flagler Street1925

Crafting the Solution – Challenges

Segment 4

- Median
- 125’ ROW
- 6 travel lanes
- 11’ – 12’ lanes
- 0’ - 6’ Bike lanes
- 6’ – 10’ Sidewalks

Segment 3

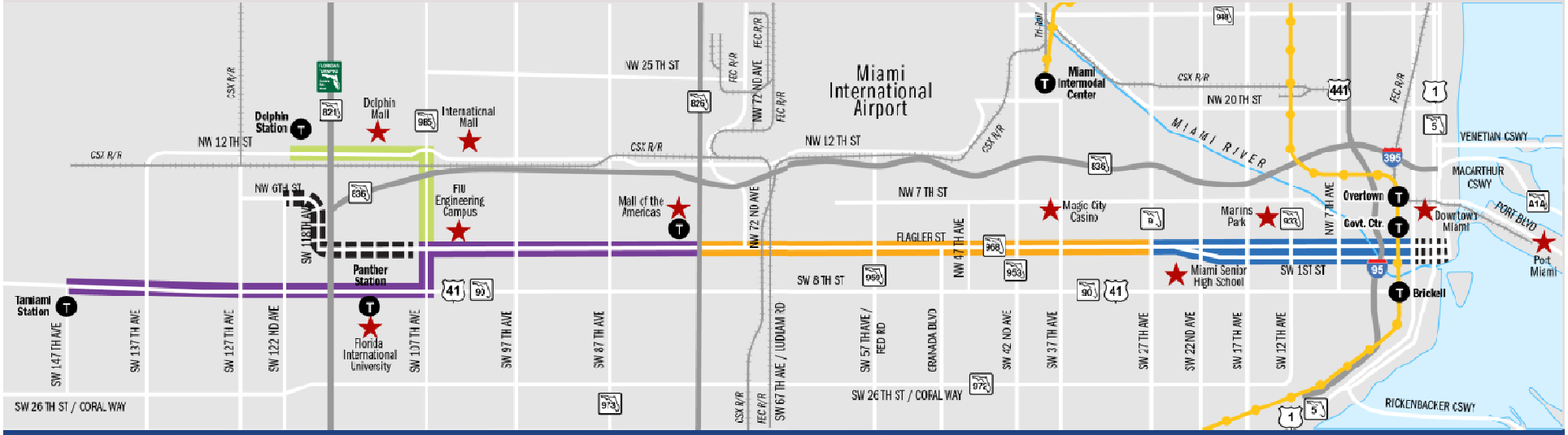
- One-way pair
- 70’ – 90’ ROW
- 3 – 4 travel lanes
- RR Crossing
- HEFT and
- Palmetto Interchanges

Segment 2

- Center lane
- 78’ ROW
- 4 travel lanes
- 6’ Sidewalks
- On-street parking spots

Segment 1

- One-way pair
- 70’ – 90’ ROW
- 3 - 4 travel lanes
- 11’ lanes
- 6’ – 10’ Sidewalks
- On-street parking
- I-95 Interchange



Crafting the Solution – Challenges

Segment 1

Downtown Miami to 27th Avenue

- Closely spaced signals
- Access to Government Center Station

Segment 1 | Segment 2 | Segment 3 | Segment 4 | Alignment Options

Flagler Street & 1st Avenue Looking East

Flagler Street & 1st Avenue Looking West

Flagler Street & 2nd Avenue Looking East

Crafting the Solution – Challenges

Segment 1

Downtown Miami to 27th Avenue

Crafting the Solution – Challenges

Segment 2

27th Avenue to SR 826/Palmetto Expressway

- Numerous driveway access
- On-street parking in small sections
- Access to parking from main street
- Interchange with major highways

Flagler Street between 48th & 42nd Avenue Looking West

Flagler Street & 67th Court Looking West

Segment 1 Segment 2 Segment 3 Segment 4 Alignment Options

Crafting the Solution – Challenges

Segment 2

27th Avenue to SR 826/Palmetto Expressway

Crafting the Solution – Challenges

Segment 3

SR 826/Palmetto Expressway to 147th Avenue

- Numerous driveways
- Mix of residential and strip commercial
- Interchanges with HEFT and Palmetto Expressway

