



DOWNTOWN MIAMI BEACH

Government
Center

South
Pointe

Convention
Center

Downtown
Core

Bay
Islands

Entertainment
District

Beach
Corridor
Transit
Connection
Study

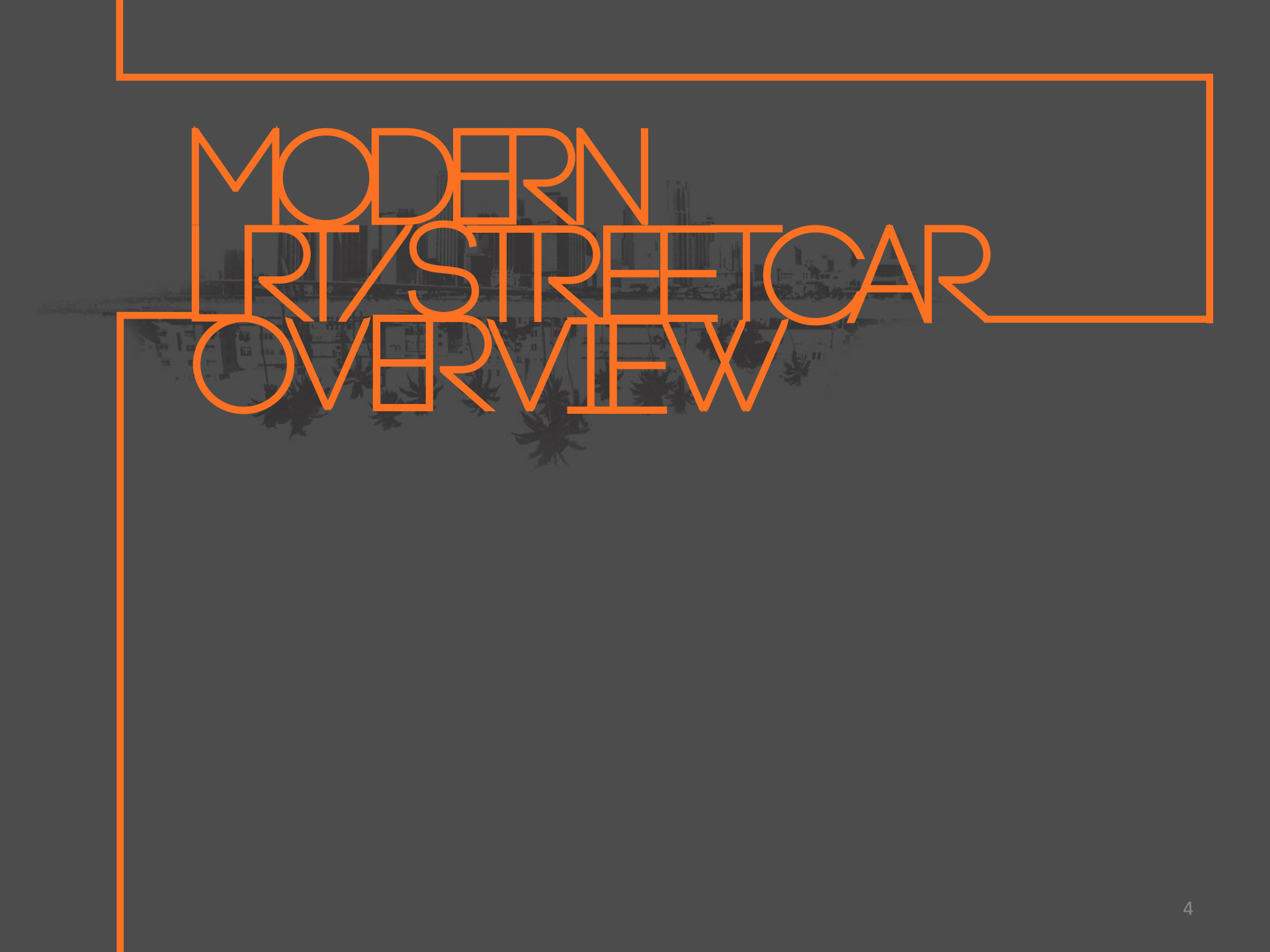
Policy Executive Committee Meeting

April 2, 2014

Today's Agenda



- 
- Modern LRT/Streetcar Overview
 - LPA Refinements and Extensions Review
 - Conceptual Cost Estimates Review
 - TIGER Grant Application
 - Next PEC Meeting Agenda



MODERN LRT/STREETCAR OVERVIEW



Modern LRV/Streetcar Specifications

Capacity: 62 – 231 total

Length: 66 – 105 feet

Width: 7'5", 7'9", 8', or 8'7"

Speeds: 26 – 66 mph (45 – 50 mph most common)

Power: battery, underground, super capacitors (overhead most common)

Wireless car builders: Alstom, Bombardier, Brookville, CAF, Kawasaki, Kinkisharyo, United Streetcar

Wireless Modern LRT



Seville, Spain



Bordeaux, France



Reims, France



Al Sufouh, Dubai

Wireless Modern LRV/Streetcars



Dallas, Texas



Marseille, France



Brookville Liberty Vehicle
(testing wireless)



