Transit Assets and Opportunities Study

Stakeholders Meeting # 2
The Straz Center for the Performing Arts
Maestro’s Restaurant
Wednesday, January 22, 2014
Welcome

STUDY SPONSORS

• Hillsborough County MPO

• The Tampa Downtown Partnership
Welcome

PROJECT MANAGEMENT TEAM

www.goHART.org
Agenda

• Overview of Stakeholders
  Meeting #1
• Needs Assessment
• Regional Opportunities
Discussion #1

• Which area(s) of Downtown Tampa is the current focus of development?
Discussion #1

Which area(s) of Downtown Tampa is the future focus of development?
Discussion #1

• How would a more robust transit network improve/accelerate the rate of development?
Discussion #1

• How do you feel transit best serves development?

• Moves more people
• Low cost transportation option
• Provides service to uses beyond home and work
Discussion #2

• What is the transit network in Downtown Tampa lacking?

• Limited mobility internally and externally to CBD
• Speed, frequencies, hours of operation
• Difficult transfers
• Lacking of connection to destinations
Discussion #2

- What are the 2 things that could/would make it work better?
  - More consumer oriented
  - Account for Florida weather
  - Inconsistencies in cost of transit passes
  - Market as a “mobility” option for all trips/destinations
Mapping Exercise
Mapping Exercise
Mapping Exercise
Discussion #3

• What role do you see development opportunities playing in possible revenue streams for the transit network?

• Incentivize mixed-use opportunities
• Changes to parking requirements that allow developers to use funds to support transit
• Sponsorships, naming rights
• P3s, Joint Ventures
Discussion #3

In your opinion(s) does transit network enhance the development or does the development enhance the transit network?
Discussion #3

- Do you think development opportunities should be used to assist in attracting other inter-city systems currently under construction (e.g. SunRail, All Aboard Florida)?

- Transit will act as a catalyst, but
  - Pedestrian experience needs to be improved
  - Simplify the system
  - Needs to be comfortable and safe
Status of the Needs Assessment
Purpose

• Evaluation of Transit Operations
  • Time of Day
  • Route Structure
• Identification of Under-Served Markets
• Basis for Opportunities Assessment
Methodology

• Element 1
  • Assessment of Transit Service in the Central City Area of Tampa
    • Movement of Residents, Employees, and Visitors

• Element 2
  • Assessment of Regional Connections
    • Access Between the Central City Area of Tampa and Areas More Distant (County and Regional)
Element 1
Transit Operations Assessment

- Assessment of Existing Transit Coverage
  - Portion of the Central City Area within a “Reasonable” Transit Trip
- Assessment of Service to Existing Population and Activity Centers Within the Central City
  - Residential, Retail, Employment, Entertainment
• Need to Model the Transit Network

• GTFS Format Developed By Google in 2007 to Support Web-Based Transit Mapping Applications
  • Includes Current Routes, Stops, Calendars, Schedules, Transfers, Trips

• ESRI is Currently Developing an Extension of their Network Analysis Tool that Uses GTFS Data
  • Create A Map of the Area Accessible by Transit on Any Given Day at Any Given Time
Travel-shed originating FROM the MTC
Wednesday
4:00 am through 12:15 am

• Every 30 minutes
• Walking plus transit
Travel-shed traveling TO the MTC
Wednesday
4:00 am through 12:15 am
• Every 30 minutes
• Walking plus transit
Identification of Existing Population and Activity Centers

- Location and Intensity of Use
- Distinct Use in Downtown Serviced by Transit
  - Residential
    - Daily Needs
  - Workers
    - Access In and Out
    - Mid-Day Attractors
  - Tourists
    - Special Events
    - Major Attractors
Element 2

- Assessment of Connections Beyond Central City Area
- Expand the Assessment of Existing Population and Activity Centers to County Level
  - Draw from Previous Work
    - Consider Travel Demand
    - Consider Congestion Analysis
    - Consider Travel Times
Elements of Previous Studies

<table>
<thead>
<tr>
<th>Roadway</th>
<th>2006 V/C</th>
<th>2035 V/C</th>
<th>% Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>7th Avenue @ Nebraska Avenue</td>
<td>1.43</td>
<td>1.6</td>
<td>11.9%</td>
</tr>
<tr>
<td>Interstate 4 @ Interstate 275</td>
<td>2.34</td>
<td>2.81</td>
<td>20.1%</td>
</tr>
<tr>
<td>Nebraska Avenue @ Martin Luther King, Jr. Boulevard</td>
<td>0.4</td>
<td>1.39</td>
<td>247.5%</td>
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<tr>
<td>Hillsborough Avenue @ Interstate 275</td>
<td>1.46</td>
<td>2.31</td>
<td>58.2%</td>
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<tr>
<td>Sligh Ave @ Interstate 275</td>
<td>1.07</td>
<td>1.59</td>
<td>48.6%</td>
</tr>
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<td>Busch Boulevard @ Interstate 275</td>
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<td>1.79</td>
<td>27.0%</td>
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<tr>
<td>Nebraska Avenue @ Sligh Avenue</td>
<td>0.7</td>
<td>1.66</td>
<td>137.1%</td>
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<tr>
<td>Fowler Avenue @ Interstate 275</td>
<td>2.11</td>
<td>2.46</td>
<td>16.6%</td>
</tr>
<tr>
<td>Bruce B. Downs Boulevard @ Fletcher Avenue</td>
<td>1.33</td>
<td>2.03</td>
<td>52.6%</td>
</tr>
<tr>
<td>Fletcher Avenue @ Bruce B. Downs Boulevard</td>
<td>1.76</td>
<td>2.31</td>
<td>31.3%</td>
</tr>
<tr>
<td>Interstate 4 @ 50th Street</td>
<td>0.87</td>
<td>1.49</td>
<td>71.3%</td>
</tr>
<tr>
<td><strong>Average V/C Ratio</strong></td>
<td><strong>1.29</strong></td>
<td><strong>1.85</strong></td>
<td><strong>68.5%</strong></td>
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Regional Opportunities
Goals and Objectives

