Integration of Land Use and Transportation Planning

Miami-Dade SMART Plan

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Miami-Dade Transportation Planning Organization

Rail-Volution
Vancouver, BC
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Strategic Miami Area Rapid Transit (SMART) Plan

- **Six (6) Rapid Transit Corridors**
  - Beach
  - East-West
  - Kendall
  - North
  - Northeast
  - South

- **Six (6) Bus Express Rapid Transit Corridors**
  - Beach Express
  - Flagler Street
  - Florida Turnpike
  - NW Miami-Dade Express
  - S Miami-Dade Express
  - SW Miami-Dade Express

Over 90 miles of express bus network
### Planning & Environmental Studies

Evaluating the implementation of a cost-effective, premium transit system with a focus on providing improvements through an evaluation of transit options – mode, alignment, station stop locations, etc.

### Land Use Scenario & Visioning

Planning/Economic Mobility and Accessibilities Studies

Complements the environmental process by providing the vision for the development of a transit supportive Land Use Scenario Plan for each of the six SMART Plan corridors.
Land Use Scenario Planning - Process

Data Gathering

- 2010 & 2040 Socioeconomic databases

Land Use Strategies

- FTA New Starts Evaluation Guidelines

Scenario Building

- 2 Series of Charrettes
- 3 Scenarios

Ridership Forecasting

- How does this affect transit ridership?

Scenario Refinement (Preferred)

- Refine based on LPA
- Land Use Policy Changes
Data Gathering

- Land uses for all corridors
- ½ mile radius buffer area
- 3D imaging for visualization
- Identify areas along corridors

Beach Corridor Land Use Distribution

- Residential: 35%
- Commercial & Service: 14%
- Hotels: 14%
- Industrial: 12%
- Institutional: 11%
- Transportation: 7%
- Parks: 4%
- Vacant: 14%
Land Use Strategies

Transit-Oriented Development

- Heavy Rail (1.5 to 2.0 miles)
- Light Rail (1.0 to 1.5 miles)
- Bus Rapid Transit (0.5 to 1.0 miles)

Source: National Transit Institute, Transit Oriented Development Training Course

STATION AREA INTENSITY AND SPACING
Land Use Strategies

Transit-Oriented Development

Station Typologies

REGIONAL

~20+ stories

METROPOLITAN

~10 to 20 stories

COMMUNITY

~6 to 12 stories
Charrette Activities

- Open House
- Introductory Presentation
  - Corridor and Land Use Study Overview
  - Relation to FDOT/DTPW environmental studies
  - What does density mean/ how does it look?
  - Live polling with clickers
- Land Use Exercises
  - Tables focused on various segments of corridor
    - Corridor Vision and Priorities
    - Challenges, Opportunities, Liabilities, Assets
    - Land Use Allocation (Build Your Corridor)
- Each table presented results
Scenario Building

Corridor Level Transit-Oriented Development Analysis
(Kendall Corridor)

SCENARIO 3 – THREE JOB CENTERS
Transit-Oriented Development Population & Employment Forecast - Station Level (Northeast Corridor)

1 – In Town - Downtown
2 – SMART Shift
3 – Highly Connected
Micro Analysis Zones
Population & Employment Allocation

Scenario Building

OPA-LOCKA STATION

Legend
- Center (50-100 DU/AC)
- Primary (25-50 DU/AC)
- Secondary (10-25 DU/AC)
- Tertiary (6-10 DU/AC)
- MAZ Boundaries
Maintaining the Adopted County Control Totals By Station Area (Northeast Corridor)

- The additional corridor growth must be reallocated from another part of the county
- The 2040 adopted county control totals must be honored
- If the corridor experiences growth, it must be reallocated from elsewhere in the county

<table>
<thead>
<tr>
<th>COUNTY CONTROL TOTALS</th>
<th>2015</th>
<th>LRTP 2040</th>
<th>2015-2040 TREND GROWTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION</td>
<td>2,648,094</td>
<td>3,307,549</td>
<td>659,455</td>
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<tr>
<td>EMPLOYMENT</td>
<td>1,210,746</td>
<td>1,636,614</td>
<td>425,868</td>
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</table>

