

# Florida Logistics Center Market Analysis Update

Prepared for:  
Florida Department of Transportation



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## **I. Introduction, Overview and Summary of Results**

Martin Associates was retained by the Florida Department of Transportation (FDOT) to assess the potential of future distribution center (DC) and warehousing activity in Florida to serve the Florida consumer market. The market analysis updates and builds off of many elements contained in the previous study completed by Martin Associates for FDOT (and the Port of Palm Beach) in 2008. The update of the previous analysis is necessary given the dynamic changes in the industrial real estate market due to the economic downturn that has occurred since 2007. In addition, numerous Florida port developments have been announced and are underway which will ultimately enhance the Florida ports' competitive advantage in serving the Florida market. It is to be emphasized that this analysis does not recommend a specific site(s) for potential development of DC activity. Rather, the analysis is structured to assess the competitiveness of each of Florida's key regions in terms of providing logistics services to serve the Florida market. The focus is on the potential to develop logistics centers, which consist of clusters of distribution centers sharing common infrastructure such as intermodal container transfer facilities (ICTF), major highway interchanges, and security and information technologies. The clustering of distribution centers also provides a magnet effect to secure truck and equipment services and availability, and capitalize on the empty backhaul market that characterizes the Florida truck market. However, the analysis is also key in assessing optimal sites for single distribution centers to serve the Florida retail and wholesale consumption markets.

Two distribution center/logistics center development scenarios are evaluated. The first scenario consists of the optimal geographic location of a logistics center/distribution center in Florida, given the current logistics supply chains and distribution networks of the retailers/wholesalers now serving the Florida consumption markets. This includes the current system of non-Florida ports and import distribution centers now used to serve the Florida consumption markets, and the determination of location (s) that would provide the optimal cost effective site to consolidate Florida distribution centers to serve the State's consumption markets.

The second scenario evaluates the optimal combination of a Florida port and distribution center to compete with the current logistics supply chain of serving the Florida consumption markets using non-Florida ports and import distribution centers.

This assessment is based on interviews with key stakeholders as well as published data. Interviews were conducted with (but not limited to) key shipping lines calling Florida and Atlantic Coast ports, Florida terminal operators, rail service providers, trucking/drayage companies, industrial/commercial real estate developers, land owners, and distribution center operators. In addition to the interview process, data was also collected from Martin Associates' in-house data bases, American Association of Port Authorities (AAPA), US Army Corps of Engineers Waterborne Commerce Statistics Center, individual port statistics/port websites, Chain Store Guide, Florida Trade and

Logistics Study (Commissioned by the Florida Chamber of Commerce Foundation and the Florida Department of Transportation) and the US Maritime Administration.

Key findings of this analysis are:

**The Florida industrial real estate market has suffered dramatically due to the effects of the economic downturn.** The Miami market is beginning to show slight signs of activity leading to some stabilization. Vacancy has now reached 7% and specs are beginning to be built again in Miami-Dade County. However, Broward County is recovering more slowly. In South Florida, the availability of larger parcels is limited and retailers interested in larger parcels greater than 250,000 square feet Class A space will be challenged to find such property. The South Florida market, with respect to the retail distribution market, will still compete for accounts up to 300,000 square feet, and maintain that the larger facilities will continue to develop in Central and Northern Florida. The Central Florida market is still sluggish and not expected to rebound until 2013. Aside from the absence of new construction, there is a surplus of vacant space in Central Florida, which has the highest vacancy in the state, and an abundance of shuffling is expected to occur as retailers, consolidators and third party logistics providers (3PLs) tweak their supply chains either by consolidating facilities or expanding into new space. In North Florida, Jacksonville is more positioned to serve the North Florida as well as the non-Florida Southeast region, and is not viewed as direct competition to South Florida. Few retailers are debating between Jacksonville or Miami site, but more between a Jacksonville and Savannah site.

**Dynamic changes in the import logistics patterns that have occurred since 2002 to serve the Southeastern, Eastern, Gulf and Midwestern markets have resulted in potential opportunities to grow the role of Florida in the international logistics industry.** This includes the development of distribution centers and logistics parks to serve the Florida consumption markets, as well as increasing the role of Florida's ports in attracting imports that are now consumed in Florida, but imported via other non-Florida ports. Growth in Florida's role in the logistics industry role will provide an economic catalyst to create additional logistics industry related employment within the State.

**In terms of exports, Florida ports compete for the export market that serves Latin America and the Caribbean.** While Jacksonville will remain in control of the Puerto Rican market, the South Florida ports will continue to be successful in the Latin American and Caribbean due to the large Latin American business community in South Florida. The Free Trade Agreements (FTAs) recently signed by the US government between Panama and Colombia (as well as South Korea) are expected to bolster export activity through these ports in the coming years. The close-knit community of suppliers to the Caribbean and Latin America are strongly rooted in Miami-Dade County, and relocation to other regions does not appear feasible.

**Specific factors that appear to be critical in the successful development of distribution centers, and/or logistics centers, which are essentially clusters of**

**distribution centers capitalizing on economies of scale in terms of fixed costs (security, utilities, rail and highway infrastructure) include population density; projected growth in population, representing growth in consumption activity; concentration of families representing potential consumption activity; and proximity to major rail and highway infrastructure.**

**Based on the logistics cost analysis, the optimal site location to serve the Florida consumer market, under the current logistics supply chain to serve the Florida consumption market, is the Jacksonville/Duval County region, followed by a site located in the Orlando/I-4 Corridor.** This assumes that the *current logistics chain* remains intact, and the focus is on the development of a DC/logistics center to serve the Florida consumption market. This cost analysis includes components of lease rate, labor cost, weighted truck cost to serve the Florida consumption base, and the inland cost of truck cargoes destined to Florida from non-Florida origins.

**Assuming a new logistics chain using Florida ports for import, a South Florida DC with a South Florida port provides the lowest logistics cost for Asian imported cargo consumed in Florida (compared to the current system of using non-Florida ports).** It is to be emphasized that this analysis focuses only on serving the Florida consumer market, not the Southeast consumer base beyond Florida. All three Florida port ranges – South, North and Gulf - can provide a more cost effective routing than the current use of the Port of Savannah and intermodal land bridge routings from the Ports of Los Angeles and Long Beach.

It is to be emphasized that development in North and Central Florida under current logistics chains and the potential to attract DC activity based on new import logistics chains can be accomplished simultaneously. Each DC operator or beneficial cargo owner (BCO) will make locational decisions based on their own unique logistics chains. Certain port and DC pairings may be more advantageous for a specific BCO than another. Given future infrastructure improvements such as dredging and on-dock/near-dock ICTFs, all port ranges in Florida will have the ability to compete to attract accounts that can serve the Florida consumption market from different DC locations. For example, a retailer that modifies a portion of its logistics supply chain to use Florida ports for a specific line of product, while using non-Florida ports for other product lines would maximize its location of a distribution center somewhere between a South Florida Port/DC combination, a Gulf Coast Florida Port/DC location and a Northeastern Florida location. The exact location within Florida, and port used will be driven by the mix of products using Florida ports versus non-Florida ports and more northern distribution centers such as in Savannah or Atlanta. In addition, tax incentives will play a further determining factor as to the ultimate locational decision.

