DOWNTOWN MIAMI BEACH
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 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
Brookville Liberty Vehicle (testing wireless)

Marseille, France

Zaragoza, Spain
LPA RFINEMENTS 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

- Convenient transfers
- Different from existing premium service
- Connection between Downtown & Beach first
- Exclusive transit lanes
- On-street parking removal if necessary
- Minimize use of “loops”
- Phased implementation
- Wireless technology

PEC Concurrence

No PEC Concensus
2004 Refined LPA Alignment
Direct Connection (DC) Alternative
Extension to New Miami Conference Center
Operational Loop + Alton (OLA) Alternative
Typical Section NE 2\textsuperscript{nd} Street

Existing

Operational Loop + Alton (OLA)

Direct Connection (DC) “Transit Mall”
Typical Section Biscayne Blvd.

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

Option 1: DC & OLA

Option 2: DC & OLA
Typical Section
MacArthur Causeway

Existing

DC & OLA
Typical Section
5th Street

Existing

Option 1: DC & OLA

Option 2: DC & OLA
Typical Section
Washington Av.

Existing

Option 1: DC & OLA

Option 2: DC & OLA
Typical Section
Julia Tuttle Causeway

Existing

Extension with Train
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

<table>
<thead>
<tr>
<th>Description</th>
<th>$2004 (Millions)</th>
<th>$2013 (Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guideway Elements</td>
<td>$135.52</td>
<td>$210.05</td>
</tr>
<tr>
<td>Yards &amp; Shops (Support Facilities)</td>
<td>$26.57</td>
<td>$41.18</td>
</tr>
<tr>
<td>System Elements</td>
<td>$70.22</td>
<td>$108.84</td>
</tr>
<tr>
<td>Passenger Stations</td>
<td>$35.97</td>
<td>$55.75</td>
</tr>
<tr>
<td>Vehicles</td>
<td>$43.22</td>
<td>$92.40</td>
</tr>
<tr>
<td>Special Conditions</td>
<td>$38.77</td>
<td>$60.09</td>
</tr>
<tr>
<td>Right-of-Way</td>
<td>$10.63</td>
<td>$16.47</td>
</tr>
<tr>
<td>Soft Costs</td>
<td>$121.82</td>
<td>$188.82</td>
</tr>
</tbody>
</table>

**Grand Total:** $482.71  $773.60
### Refined Alternatives’ Capital Cost ($2013)

<table>
<thead>
<tr>
<th></th>
<th>Downtown</th>
<th>Causeway</th>
<th>Beach</th>
<th>Vehicles</th>
<th>Maint. Fac.</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2004 LPA</strong></td>
<td>$149 M</td>
<td>$208 M</td>
<td>$217 M</td>
<td>$ 92 M</td>
<td>$108 M</td>
<td>$774 M</td>
</tr>
<tr>
<td><strong>DC</strong></td>
<td>$ 57 M</td>
<td>$192 M</td>
<td>$131 M</td>
<td>$ 44 M</td>
<td>$108 M</td>
<td>$532 M</td>
</tr>
<tr>
<td><strong>OLA</strong></td>
<td>$ 54 M</td>
<td>$192 M</td>
<td>$ 248 M</td>
<td>$ 44 M</td>
<td>$108 M</td>
<td>$646 M</td>
</tr>
<tr>
<td><strong>Extensions</strong></td>
<td>$124 M</td>
<td>$264 M</td>
<td>$101 M</td>
<td>$ 40 M</td>
<td>*</td>
<td>$529 M</td>
</tr>
</tbody>
</table>

* 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
Extensions (with DC & OLA)
Options & Capital Costs

- **Capital $282 M**
  - 4.2 miles
  - Express Buses
- **Capital $114 M**
  - 1.5 miles
- **Capital $133 M**
  - 2.7 miles

Express Buses
OLA
DC
Metrorail
Metromover
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

<table>
<thead>
<tr>
<th></th>
<th>2004 LPA</th>
<th>DC</th>
<th>OLA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Routes</td>
<td>3</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Round Trip Distance</td>
<td>30.3 route miles</td>
<td>13.5 route miles</td>
<td>27 route miles</td>
</tr>
<tr>
<td>Round Trip Travel Time</td>
<td>55 minutes each for regional routes (35 minutes for Beach Circulator)</td>
<td>41 minutes each route</td>
<td>41 minutes each route</td>
</tr>
<tr>
<td>Number of Stations</td>
<td>42</td>
<td>14</td>
<td>23</td>
</tr>
<tr>
<td>Number of Trains</td>
<td>18 in peak 18 in off-peak</td>
<td>8 in peak 4 in off-peak</td>
<td>8 in peak 8 in off-peak</td>
</tr>
</tbody>
</table>
Direct Connection (DC) Operating Plan
Operational Loop + Alton (OLA)

Operating Plan

Miami Beach Portion
10 min. peak per route
10 min. off-peak per route

Downtown & Causeway Combined
5 min. peak & off-peak
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:
- Collins Avenue
  Total: $ 5 M
- Julia Tuttle
  Total: $14 M
- 2nd Avenue
  Total: $ 9 M

Total: $28 M
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
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
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 Topics

- Financial Plan
- Wireless Technology Assessment
- Maintenance Facility Locations
- Revised Station Locations
- June 2014