Building Florida’s Long-Range Transportation Vision
Trends and Alternative Futures

presented to
Florida Transportation Visioning Summit

presented by
Jim Wood, Florida Department of Transportation
John Kaliski, Cambridge Systematics, Inc.

December 17, 2014
Outline

- A Look Back: Where Have We Been?
- A Look at Today
- A Look Ahead: Where Are We Going?
- Potential Alternative Futures
Looking Ahead: Statewide Plan Updates

2060 Florida Transportation Plan

Florida’s Strategic Intermodal System Strategic Plan

Both to be updated by end of 2015
A LOOK BACK
Florida Department of Transportation
1915 to 2015

Pavement Condition

Safety

Planning

Construction
A Look Back: Where Have We Been?

Florida: 1950 to 1960

- **1956**: Interstate Highway System created
- **1957**: Florida’s Turnpike opens
- **1958**: NASA begins operations in Cape Canaveral
- **1959**: First segment of Interstate 4 opens
A Look Back: Where Have We Been?

Florida: 1960 to 1970

- Construction of new Port of Miami begins
- Metropolitan Transit Authority created in Miami
- Florida DOT established
A Look Back: Where Have We Been?

Florida: 1970 to 1980

1970
- First Metropolitan Planning Organization established

1971
- Amtrak service to Orlando begins

1972
- Carnival Cruise founded

1976
- Orlando International Airport opens
A Look Back: Where Have We Been?

Florida: 1980 to 1990

- First Space Shuttle launches in 1981
- Interstate 95 completed in 1987
- Tri-Rail service begins in 1989
A Look Back: Where Have We Been?

Florida: 1990 to 2000

Interstate 75 completed

Electronic Tolling via SunPass begins

1993

1999
A Look Back: Where Have We Been?

Florida: 2000 to Today

- Strategic Intermodal System created
- Space Florida created
- Freight Mobility and Trade Plan completed
- SunRail opens

2003
2006
2014
2014
Florida Transportation Plan
Multimodal “Mobility Map” for the Future

- Florida’s long-range transportation plan
- A plan for all of Florida
- Defines policy framework and launches key initiatives
A Look Back: Where Have We Been?

Population Growth

Source: U.S. Census Bureau.
A Look Back: Where Have We Been?

Economic Growth (Gross Domestic Product)

Source: U.S. Census Bureau.
A Look Back: Where Have We Been?

Transportation Trends

- **190.8 billion** Annual Miles
- **15.6 million** vehicles
- **9.5 million** gallons

**Fuel Consumed**
**Registered Vehicles**
**Vehicle Miles Traveled**

Source: Federal Highway Administration and U.S. Department of Transportation.
A LOOK AT TODAY
A Look at Today: Florida’s Transportation System...

**State Highways**
- **12,079** Centerline Miles
- **6,703** Bridges

**Local Roads**
- **107,578** Centerline Miles
- **5,075** Bridges

**Public Transit**
- **30** Urban Fixed-Route Transit Agencies
- **3** Rural Fixed-Route Transit Agencies

**Rail**
- **2,793** Railway Miles

**Seaports/Waterways**
- **15** Deepwater Seaports
- **3,475** Miles of Intracoastal and Inland Routes

**Aviation**
- **19** Commercial Airports
- **110** Public General Aviation
- **624** Private General Aviation

**Spaceports**
- **2** Spaceports
- **5** Active Launch Facilities
Transportation Trends

Infrastructure Condition Remains Strong

% of Pavement Meeting Standards

% of Bridges Meeting Standards

Source: FDOT.
Transportation Trends
Reliability and Delay on Florida’s Highways

Graph showing:
- **Reliability During Peak Hour**
  - 2005: 65%
  - 2006: 68%
  - 2007: 67%
  - 2008: 71%
  - 2009: 73%
  - 2010: 74%
  - 2011: 75%
  - 2012: 75%
  - 2013: 75%

- **Person Hours of Delay**
  - 2004: 320,000
  - 2005: 310,000
  - 2006: 280,000
  - 2007: 280,000
  - 2008: 250,000
  - 2009: 245,000
  - 2010: 245,000
  - 2011: 240,000
  - 2012: 240,000
  - 2013: 240,000

Source: FDOT.
Transportation Trends

Safety Improving, But More To Do

Highway Fatalities

Pedestrian Fatalities

Bicyclist Fatalities

Source: FDOT.
A Look at Today: What Are We Moving?

* Images courtesy of SeeFloridaGo.com
A LOOK AHEAD:
WHERE ARE WE GOING?
Key Trends Shaping Florida’s Transportation Future

Demographics

Economy

Land Use and Environment

Technology

Transportation System
Demographic Trends

Growing Population

The graph illustrates the projected population growth in millions from 2000 to 2040 for three scenarios: High, Medium, and Low. The population is expected to increase, with the high scenario reaching 28.4 million in 2040, the medium scenario reaching 25.6 million, and the low scenario reaching 22.9 million.