**The Port of Miami's ability to handle a fully-laden vessel in excess of 7,000 TEUS once the channel is deepened to 50 feet will enhance the competitiveness of using a South Florida port and local DC combination.** With the use of a deeper draft vessel that will likely be deployed on a first call inbound routing, the cost advantage of the use of a South Florida port and local import DC is enhanced. Miami is currently the

only Florida port authorized and funded to deepen its channel to 50 ft. The deepening of other ports in Florida, particularly JAXPORT and Port Everglades, as well as Savannah, are currently under review by the US Army Corps of Engineers to determine authorization for a deeper channel. Should these ports succeed in receiving authorization, then the deeper channel at Miami will allow that port and a South Florida distribution center to still remain competitive with the other port ranges in serving the Florida market. With deeper channels at JAXPORT and Port Everglades, these ports would increase their competitive position with respect to Savannah not only in terms of cost savings to serve the Florida consumption market, but also to compete as regional distribution centers for the Southeastern US consumption markets.

**Ultimately, port investment in Florida is necessary.** Specifically, the dredging of the Miami channel to -50 feet, the construction of on-dock rail, and the Port of Miami access tunnel position the Port of Miami to market to carriers the Port's ability to handle a first inbound port call, requiring the 50 foot channel and the on-dock rail to move the containers intermodally. The development of an ICTF at Port Everglades is critical to compete not only with other non-Florida ports, but with the development of transshipment ports and off-shore distribution center development in the Caribbean. The deepening of the St. Johns River to a draft adequate to accommodate a first in-bound port call at the JAXPORT marine cargo terminals is necessary in order to maximize the ability of the Port to serve as a Southeastern US distribution hub, and attract cargo activity and distribution center activity that would otherwise move via Savannah. Without deepening the St. John River, and the development of an ICTF, the significant capital investment made by an Asian carry/terminal operator along with JAXPORT's investment will not result in the economic development impact as planned.

**The location of an ICTF appears to be critical in the establishment of a logistics center (LC).** Based on the review of the past successes of LCs, a critical ingredient is the proximity to a major rail Intermodal Container Transfer Facility (ICTF). This suggests that the development of an LC in Florida should consider the proximity to an existing or planned ICTF. Also, ample available land (large parks consist of 1,000 acres or more) to house millions of square feet in DCs, warehouses and other facilities interstate highway access serving regional consumption markets is necessary.

**An assessment of the demand for retail consumption in Florida indicates that there is potential for an additional 145 million square feet of distribution center space in Florida by 2030.** This represents a 27% growth over the current 540 million square feet of space in Florida. The incremental demand for new retail DC square footage that will be absorbed in Florida is estimated from the current base of 540 million square feet, assuming a full utilization of the current supply. At this time, while it is difficult to speculate the amount of square footage that will be absorbed by each market as location decisions will be made on a case-by-case basis by DC operators/retailers, it is expected that the South Florida market could absorb 30%-35% of the total 145 million square feet projected through the study period, if the South Florida market can cost effectively compete against North and Central Florida regions. This suggests that by

2030, demand for distribution center space in South Florida will range between 44 and 50 million square feet, assuming current space is fully utilized.

**Future locational decisions will consider current and future distribution and logistics plans, and the types of facilities necessary to serve each individual company's needs.** The future location of these DCs will be influenced by the cost of available land and lease rates, labor costs, transportation infrastructure and transportation costs to key consuming markets and from key supplying regions and ports. In addition, incentives by county, state and local governments such as tax subsidizations will also be key factors in the ultimate location of a distribution center/logistics center. It is very important to emphasize that the process of the location of distribution center locations should be driven by the private sector. The State should be cautioned against investing or committing infrastructure investment until private sector decisions and commitments are made. Investment in transportation infrastructure to serve specific land sites in the context of "build and they will come" may lead to inefficient use of State funds. Rather, state infrastructure investments should be developed as part of an incentive package once private sector development has been committed.

## **II. Factors Influencing United States (US) East Coast and US Gulf Coast Distribution Center Development**

Over the past decade, DC growth has flourished in the US Atlantic and US Gulf coast regions. Historically, national distribution activity was concentrated in the Los Angeles/Long Beach area. However, several factors have influenced decisions to locate facilities in other regions. Furthermore, a key driver in the growth of Asian trade at East Coast ports has increased focus on the development of distribution centers by major importers in this area of the country. This trend toward distribution center development has resulted from the desire of the importers to diversify the logistics systems, particularly in light of the 2002 West Coast Port Shutdown, which caused major supply chain disruptions on the key importers and exporters supply chains. Many of these developments have occurred at or near several US East and US Gulf Coast ports.

The most notable port-related DC development on the East Coast has occurred at the Port of Savannah. The Georgia Ports Authority has been pursuing a focused DC development strategy since the port attracted K-Mart in the mid-1980s. According to the Port, there is currently over 15 million square feet of retail import DCs in the Savannah area, including Advanced Auto Parts, Target, IKEA, Dollar Tree, Bass Pro Shops, Best Buy, Pier 1 Imports, Lowes, The Home Depot and Wal\*Mart.

Similarly, the Virginia Port Authority has also been aggressively pursuing the development of distribution centers. Current distribution centers in the Hampton Roads area and the Front Royal area (which is the location of the Virginia Port Authority's inland port) include: Target, Wal\*Mart, Cost Plus, Dollar Tree, QVC, The Home Depot at Front Royal, and Family Dollar at Front Royal.

Distribution center development is also occurring in the Gulf coast region, specifically Houston. These developments include the Cedar Crossing area site of 4 million square feet (sf) distribution center for Wal\*Mart as well as 8,000 acres of available land for future development. Other ports including Charleston, Wilmington (NC), Baltimore and New York are also aggressively pursuing distribution center development.

It is important to note that this growth in distribution center development includes the development of various types of centers and warehouses, the size and characteristics of each designed for specific functions within the logistics supply chain including import DCs which are typically the largest DCs and can range in size from 500,000 square feet for specialty retailers to up to 2 million square feet for big box retailers. These facilities handle import containers, and are typically located near-port or served by direct rail from a port terminal. The goods are shipped to regional DCs or depots in the supply chain. Regional DCs (or depots) typically range in size from 100,000 to 300,000 square feet. These DCs receive product from the import DCs and "pick and pack" merchandise for vans that go directly to the consumer retail outlets. Others such as fulfillment centers are DCs that serve the consumer directly – for example, e-retailers such as Amazon.com.

The balance of this chapter will address in detail the factors contributing to the diversification of supply chains, and how ports and logistics providers are preparing for future growth.

## **1. Shifting Logistics Patterns**

Between the mid-1990s and 2002, there was a consolidation of containerized imports through the Ports of Los Angeles and Long Beach. A portion of imports discharged at ports in the Pacific Northwest and Northern California was diverted to the Southern California ports due to infrastructure investments in facilities and services benefiting the Ports of Los Angeles and Long Beach. Ocean carriers and importers sought to lower transportation costs through utilizing new cost-effective operations serving Los Angeles/Long Beach. Cost efficiencies were realized through the development and expansion of distribution centers (DCs) serving the Ports of Los Angeles and Long Beach, as well as the development and expansion of cross-dock operations which resulted in an efficient and lower cost means of transferring cargo between marine containers and 53 ft. domestic containers and railcars. In addition, there were investments being made by the Burlington Northern and Union Pacific railroads to improve rail service between Southern California and the Midwest. Essentially, the importers became dependent upon the San Pedro Bay Ports of Los Angeles and Long Beach as the key entry point for the imported Asian cargo logistics supply chain. With the growing concentration of power by key importers such as Wal\*Mart, Target, Cost Plus, etc., these importers were able to “demand” that the ocean carriers concentrated imported cargo through the San Pedro Bay Ports. No longer were the ocean carriers making the port choice for the importers, as was the case in the early to mid 1990’s.

