Hillsborough County
MPO Transit Study
Transit Concept for 2050
November 2007
Transit Technologies
Technologies Considered

- Bus
- Light Rail
- Commuter Rail
Bus

- Standard or articulated high-capacity vehicles
- Special lanes or signal priority – Bus Rapid Transit
- Advantage of flexible service
- Congestion problem

Capacity of about one new arterial lane
Commuter Rail

- Locomotive pulling passenger cars
- Shares freight tracks
- Flexible capacity
- Peak hour service
- Long haul or suburb to city
- Needs to run flat and straight

Capacity of about one new lane of Interstate
Light Rail

- Powered from above by electric wires
- Has its own tracks
- Frequent service
- All day service
- Suburb to city and urban area travel
- Quick acceleration
- Can climb and turn

Capacity of about four new arterial lanes
Congested travel is projected to increase by 1,000% by 2050.

Average commute time for vehicles would triple.

Rail transit provides reliable trip times that don’t change.

Bus transit can also do this in exclusive or special purpose lanes.
Study Summary
MPO Transit Study Process

Identify
Needs And Opportunities
June

Analyze
Transit Concepts
August

Recommend
Transit Concept For 2050
October
Transit Concept For 2050 Brochure

Overview

The MPO Transit Study was initiated in Fall 2006 to identify long range transit needs that will improve mobility, economic vitality, and quality of life within Hillsborough County. Key community issues were identified through a series of focus groups held throughout the county in late 2006. Through an extensive public participation series of transit scenario workshops in Spring 2007, transit connections were identified and discussed. During the summer, four Transit Concept options were evaluated for system configuration, cost and benefits. The resulting preferred Transit Concept for 2050 is the composite of these efforts in order to produce the greatest benefit for the county.

The Transit Concept for 2050 will provide input to the MPO Long Range Transportation Plan, Comprehensive Plans for the cities and the county, the Hillsborough Area Regional Transit (HART) Transit Development Plan, and the action plans for the Tampa Bay Area Regional Transportation Authority (TBARTA). Working together, these plans will provide the policy framework for multimodal transportation improvements to support local and regional managed growth and economic vitality.

Transit Concept

The MPO’s Transit Concept for 2050 (see map on page 2) serves local and inter-regional travel needs within the Tampa Bay area. Providing alternative ways to travel along major corridor corridors, the concept depicts an overall transit system that best serves existing communities and activity centers as well as projected growth within the county. Capitalizing on existing land use plans, the concept maximizes potential land usage for key corridors, while providing quality transit service for the greatest number of potential riders.

To meet local travel needs as well as providing key regional connections in conjunction with TBARTA, the concept builds on a base of local and community circulator buses to include regional/commuter rail, light rail and premium bus. Each of these technologies provides a distinct type of service to meet the various needs of transit riders. Where is the passenger going? How long is the trip? Is it a work trip or a trip to an amusement or shopping destination? Characteristics vary with each type of service. The preferred concept addresses the variations in service, minimizing transfers and interruptions between destinations and maximizing amenities around the varying types of transit stations.

www.mpotransit.org
Transit Concept for 2050
Transit Concept for 2050

Basis of Concept
- Improve Mobility
- Support Economic Vitality
- Quality of Life and Growth Management

Transit Service Characteristics
- Major Destinations
- Quality of Service
- Service Area
Concept Selection Process

- Identified best opportunities for transit corridors
  - Past studies and current concepts
  - Built system concept
- Determined projected growth
  - Compared concepts with trend for 2050
  - Created a transit oriented future concept
- Tested technology choices
  - Evaluated capacity of transit corridors to accommodate development
  - Evaluated overall ridership potential and order of magnitude costs
Light Rail
- New Tampa-Westshore
- Brandon-Westchase
- South Tampa-Downtown

Commuter Rail
- Lutz
- SouthShore
- Plant City

Bus
- Complementary Bus Network
- Connects major activity centers
- Continuous all-day service
- Closely spaced station
  - 30 miles
  - 26 Stations
- Serves urban living, transit dependent, choice riders & special event
- Capacity to supports future growth

Red Line (Light Rail):
New Tampa/USF – Westshore
- Connects housing & employment
- Brandon as regional center
- Infill east of CBD
- Closely spaced station
  - 27 miles
  - 27 Stations
- Serves urban living, transit dependent, choice riders & special event

**Blue Line (Light Rail): Westchase – Brandon**
- Serves densely populated area and activity centers
- Closely spaced station
  - 8 miles
  - 9 Stations
- Serves urban living, transit dependent, choice riders & special event

Green Line (Light Rail): South Tampa – Downtown Tampa
- Magenta Line (Commuter Rail): Lutz – Downtown Tampa