Zaragoza, Spain

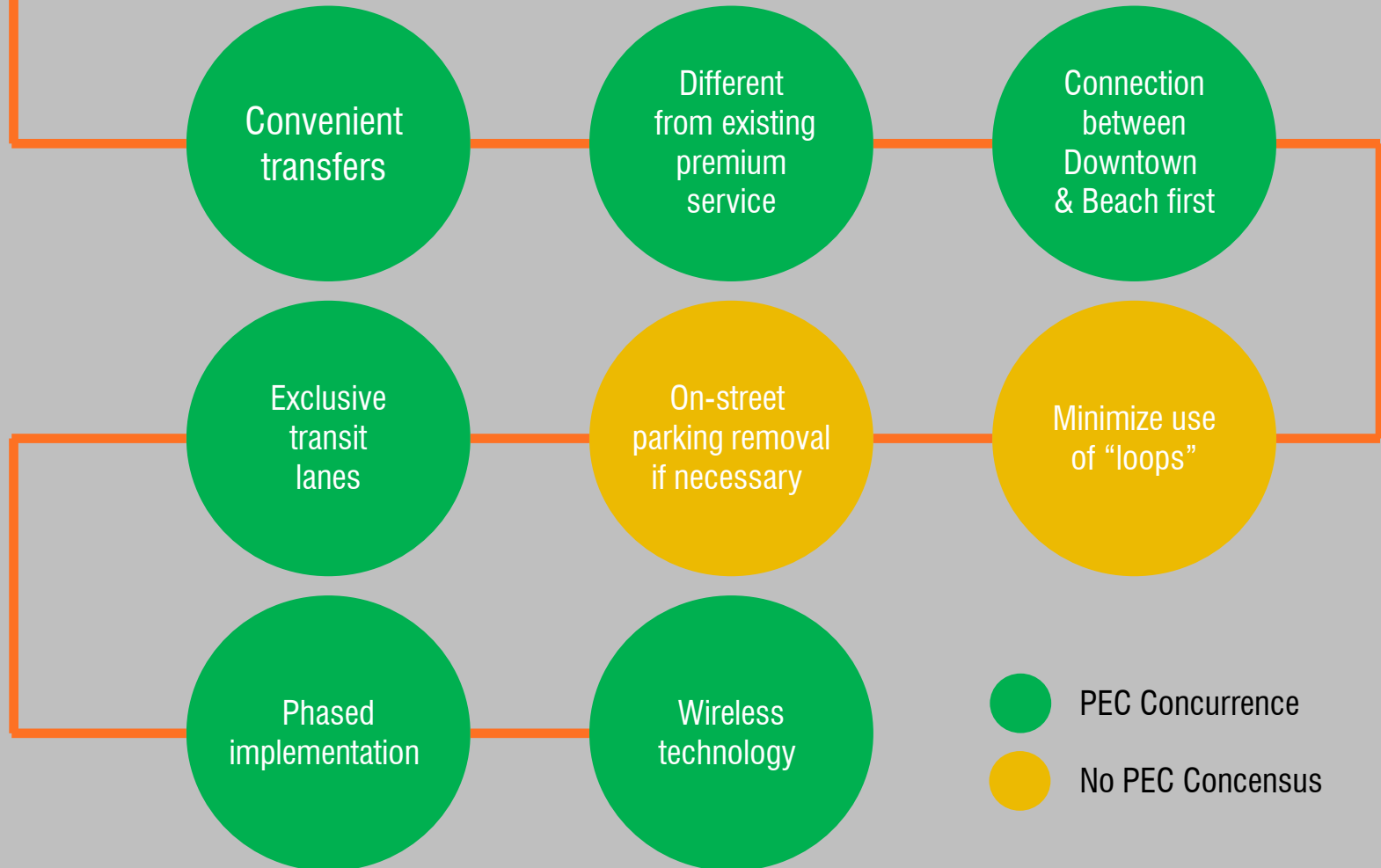


LPA REFINEMENTS AND EXTENSIONS REVIEW

Activities Since Last Meeting

- Met twice with Technical Steering Committee
- Met with Miami Worldcenter developer
- Revised the Downtown alignment
- Narrowed down LPA refined alternatives
- Developed two system-wide alternatives
- Refined the extensions
- Developed capital and operating conceptual costs

PEC/TSC Preferences



2004 Refined LPA Alignment





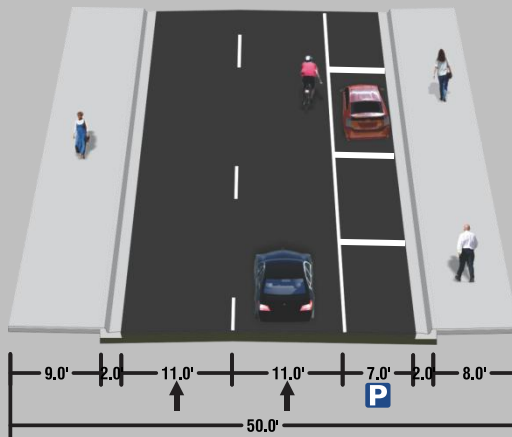
Extension to New Miami Conference Center ★



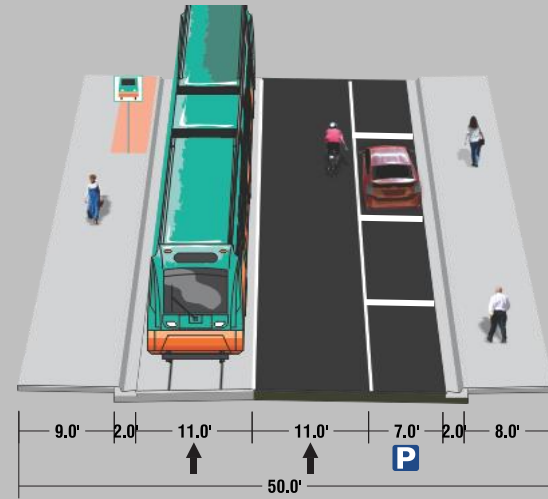
Operational Loop + Alton (OLA) Alternative