However, between 2002 and 2007 several “shocks” occurred in the existing shipping logistics patterns of importers that subsequently changed their future shipping logistics patterns. The new “shocks” include the aftermath of the events of 9/11 regarding national security and import containers, the West Coast port shutdown by the ocean terminal managers during labor negotiations with the International Longshore and Warehouseman Union (ILWU), port capacity issues including shortages of land and labor, rail and truck shortages, high intermodal rates, increasing pressure by state and local governments for “green” initiatives at the California ports. These factors raised questions as to the dependability of the Southern California ports as the key entry point for the logistics supply chains of the nation’s large importers. As a result, these importers began searching for alternatives to the existing logistics patterns, as well as the shifting overseas production centers.

An outcome of the “shocks” identified above has been the increase in all-water services from Asia to other US Atlantic Coast and US Gulf Coast ports. Following the West Coast port shutdown, ocean carriers and importers realized the downside of “putting all their eggs in one basket” and began to include the US Atlantic and US Gulf Coast ports in their logistics planning. In this way the importers would have a logistics network in place using other ports, other services (routings) of existing ocean carriers,

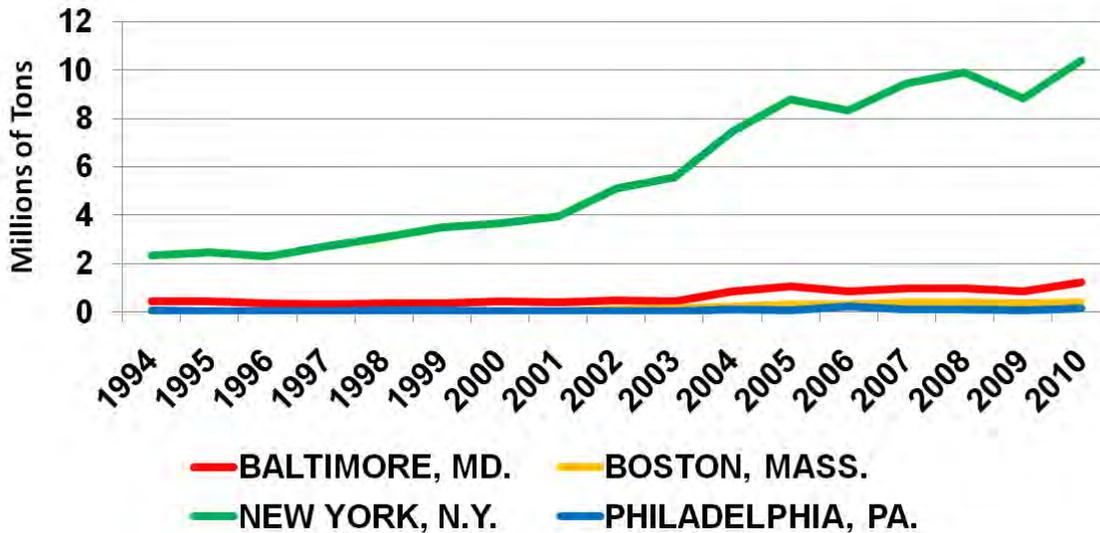
railroads, trucking companies, other 3<sup>rd</sup>-party logistics providers, etc. In the event of another system “shock”, the importers would now have alternatives already in place to accommodate a sudden shift in traffic.

There are two all-water routings that serve as alternatives to the use of West Coast ports and intermodal land bridge to transport cargo from Asia to the mid-western and East and Gulf Coast consumption markets: the use of the Suez Canal and the use of the Panama Canal. There are advantages and disadvantages to the all water routings to serve the mid-western, East and Gulf Coast markets. The Panama Canal is used for shipping between Eastern Asia and the US Gulf and East Coasts. The existing canal is relatively small and limits the size of vessels now engaged in international trade, which are increasingly being designed larger. The new Panama Canal Locks, with a planned opening in 2014, will be larger and will be able to accommodate the newer ships. An all-water service from Eastern Asia to the US Gulf and East Coasts will increase transit times vis-à-vis a discharge on the West Coast and intermodal move to the eastern half of the US, which is a disadvantage to importers of time sensitive cargo. However, the ocean carriers can internalize what would be the rail revenue of the intermodal move and may be able to offer importers a lower delivered price.

An all-water service to the US East and Gulf Coasts from Southern Asia (origins of cargo south of Singapore) would utilize the Suez Canal. The Suez Canal does not have the same physical limitations of the Panama Canal and can accommodate the new larger vessels. A Suez routing offers importers to the Eastern US a quicker transit from India and Southeast Asia as production is now shifting from China to India and Vietnam. To support this shift in production, India is now investing \$100 billion in port infrastructure and Vietnam is also increasing terminal development. There are also new direct India-Mediterranean express services in operation. The Mediterranean is also home to transshipment operations, whereby the large container ships transiting the Asia-Mediterranean routing transship containers to smaller vessels at ports in Tunisia, France, and Italy, and the larger vessels return directly to Asia and are not involved in multiple port calls. The smaller vessels then distribute the containers to multiple ports throughout Europe and on to the United States. This implies that the largest container vessels being built may not have to sail directly to the US but may transship their containers to smaller vessels bound for the US. However, transit time to the US Midwest via a Suez routing may be an issue for higher value cargoes. Piracy and political instability along the Suez routing is another concern that may affect routing decisions.

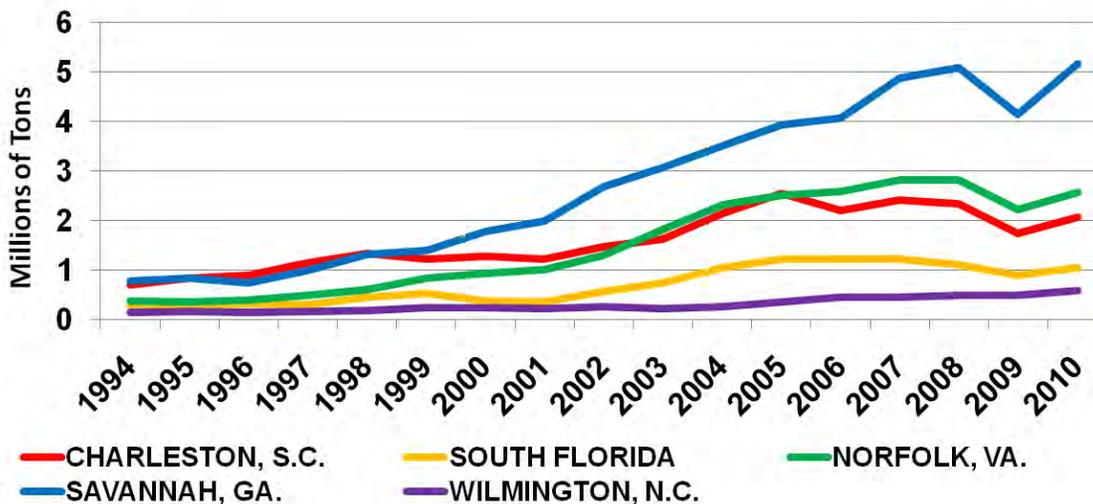
United States maritime interests have responded to the shift to and growth in all-water services. Port infrastructure investments have been made on the US East and US Gulf Coasts. There has also been significant growth in distribution centers in the US Gulf and US Atlantic port ranges. Since 2002, the growth in Asian all-water services has increased at most US Atlantic and US Gulf Coast ports. The Ports of Savannah, New York and Norfolk have experienced the most rapid growth in all-water services. Houston has also experienced growth in all-water direct services, although the Asian import volume is relatively small at Houston. Illustrations of the growth in Asian imports at US Atlantic and US Gulf Coast ports are shown in Exhibits 1-3.