- Commuter rail service to north Hillsborough and Pasco counties
- Peak period travel & transfer stations to light rail
- Express service
  - 17 miles
  - 6 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major road investments
Commuter rail service to Plant City, Brandon and Polk County
Peak period travel & transfer stations to Brandon light rail
Express service
  - 26 miles
  - 5 Stations
Provides alternative to commuters, transit dependent & underserved areas
Added capacity alternatives to major road investments

Purple Line (Commuter Rail): Plant City/Brandon – Downtown Tampa
- Commuter rail service to SouthShore and Sarasota/Manatee counties
- Peak period travel & transfer stations to light rail
- Express service
  - 26 miles
  - 7 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major road investments

**Orange Line (Commuter Rail): SouthShore – Downtown Tampa**
- Commuter rail service to Plant City along I-4 and East Central Florida
- Peak period travel to Tampa
- Express service
  - 26 miles
  - 5 Stations
- Provides alternative to commuters, transit dependent & underserved areas
- Added capacity alternatives to major highway investments

Red Line (Commuter/Regional Rail): Plant City/I-4 – Downtown Tampa
Light Rail
- New Tampa-Westshore
- Brandon-Westchase
- South Tampa-Downtown

Commuter Rail
- Lutz
- SouthShore
- Plant City

Bus
- Complementary Bus Network
### Light Rail (Average 1 mile station spacing)

- New Tampa-Westshore (Red Line) 30 miles - 26 stations
- Brandon-Westchase (Blue Line) 27 miles - 27 stations
- South Tampa-Downtown (Green Line) 8 miles - 9 stations

### Commuter Rail (Avg. 3-5 mile station spacing)

- Lutz (Magenta Line) 17 miles - 6 stations
- SouthShore (Orange Line) 26 miles - 7 stations
- Plant City/Brandon (Purple Line) 26 miles - 5 stations
- Plant City/I-4 (Red Line) 26 miles - 5 stations
Denver Comparison

Hillsborough County
- **Light Rail**
  - 65 miles and 62 stations
- **Commuter Rail**
  - 95 miles and 23 stations

Denver
- **Light Rail**
  - 72 miles and 65 stations
- **Commuter Rail**
  - 80 miles and 20 stations
Analysis of 2050 Transit Future
Station Types

- **Regional**
  - 50-100 DU/Ac
  - 30-500 Jobs/Ac

- **Community**
  - 20-75 DU/Ac
  - 5-100 Jobs/Ac

- **Neighborhood**
  - 10-50 DU/Ac
  - 2-15 Jobs/Ac

Legend

- Stations
- Light Rail
- Commuter Rail
- Complementary Bus
- Streetcar

Stations Areas

- Central Business District
- Regional
- Community
- Neighborhood
- Park & Ride
- Airport
- Special
HH Density
Transit Concept

- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

DU/Acre (2050)
Projected Transit Growth Increment

Legend
- Light Rail
- Commuter Rail
- Complementary Bus
- Streetcar
- Stations

2050 Transit Concept Household Increment
Dwelling Units per Acre
- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16
HH Density

Current

- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

DU/Acre (2000)
HH Density
Transit Concept

- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

DU/Acre (2050)
Projected Total
With Transit

Legend
- Light Rail
- Commuter Rail
- Complementary Bus
- Streetcar
- Stations

2050 Transit Concept Household Total
Dwelling Units per Acre
- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16
Jobs Density
Transit Concept

- < 1
- 1 - 5
- 5 – 25
- 25 – 50
- > 50

Jobs/Acre (2050)
Projected Transit Growth Increment
This figure illustrates the total projected households and jobs based on the Transit Concept for 2050 that are located within 1/4 mile of stations.
This figure illustrates the total projected households and jobs for the Transit Concept for 2050 that are located up to 1 mile from stations based on station type designation.
This figure illustrates the percentage of households and jobs projected for 2050 that are served by the Transit Concept for 2050 investment.
This figure illustrates the percentage of the total incremental growth in households and jobs projected between 2000 and 2050 that are served by the Transit Concept for 2050 investment.
HH Density
By Station
- < 2
- 2 - 4
- 4 - 8
- 8 - 16
- > 16

DU/Acre (2050)
Generalized Station Intensity

Legend
- Stations
- Light Rail
- Commuter Rail
- Complementary Bus
- Streetcar
- Station Area Household Total
- Dwelling Units per Acre
  - < 2
  - 2 - 4
  - 4 - 8
  - 8 - 16
  - > 16
Jobs Density
By Station
- < 1
- 1 - 5
- 5 – 25
- 25 – 50
- > 50