Sources: U.S. Census Bureau; University of Florida, Bureau of Economic and Business Research (BEBR).
Demographic Trends
Changing Population

Growing Older
24% Over 65 in 2040

Becoming Diverse
30% Hispanic in 2040
19% foreign born in 2010

Getting Younger
33% of international immigrants are under 25 in 2010

Sources: U.S. Census Bureau; University of Florida, Bureau of Economic and Business Research (BEBR).
Demographic Trends

Uncertainty: Travel Behavior

Source: U.S. Census Bureau and Federal Department of Transportation.
Images courtesy of SeeFloridaGo.com
Demographic Trends

Uncertainty: Future of Vehicle Travel

Could increase because...
- Population continues to grow
- Economy continues to grow
- Visitors continue to grow
- New technologies make travel safer and more convenient

Could decrease because...
- More people choose to live in compact, mixed use development
- Aging population has limited mobility needs
- Millennials have different preferences for where to live and how to travel
- Technology substitutes for travel
Economic Trends
Growing Tourism and Visitors

Visitors to Florida (in millions)

74.6
93.7
130 (target)

Source: Visit Florida.
Economic Trends
Growing Global Trade

Value of Florida-Origin Exports

- $55 Billion (2010)
- $110 Billion (???)

Source: U.S. Census Bureau and Florida Chamber Foundation.
Economic Trends

But a Freight Imbalance

- Inbound (U.S. & global): 146 million tons
- Outbound (U.S. & global): 85 million tons
- Intra Florida: 543 million tons

Source: Federal Highway Administration Freight Analysis Framework 3.4.
Economic Trends

Toward a More Diverse Economy

Information Technology | Financial & Professional Services | Defense & Homeland Security
---|---|---
Life Sciences | Manufacturing | Global Trade & Logistics
Cleantech | Agriculture | Construction
Aerospace & Aviation | Tourism

Source: Florida Department of Economic Opportunity.
Land Use and Environmental Trends

Development Patterns

Source: Florida Department of Revenue, parcel data.
Land Use and Environmental Trends

Shift to Megaregions

Source: America 2050, Megaregions, 2008
Land Use and Environmental Trends

Changing Development Patterns
Land Use and Environmental Trends

Rural Areas of Opportunity
Land Use and Environmental Trends

Environmental Stewardship and Resiliency
Technology Trends

Increasing Pace of Change

Source: contrarian-investor.com.
Technology Trends
Personal Vehicles
Technology Trends

Public Transportation Vehicles
Technology Trends

Freight Vehicles

1900-1950
1980
2000
2020
CONVERGENCE
ALTERNATIVE FUTURES
Alternative Futures

- Understand the range of potential futures facing Florida
- All futures start with commitment to Florida’s quality of life and environment

**Key differentiators**
- Magnitude of population and economic growth
- Drivers of Florida’s economy
- Development patterns
- Changes in technology

**Consider implications for Florida’s transportation system**
**Groundhog Day**  
*Prerecession Trends Continue*

<table>
<thead>
<tr>
<th>Trend</th>
<th>Key Assumptions</th>
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</thead>
<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td>• Continued strong population growth</td>
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<tr>
<td></td>
<td>• Aging, more diverse population</td>
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<tr>
<td><strong>Economics</strong></td>
<td>• Agriculture, tourism, construction, services</td>
</tr>
<tr>
<td><strong>Land Use and Environment</strong></td>
<td>• Emphasis on lower density development</td>
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<td></td>
<td>• Growing pressures on water and natural resources</td>
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<td><strong>Technology</strong></td>
<td>• Current energy mix</td>
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<td></td>
<td>• Incremental changes to technology</td>
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<tr>
<td><strong>Transportation System</strong></td>
<td>• Reliance on motor vehicles</td>
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<td></td>
<td>• Return to historic growth in vehicle-miles traveled</td>
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<td></td>
<td>• Reliance on inbound freight to serve consumer market</td>
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Groundhog Day
Prerecession Trends Return
## It’s a Small World