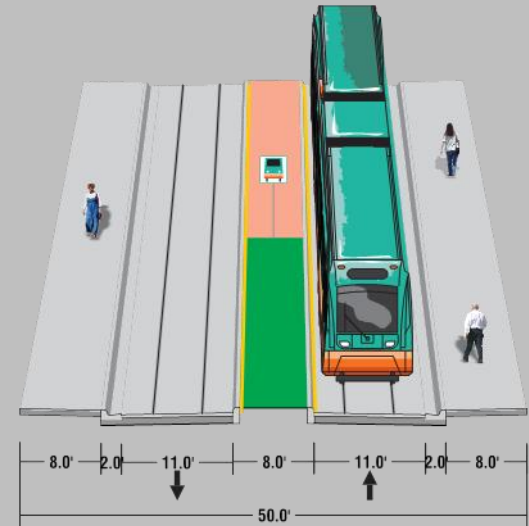
Typical Section NE 2nd Street



Existing

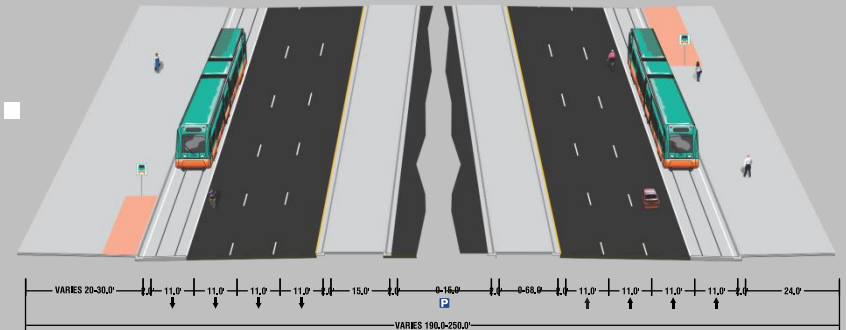


Operational Loop + Alton (OLA)

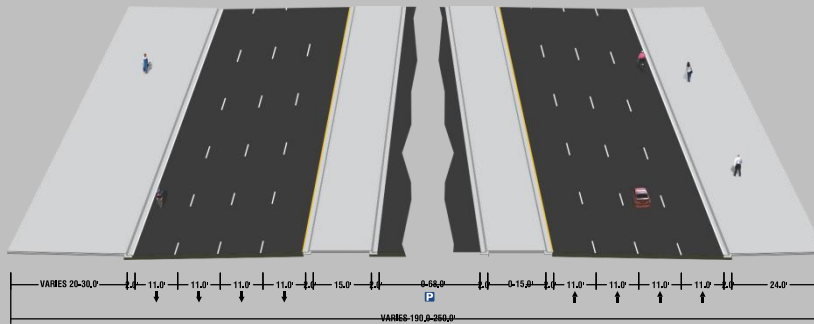


Direct Connection (DC)
"Transit Mall"

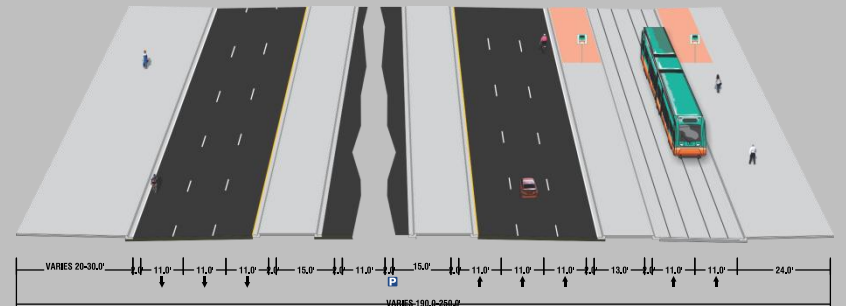
Typical Section Biscayne Blvd.



Option 1: DC & OLA

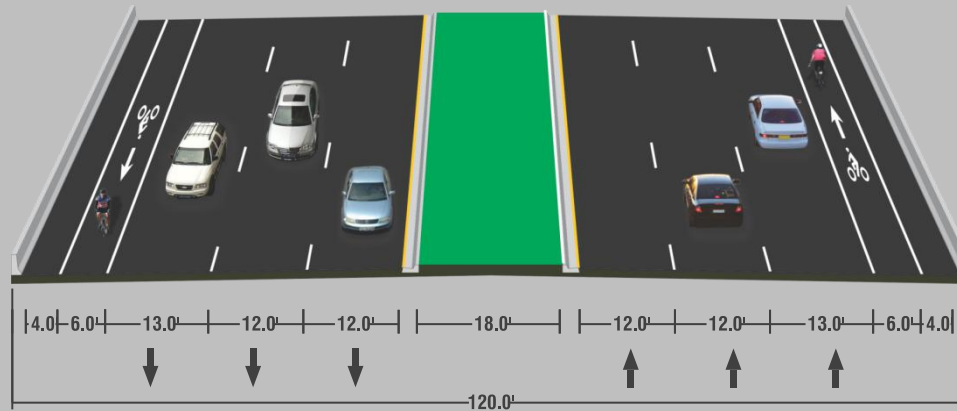


Existing
(from SE 1st St. to NE 6th St.)