SW 107th Avenue & SW 8th Street Looking South

Flagler Street & 79th Avenue Looking East

SW 8th Street & 147th Avenue Looking West

Crafting the Solution – Challenges

Segment 3

SR 826/Palmetto Expressway to 147th Avenue

SW 8th Street Looking West – East of the HEFT

Crafting the Solution – Challenges

Segment 4

107th Avenue to 122nd Avenue

- Limited pedestrian facilities
- Congested intersections
- 4 to 6 lanes

NW 12th Street & 11th Avenue Looking West

Flagler Street & 107th Avenue Looking West

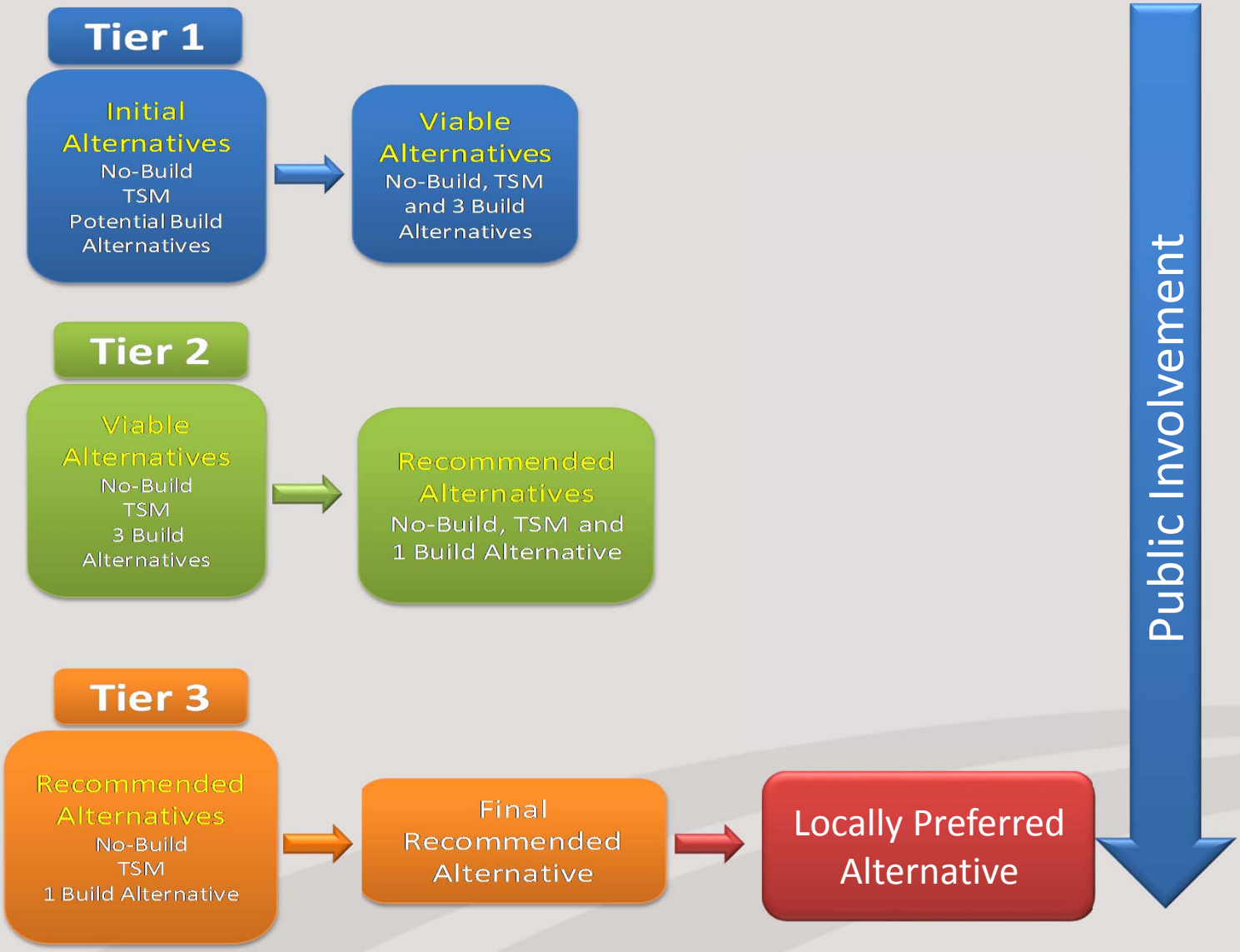
Crafting the Solution – Challenges

Segment 4

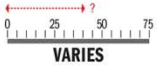
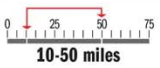
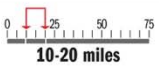
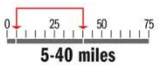
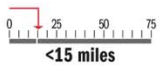
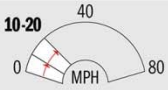
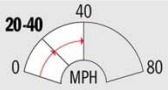
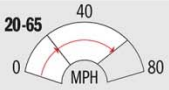
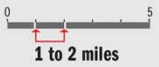
107th Avenue to 122nd Avenue

1. Tamiami Trail Terminal (Under Development)
2. Panthers Station (Under Development)
3. International Mall
4. Dolphin Mall
5. Dolphin Station (Under Development)

Crafting the Solution – Process

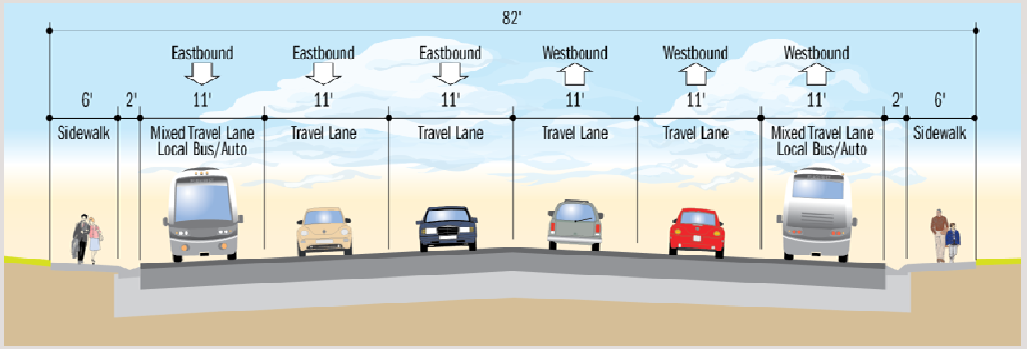


Crafting the Solution – Modes

	Local Bus	Express Bus	Bus Rapid Transit	Heavy Rail	Light Rail Transit	Streetcar
	 Miami-Dade County Metrobus	 Miami-Dade County Express Bus	 Las Vegas MAX BRT	 Miami-Dade County Metrorail	 San Diego LRT	 Houston Metro Streetcar
Service Frequency						
Line Length	 VARIES	 10-50 miles	 5-20 miles	 10-20 miles	 5-40 miles	 <15 miles
Speed Range						
Right-of-Way	Mixed traffic	Mixed traffic or exclusive	Mixed traffic or exclusive	Exclusive	Exclusive	Mixed traffic or exclusive
Stop Spacing	 0.2 to 0.5 miles	 1 to 3 miles	 0.5 to 2 miles	 1 to 2 miles	 0.5 to 2 miles	 1 to 2 blocks
Guideway Infrastructure	Existing roadway	Existing roadway	Varies, may require dedicated lanes	Grade-separated transitway with third rail for power	Rail in or off street, overhead power lines	Rail in street, overhead power lines
Other Infrastructure	N/A	N/A	Varies	Stations, parking	Power generation, stations	Power generation, stations
Capital Cost/Mile	N/A					
System Example	Metrobus	Metrobus Flagler MAX	LYMMO, Cleveland Health Line	Metrorail	Houston, Charlotte	Tampa, Portland

Crafting the Solution – Alternatives

- Use as a basis for comparison
- Maintains existing roadway typical sections
- Maintains existing transit service characteristics

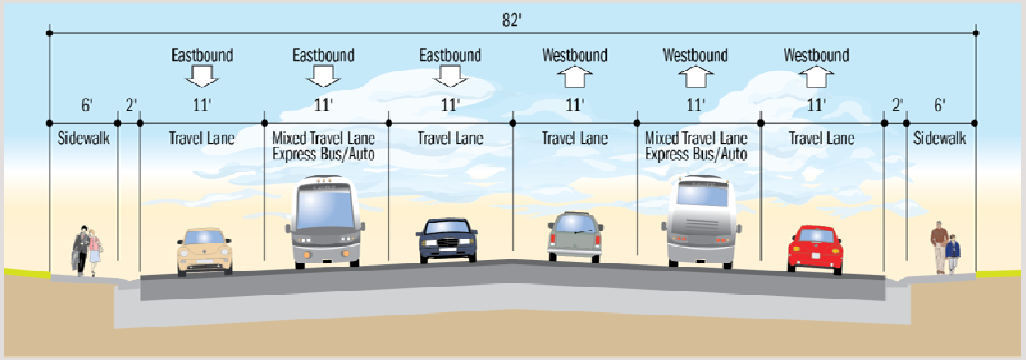


Alternative 1. (No-Build) - Local Bus, Mixed Traffic

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
No change from existing	No change from existing	No change from existing	No change from existing	No change from existing