Exhibit 1 - Imported Asian Container Tonnage - US North Atlantic Port Range



Source: US Census Bureau, Foreign Trade Division

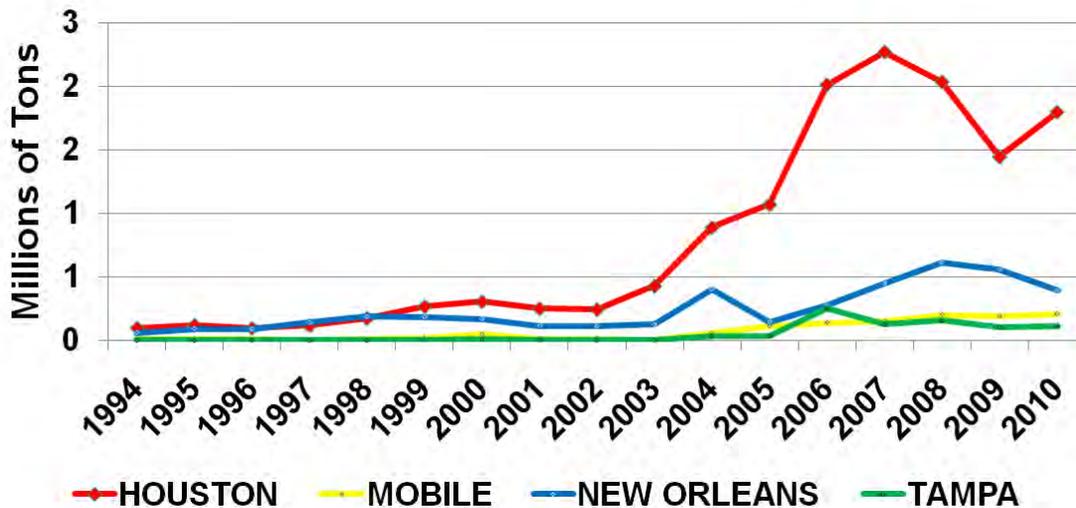
Exhibit 2 - Imported Asian Container Tonnage - US South Atlantic Port Range\*



Source: US Census Bureau, Foreign Trade Division

\*Jacksonville is not included in this exhibit due to the fact the port did not handle Asian cargo until 2009, and therefore has insufficient historical Asian trend; South Florida ports include Port Everglades and Port of Miami

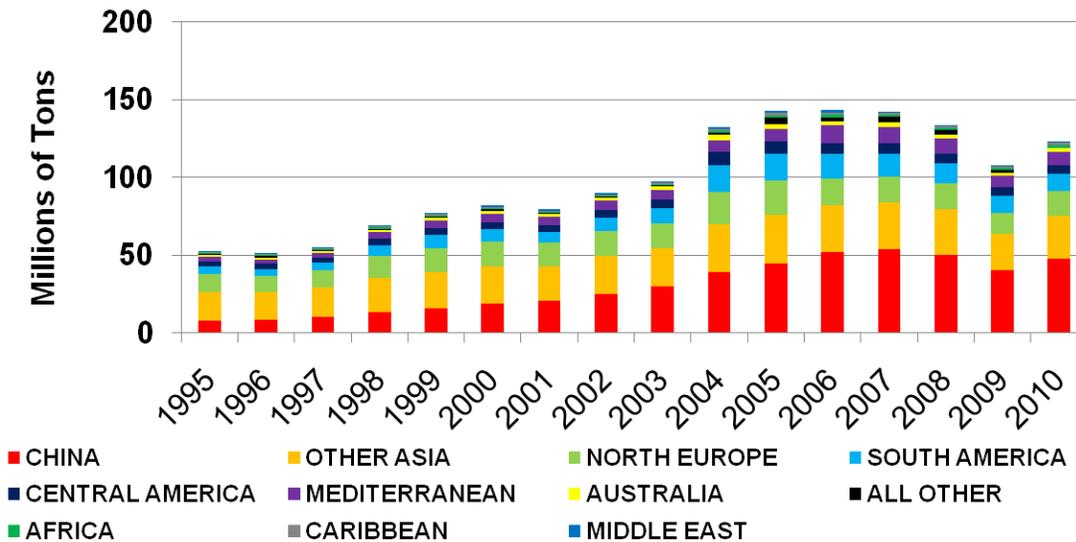
Exhibit 3 - Imported Asian Container Tonnage - US Gulf Port Range



Source: US Census Bureau, Foreign Trade Division

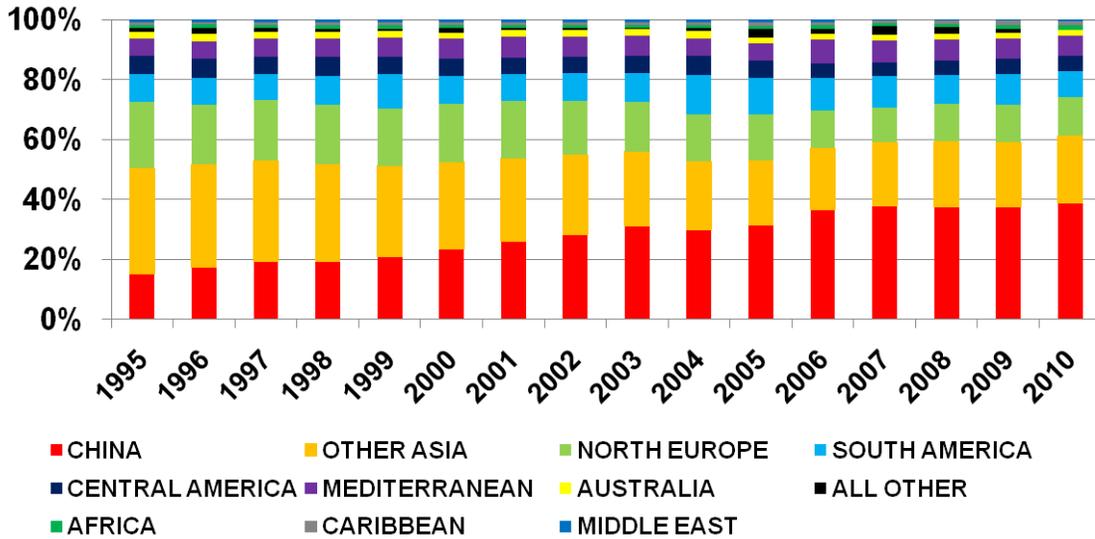
Exhibits 4 and 5 illustrate that China has been the growing source of imported containerized tonnage. Imports through Other Asia have shown growth as well, but Other Asia has lost market share to China. Exhibit 5 demonstrates the growth in share of China as the source of US imports, and the slowing of this growth in share in the later years of the period.

