Making The Business Case For Freight & Logistics

Project Development Advisory Committee

August 2010
As agreed upon earlier, the themes for “Making the Business Case for Freight” were developed based on SSTP themes:

- Theme 1 – Freight transportation assets have been critical to State’s economic growth
- Theme 2 – Coasting on past successes
- Theme 3 – Economic competitiveness at stake
- Theme 4 – Renewed investment will yield significant returns
Themes 1 and 2

- As agreed upon earlier, the themes for “Making the Business Case for Freight” were developed based on SSTP themes
  - Theme 1 – Freight transportation assets have been critical to State’s economic growth
  - Theme 2 – Coasting on past successes
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  - Theme 4 – Renewed investment will yield significant returns
Historical Transportation Investment – GA and U.S.

- Georgia has decreased investment in transportation over the last 30 years
  - Invested more than average from 1977-1985
  - Invested less than average since 1985
- Leading to higher than average economic performance in the 1990s

Source: GDOT Statewide Strategic Transportation Plan, 2010
Georgia’s economy outperformed the rest of the southeast and the U.S. in the 1990s.

Over the last decade, it has lagged behind both the southeast and the nation.
Georgia Economic Performance Relative to Other Southeast States

- Georgia’s economy outperformed all other states in the southeast from 1990 to 1997
- Georgia has recently fallen to the middle of the pack
  - NC and FL have exhibited consistently strong economies

Source: BEA, Consultant Analysis
Georgia Moves From Leader to Laggard in Freight-Related Sectors

*Source: BEA, Consultant Analysis*
Historical Investment and Growth

Trucking

• 1978 to 1988 – “Free the Freeways”
  » 1,100 lane miles of roads added to GA network

• Fast Forward

• Other
  » I-95
  » I-85 South Metro ATL
  » I-75 South GA

* Includes Interstate, Other Freeway and Arterial Roads only

Source: FHWA Highway Statistics, Consultant Analysis
Growth in Southeast Lane Mileage for Interstates

Source: FHWA Highway Statistics, Consultant Analysis
Growth in Southeast Lane Mileage for Interstates, Freeways, and Principal Arterials

Source: FHWA Highway Statistics, Consultant Analysis
Under-Investment Has Led to High Congestion Levels

Atlanta has more congestion than any other “freight city” in the southeast

<table>
<thead>
<tr>
<th>City</th>
<th>Freeway Delay per Commuter, 2008 (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlanta</td>
<td>26.5</td>
</tr>
<tr>
<td>Miami</td>
<td>17.7</td>
</tr>
<tr>
<td>Charlotte</td>
<td>14.7</td>
</tr>
<tr>
<td>Jacksonville</td>
<td>13.8</td>
</tr>
<tr>
<td>Memphis</td>
<td>11.4</td>
</tr>
<tr>
<td>Tampa</td>
<td>7.4</td>
</tr>
<tr>
<td>Charleston</td>
<td>4.6</td>
</tr>
<tr>
<td>New Orleans</td>
<td>4.1</td>
</tr>
</tbody>
</table>

Atlanta has the fastest growing congestion of all major metro areas since 1990

Historical Investment and Growth
Intermodal Rail

- Inman Yard IM capabilities expanded throughout 1980s
- CSX Hulsey Yard rearranged to an intermodal yard in the 1980s
- CSX Fairburn IM Yard opened in 1999
- NS Austell IM Yard opened in 2002

Source: FHWA Freight Analysis Framework.
Southeast Intermodal Traffic is Relatively Low

Intermodal Rail Development Opportunities in Georgia

• The Jacksonville to Midwest line is the only heavily trafficked intermodal rail line in the entire southeast.
• Opportunities exist to increase intermodal traffic to the northeast, Texas and points further west.


Georgia is the intermodal rail leader in the southeast, but has not kept pace with other regions in the country

Low SE traffic is the result of both rail infrastructure needs and non-coastal population centers built around highways
Key Georgia Trade Lanes Remain Dominated By Trucks

Intermodal Rail versus Truck Market Share

Georgia Not Keeping Pace in Terms of Major Rail Projects on East Coast

- Heartland Corridor (2007) – Mid-Atlantic (VA) to Midwest
- CSX National Gateway (2011) – Mid-Atlantic (VA) to Midwest
- Crescent Corridor (Under Development) – new IM terminals in TN, NC, and AL
  » Expansion for GA IM terminal
- NS/KCS Meridian Expressway – improved rail from MS to TX
  » Completed in 2006