Crafting the Solution – Alternatives

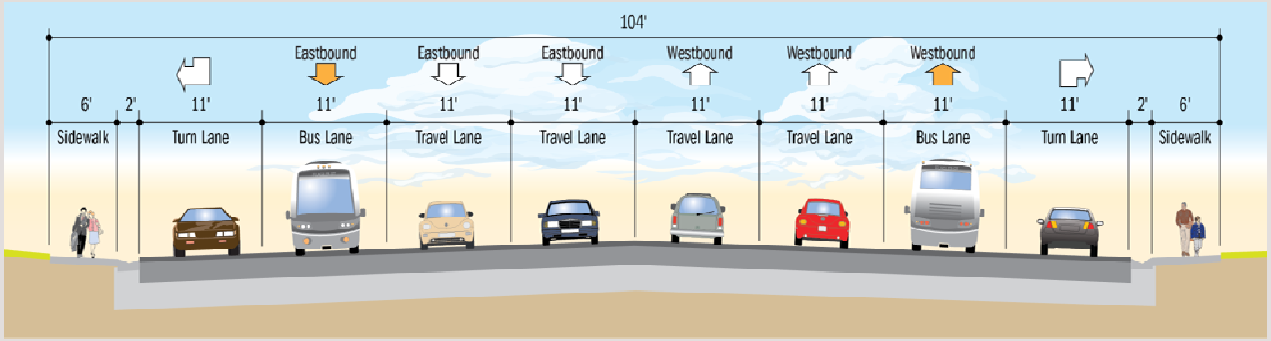
- Minimum capital investment
- Maintains existing roadway typical sections
- Maintains existing transit service characteristics



Alternative 2. (TSM) - Express Bus, Mixed Traffic

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
ITS options Transit signal priority Traffic signal optimization	More frequent service Minor improvements to stops Increased hours of operation	No change from existing	Limited opportunity	No change from existing

Crafting the Solution – Alternatives



Alternative 3. BRT - Concurrent Flow, Exclusive Right Side Repurposed Lanes

Improve Mobility

- Traffic lanes converted to "Bus Only"
- Significant Right turn lane interference
- Minimum pedestrian crossing
- No left turn impacts

Provide Efficient Transit Service

- More frequent service
- Moderate faster service
- High potential for ridership increase
- Major improvements to stops
- Ease of access to activity centers

Preserve the Environment

- Moderate potential impacts to accommodate enhanced stops

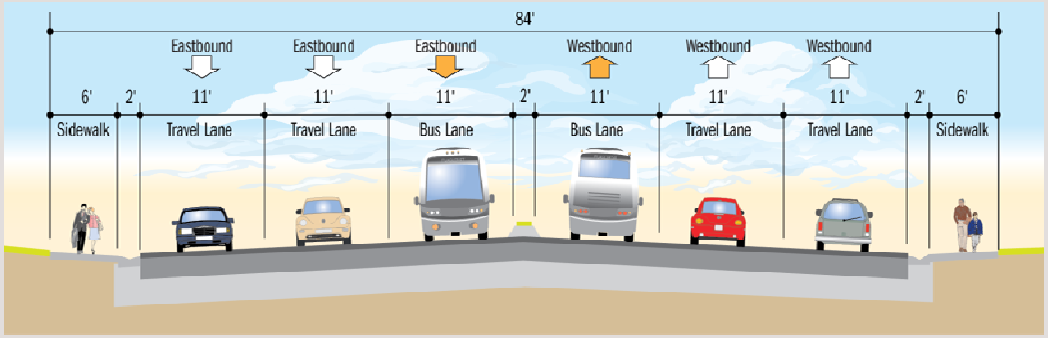
Stimulate Economic Development

- Moderate opportunity for new TOD
- Significant opportunity for existing land use

Achieve Modal Balance

- Consistent with BERT Plan
- Supports walk/bike access
- Includes multimodal options

Crafting the Solution – Alternatives



Alternative 4. BRT - Concurrent Flow, Exclusive Left Side, Repurposed Lanes

Improve Mobility

- Traffic lanes converted to "Bus Only"
- Moderate modification to intersections
- Maximum pedestrian crossing
- Moderate safety concerns
- Moderate left turn impacts

Provide Efficient Transit Service

- More frequent service
- Major improvements to stops
- High potential ridership increase
- Increased hours of operation
- Ease of access to activity centers

Preserve the Environment

- Moderate potential impacts to accommodate enhanced stops

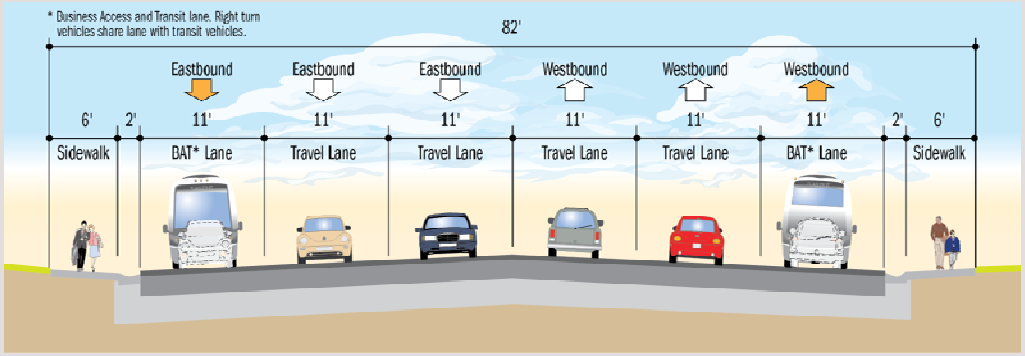
Stimulate Economic Development

- Moderate opportunity for new TOD
- Significant opportunity for existing land use

Achieve Modal Balance

- Consistent with BERT Plan
- Supports walk/bike access
- Includes multimodal options

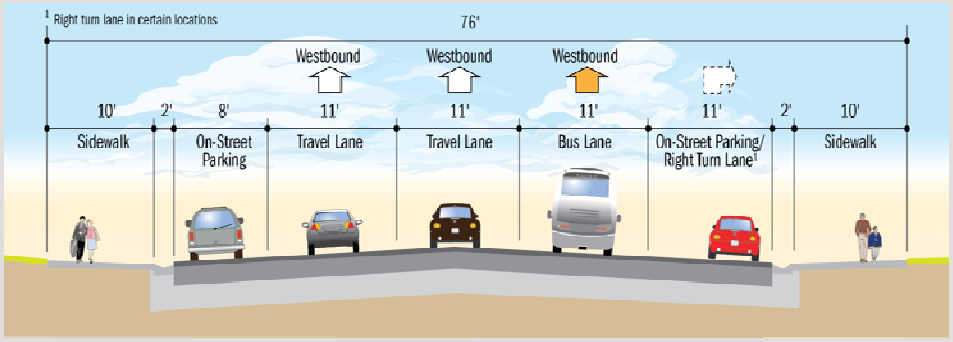
Crafting the Solution – Alternatives



Alternative 5. BRT - Concurrent Flow, Shared Right Side (BAT)*, Repurposed Lanes

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lanes shared with bus	More frequent service	Moderate potential impacts to accommodate enhanced stops	Moderate opportunity for new TOD	Consistent with BERT Plan
Significant right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Minimum pedestrian crossing	Moderate potential for ridership increase			Includes multimodal options
Moderate safety concerns	Increased hours of operation			
No left turn impacts	Ease of access to activity centers			