Exhibit 4 - Historical US Container Imports by World Region



Source: US Census Bureau, Foreign Trade Division

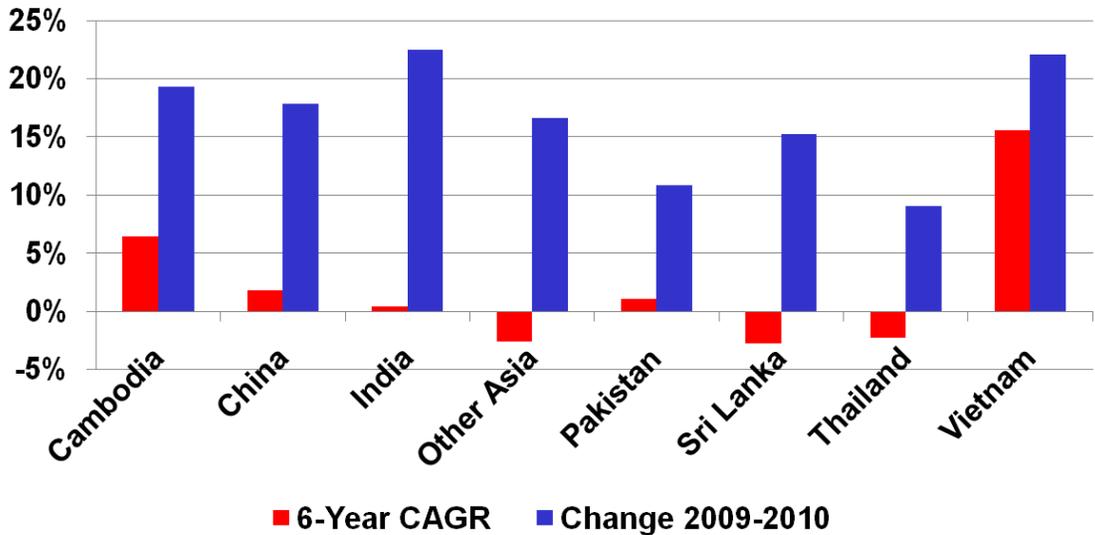
Exhibit 5 - Historical World Region Share of US Container Imports



Source: US Census Bureau, Foreign Trade Division

Based on cost pressures and sourcing diversification, Asian supply sources are shifting south and west into Vietnam and India, favoring a Suez routing, as shown in Exhibit 6. This Exhibit demonstrates that India and Vietnam have been the growing sources of imports into the United States. However, despite the growth rates in imports from other southeastern Asian countries, China remains the dominant supply source of exports to the US.

Exhibit 6 - Historical Compounded Annual Growth Rate (CAGR) of Asian Imports by Country of Origin



Source: US Census Bureau, Foreign Trade Division

## 2. Implications of Recent Free Trade Agreements

In 2011, after several years of negotiations, the US government ratified Free Trade Agreements (FTAs) with Panama, Colombia and South Korea. While the details of each FTA differ, they all give US producers much greater access to these markets. In general, tariffs will be eliminated on about 80% of bilateral trade between the US and these countries once the agreements enacted. In addition to this immediate trade liberalization, most remaining tariffs will be gradually phased out over the next five to 15 years.

**Colombia's** largest trading partner is the US, accounting for about one-third of Colombia's merchandise trade. Furthermore, Colombia is already Florida's second largest foreign trading partner and many of the goods that are currently exported will be among those whose tariffs are immediately eliminated. These include fertilizers, machinery and parts, and wood. As shown in Exhibit 7, fertilizer exports have grown dramatically since 2008, and account for over half the exported tonnage to Colombia from Florida ports. Also, machinery has been a stable export commodity over the past five years. In terms of imports, fuel oils account for nearly 95% of the volume imported through Florida ports.

Exhibit 7 – Colombian Top Import/Export Commodities through Florida Ports  
(Metric Tons)

<b>FL Metric Tons Exported to Colombia</b>					
Commodity Code and Description	2006	2007	2008	2009	2010
31 Fertilizers	0	0	147,122	162,613	246,814
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	28,843	43,937	57,703	55,284	73,159
27 Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	2,983	1,135	1,389	1,250	40,870
87 Vehicles, Except Railway Or Tramway, And Parts Etc	19,240	20,942	23,541	15,823	16,864
47 Wood Pulp Etc; Recovd (waste & Scrap) ppr & pprbd	7,571	5,488	14,635	19,269	16,311
48 Paper & Paperboard & Articles (inc Papr Pulp Artl)	8,228	8,765	9,315	9,631	13,397
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	7,935	8,027	11,570	9,369	11,630
26 Ores, Slag And Ash	7,462	7,386	12,423	19,377	10,052
70 Glass And Glassware	11,536	11,357	13,879	6,005	9,971
25 Salt; Sulfur; Earth & Stone; Lime & Cement Plaster	14,986	8,480	9,071	5,992	8,123
<b>Subtotal of top 10 Commodities</b>	<b>108,784</b>	<b>115,518</b>	<b>300,648</b>	<b>304,613</b>	<b>447,190</b>
All Other Commodities	84,452	120,255	99,993	70,967	90,017
<b>Total</b>	<b>193,236</b>	<b>235,773</b>	<b>400,641</b>	<b>375,580</b>	<b>537,207</b>
<b>FL Metric Tons Imported from Colombia</b>					
Commodity Code and Description	2006	2007	2008	2009	2010
27 Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	2,546,046	3,529,236	4,572,845	3,458,677	3,637,115
69 Ceramic Products	106,686	71,785	60,299	38,263	51,368
25 Salt; Sulfur; Earth & Stone; Lime & Cement Plaster	588,022	287,518	51,376	65,546	28,361
39 Plastics And Articles Thereof	26,567	27,191	16,802	16,767	24,323
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	9,362	11,407	6,963	9,179	14,301
09 Coffee, Tea, Mate & Spices	20,409	24,115	26,873	19,493	13,182
20 Prep Vegetables, Fruit, Nuts Or Other Plant Parts	6,651	7,683	7,638	7,553	7,507
70 Glass And Glassware	23,983	10,214	10,150	7,687	6,653
76 Aluminum And Articles Thereof	27,322	29,956	13,126	6,510	5,857
49 Printed Books, Newspapers Etc; Manuscripts Etc	2,580	6,183	4,897	4,851	4,996
<b>Subtotal of top 10 Commodities</b>	<b>3,357,627</b>	<b>4,005,288</b>	<b>4,770,968</b>	<b>3,634,526</b>	<b>3,793,663</b>
All Other Commodities	88,903	70,667	57,562	44,042	52,832
<b>Total</b>	<b>3,446,530</b>	<b>4,075,954</b>	<b>4,828,530</b>	<b>3,678,568</b>	<b>3,846,496</b>

Source: US Census Bureau, Foreign Trade Division

The Port of Tampa accounts for over 50% of the Florida export trade with Colombia due to the growth in fertilizer volumes in recent years. Meanwhile, the Port of Jacksonville fuel terminals handle the majority of imports from Colombia as demonstrated in Exhibit 8.