### Florida as a Global Trade Hub

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<tr>
<td><strong>Demographics</strong></td>
<td>• Strong population growth</td>
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<tr>
<td></td>
<td>• Shift toward more diverse population</td>
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<tr>
<td><strong>Economics</strong></td>
<td>• Trade, logistics, manufacturing, related industries</td>
</tr>
<tr>
<td><strong>Land Use and Environment</strong></td>
<td>• Growth in globally connected cities</td>
</tr>
<tr>
<td></td>
<td>• Growth in inland manufacturing and distribution centers</td>
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<tr>
<td><strong>Technology</strong></td>
<td>• Advanced logistics systems</td>
</tr>
<tr>
<td></td>
<td>• Larger freight vehicles/infrastructure</td>
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<tr>
<td><strong>Transportation System</strong></td>
<td>• Increased demand for Florida’s air and sea gateways and major rail and truck corridors</td>
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<tr>
<td></td>
<td>• Growth in long-distance travel</td>
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It’s a Small World
Florida as a Global Trade Hub
# Tomorrowland

*Florida as an Innovation Hub*

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<tbody>
<tr>
<td><strong>Demographics</strong></td>
<td>• Strong population growth&lt;br&gt;• Increasing skilled workers, millennials</td>
</tr>
<tr>
<td><strong>Economics</strong></td>
<td>• Knowledge-based and creative industries</td>
</tr>
<tr>
<td><strong>Land Use and Environment</strong></td>
<td>• Growth in urban centers and around universities&lt;br&gt;and research facilities&lt;br&gt;• Live/work/play/learn neighborhoods</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>• Shift toward automated vehicles and other advanced transport systems&lt;br&gt;• Alternative, renewable energy sources</td>
</tr>
<tr>
<td><strong>Transportation System</strong></td>
<td>• Emphasis on travel choices within urban areas&lt;br&gt;• Long-distance corridors to connect urban areas&lt;br&gt;• Substitution of technology for travel</td>
</tr>
</tbody>
</table>
Tomorrowland

Florida as an Innovation Hub
# Back to the Future

*Return to Focus on Agriculture and Rural Lifestyle*

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<tr>
<td><strong>Demographics</strong></td>
<td>• Continued strong population growth</td>
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<td><strong>Economics</strong></td>
<td>• Agriculture, eco-tourism, specialized manufacturing</td>
</tr>
<tr>
<td><strong>Land Use and</strong></td>
<td>• Some population shift to inland locations</td>
</tr>
<tr>
<td><strong>Environment</strong></td>
<td>• Revitalization of historic communities</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>• Renewable energy and other Florida-based energy sources</td>
</tr>
<tr>
<td></td>
<td>• Telecommuting, telemedicine, distance learning</td>
</tr>
<tr>
<td><strong>Transportation</strong></td>
<td>• Continued growth in vehicle miles traveled; reliance on cars and trucks</td>
</tr>
<tr>
<td><strong>System</strong></td>
<td>• More options for rural transport</td>
</tr>
<tr>
<td></td>
<td>• Increase in long-distance travel</td>
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</tbody>
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Back to the Future

Return to Focus on Agriculture and Rural Lifestyle
## Stormy Weather

*Slow or No Growth in the Future*

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<tr>
<td><strong>Demographics</strong></td>
<td>• Slowing in-migration</td>
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<tr>
<td></td>
<td>• Net loss of younger workers</td>
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<tr>
<td><strong>Economics</strong></td>
<td>• Loss of one or more key industries</td>
</tr>
<tr>
<td></td>
<td>• Stagnation or decline in number of visitors</td>
</tr>
<tr>
<td><strong>Land Use and Environment</strong></td>
<td>• Growth slows or stalls in some regions</td>
</tr>
<tr>
<td><strong>Technology</strong></td>
<td>• Current energy mix</td>
</tr>
<tr>
<td></td>
<td>• No widespread adoption of new technologies</td>
</tr>
<tr>
<td><strong>Transportation System</strong></td>
<td>• Stagnation or decline in overall vehicle miles traveled</td>
</tr>
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<td></td>
<td>• Some overbuilt/underutilized infrastructure</td>
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Stormy Weather
Slow or No Growth in the Future
Florida’s Transportation Visioning Summit

The Florida Department of Transportation (FDOT) is beginning the update of the Florida Transportation Plan (FTP) and the Strategic Intermodal System (SIS) Strategic Plan. The FTP defines Florida’s future transportation vision and identifies goals, objectives, and strategies to accomplish that vision. The FTP is the statewide long-range transportation plan for all of Florida. The SIS Strategic Plan identified policies for planning and implementing Florida’s Strategic Intermodal System, the statewide high-priority network of transportation facilities critical to Florida’s economic competitiveness.

To kick off this process, FDOT is hosting a Transportation Visioning Summit in Orlando at the Walt Disney World Dolphin Hotel on December 17, 2014 beginning at 8:30 a.m. to engage its partners and the public in initiating the visioning process.

To see a draft version of the agenda for the Transportation Visioning Summit, click here.

There is no fee for attending this Summit. We encourage you to sign-up before Monday, December 15, 2014 via the link before so help us plan for the event. Walk-ins on the day of the Summit will be welcome.