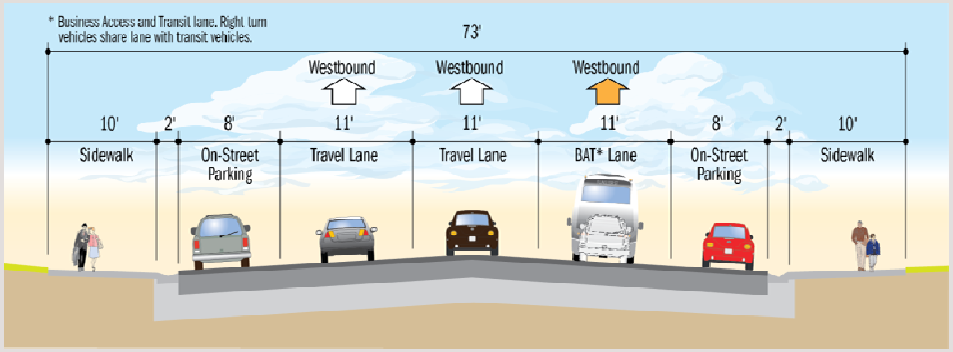
Crafting the Solution – Alternatives



Alternative 6. BRT - Concurrent Flow, Exclusive Right Side Offset, Repurposed Lanes

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lanes converted to "Bus Only"	More frequent service	Moderate potential impacts to accommodate enhanced stops	Moderate opportunity for new TOD	Consistent with BERT Plan
Moderate right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Minimum pedestrian crossing	Moderate potential for ridership increase			Includes multimodal options
Significant safety concerns	Increased hours of operation			
No left turn impacts	Ease of access to activity centers			

Crafting the Solution – Alternatives



Alternative 7. BRT - Concurrent Flow, Shared Right Side Offset (BAT)*, Repurposed Lane

Improve Mobility

- Traffic lanes shared with bus
- Moderate right turn lane interference
- Minimum pedestrian crossing
- Significant safety concerns
- No left turn impacts

Provide Efficient Transit Service

- More frequent service
- Major improvements to stops
- Low potential for ridership increase
- Increased hours of operation
- Ease of access to activity centers

Preserve the Environment

- Moderate potential impacts to accommodate enhanced stops

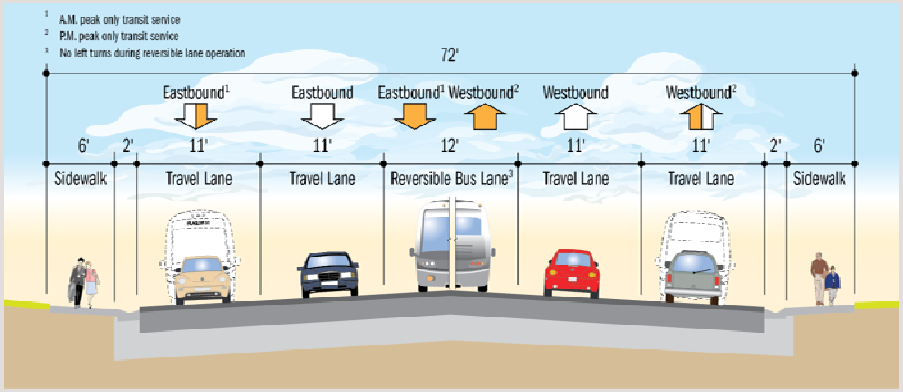
Stimulate Economic Development

- Moderate opportunity for new TOD
- Significant opportunity for existing land use

Achieve Modal Balance

- Consistent with BERT Plan
- Supports walk/bike access
- Includes multimodal options

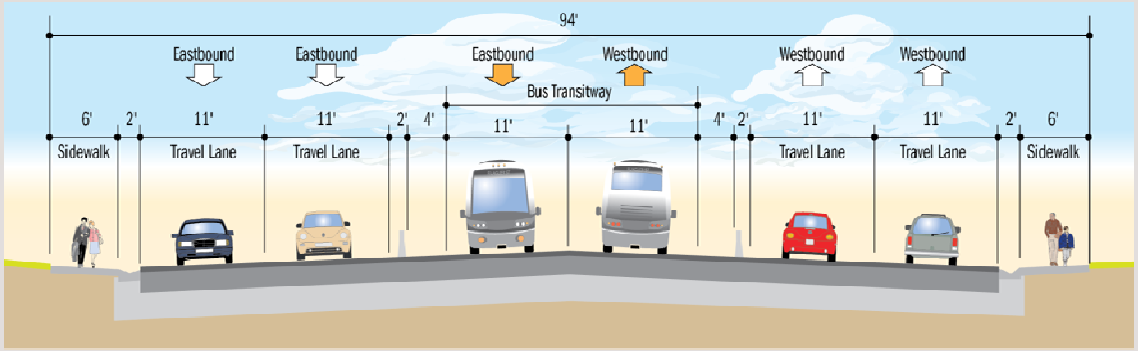
Crafting the Solution – Alternatives



Alternative 8. BRT - Reversible Repurposed Lane

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lane converted to "Bus Only"	More frequent service	Moderate potential impacts to accommodate enhanced stops	Moderate opportunity for new TOD	Consistent with BERT Plan
Moderate right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Maximum pedestrian crossing	Significant potential for ridership increase			Includes multimodal options
Moderate left turn impacts	Increased hours of operation			
Significant safety /enforcement concerns	Ease of access to activity centers			

Crafting the Solution – Alternatives



Alternative 9a. BRT - Exclusive Repurposed Lanes, At-grade Median

Improve Mobility

- Traffic lane converted to "Bus Only"
- No right turn lane interference
- Maximum pedestrian crossing
- Moderate left turn impacts
- Significant safety concerns
- Moderate enforcement concerns

Provide Efficient Transit Service

- More frequent service
- Major improvements to stops
- Significant potential for ridership increase
- Increased hours of operation
- Ease of access to activity centers