Exhibit 8 – Colombian Import/Export Volumes through Florida Ports  
(Metric Tons)

<b>Colombia Exports by FL Port (Metric Tons)</b>					
<b>Port</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Tampa	32,104	66,441	185,002	170,249	246,081
Port Everglades	52,256	64,267	84,448	83,643	107,875
Miami	79,048	76,958	90,064	87,998	92,397
Jacksonville	29,322	27,808	40,918	33,251	51,986
Port Canaveral	0	71	99	13	38,828
<b>Subtotal Top 5 Ports</b>	<b>192,730</b>	<b>235,545</b>	<b>400,529</b>	<b>375,153</b>	<b>537,167</b>
Other FL Ports	506	228	111	427	40
<b>Total FL Ports</b>	<b>193,236</b>	<b>235,773</b>	<b>400,641</b>	<b>375,580</b>	<b>537,207</b>
<b>Colombia Imports by FL Port (Metric Tons)</b>					
<b>Port</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Jacksonville	1,910,601	3,168,285	4,365,223	3,139,348	3,336,955
Tampa	875,004	440,957	194,279	186,472	188,151
Port Everglades	250,393	218,562	146,839	190,840	156,431
Miami	179,789	114,689	68,837	61,796	91,579
Port Manatee	119,942	47,434	36,952	78,467	43,341
<b>Subtotal Top 5 Ports</b>	<b>3,335,727</b>	<b>3,989,926</b>	<b>4,812,130</b>	<b>3,656,923</b>	<b>3,816,458</b>
Other FL Ports	110,803	86,028	16,400	21,645	30,037

Source: US Census Bureau, Foreign Trade Division

Various analyses have been prepared to assess the impact on trade between the US and Colombia after the FTA is in place. Enterprise Florida (eflorida.com) cites the US International Trade Commission (USITC) that US imports would increase by 5.5% annually and exports to Colombia would increase by 13.7%. Looking forward, it is anticipated that Tampa, Port Everglades and Miami are particularly well-positioned as they handle the majority of Florida-Colombia export traffic today and are established ports of call on existing trade lanes.

While West Coast States and the automotive industry have dominated many of the headlines surrounding the Free Trade Agreement with **South Korea**, there will still be several key opportunities for the Florida's exporters once the agreement is implemented.

Exhibit 9 illustrates the growth in edible fruits and citrus in 2010. This recent uptick in citrus exports will likely be further bolstered by the FTA. Wood pulp and iron and steel, however, still comprise the majority of tonnage exported through Florida ports. In terms of imports, fuel oils account for about 93% of the imports through Florida ports.

Exhibit 9– South Korean Top Import/Export Commodities through Florida Ports  
(Metric Tons)

<b>FL Metric Tons Exported to South Korea</b>					
Commodity Code and Description	2006	2007	2008	2009	2010
47 Wood Pulp Etc; Recovd (waste & Scrap) ppr & pprbd	32,992	27,785	32,760	32,298	48,722
72 Iron And Steel	684	14,864	68,955	97,234	42,216
39 Plastics And Articles Thereof	151	204	74	92	8,330
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	150	1,486	702	642	3,803
48 Paper & Paperboard & Articles (inc Papr Pulp Artl)	6	486	40	2,769	3,063
76 Aluminum And Articles Thereof	1,946	6,206	17,905	5,248	1,906
20 Prep Vegetables, Fruit, Nuts Or Other Plant Parts	282	1,849	899	331	1,564
29 Organic Chemicals	3	20	7	8	907
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	354	272	754	154	871
74 Copper And Articles Thereof	1,169	631	1,045	238	853
<b>Subtotal of top 10 Commodities</b>	<b>37,739</b>	<b>53,803</b>	<b>123,141</b>	<b>139,014</b>	<b>112,235</b>
All Other Commodities	1,001	1,752	4,052	3,025	4,117
<b>Total</b>	<b>38,739</b>	<b>55,555</b>	<b>127,194</b>	<b>142,039</b>	<b>116,352</b>
<b>FL Metric Tons Imported from South Korea</b>					
Commodity Code and Description	2006	2007	2008	2009	2010
27 Mineral Fuel, Oil Etc.; Bitumin Subst; Mineral Wax	36,702	177,127	119,331	516,032	787,117
73 Articles Of Iron Or Steel	26,057	13,550	25,393	7,834	22,440
48 Paper & Paperboard & Articles (inc Papr Pulp Artl)	14,773	10,482	4,283	3,596	9,987
40 Rubber And Articles Thereof	2,998	4,544	4,371	2,953	5,317
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	11,937	15,554	13,313	14,598	5,199
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	4,845	4,490	2,811	3,391	4,409
72 Iron And Steel	22,688	15,891	15,763	11,853	4,177
87 Vehicles, Except Railway Or Tramway, And Parts Etc	26,802	22,469	8,673	2,244	2,305
39 Plastics And Articles Thereof	2,252	2,205	2,143	1,638	1,838
22 Beverages, Spirits And Vinegar	57	64	162	756	1,691
<b>Subtotal of top 10 Commodities</b>	<b>149,110</b>	<b>266,376</b>	<b>196,243</b>	<b>564,896</b>	<b>844,479</b>
All Other Commodities	4,021	101,827	40,763	20,748	4,341
<b>Total</b>	<b>153,131</b>	<b>368,203</b>	<b>237,006</b>	<b>585,645</b>	<b>848,820</b>

Source: US Census Bureau, Foreign Trade Division

Exhibit 10 shows the distribution of Florida ports in terms of export activity to South Korea. Miami, Jacksonville and Tampa are key exporting ports to South Korea, while Port Everglades accounts for the majority of fuel oil imports via Florida ports.

Exhibit 10 – South Korean Import/Export Volumes through Florida Ports  
(Metric Tons)

<b>South Korea Exports by FL Port (Metric Tons)</b>					
<b>Port</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Miami	14,369	26,316	67,835	71,182	53,186
Jacksonville	264	639	1,930	20,092	38,147
Tampa	2,641	22,296	44,922	38,368	23,187
Port Everglades	5,422	4,831	12,507	10,858	1,714
West Palm Beach	16	0	0	0	62
<b>Subtotal Top 5 Ports</b>	<b>22,712</b>	<b>54,082</b>	<b>127,194</b>	<b>140,500</b>	<b>116,296</b>
Other FL Ports	16,027	1,473	0	1,539	56
<b>Total FL Ports</b>	<b>38,739</b>	<b>55,555</b>	<b>127,194</b>	<b>142,039</b>	<b>116,352</b>

<b>South Korea Imports by FL Port (Metric Tons)</b>					
<b>Port</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Port Everglades	16,479	190,601	123,622	517,174	794,252
Tampa	46,124	127,317	75,185	39,300	28,032
Miami	23,621	20,192	18,134	16,463	22,783
Jacksonville	53,922	22,513	14,022	5,196	3,742
Panama City	0	2	1	0	5
<b>Subtotal Top 5 Ports</b>	<b>140,146</b>	<b>360,624</b>	<b>230,965</b>	<b>578,133</b>	<b>848,815</b>
Other FL Ports	12,985	7,579	6,041	7,512	5
<b>Total FL Ports</b>	<b>153,131</b>	<b>368,203</b>	<b>237,006</b>	<b>585,645</b>	<b>848,820</b>

Source: US Census Bureau, Foreign Trade Division

While tariffs on fruit will not be completely eliminated, they will be significantly reduced and permit US growers much greater access to what has been a heavily protected Korean industry. Tariffs on orange juice concentrate, on the other hand, will be completely eliminated within five years of implementation of the FTA. Though demand for concentrate has been historically more volatile than that for citrus fruit, the elimination of these barriers will make US concentrate much more affordable relative to Brazilian concentrate, which, according to the USDA, currently satisfies the majority of Korean demand. This will represent tremendous opportunities for Florida citrus growers, and therefore, Florida ports are poised to benefit due to the proximity to the exporters.