Jobs/Acre (2050)
Generalized Station Intensity
<table>
<thead>
<tr>
<th></th>
<th>Within 1/4 Mile of Stations</th>
<th>Within 1/2 Mile of Stations</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>DUs/ Acre</td>
<td>Jobs/ Acre</td>
</tr>
<tr>
<td>Existing Density</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Projected Trend 2050 Density</td>
<td>3</td>
<td>16</td>
</tr>
<tr>
<td>Projected Transit Concept for 2050</td>
<td>11</td>
<td>38</td>
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<tr>
<td>Future Land Use Capacity</td>
<td>11</td>
<td>54</td>
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</table>

The capacity of Future Land Use Plans are supportive of Transit Oriented Development.
Potential Transit Ridership

<table>
<thead>
<tr>
<th>Transit Corridor</th>
<th>Potential Ridership (Average Daily Trips)</th>
<th>Potential Ridership/Mile</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIGHT RAIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Tampa - Westshore/Pinellas County</td>
<td>21,000*</td>
<td>740*</td>
</tr>
<tr>
<td>Brandon - Westchase</td>
<td>24,000</td>
<td>750</td>
</tr>
<tr>
<td>South Tampa - Downtown</td>
<td>8,000</td>
<td>1,100</td>
</tr>
<tr>
<td><strong>COMMUTER RAIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lutz - Downtown</td>
<td>8,000</td>
<td>450</td>
</tr>
<tr>
<td>SouthShore - Downtown</td>
<td>8,000</td>
<td>290</td>
</tr>
<tr>
<td>Plant City - Downtown</td>
<td>8,000</td>
<td>300</td>
</tr>
<tr>
<td>Plant City/I-4 - Downtown</td>
<td>3,000</td>
<td>90</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>80,000</td>
<td>3,720</td>
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*These ridership figures are not inclusive of ridership from Pinellas County.
# Capital Cost Summary

This table estimates the capital cost for the Transit Concept for 2050 based on 2007 dollars.

<table>
<thead>
<tr>
<th>Transit Corridor</th>
<th>Total Cost (Million Dollars)</th>
<th>Cost/Mile (Million Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIGHT RAIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Tampa - Westshore/Pinellas</td>
<td>1,871</td>
<td>62</td>
</tr>
<tr>
<td>Brandon - Westchase</td>
<td>1,597</td>
<td>69</td>
</tr>
<tr>
<td>South Tampa - Downtown</td>
<td>363</td>
<td>45</td>
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<tr>
<td>Light Rail Total</td>
<td>3,831</td>
<td>63</td>
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<tr>
<td><strong>COMMUTER RAIL</strong></td>
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<tr>
<td>Lutz - Downtown</td>
<td>322</td>
<td>20</td>
</tr>
<tr>
<td>SouthShore - Downtown</td>
<td>688</td>
<td>26</td>
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<tr>
<td>Plant City - Downtown</td>
<td>537</td>
<td>21</td>
</tr>
<tr>
<td>Plant City/I-4 - Downtown</td>
<td>784</td>
<td>25</td>
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<tr>
<td>Commuter Rail Total</td>
<td>2,331</td>
<td>25</td>
</tr>
<tr>
<td><strong>System Total</strong></td>
<td>6,162</td>
<td>40</td>
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## Operating & Maintenance Cost Summary

<table>
<thead>
<tr>
<th>Transit Corridor</th>
<th>Total Cost (Million Dollars)</th>
<th>Cost/Mile (Million Dollars)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LIGHT RAIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>New Tampa - Westshore/Pinellas</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>Brandon - Westchase</td>
<td>26</td>
<td>1</td>
</tr>
<tr>
<td>South Tampa - Downtown</td>
<td>8</td>
<td>1</td>
</tr>
<tr>
<td><strong>Light Rail Total</strong></td>
<td><strong>64</strong></td>
<td></td>
</tr>
<tr>
<td><strong>COMMUTER RAIL</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lutz - Downtown</td>
<td>6</td>
<td>0.4</td>
</tr>
<tr>
<td>SouthShore - Downtown</td>
<td>7</td>
<td>0.3</td>
</tr>
<tr>
<td>Plant City - Downtown</td>
<td>9</td>
<td>0.3</td>
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<tr>
<td>Plant City/I-4 - Downtown</td>
<td>6</td>
<td>0.2</td>
</tr>
<tr>
<td><strong>Commuter Rail Total</strong></td>
<td><strong>28</strong></td>
<td>0.3</td>
</tr>
<tr>
<td><strong>System Total</strong></td>
<td><strong>91</strong></td>
<td></td>
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This table estimates the operating/maintenance cost for the Transit Concept for 2050 based on 2007 dollars.
Next Steps

- MPO action
- Incorporate into analysis for the LRTP update
- Inform the TBARTA planning process
Hillsborough County MPO Transit Study
End of Presentation