• **GOAL** – Create a regional transit network maximizing the TECO Line Streetcar System.

• **OBJECTIVE** – Identify projects for the 2040 LRTP

• **OBJECTIVE** – Identify projects for the 2014 HART TDP
Goals and Objectives

- **GOAL** – Maximize utilization of existing transit assets and expand service markets.
  - **OBJECTIVE** – Identify opportunities along existing freight rail corridors.
  - **OBJECTIVE** – Identify opportunities for effective integration of technologies (rail and bus).
  - **OBJECTIVE** – Identify rail technologies that maximize flexibility existing rail lines.
Regional High-Capacity Transit Plans

- Existing
  - TECO Line Streetcar System
  - HART Metro Rapid

- Proposed Plans
  - Hillsborough County MPO (2035, 2040 strategy B&C)
  - HART Metro Rapid East-West
  - FDOT Express Lanes Master Plan
  - TIA People Mover
  - SunRail/All Aboard Florida
  - TBARTA

- Stakeholder Meeting #1 input
Potential Rail Investment
General Mode & Vehicle Considerations

- Ridership:
  - Service frequency
  - Vehicle capacity
  - Train size

- Performance:
  - Acceleration and braking
  - Maximum speed

- Compliance:
  - FRA
  - ADA
  - Buy America
  - EPA

- Other Benefits & Constraints
- Cost
<table>
<thead>
<tr>
<th><strong>High-Capacity Transit Modes</strong></th>
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</thead>
<tbody>
<tr>
<td><strong>WHAT ARE OUR HIGH-CAPACITY OPTIONS FOR TRANSIT?</strong></td>
</tr>
<tr>
<td><strong>WHAT IS IT, WHERE DOES IT GO, AND WHEN DO I USE IT?</strong></td>
</tr>
<tr>
<td><strong>HOW MANY PEOPLE CAN IT CARRY PER HOUR DURING RUSH HOUR?</strong></td>
</tr>
<tr>
<td><strong>HOW FAST DOES IT GO ON AVERAGE?</strong></td>
</tr>
<tr>
<td><strong>HOW OFTEN DOES IT STOP?</strong></td>
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<tr>
<td><strong>WHEN CAN I GET ON?</strong></td>
</tr>
<tr>
<td>Commuter Rail</td>
</tr>
<tr>
<td>Light Rail</td>
</tr>
<tr>
<td>Bus Rapid Transit</td>
</tr>
<tr>
<td>Express Bus</td>
</tr>
</tbody>
</table>
High-Capacity Transit Vehicles

Commuter Rail:
Diesel Multiple Unit (DMU)

Commuter Rail:
Locomotive Hauled Coach (LHC)

Light Rail Transit

URNS
Commuter Rail: LHC

**Ridership**
- 30 min peak & 45/60 min off peak
- Longer station spacing
- Commuter service, emphasis on park-and-rides
- Larger, heavier than LRT & DMU
- High passenger capacity for price

**Performance**
- Performance proportional to train length
- Dedicated ROW so can go faster
- Higher max speed of over 110 mph if conducive
- Braking is a challenge for short trains

**Compliance**
- FRA Compliant: share ROW or track with freight, crash worthy
- ADA: special level boarding platforms
- Buy America: numerous suppliers
- EPA: Diesel, upgraded, 2 mpg typical

**Other Benefits & Constraints**
- Most common, proven
- Turning radius is larger, cumbersome
- Purchase locomotive (new or used) and coaches (single or double)
- Noise & Vibration is higher than LRT & DMU
- Not much ROW required, but dedicated
- Least cost, longer distances
- Self powered

**Ridership**
- Amtrak, Miami, California, Dallas-Fort Worth, New York, Albuquerque, Denver, Seattle
Commuter Rail: DMU

- **Ridership**
  - 30 min peak & 45/60 min off peak
  - Longer station spacing
  - Commuter service, emphasis on park-and-rides
  - Larger, heavier than LRT, lower profile, smaller than LHC, single or double-decker
  - Economical for smaller passenger volume

- **Performance**
  - Distributed power – performance does not degrade with train length
  - Faster acceleration and deceleration
  - Dedicated ROW so can go faster
  - Lower max speed of over 90 mph if conducive