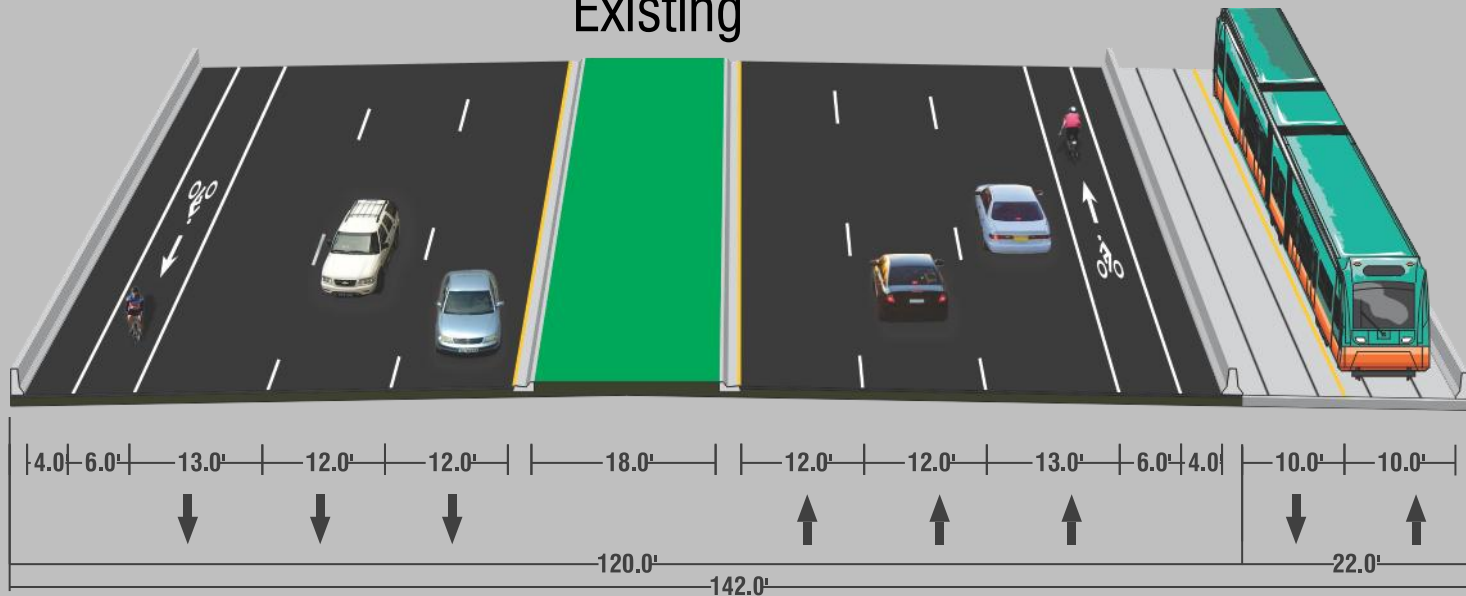


Option 2: DC & OLA

Typical Section MacArthur Causeway

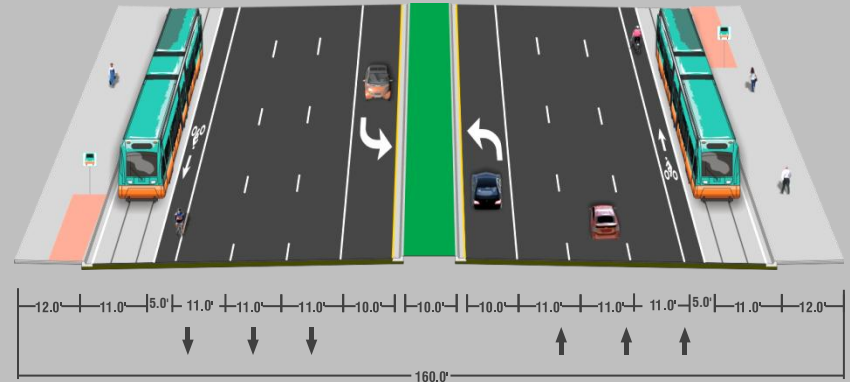


Existing

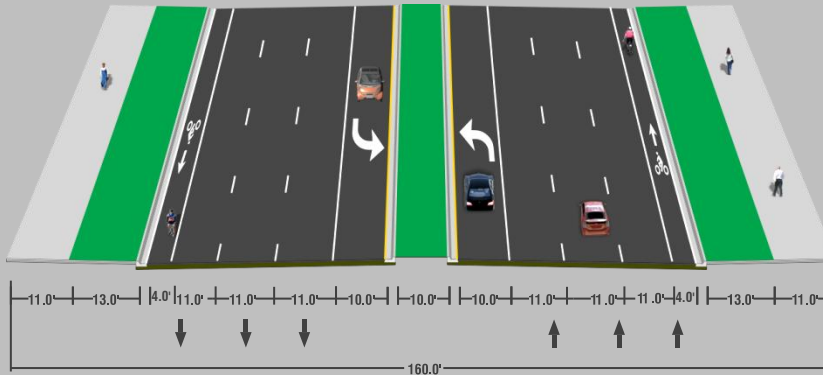


DC & OLA

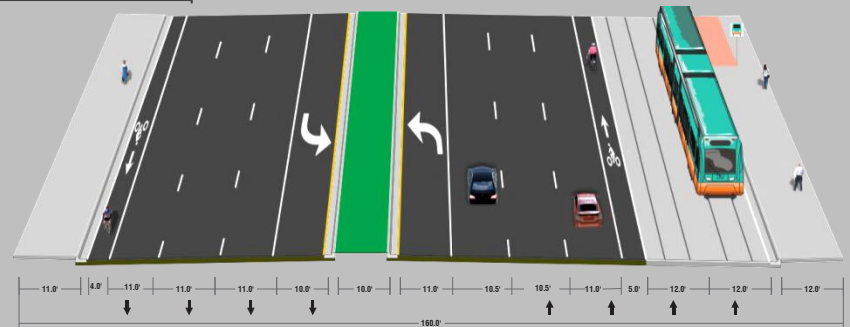