Preserve the Environment

- Moderate potential impacts to accommodate enhanced stops

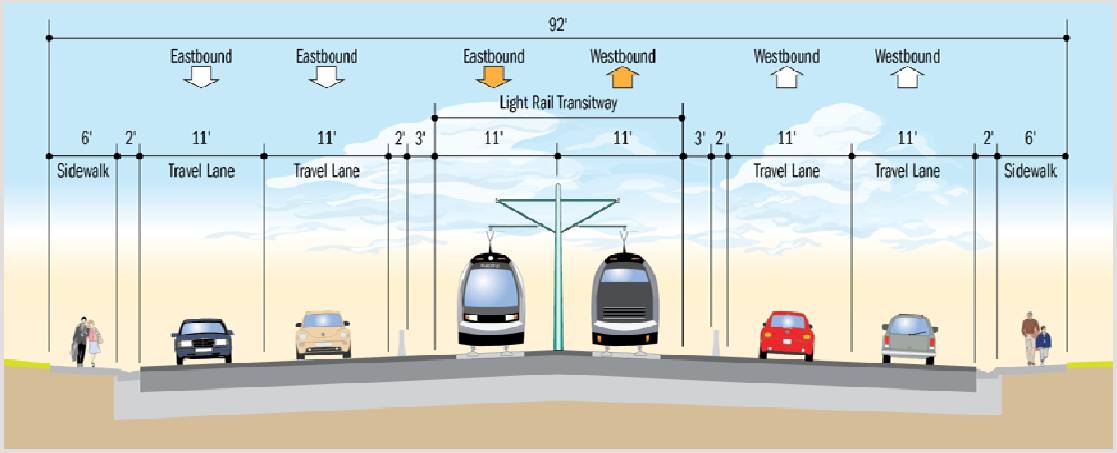
Stimulate Economic Development

- Moderate opportunity for new TOD
- Significant opportunity for existing land use

Achieve Modal Balance

- Consistent with BERT Plan
- Supports walk/bike access
- Includes multimodal options

Crafting the Solution – Alternatives



Alternative 9b. LRT - Exclusive Repurposed Lanes, At-grade Median

Improve Mobility

- Traffic lane converted to "LRT Only"
- No right turn lane interference
- Significant left turn lane impacts
- Maximum pedestrian crossing
- Moderate safety concerns
- No enforcement concerns

Provide Efficient Transit Service

- More frequent service
- Major improvements to stops
- Significant potential for ridership increase
- Increased hours of operation
- Difficulty of access to activity centers

Preserve the Environment

- Significant potential impacts to accommodate enhanced stops

Stimulate Economic Development

- Significant opportunity for new TOD
- Significant opportunity for existing land use

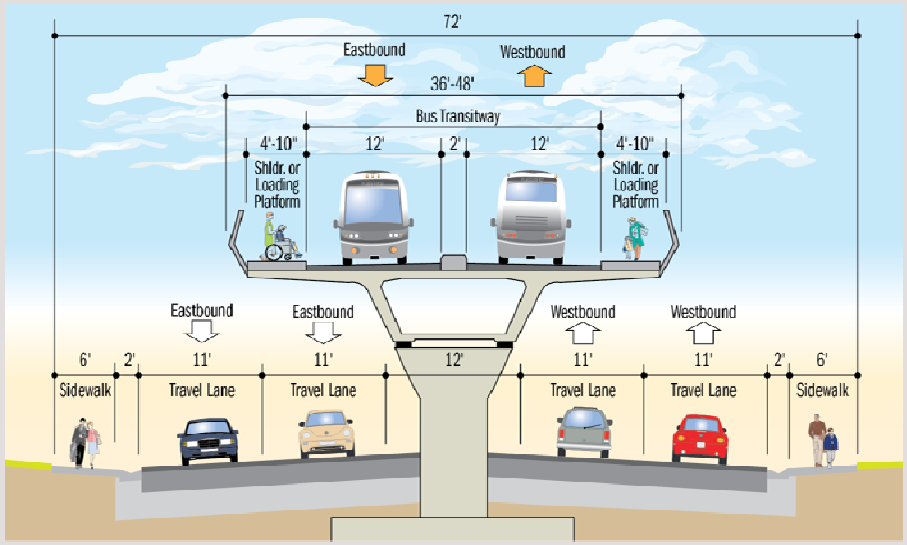
Achieve Modal Balance

- Consistent with LRTP Plan
- Supports walk/bike access
- Includes multimodal options

Crafting the Solution – Alternatives

Improve Mobility

- More frequent service
- Major improvements to stops
- Significant potential for ridership increase
- Increased hours of operation
- Difficulty of access to activity centers
- Significant cost



Alternative 10a. BRT - Exclusive New Lanes, Elevated Median

Stimulate Economic Development

- Significant opportunity for new TOD
- Significant opportunity for existing land use

Provide Efficient Transit Service

- No impact to traffic lanes
- No right turn lane interference
- Moderate left turn lane impacts
- Minimum pedestrian crossing
- Moderate safety concerns
- No enforcement concerns

Preserve the Environment

- No potential impacts to accommodate enhanced stops
- Significant visual impacts

Achieve Modal Balance

- Consistent with BERT Plan
- Supports walk/bike access
- Includes multimodal options

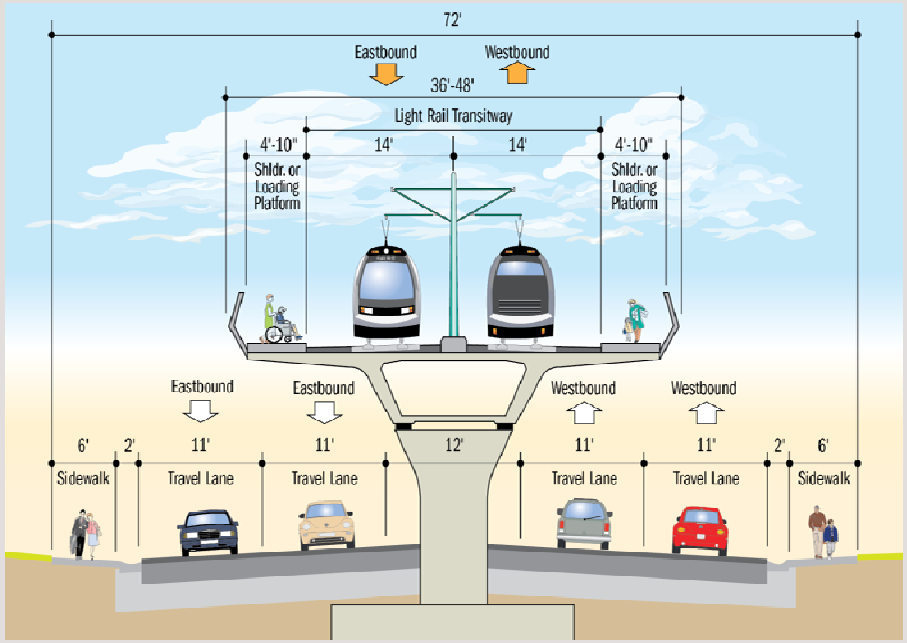
Crafting the Solution – Alternatives

Improve Mobility

- More frequent service
- Major improvements to stops
- Significant potential for ridership increase
- Increased hours of operation
- Difficulty of access to activity centers
- Significant cost