- **Compliance**
  - FRA Compliant: share ROW or track with freight, FRA waivers needed
  - ADA: some require level boarding platform
  - Buy America: limited suppliers
  - EPA: Diesel, meet standard, 1 mpg typical

- **Other Benefits & Constraints**
  - Least common
  - Turning radius is same as LHC, cumbersome
  - More human scale, TOD potential increases
  - Noise & Vibration is lower than LHC
  - Not much ROW required, but dedicated
  - Longer distances
  - Self powered
  - Greater fuel efficiency
  - Austin, Denton, Portland, San Diego
Light Rail Transit (LRT)

- **Ridership**
  - 10/20 min peak & 20/35 min off peak
  - Shorter station spacing
  - Commuter & urban service, park-and-rides & walk-up stations
  - Smallest profile
  - Highest cost generally

- **Performance**
  - Fast acceleration and deceleration
  - Dedicated or shared ROW
  - Lowest max speed of over 55 to 65 mph if conducive

- **Dallas, Charlotte, Portland, Salt Lake**

- **Compliance**
  - FRA Compliant: can NOT share track with freight, share ROW requires crash walls, NOT FRA compliant
  - ADA: newer models are low floor, compliant
  - Buy America: numerous suppliers, compliant
  - EPA: Electric, no standard needed, 0 mpg

- **Other Benefits & Constraints**
  - Common, proven technology
  - Turning radius is smaller, more nimble
  - Most human scale, TOD potential increases
  - Noise & Vibration is lower than LHC & DMU
  - ROW required, can be dedicated or shared
  - Shorter distances, typically
  - Electrified with overhead catenary and substations, greater fuel efficiency
Comparison of Vehicles: Cost and Capacity

**Bi-Level LHC**
- Length: 240’
- Seats: 280
- Cost: ~$6 to $7.5 million (new coaches, used loco)

**DMU Not Compliant**
- Length: 270’
- Seats: 200
- Cost: ~$6 to $10 million

**DMU Compliant**
- Length: 270’
- Seats: 200
- Cost: ~$15 to $20 million
Types of Rail Stations

- Walk-up Station
  - No parking available
  - Densely populated areas or TODs
  - At major activity center
  - Constrained ROWs
  - Closer to downtown areas
  - Good walkability
  - Similar to Tampa Streetcar
Types of Rail Stations: Walk-Up
Types of Rail Stations

- **Park-and-Ride Station**
  - Catch a large area of riders
  - Parking and drop off available
  - Suburban areas
  - Near major roads or highways
  - Available ROWs
  - Connection to pedestrian and bike trails
Types of Rail Stations: Park-and-Ride
Types of Stations: Aerial
Figure 2-11: Travel Demand Patterns Within the Study Area

Year 2006

Year 2035

Legend:
- Red lines: All Trips Between Districts
  - 6,000
  - 20,000
  - 50,000

- Yellow circles: All Trips Within Districts
  - 6,000
  - 20,000
  - 50,000
Why North Corridor?
Why North Corridor?

- Major activity centers – USF, University Hospital, VA, Moffet Cancer Research Facility, Busch Gardens, Seminole/Tampa Heights neighborhoods, Ybor City
- Existing freight rail ROW
- Redevelopment/Infill development: Ybor City, East Tampa, Sulfur Springs & Florida (historic streetcar path)
- Work trips: Downtown, USF, Hospitals, Busch Gardens, Ybor City
- Live/Play trips: Downtown, Ybor City, Busch Gardens, Seminole Heights
- Extend to: north suburban communities, Pasco County BRT east-west corridor, west on CSX to West Chase and Pinellas
North Corridor

CR: 11 miles
- 3 Park-and-Rides
- 2 Walk-Up stations
- CR in CSX ROW sharing track
- Serves: Downtown, Ybor, Hillsborough, Bush Gardens, USF
- Travel time USF from Downtown: 35 min

LRT: 11 miles
- 9 Park-and-Rides
- 1 Walk-Up
- LRT in-street (Florida)
- Serves: Downtown, Tampa Heights, Busch Gardens, Tampa Industrial Park, USF
- Travel time USF from Downtown: 36 min
Why West Corridor?

- Major activity centers – Westshore largest by square footage office complex in state, TIA, WMC
- Work trips: Downtown, Westshore, TIA
- Live/Play trips: Downtown, UT, TIA, Westshore
- Future Extensions: Pinellas County, South Peninsula (Hyde Park, AFB), Veterans
West Corridor

- CR: 5 miles
  - 1 Park-and-Rides
  - 1 Walk-Up
  - 1 Aerial
- In I-275 ROW
- Serves: Downtown, WMC, Armenia, TIA
- Travel time WMC from Downtown: 14 min

- LRT: 5 miles
  - 4 Park-and-Rides
  - 4 Walk-Up
- LRT in-street (Cypress)
- Serves: Downtown, UT, Armenia, Dale Mabry, WMC, TIA
- Travel time WMC from Downtown: 18 min
Suggested Next Meetings

- Meeting #3: week of February 17, 2014
- Public Meeting #1: Early March 2014
- Meeting #4: week of March 17, 2014