Also, of interest is the fact that both Hyundai Motor Manufacturing Alabama (Montgomery, Alabama) and Kia Motors Manufacturing Georgia (West Point, Georgia), both Korean-owned manufacturers have located manufacturing facilities in the Southeast. These two plants will have the capacity to produce nearly 760,000 units at full capacity. Furthermore, Toyota has announced that it is interested in developing a North American-based export hub for some products to curb the negative effects of the strong yen when exporting from Japan, which includes the Camry line into South Korea from the US. The majority of the 100,000 units exported from the US were destined for North American Free Trade Agreement partners. Similarly, European automakers such as Audi are

looking to increase production in the US to take advantage of the weaker dollar. While there are other competing ports in the Gulf and South Atlantic, the proximity of these plants to Florida ports is should not be discounted as the manufacturers' trade patterns and supply chains can potentially evolve over time.

Total bilateral trade between the US and **Panama**, has grown by 160% in the past five years, with about a third moving through Florida. Panama has been one of the fastest-growing economies in Latin America and the IMF predicts growth of 6% through 2016.

In recent years, exports of bulk commodities such as ores, stone and cement from Florida ports to Panama have increased dramatically. However, paper products, vehicles and machinery have been the stable export commodities through Florida ports in recent years. Edible fruits and vegetables are among the top import commodities from Panama through Florida ports as illustrated in Exhibit 11.

Exhibit 11 – Panamanian Top Import/Export Commodities through Florida Ports  
(Metric Tons)

<b>FL Metric Tons Exported to Panama</b>					
Commodity Code and Description	2006	2007	2008	2009	2010
26 Ores, Slag And Ash	3	3	2,994	27,363	114,981
25 Salt; Sulfur; Earth & Stone; Lime & Cement Plaster	5,988	12,126	4,776	32,357	71,623
48 Paper & Paperboard & Articles (inc Papr Pulp Artl)	27,695	24,614	28,629	20,382	33,606
87 Vehicles, Except Railway Or Tramway, And Parts Etc	16,860	33,717	43,311	34,088	32,898
84 Nuclear Reactors, Boilers, Machinery Etc.; Parts	12,613	18,678	26,757	19,292	24,352
44 Wood And Articles Of Wood; Wood Charcoal	2,047	3,192	7,291	9,438	21,463
22 Beverages, Spirits And Vinegar	6,967	7,905	8,163	10,471	19,964
31 Fertilizers	0	0	12,780	3,000	19,443
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	5,975	8,901	11,429	9,532	14,736
32 Tanning & Dye Ext Etc; Dye, Paint, Putty Etc; Inks	5,295	5,392	5,506	12,007	11,096
<b>Subtotal of top 10 Commodities</b>	<b>83,442</b>	<b>114,528</b>	<b>151,638</b>	<b>177,928</b>	<b>364,161</b>
All Other Commodities	56,565	73,340	87,628	86,390	96,287
<b>Total</b>	<b>140,008</b>	<b>187,868</b>	<b>239,265</b>	<b>264,318</b>	<b>460,448</b>
<b>FL Metric Tons Imported from Panama</b>					
Commodity Code and Description	2006	2007	2008	2009	2010
98 Special Classification Provisions, Nesoi	8,593	10,102	12,379	12,915	16,335
08 Edible Fruit & Nuts; Citrus Fruit Or Melon Peel	15,567	13,003	11,501	8,365	10,959
07 Edible Vegetables & Certain Roots & Tubers	9,277	7,780	6,247	5,770	5,661
22 Beverages, Spirits And Vinegar	6,103	7,417	2,900	3,564	3,906
03 Fish, Crustaceans & Aquatic Invertebrates	2,183	1,893	2,639	2,487	2,270
76 Aluminum And Articles Thereof	1,163	1,165	923	572	833
09 Coffee, Tea, Mate & Spices	291	477	564	205	260
16 Edible Preparations Of Meat, Fish, Crustaceans Etc	204	132	244	132	177
85 Electric Machinery Etc; Sound Equip; Tv Equip; Pts	273	222	137	180	176
33 Essential Oils Etc; Perfumery, Cosmetic Etc Preps	128	18	37	76	125
<b>Subtotal of top 10 Commodities</b>	<b>43,781</b>	<b>42,209</b>	<b>37,569</b>	<b>34,265</b>	<b>40,702</b>
All Other Commodities	7,856	6,285	1,798	976	522
<b>Total</b>	<b>51,637</b>	<b>48,494</b>	<b>39,367</b>	<b>35,241</b>	<b>41,223</b>

Source: US Census Bureau, Foreign Trade Division

Port Everglades and Miami have historically been the dominant Florida ports in trade with Panama.

Exhibit 12 – Panamanian Import/Export Volumes through Florida Ports  
(Metric Tons)

<b>Panama Exports by FL Port (Metric Tons)</b>					
<b>Port</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Port Everglades	52,367	70,725	84,480	98,813	149,354
Tampa	1,020	3,627	20,507	36,551	136,189
Miami	66,735	92,774	104,497	104,109	127,418
Jacksonville	357	502	7,105	13,615	24,574
Panama City	17,791	18,163	17,909	7,231	19,512
<b>Subtotal Top 5 Ports</b>	<b>138,270</b>	<b>185,791</b>	<b>234,497</b>	<b>260,321</b>	<b>457,047</b>
Other FL Ports	1,737	2,077	4,768	3,998	3,401
<b>Total FL Ports</b>	<b>140,008</b>	<b>187,868</b>	<b>239,265</b>	<b>264,318</b>	<b>460,448</b>
<b>Panama Imports by FL Port (Metric Tons)</b>					
<b>Port</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>
Port Everglades	21,483	29,806	22,624	18,155	25,150
Miami	29,803	15,304	16,100	17,047	15,913
Jacksonville	0	0	0	14	161
Port Canaveral	0	0	0	0	0
Tampa	345	401	606	19	0
<b>Subtotal Top 5 Ports</b>	<b>51,631</b>	<b>45,512</b>	<b>39,330</b>	<b>35,235</b>	<b>41,223</b>
Other FL Ports	6	2,982	37	7	0
<b>Total</b>	<b>51,637</b>	<b>48,494</b>	<b>39,367</b>	<b>35,241</b>	<b>41,223</b>

Source: US Census Bureau, Foreign Trade Division

When the US-Panama FTA is enacted, it will eliminate what were already some of the region’s lowest tariffs. The affected goods include not only high-tech machinery and equipment used in the medical, engineering and aerospace industries, but also fertilizers and many agricultural commodities such as beef, pork, dairy products, most fruits and grains. In terms of growth in trade due to the enactment of the Trade Promotion Agreement (TPA), scenarios developed by the US Chamber of Commerce suggest that export goods to Panama would grow at a compounded annual growth rate of 25%, compared to long-term growth of 16.5% in the absence of a TPA. Also, the USITC has provided a growth range of 9%-145% over time depending on the specific commodity/industry sector; however the small size of the Panamanian market and the fact that the United States already supplies a substantial share of Panama’s imports in several of these product sectors could minimize impact on total trade<sup>1</sup>.

In addition, the development of transshipment hubs in Panama to accommodate the growth in the size of vessels transiting the expanded Panama Canal will likely result in an increase in trade with Panama. Since this transshipment trade will be dominated by feeder type vessels, those Florida ports not able to handle the post-Panamax size vessels

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<sup>1</sup> “US-Panama Trade Promotion Agreement: Potential Economy-wide and Selected Sectoral Effects, Investigation No. TA-2104-025, USITC Publication 3948”, US International Trade Commission, September, 2007

will remain key participants in this trade with Panama, as well as other Caribbean transshipment centers.