Provide Efficient Transit Service

- No impact to traffic lanes
- No right turn lane interference
- Moderate left turn lane impacts
- Minimum pedestrian crossing
- Moderate safety concerns
- No enforcement concerns



Alternative 10b. LRT - Exclusive New Lanes, Elevated Median

Preserve the Environment

- No potential impacts to accommodate enhanced stops
- Significant visual impacts

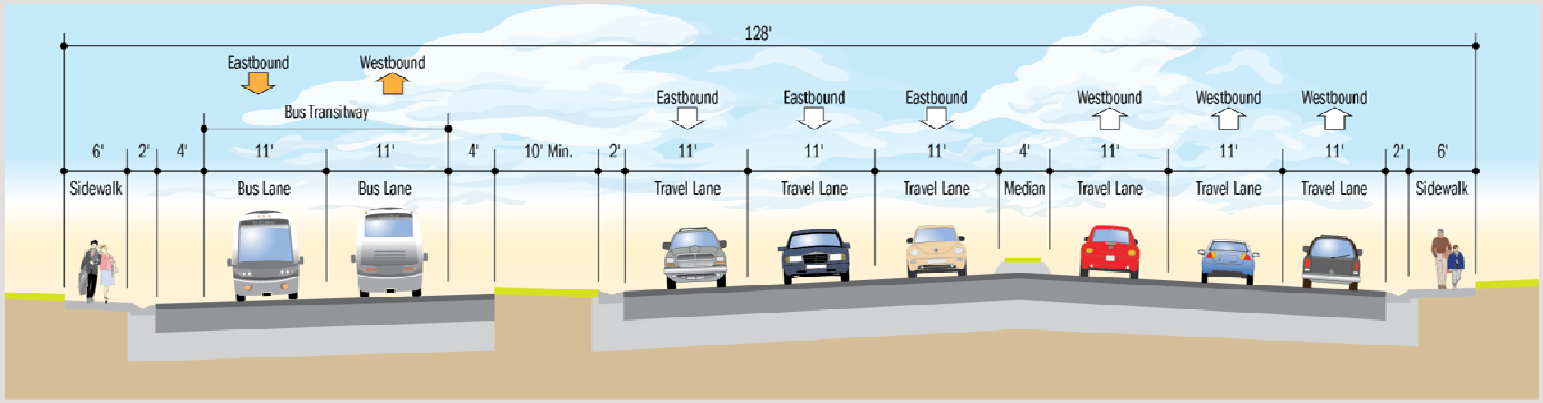
Stimulate Economic Development

- Significant opportunity for new TOD
- Significant opportunity for existing land use

Achieve Modal Balance

- Consistent with BERT Plan
- Supports walk/bike access
- Includes multimodal options

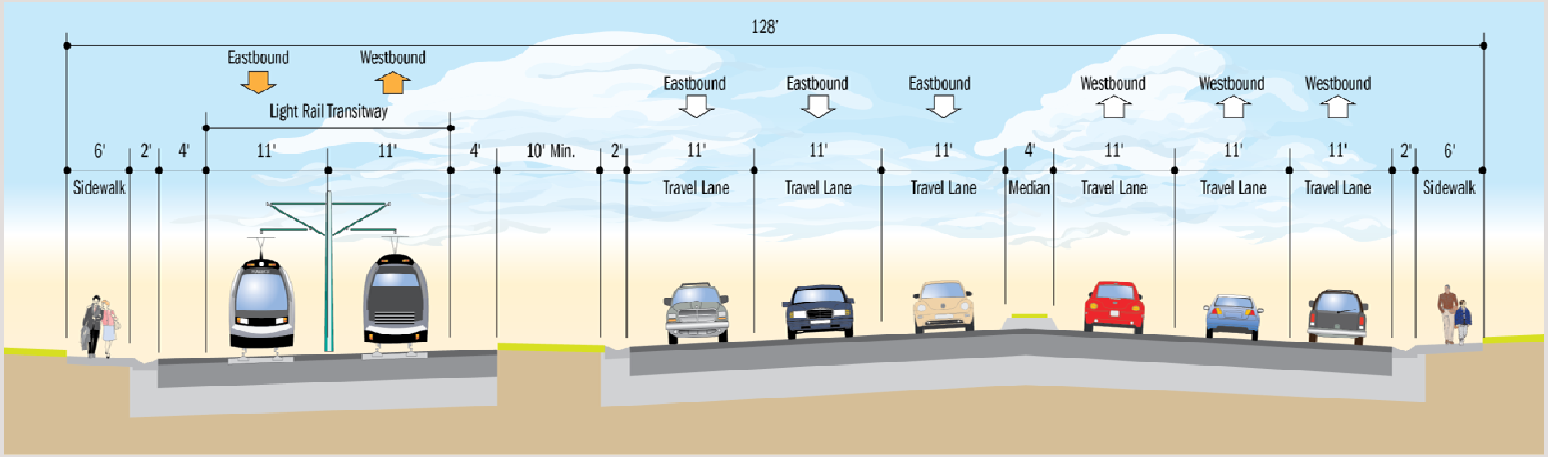
Crafting the Solution – Alternatives



Alternative 11a. BRT - At-Grade, Side-of-Road

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lane converted to "LRT Only"	More frequent service	Significant potential impacts to accommodate enhanced stops	Significant opportunity for new TOD	Consistent with LRTP Plan
No right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Significant left turn lane impacts	Significant potential for ridership increase			Includes multimodal options
Maximum pedestrian crossing	Increased hours of operation			
Moderate safety concerns	Difficulty of access to activity centers			
No enforcement concerns				