Project descriptions and competitive impacts of these projects discussed in Theme #3 section (Competitiveness at stake)
Historical Investment and Growth
Container Ports

1967 – GPA operates first container crane in South Atlantic

- 1991 – New Talmadge Bridge opens over Savannah River increasing air draft
- 1994 – Savannah River channel deepened to 42 feet
- 2002 – Mason ICTF opens
- 2008 – Highway 17 Overpass completed Colonel’s Island Terminal
- 2008 – Four new super post-panamax cranes on-line
- 2009 – Chatham Yard ICTF opens
- 2010 – Container Berth 8 completed Garden City Terminal

## Savannah is the Fastest Growing U.S. Port

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Los Angeles</td>
<td>0.6</td>
<td>2.1</td>
<td>4.9</td>
<td>7.9</td>
<td>6.7</td>
<td>1,141%</td>
<td>-14%</td>
</tr>
<tr>
<td>Long Beach</td>
<td>0.8</td>
<td>1.6</td>
<td>4.6</td>
<td>6.4</td>
<td>5.1</td>
<td>670%</td>
<td>-20%</td>
</tr>
<tr>
<td>PANYNJ</td>
<td>1.9</td>
<td>1.9</td>
<td>3.1</td>
<td>5.3</td>
<td>4.5</td>
<td>170%</td>
<td>-13%</td>
</tr>
<tr>
<td>Savannah</td>
<td>0.2</td>
<td>0.4</td>
<td>0.9</td>
<td>2.6</td>
<td>2.4</td>
<td>1,203%</td>
<td>-10%</td>
</tr>
<tr>
<td>Oakland</td>
<td>0.8</td>
<td>1.1</td>
<td>1.8</td>
<td>2.2</td>
<td>2.1</td>
<td>186%</td>
<td>-8%</td>
</tr>
<tr>
<td>Houston</td>
<td>0.3</td>
<td>0.5</td>
<td>1.1</td>
<td>1.8</td>
<td>1.8</td>
<td>498%</td>
<td>0%</td>
</tr>
<tr>
<td>Hampton Roads (VA)</td>
<td>0.4</td>
<td>0.8</td>
<td>1.3</td>
<td>2.1</td>
<td>1.7</td>
<td>433%</td>
<td>-16%</td>
</tr>
<tr>
<td>Seattle</td>
<td>0.8</td>
<td>1.2</td>
<td>1.5</td>
<td>1.7</td>
<td>1.6</td>
<td>118%</td>
<td>-7%</td>
</tr>
<tr>
<td>Tacoma</td>
<td>n/a*</td>
<td>0.9</td>
<td>1.4</td>
<td>1.9</td>
<td>1.5</td>
<td>n/a</td>
<td>-17%</td>
</tr>
<tr>
<td>Charleston</td>
<td>0.2</td>
<td>0.8</td>
<td>1.6</td>
<td>1.6</td>
<td>1.2</td>
<td>586%</td>
<td>-28%</td>
</tr>
<tr>
<td>Total U.S. (Mainland)</td>
<td>7.4</td>
<td>14.4</td>
<td>27.5</td>
<td>39.7</td>
<td>34.3</td>
<td>436%</td>
<td>-14%</td>
</tr>
</tbody>
</table>

Number of containers (millions)

Source: American Association of Port Officials, Consultant Analysis.

*Tacoma did not track container data in 1980
International Trade Is An Increasingly Important Part of the World Economy

Percent Share of GDP

- World Trade as Share of World GDP
- U.S. Trade as Share of U.S. GDP

Source: International Trade Administration, World Trade Organization, CIA World Factbook, Panama Canal Talking Freight Presentation – Feb. 2010
Historical Investment and Growth
Air Cargo

- 1977 – $500 million dollar redesign of Atlanta airport. Called the “largest construction project in the South”
- 1984 – 4th runway opens
- 2000 – South Air Cargo Terminal opens
- 2005 – 5th runway opens. 40% capacity increase
Most Georgia Air Cargo is Carried in “Belly” of Delta Passenger Flights – Not FedEx or UPS