Typical Section 5th Street



Option 1: DC & OLA

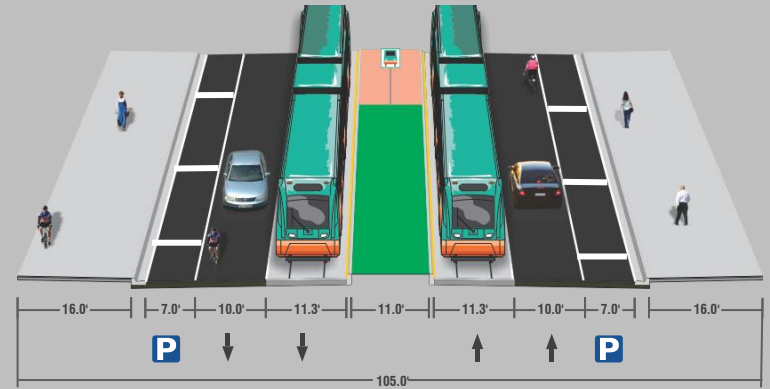
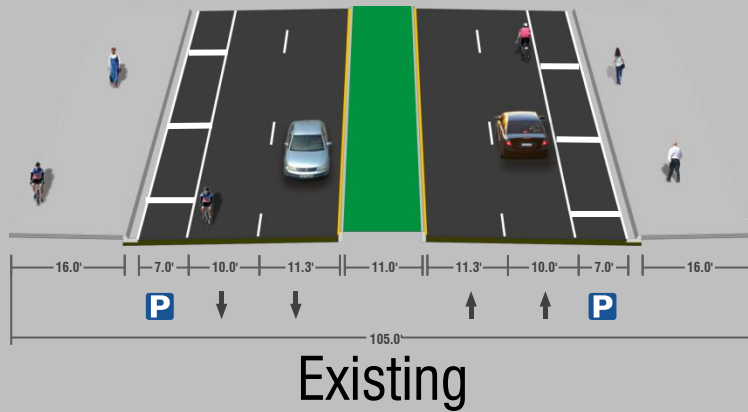


Existing

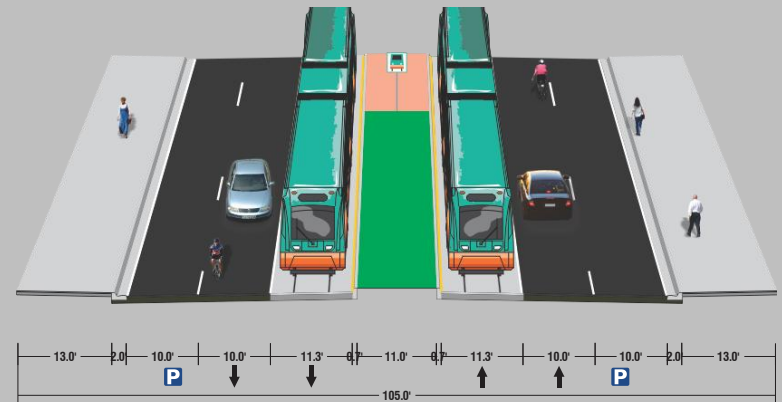


Option 2: DC & OLA

Typical Section Washington Av.