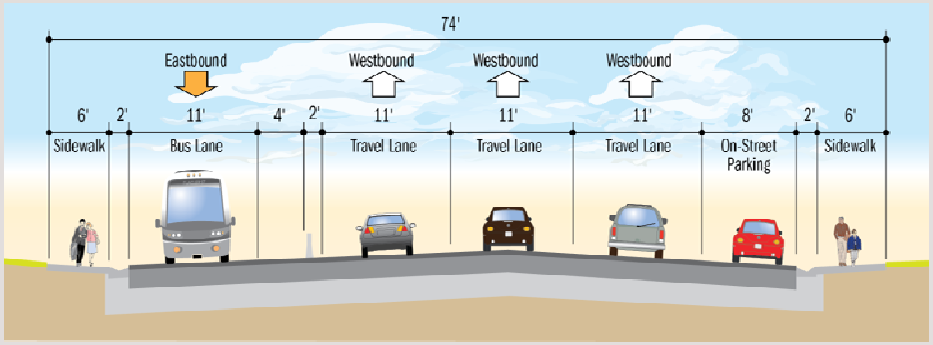
Crafting the Solution – Alternatives



Alternative 11b. LRT - At-Grade, Side-of-Road

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lane converted to "LRT Only"	More frequent service	Significant potential impacts to accommodate enhanced stops	Significant opportunity for new TOD	Consistent with LRTP Plan
No right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Significant left turn lane impacts	Significant potential for ridership increase			Includes multimodal options
Maximum pedestrian crossing	Increased hours of operation			
Moderate safety concerns	Difficulty of access to activity centers			

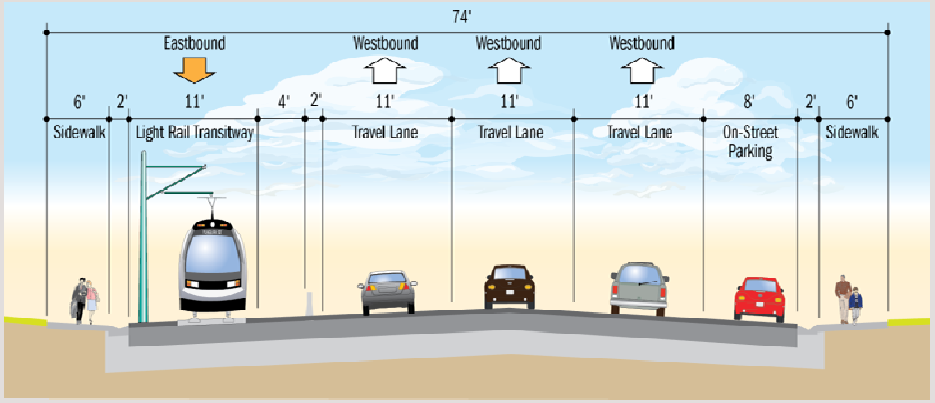
Crafting the Solution – Alternatives



Alternative 12a. BRT - Contraflow, Exclusive Repurposed Lane

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lane converted to "LRT Only"	More frequent service	Significant potential impacts to accommodate enhanced stops	Significant opportunity for new TOD	Consistent with LRTP Plan
No right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Significant left turn lane impacts	Significant potential for ridership increase			Includes multimodal options
Maximum pedestrian crossing	Increased hours of operation			
Moderate safety concerns	Difficulty of access to activity centers			

Crafting the Solution – Alternatives



Alternative 12b. LRT - Contraflow, Exclusive Repurposed Lane

Improve Mobility	Provide Efficient Transit Service	Preserve the Environment	Stimulate Economic Development	Achieve Modal Balance
Traffic lane converted to "LRT Only"	More frequent service	Significant potential impacts to accommodate enhanced stops	Significant opportunity for new TOD	Consistent with LRTP Plan
No right turn lane interference	Major improvements to stops		Significant opportunity for existing land use	Supports walk/bike access
Significant left turn lane impacts	Significant potential for ridership increase			Includes multimodal options
Maximum pedestrian crossing	Increased hours of operation			
Moderate safety concerns	Difficulty of access to activity centers			

Project Description – Study Corridor Now…

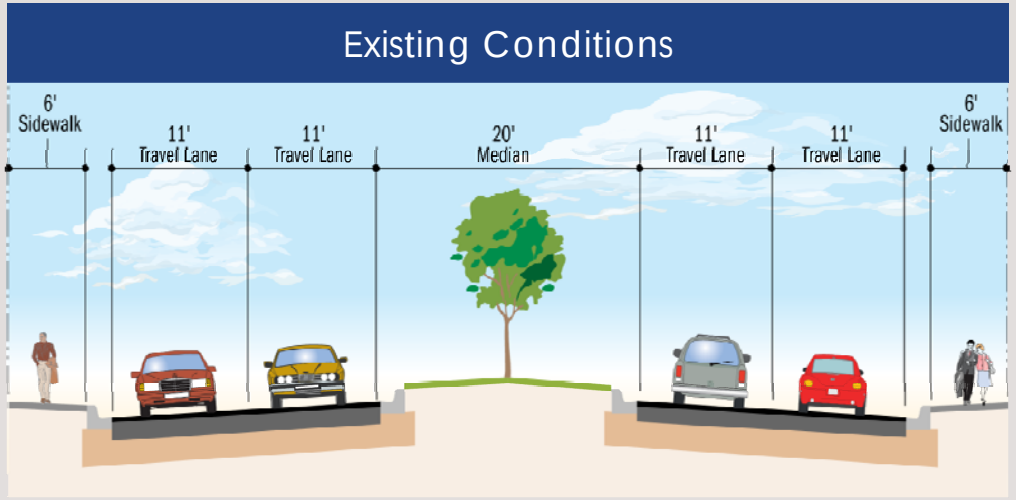
1 SW 107th Avenue from SW 11th Street to North of W. Flagler Street

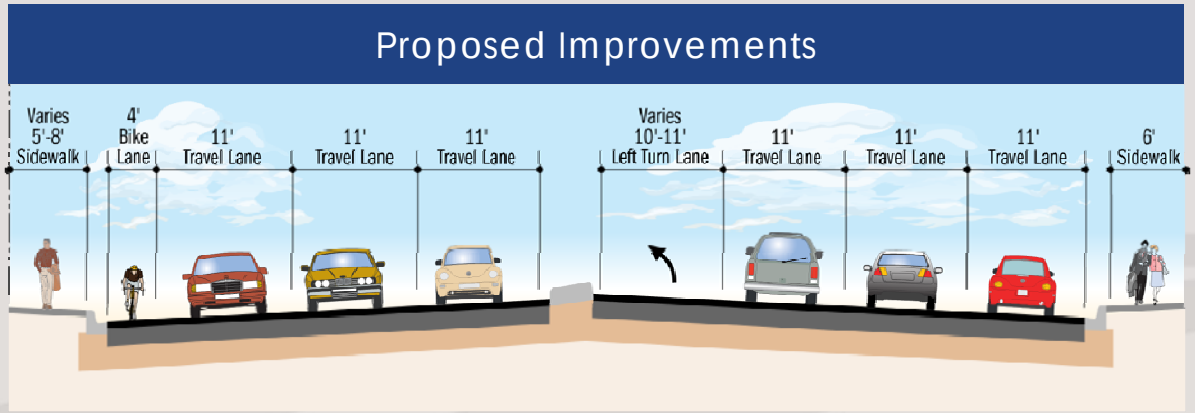
2 W. Flagler Street and SW 1st Street from 27th Avenue to 6th Avenue

