CSX East-West Rail Feasibility Study

SAC Meeting # 3
Tuesday August 25, 2015
Agenda

• Introductions
• Recap of SAC Meeting # 2
• MIC to Dolphin Station Alternative
• MOS Recommendation – Open Discussion
• Phase 2 – Future Evolution of Initial MOS
• Phase 2 Development – Open Discussion
• Next Steps
• October SAC Meeting
SAC Meeting # 2 Recap
Study Phasing

Phase 1 - Focus on Evaluating Potential Start-Up Service
• Stations
• Operations
• Ridership
• Infrastructure Needs
• Costs

Phase 2 – Expanded Services Building Off Start-Up Service
• FIU
• Krome Avenue
• Kendall
• Improvements to Start-up Service
Starter Service

Service Parameters

• Minimal lead time starter service
• Serve two key markets
  • Western commuters with destinations along Metrorail
  • Travelers to FIU and Doral
• 46 weekday trains
• 30/60 headways
• Starter service designed for future refinements
• 20-minute max. travel time from Dolphin Station to MIC
• Coordinated timed transfers with Metrorail
MIC to 137th Ave.
Starter Service Options

MIC to 137th Ave.

Attributes
• Allows for single track/passing siding operation
• Minimizes Rolling Stock Needs
• Takes advantage of SFRTA available rolling stock
• Matches existing Metrorail schedule at the MIC
• Serves western portion of the County well

Challenges
• No cushion in operating plan
• On the edge of the Urban Development Boundary
• Greater infrastructure needs
Starter Service Options

MIC to 132nd Ave.
Starter Service Options

MIC to 132nd Ave.

Attributes
• Allows for single track/passing siding operation
• Minimizes Rolling Stock Needs
• Takes advantage of SFRTA available rolling stock
• Matches existing Metrorail schedule at the MIC
• Serves Tamiami neighborhood with a station
• Provides for limited cushion in operating plan

Challenges
• Terminal station in residential area
• Additional infrastructure needs
SAC Recommendations/Conclusions

- Eliminate station at 97th Avenue
- Hold MIC-137th Avenue option for later phase, not as starter service
- Analyze an option terminating at Dolphin Station
Potential Service Option

- MIC to Dolphin Station (122\textsuperscript{nd} and Turnpike)
## Starter Stations Preferences

<table>
<thead>
<tr>
<th>Station Name</th>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dolphin Station</td>
<td>9.4</td>
<td>Park and Ride station available for local residents but primarily for commuters coming from the Turnpike (Up to 1000 parking spaces provided by others)</td>
</tr>
<tr>
<td>107th Ave (SW Doral)</td>
<td>8.0</td>
<td>Primarily a destination station served by connecting buses to provided by the Malls and an FIU shuttle. (assume 0 parking spaces)</td>
</tr>
<tr>
<td>82nd Avenue (SE Doral)</td>
<td>5.5</td>
<td>Walk/Bike and Park and Ride for Residential community to the south and to intense industrial and warehousing employment to the north (assume 300 spaces)</td>
</tr>
<tr>
<td>Miami Intermodal Center</td>
<td>0.0</td>
<td>Transfer to Metrorail Orange Line</td>
</tr>
</tbody>
</table>
## Capital Investment Differences

<table>
<thead>
<tr>
<th>Component</th>
<th>132nd Street Terminal</th>
<th>Dolphin Station Terminal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rehab Mainline Track (Miles)</td>
<td>10.5</td>
<td>9.4</td>
</tr>
<tr>
<td>New Mainline Track (Miles)</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Passenger Stations</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Turnouts Replaced</td>
<td>11</td>
<td>10</td>
</tr>
<tr>
<td>Grade Crossings</td>
<td>17</td>
<td>14</td>
</tr>
</tbody>
</table>
The reduction would save:

- 1.1 miles of track rehabilitation
- Three grade crossings
- One station
MOS Analysis and Recommendations

Schedule Assumptions:

- Minimizes rolling stock and crew needs
- Assumes FRA Class 3 track: 60 mph max speed on most segments
- Service velocity limited by acceleration, braking and dwell times
- Matches existing Metrorail schedules for positive connections
- Uses only one track in the Miami Intermodal Center Station
- Requires a single passing siding that allows peak trains to pass one another
## Preliminary Cost Estimates