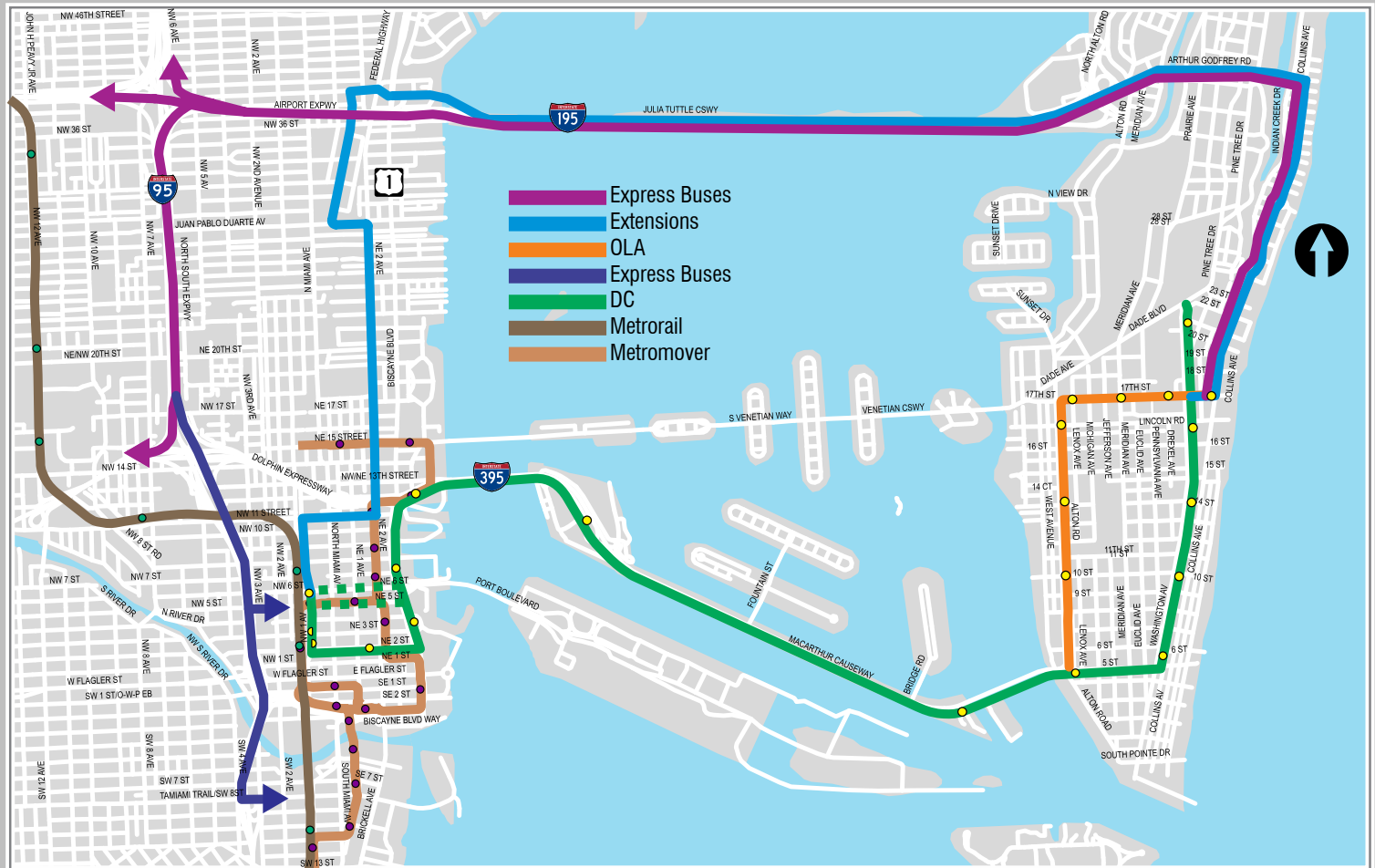


Option 1: DC & OLA

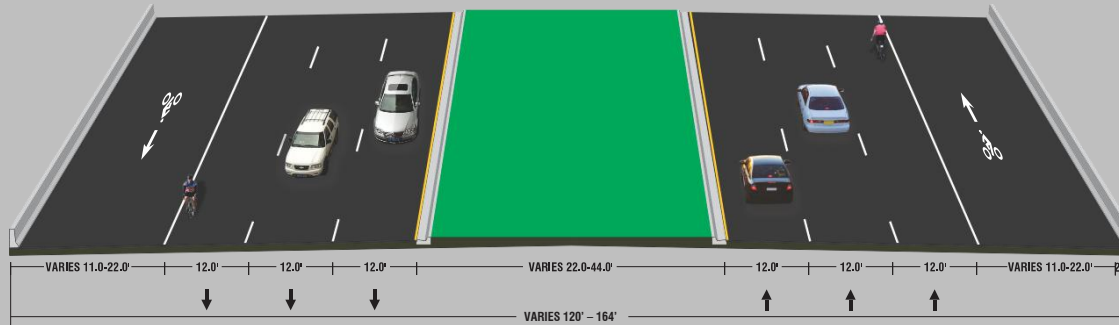


Option 2: DC & OLA

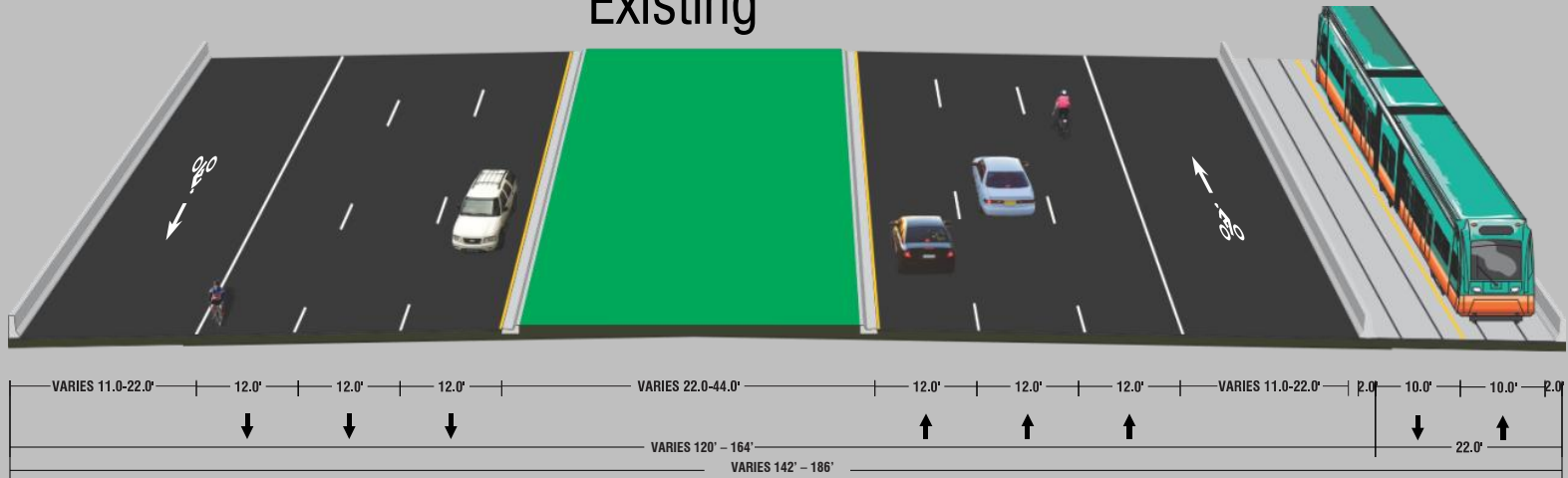
DC & OLA Extensions



Typical Section Julia Tuttle Causeway



Existing



Extension with Train

The background features a grayscale image of a city skyline with palm trees, overlaid with a thick orange border that forms a large 'L' shape. The text 'COST ESTIMATE CONCEPTUAL REVIEW' is written in a large, orange, sans-serif font, positioned in the upper left quadrant of the slide.