Project Description – Study Corridor Now…

1

- New bike lane
- Additional travel lane in each direction
- Additional left turn lanes
- Bridge replacement
- Lighting
- Landscaping

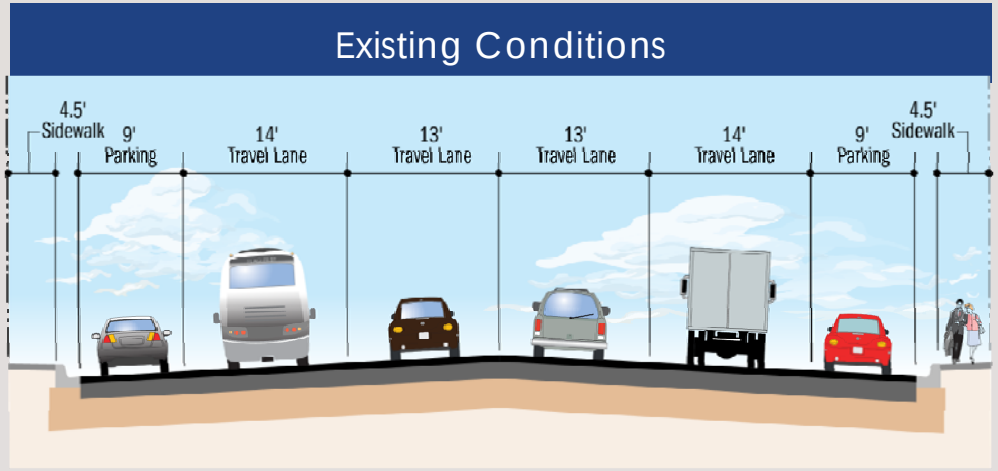


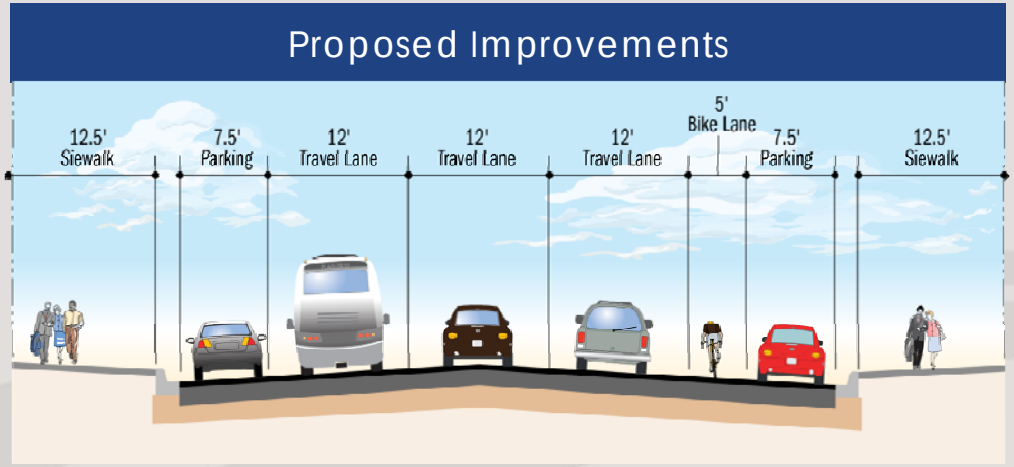


Project Description – Study Corridor Now…

2

- Within Existing ROW
- Wider sidewalks
- New bike lane
- Narrower travel lanes



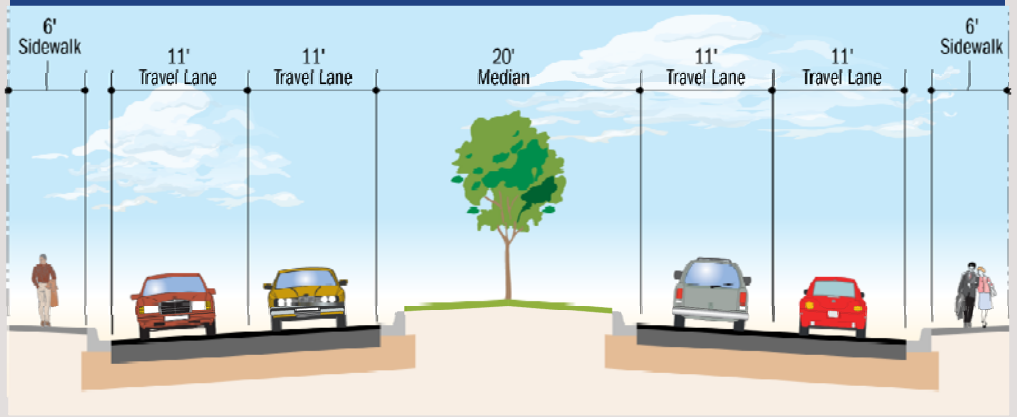


Project Description – Study Corridor Now…

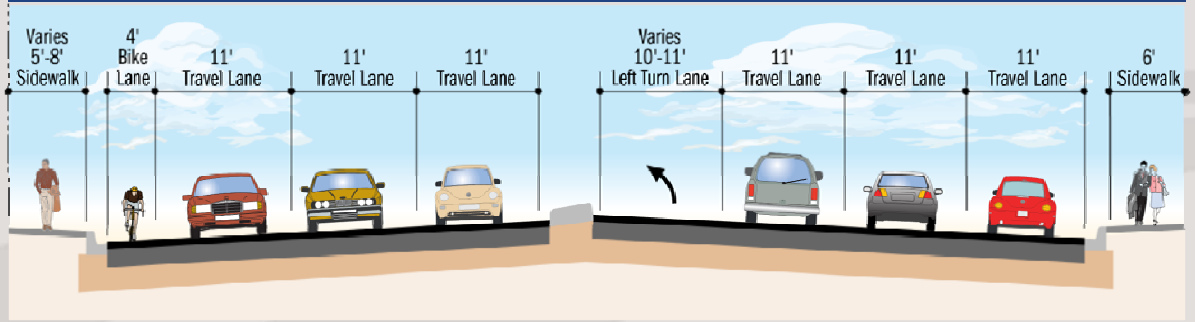
2

- Within Existing ROW
- Wider sidewalks
- New bike lane
- Wider parking width
- Wider travel lanes
- Conversion of EB lane to WB

Existing Conditions



Proposed Improvements



Your Feedback!

- What is important to you?
- Where are the problems?
- What are your concerns?