<table>
<thead>
<tr>
<th>Airport</th>
<th>Market Type</th>
<th>2009 Tons (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Memphis</td>
<td>Integrator Hub – FedEx</td>
<td>3.7</td>
</tr>
<tr>
<td>Anchorage</td>
<td>Trans-Pacific Transfer Operations</td>
<td>2.0</td>
</tr>
<tr>
<td>Louisville</td>
<td>Integrator Hub – UPS</td>
<td>1.9</td>
</tr>
<tr>
<td>Miami</td>
<td>Primary Gateway to Latin America</td>
<td>1.6</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>Primary Asian Gateway</td>
<td>1.5</td>
</tr>
<tr>
<td>NYC (Kennedy)</td>
<td>Gateway to Europe and Asia</td>
<td>1.1</td>
</tr>
<tr>
<td>Chicago (O’Hare)</td>
<td>Central U.S, International Gateway</td>
<td>1.0</td>
</tr>
<tr>
<td>Indianapolis</td>
<td>FedEx Secondary Hub</td>
<td>0.9</td>
</tr>
<tr>
<td>Newark-Liberty</td>
<td>FedEx Secondary Hub</td>
<td>0.8</td>
</tr>
<tr>
<td>Dallas/FTW</td>
<td>American Airlines Hub</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Atlanta</strong></td>
<td><strong>Delta Hub</strong></td>
<td><strong>0.6</strong></td>
</tr>
</tbody>
</table>

Air cargo in Atlanta is primarily dependent on Delta Air Lines passenger traffic

Source: Airport Council International Traffic Report, Consultant Analysis
Theme 3

As agreed upon earlier, the themes for “Making the Business Case for Freight” were developed based on SSTP themes

» Theme 1 – Freight transportation assets have been critical to State’s economic growth

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» Theme 3 – Economic competitiveness at stake

» Theme 4 – Renewed investment will yield significant returns
Georgia Faces Challenges at the Global, Domestic, and Local Trade Levels

• **Global trade** – trade with other countries
  » Panama Canal has spurred development at several East Coast ports

• **Domestic trade** – trade to rest of U.S.
  » Rail improvements outside Georgia are creating cost advantages for other states

• **Local trade** – trade within Georgia
  » Other southeastern states have significant highway projects underway to help circulate goods throughout their local economies
Global Air Cargo Competitive Landscape

- Atlanta airport faces stiff competition to capture global air cargo trade
  - New York captures European air cargo
  - Miami captures Latin American air cargo
  - Houston, LA, Chicago capture Asian cargo

- Atlanta air cargo traffic limited to destinations that are relatively close to airport

- Atlanta and its competitor airports have available capacity and are aggressively pursuing customers
Global Marine Port Trade Is Also Intensely Competitive

The boom in shipping trade


"[The shipping industry] now carries more than 90% of the world's trade by volume, and has tripled its tonnage since 1970."

Source: Institute of Trade and Transportation Statistics presentation to FHWA Talking Freight Seminar, February 2010
Panama Canal Widening Will Increase Maximum Ship Sizes by 250% (Opens in 2014)

Post-Panamax vessels refers to vessels sized to fit through new locks at Panama Canal

Post-Panamax vessels are the length of 4 football fields
Panama Canal Widening Lowers Shipping Costs for Asia to the East and Gulf Coasts

Estimates range from 1.8 to 3.0 million containers could shift from the West Coast by 2015

Source: Panama Canal estimates 1.8 million in traffic increase, Drewery Consultants estimates 3.0 million. Map developed by Drewery Consultants
Several Ports Currently Have Greater Depths than Savannah

- Real-time water depths vary based on tides
- 48’+ ideal depth to take full advantage of Panama Canal widening
  - LA/LB, Oakland, Seattle are already 50’ “MLW”
- Due to high cost of dredging, not all ports will get there
- Tremendous “first mover” advantage to the ports that deepen first

<table>
<thead>
<tr>
<th>East and Gulf Coast Ports</th>
<th>Mean Low Water Depth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Norfolk</td>
<td>48’</td>
</tr>
<tr>
<td>Charleston</td>
<td>47’</td>
</tr>
<tr>
<td>New Orleans</td>
<td>45’</td>
</tr>
<tr>
<td>New York/New Jersey</td>
<td>43’</td>
</tr>
<tr>
<td>Wilmington</td>
<td>42’</td>
</tr>
<tr>
<td>Savannah</td>
<td>42’</td>
</tr>
<tr>
<td>Houston</td>
<td>40’</td>
</tr>
<tr>
<td>Baltimore</td>
<td>40’</td>
</tr>
<tr>
<td>Miami</td>
<td>39’</td>
</tr>
<tr>
<td>Jacksonville</td>
<td>38’</td>
</tr>
<tr>
<td>Boston</td>
<td>38’</td>
</tr>
<tr>
<td>Philadelphia</td>
<td>38’</td>
</tr>
</tbody>
</table>

Source: Consultant Research; Panama Canal presentation to FHWA Talking Freight Seminar, February 2010
East and Gulf Coast Port Plans
Strong Competitors