<table>
<thead>
<tr>
<th></th>
<th>MIC to 132nd</th>
<th>MIC to Dolphin Station</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Track and Switches</strong></td>
<td>$14,000,000</td>
<td>$13,000,000</td>
</tr>
<tr>
<td><strong>Signals &amp; Communications</strong></td>
<td>$8,000,000</td>
<td>$8,000,000</td>
</tr>
<tr>
<td><strong>Stations</strong></td>
<td>$13,000,000</td>
<td>$10,000,000</td>
</tr>
<tr>
<td><strong>Sitework, Utilities, Environmental &amp; Grade Crossings</strong></td>
<td>$6,000,000</td>
<td>$5,000,000</td>
</tr>
<tr>
<td><strong>Sub-total Construction Elements</strong></td>
<td>$41,000,000</td>
<td>$37,000,000</td>
</tr>
<tr>
<td><strong>Property Acquisition (Stations and Parking)</strong></td>
<td>$28,000,000</td>
<td>$23,000,000</td>
</tr>
<tr>
<td><strong>Vehicles</strong></td>
<td>$0</td>
<td>$0</td>
</tr>
<tr>
<td><strong>Special Conditions, Mobilization, Temporary Facilities</strong></td>
<td>$4,000,000</td>
<td>$3,000,000</td>
</tr>
<tr>
<td><strong>Professional Services</strong></td>
<td>$14,000,000</td>
<td>$14,000,000</td>
</tr>
<tr>
<td><strong>Contingency</strong></td>
<td>$13,000,000</td>
<td>$11,000,000</td>
</tr>
<tr>
<td><strong>Sub-total Non-Construction Elements</strong></td>
<td>$59,000,000</td>
<td>$52,000,000</td>
</tr>
<tr>
<td><strong>Total Capital Cost</strong></td>
<td>$100,000,000</td>
<td>$88,000,000</td>
</tr>
<tr>
<td><strong>Annual O&amp;M Costs</strong></td>
<td>$7,900,000</td>
<td>$7,600,000</td>
</tr>
</tbody>
</table>

ROW costs not included
Preliminary Capital Cost Estimates

• Do NOT include:
  – Right of way from CSX
  – Parking at the proposed Dolphin Station
  – Rolling Stock: Will use Tri-Rail existing fleet
Terminus Station - 132nd Ave. or Dolphin Station

132nd Avenue
✓ Improved accessibility to Tamiami neighborhood
✓ Slightly higher capital cost
✓ Slightly higher O&M cost
✓ Operational objectives achieved

Dolphin Station
✓ Greater operating plan cushion
✓ Less penetration into western neighborhoods
✓ Decision on western terminus at later date
✓ Good regional access
✓ Less than 10% reduction in ridership
Phase 2 – Future Evolution of Initial MOS
Phase 2 – Future Evolution of MOS

Potential Expansion Markets

- FIU Connection
- Western (Krome Avenue) Extension
Phase 2 – Future Evolution of MOS

FIU Connection Considerations and Challenges

• Vehicle technology
• Availability of ROW
• Long-term vision
• How to best serve FIU Campus(s)
• Sweetwater Station
Phase 2 – Future Evolution of MOS

Considerations and Challenges

• Vehicle technology
• Availability of ROW
• Long-term vision
• How to best serve FIU Campus(s)
• Sweetwater Station
Phase 2 – Future Evolution of MOS

Technology Options

• Diesel Light Rail Vehicle
Diesel Light Rail Service

Attributes/Challenges:

• More nimble vehicle allowing for additional stations
• Increase service frequency
• Allows service to expand with demand
• 20 minute peak / 30 minute off-peak headways achievable
• Can be operated on MOS
• Allows for extensions to FIU
• Community/neighborhood compatibility
• Integration with freight
  • Separate track
  • Temporal separation
Phase 2 – Future Evolution of MOS

Technology Options

• Level Boarding
Level Boarding

Attributes/Challenges:

• Reduced dwell time at stations
• Accommodate additional stations
• Full ADA compliance
• Integration with freight
  • High and wide freight cars
  • Retractable edges
Open Discussion
Phase 2 Development
Next Steps

• Complete Phase 1 Final Report – Starter Service Recommendation

• Phase 2 – Fall 2015
  – Develop and evaluate extension options
  – Station Area Concept Plans
  – Visualizations
  – Overall Recommendations

• October 27th 2015 – SAC Meeting # 4