COST ESTIMATE CONCEPTUAL REVIEW

Methodology for Updating Capital Costs

Steps to updating LPA capital costs

- FTA capital cost databases for similar projects
- Performed reasonableness tests for cost of major components (structures)
- Cost increases between 2004 and 2013 averaged 55%

Steps to updating refined LPA alternatives and Extensions

- Calculated cost/linear foot (Downtown, Causeway and Beach)
- Estimated lengths of each alternative

2004 LPA Capital Cost

Description	\$2004 (Millions)	\$2013 (Millions)
Guideway Elements	\$135.52	\$210.05
Yards & Shops (Support Facilities)	\$26.57	\$41.18
System Elements	\$70.22	\$108.84
Passenger Stations	\$35.97	\$55.75
Vehicles	\$43.22	\$92.40
Special Conditions	\$38.77	\$60.09
Right-of-Way	\$10.63	\$16.47
Soft Costs	\$121.82	\$188.82
Grand Total:	\$482.71	\$773.60

Refined Alternatives' Capital Cost (\$2013)

	Downtown	Causeway	Beach	Vehicles	Maint. Fac.	Total
2004 LPA	\$149 M	\$208 M	\$217 M	\$ 92 M	\$108 M	\$774 M
DC	\$ 57 M	\$192 M	\$131 M	\$ 44 M	\$108 M	\$532 M
OLA	\$ 54 M	\$192 M	\$ 248 M	\$ 44 M	\$108 M	\$646 M
Extensions	\$124 M	\$264 M	\$101 M	\$ 40 M	*	\$529 M

* Assumes utilizing Phase 1 maintenance facility

Extension Assumptions

- LRT rail vehicle technology for costing
- Express bus costs not included
- Comparable service frequencies as DC
- Comparable rail vehicle speeds on both LPA Refined Alternatives



Refined Alternatives' O&M Cost (\$2012)

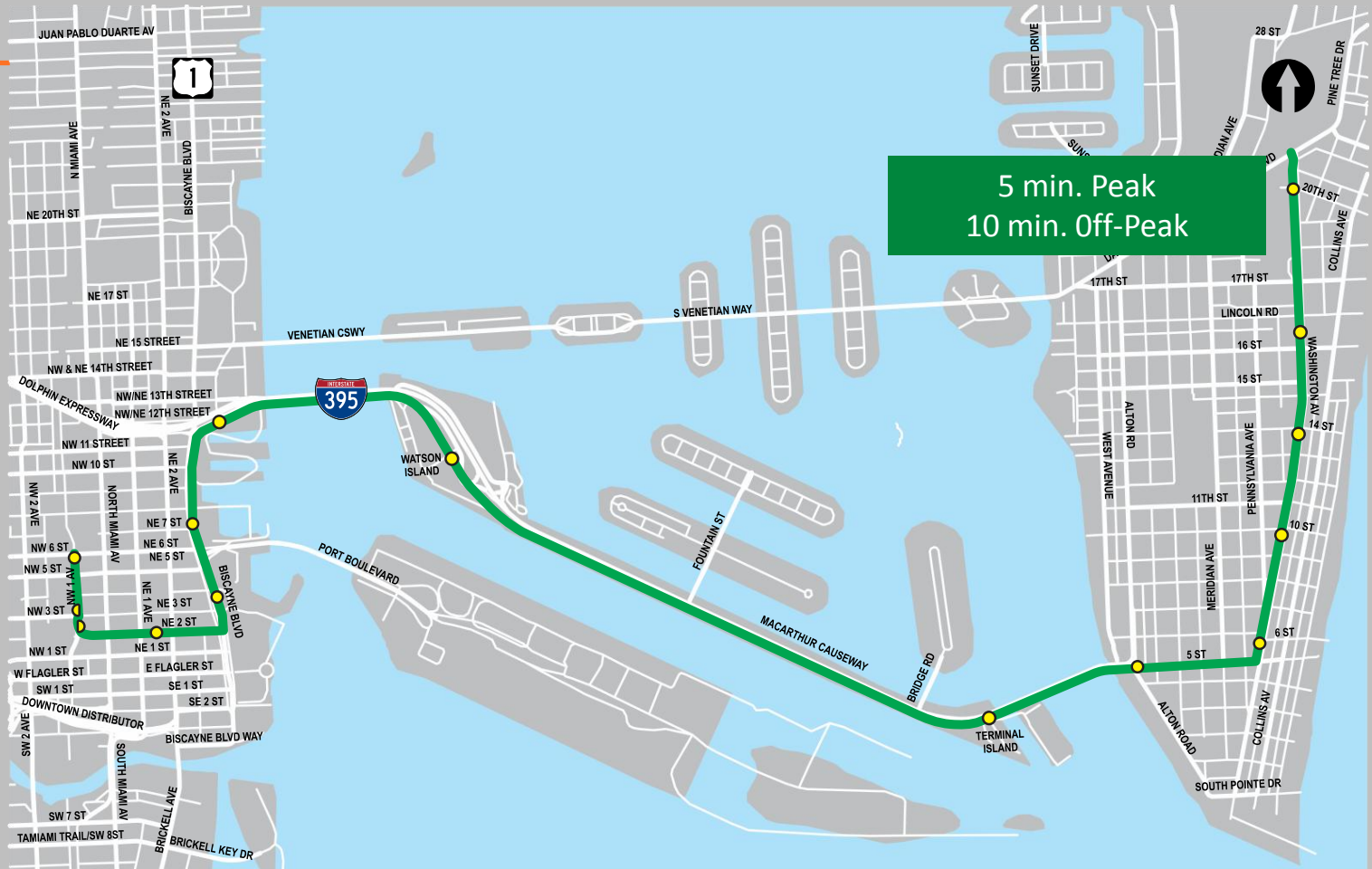
Methodology and Assumptions:

- Calculated new station to station miles, minutes, and speeds
- Assumed fewer stations
- Calculated number of vehicles required based on higher capacity LRT vehicle
- Used Charlotte's 2012 Cost Model for cost factors
- Compared costs to similar LRT systems

Refined Alternatives' O&M Cost Statistics

	2004 LPA	DC	OLA
Number of Routes	3	1	2
Round Trip Distance	30.3 route miles	13.5 route miles	27 route miles
Round Trip Travel Time	55 minutes each for regional routes (35 minutes for Beach Circulator)	41 minutes	41 minutes each route
Number of Stations	42	14	23
Number of Trains	18 in peak 18 in off-peak	8 in peak 4 in off-peak	8 in peak 8 in off-peak

Direct Connection (DC) Operating Plan



A diagram showing a square frame with orange lines. At the top-left corner, there is a white circle with an orange outline. At the bottom-left corner, there is a solid orange circle. The top and bottom horizontal lines of the square extend to the right beyond the vertical line. The left vertical line connects the two circles.



Annual O & M (\$2012) Cost Summary

2004 LPA:

Total: \$45 M

Direct Connection (DC):

Total: \$22 M

Operational Loop + Alton (OLA):

Total: \$34 M

Extensions:

Total: \$28 M

-Collins Avenue

Total: \$ 5 M

-Julia Tuttle

Total: \$14 M

-2nd Avenue

Total: \$ 9 M



TIGER GRANT APPLICATION

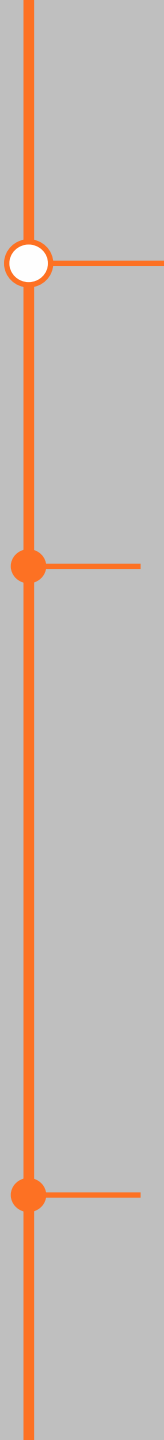
TIGER Grant 2014 Summary

- Notice of Funding Availability (February 25, 2014)
- Allows for planning and capital activities
- Total funding up to \$600M; \$35M set aside for planning
- Planning activities include project-level or regional plans
- Federal participation capped at 80% in urban areas

TIGER Grant 2014

Application Process

- Application submittal deadline is April 28, 2014
- Applicants may submit a maximum of 3 planning applications
- Competitively awarded using selection criteria
 - Infrastructure conditions
 - Economic competitiveness
 - Livability
 - Environmental sustainability
 - Safety
- Additional consideration given to innovation and partnerships



TIGER Grant 2014 Application Proposal

Submit request for Beach Corridor Project Development phase activities

- Conduct NEPA process
- Community outreach
- Ridership forecasts
- Secure funding sources
- Selection of LPA

Partnership between the FDOT, Miami-Dade County, Cities of Miami and Miami Beach, and the MPO

Project Development Funding Proposal

- Estimated Project Cost for Project Development Phase is \$ 3M

- Assume 50% Local Match to be Nationally Competitive

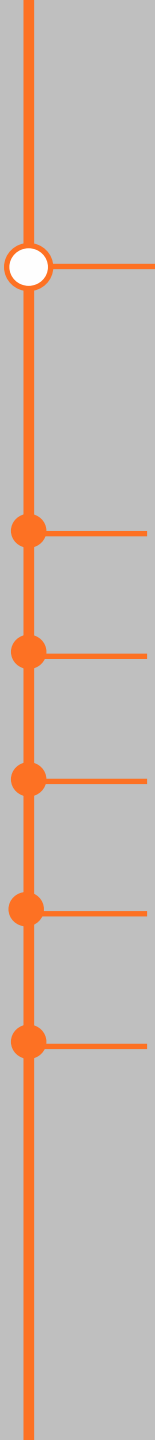
- Maintain Similar Funding Structure from the Current Study

-TIGER	\$ 1,500,000
-FDOT	\$ 750,000
-MDT	\$ 250,000
-City of Miami	\$ 250,000
-City of Miami Beach	\$ 250,000

- Secure Local Match Commitments Prior to Submittal Deadline



NEXT PEC MEETING AGENDA



Next PEC Meeting Agenda Topics

Financial Plan

Wireless Technology Assessment

Maintenance Facility Locations

Revised Station Locations

June 2014