New York/New Jersey
- $2 billion committed for increasing channel to “MLW” 50 feet, expanding on-dock rail, adding road access
- Commitment to build a 110-acre container terminal
- Needs to resolve clearance issue at Bayonne Bridge and replace Goethals Bridge – each project costs over $1 billion dollar

Port of Virginia (Norfolk)
- Depth already sufficient
- Heartland Corridor provides double-stacking to the Midwest

Port of Charleston
- Likely to compete with Savannah to be first port of call for ships
- Commitment to build $750 million, 280-acre terminal at former Naval Base with near-dock rail facility under negotiation
- No plans to deepen harbor

Source: Consultant Research.
East and Gulf Coast Port Plans
Moderate Competitors

Baltimore
- Signed deal to lease terminal to Ports America
- Ports America constructing new 50-foot berth using private funds
- Ports America paying for road, bridge and tunnel improvements

Houston
- Bayport terminal expansion recently doubled its capacity
- Geographically positioned to become a national hub

Jacksonville
- Recently opened the 158-acre container terminal
- Agreement for a 90-acre terminal to open in 2011
- Strong rail access – on-dock loading
- Wants to dredge to get to 45’ depth; No plans/commitment

Source: Consultant Research.
East and Gulf Coast Port Plans
Weaker Competitors

**Miami**
- Plans to deepen to 50’ within the next three years
- Currently building tunnel to connect port directly with I-95
- Location at the tip of Florida is not ideal for distribution

**Mobile**
- Opened a new container terminal in 2008
- Constructing a new turning basin to handle larger ships
- 160,000 on-dock rail facility under construction

**Tampa Bay Area**
- Tampa – vision to capture a larger share of Florida traffic
- Manatee – purchased land for first ever container port

**Wilmington**
- Plans to build container terminal on a greenfield site, but landside access and dredging are problematic

Source: Consultant Research.
Double-stack capabilities being added from VA to KY to WV to OH and Chicago

- 28 tunnels, 24 overhead obstructions redeveloped
- VDOT, ODOT, WVDOT provided partial funding

CSX National Gateway initiative is focusing on completing its double-stack network
Rail Initiatives SE: Crescent Corridor

Most of the development is happening north and west of Georgia

- **NS Rail Lines**
- **New Intermodal Terminals**
- **Expanded Intermodal Terminals**
- **Other Crescent-Served Terminals**

The most comprehensive public-private partnership for improving freight rail transportation in the East

- 300 miles of new passing track and double track by full development
- New or expanded terminals in 11 markets
- $2.5 billion in new investments through full corridor development

**More options for domestic shippers**

- Existing 2,500 mile intermodal rail network from New Jersey to Louisiana parallel to Interstate highways (I-20, I-40, I-59, I-75, I-76, I-77, I-78, I-81, I-85, and I-95)
- The nation’s most direct intermodal rail route between the Northeast and South

Source: NS Presentation, June 2010
Major Highway Projects in Competitor States
– Under Construction or Recently Built

- **Long-Haul Corridors**
  - I-22 from Memphis to Birmingham
  - I-40 Truck Climbing Lanes in Tennessee
  - I-69 Corridor from Texas to Indiana

- **Local Trade Corridors**
  - Charlotte I-485 “Outer Beltway”
  - Greensboro Urban Loop
  - Wilmington I-140 Outer loop
  - Memphis portion of I-69/I-269
  - TN-840 Nashville Beltway
  - I-795 Outer beltway in Jacksonville

Source: Consultant Research
Theme 4

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Economic Benefits of Reducing Transportation Costs

Total Transportation Costs in Georgia ($ Billions)

- By reducing transportation costs by 0.5% per year, the total Georgia economy will gain $16 billion in output and 188,000 jobs between 2011 and 2040
- $7.1 billion of economic output will be generated for freight-related sectors and 28,500 jobs in freight-related industries

Source: BEA, REMI Forecast, NHI Freight Planning Course 2005, Consultant Analysis
Conclusions on Making the Business Case for Investing in Freight

- Freight-related sectors follow the SSTP themes by exhibiting strong growth through the 1990s and weaker growth over the past decade
  - Reflects changes in levels of investment over the past 30 years
- Each freight mode has unique investment opportunities that will benefit Georgia’s economy
  - Investment in highway mode is needed to hold congestion in check
  - Investment in rail can boost Georgia’s economy by providing local businesses with modal options
  - Immediate investment in ports will position Georgia to capture forthcoming surge in container traffic
  - Air cargo opportunities will need to be coordinated with Delta’s air strategic planning process for air cargo