<table>
<thead>
<tr>
<th>CORRIDOR-WIDE SUMMARY</th>
<th>2015</th>
<th>LRTP 2040</th>
<th>SCENARIO 1</th>
<th>SCENARIO 2</th>
<th>SCENARIO 3</th>
<th>SCENARIO 1 DIFFERENCE (From 2040)</th>
<th>SCENARIO 2 DIFFERENCE (From 2040)</th>
<th>SCENARIO 3 DIFFERENCE (From 2040)</th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATION</td>
<td>409,691</td>
<td>547,257</td>
<td>565,674</td>
<td>585,546</td>
<td>587,625</td>
<td>18,417</td>
<td>38,289</td>
<td>40,368</td>
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<tr>
<td>EMPLOYMENT</td>
<td>230,494</td>
<td>313,339</td>
<td>328,827</td>
<td>344,792</td>
<td>340,141</td>
<td>15,488</td>
<td>31,453</td>
<td>26,802</td>
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</tbody>
</table>
Ridership Forecasting

Population Reallocation by Traffic Analysis District (Northeast Corridor)

1 – In Town – Downtown
2 – SMART Shift
3 – Highly Connected
Transit Trips – Weekday Ridership Linked Trips (North Corridor)

- Ridership increases were significant for the Medium and High 2040 SMART scenarios.
- Land use station area intensification has positive effect on transit ridership estimates.

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Auto Ownership</th>
<th>Curb BRT</th>
<th>At-Grade Metrorail</th>
<th>Elevated Metrorail</th>
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</thead>
<tbody>
<tr>
<td>2040 Trend</td>
<td>0 cars</td>
<td>747</td>
<td>8,352</td>
<td>8,419</td>
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<tr>
<td></td>
<td>1 car</td>
<td>876</td>
<td>5,952</td>
<td>6,357</td>
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<tr>
<td></td>
<td>2+ cars</td>
<td>838</td>
<td>6,848</td>
<td>7,256</td>
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<tr>
<td></td>
<td>Total</td>
<td>2,461</td>
<td>21,152</td>
<td>22,032</td>
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<tr>
<td>2040 SMART</td>
<td>0 cars</td>
<td>682</td>
<td>9,604</td>
<td>11,052</td>
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<tr>
<td></td>
<td>1 car</td>
<td>825</td>
<td>7,207</td>
<td>8,729</td>
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<tr>
<td></td>
<td>2+ cars</td>
<td>1,007</td>
<td>9,040</td>
<td>11,010</td>
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<tr>
<td></td>
<td>Total</td>
<td>2,515</td>
<td>25,851</td>
<td>30,791</td>
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</table>
Existing Ridership = 3,000

Ridership Range

Note
Low to high ranges for each technology based on Federal Transit Administration statistics

Scenario Refinement
Existing Transit Ridership vs. Targets
**Scenario Refinement**

**Existing Jobs and Houses vs. TOD Targets**

<table>
<thead>
<tr>
<th>Number of Jobs</th>
<th>Number of Dwelling Units</th>
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</thead>
<tbody>
<tr>
<td>183,000</td>
<td>73,500</td>
</tr>
<tr>
<td>141,000</td>
<td>52,000</td>
</tr>
<tr>
<td>75,000</td>
<td>32,000</td>
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<tr>
<td>41,650</td>
<td>28,360</td>
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</table>

Legend:
- Heavy Rail Target
- Light Rail Target
- BRT Target
Preferred Scenario Land Use (Northeast Corridor)

- Local agency involvement/coordination
- General Public input
- Locally Preferred Alternative determination
- Land use policies recommendations to County and municipalities

Image Source: www.solemiamiami.com
Lesson Learned

Integration of land use and transit planning should be intertwined and serve as the foundation of a sustainable community.
THANK YOU!

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Assistant Director

www.MiamiDadeTPO.org

#MiamiSMARTPlan