While it is difficult to quantify the impact that the FTAs with Colombia, South Korea and Panama will have on Florida, it is assumed that, as described above, the Florida ports will continue to maintain current market share and most likely expand market share as agreements are put into place.

### **3. Future Implications on Ports and Infrastructure**

In the previous sections of this report, the factors that contributed to changes in logistics patterns and the growth in all-water services were identified, and the resulting impact on the growth of distribution center activity on the East and Gulf Coasts. Key issues that drive future DC development include:

- West Coast ports have recognized that demand is not inelastic, and have focused on improving port productivity, terminal densification and reducing bureaucratic red tape in terminal expansion;
- Truck and rail service at West Coast ports has improved, particularly in terms of availability and service;
- Intermodal rates have become more competitive; and
- Growth of environmental policies and infrastructure fees at West Coast ports have stabilized.

There is still remaining questions as to labor productivity improvements at the West Coast ports, and the acceptability by labor of more automated container terminals in the future, which will significantly lower terminal costs and improve terminal capacity.

With the expansion of the Panama Canal to accommodate larger vessels in 2014 (thus lowering the vessel operating costs per container and increasing the cost competitiveness of an all water routing through the East Coast over the West Coast), there is anticipation that the volume of containerized cargo moving via US East and US Gulf Coast ports will grow significantly. However, the actual volume increases through the Panama Canal may be less than anticipated due to the factors that have impacted growth in all-water services are now in place and growth in trade with areas that are more efficiently served via Suez Canal. As a result of the shifts in all-water services that have occurred since 2002 due to the West Coast port shutdown; changes in distribution center geographic locations and logistics supply chain patterns of importers; development of new container terminals on the US Atlantic and US Gulf; and intermodal pricing by the railroads that shifted cargo away from West Coast ports, the dynamic changes in all-water versus intermodal services may be over, or at least slowing. The West Coast ports have come to realize that the demand for the use of West Coast ports is not inelastic, and, in fact, substitute port routings via the all-water services are viable. Similarly, the railroads have also found that pricing of intermodal services do impact importers/exporters port choice decisions, and the higher intermodal rates of the early and mid-2000's actually did impact the West Coast port routings in favor of all-water

services. Significant investments in terminal capacity and efficiencies are planned for the Ports of Long Beach and Los Angeles, with the focus on protecting market share after the expansion of the Panama Canal. Therefore, unless significant cost savings of an all water routing can be made, including reduced transit time of an all-water routing, the large increase in container volume via US East and US Gulf Coast ports is not likely to materialize after 2014.

What is more likely to occur is that the ocean carriers will increase the size of vessels moving via the Canal, and where cost competitive to a West Coast intermodal routing, these carriers will increase all water sailings on specific Asian/US East Coast/US Gulf Coast routings. After the completion of the expanded Panama Canal in 2014, the composition of the fleet (especially vessels calling US East Coast and US Gulf Coast ports) will likely change, as 6,500 TEU plus vessels will be deployed. The US East and US Gulf Coasts will have to compete to handle the larger sized vessels that will be deployed on both Suez as well as Panama Canal routings based on infrastructure, including channel depth to accommodate larger vessels (both Suez as well as the use of the expanded Panama Canal), berth capacity to handle 1,000 ft plus vessels, and crane outreach capability. The US East and US Gulf Coast ports will also need to compete based on local market and access to discretionary cargo for both truck and rail.

Specifically for Florida, the dredging of the Miami channel to -50 feet, the construction of on-dock rail, and the Port of Miami access tunnel position the Port of Miami to market to carriers the ability to handle a first inbound port call. These investments will be critical in providing the infrastructure necessary for the Florida ports to compete with Savannah and the West Coast ports for Asian cargo moving on all water services. Without this investment in channel depth, ICTF development and tunnel access, it would not be possible to compete for the larger vessels that will transit the Panama Canal after 2014, This is especially the case for Florida ports to compete for a first inbound port call, which will further result in the development of import distribution center activity in the port area, in turn stimulating economic growth in the State of Florida.

In addition to the growth in infrastructure at US East Coast and US Gulf Coast ports to accommodate the direct calls of the larger size vessels deployed after the expansion of the Panama Canal, the development of transshipment hubs in the Caribbean will likely continue, such as those in place in the Bahamas, Jamaica, Puerto Rico and Panama. Other transshipment hubs designed to handle the larger vessels transiting the expanded Canal are planned in Cuba, as well. At these transshipment ports, the larger vessels transiting the Panama Canal from Asia will discharge containers at these hubs, and then return to Asia. Smaller vessels will be deployed from the transshipment hubs to serve the Atlantic and Gulf Coast ports. In addition, these transshipment hubs will also represent an opportunity to mix north and south bound cargoes headed to and from Asia and the US, and to develop import distribution centers to compete with those centers in the Southeastern United States. The growth of these Caribbean transshipment hubs will also provide opportunities for the Florida ports that have not been able to secure deeper

channels, as smaller container vessels will be deployed from the Caribbean transshipment hubs into Atlantic and Gulf Coast ports.

To compete for the larger vessels deployed after the opening of the Panama Canal, as well as the potentially increased service via the Suez Canal to handle the growth in production centers in Vietnam and India, the ports will need to compete based on water depth, access to local and discretionary markets via on-dock rail, and port terminal infrastructure development. In addition, the ports will also need to compete to handle the smaller sized vessels deployed from the transshipment hubs, focusing on terminal productivity, terminal densification, inland transportation access to markets, and the ability to attract smaller scale distribution centers at near port locations.

With respect to water depth, only three non-Pacific ports have a 50-ft draft to accommodate a fully laden 8,000+ TEU ship: New York, Baltimore and Norfolk. In addition, Miami has received authorization and has received a pledge from the Governor Scott to provide funds toward the estimated \$200 million project. Exhibit 13 shows the current and planned depth at key US ports.

Exhibit 13 - Current and Planned Depths at East and Gulf Coast Ports

State	Port	Current Depth	Planned Depth
Alabama	Mobile	45	45
Delaware River	DE, PA NJ Ports	40	45
Florida	Jacksonville	40	45+
FLorida	Manatee	40	40
Florida	Miami (Authorized)	42	50
Florida	Port Everglades	42	50
Florida	Tampa	43	43
Georgia	Savannah	42	48
Louisiana	New Orleans	40	40
Maryland	Baltimore	50	50
Massachusetts	Boston	40	48
New York	New York	45-50	50
South Carolina	Charleston	45	45+
Texas	Corpus Christi	45	52
Texas	Freeport	45	55
Texas	Galveston/Houston	40	45
Texas	Sabine Naches	40-42	42-48
Virginia	Norfolk/Hampton Roads	50	55

Source: Martin Associates

With respect to the *discretionary markets*, the battle ground will be in the Midwest and Southeast, particularly in areas such as Columbus, Indianapolis, Cincinnati, Cleveland, Chicago, Memphis, Atlanta and St. Louis. Houston, Dallas and Denver will also be key battlegrounds for Gulf Coast activity. Central Florida will also be a key battle

ground for Florida ports. Because of the importance of the ability to serve the discretionary markets in a timely manner, rail service will be critical for Florida ports, including on-dock rail. Currently, the Port of Miami and Port Everglades are about to begin constructing on-dock/near-dock rail infrastructure and JAXPORT has just received TIGER Grant III funding for on-dock rail at Dames Point. The importance of the on-dock rail is critical in marketing to ocean carriers that will be deploying the larger vessels as a first inbound port call, rather than the carriers involved in transshipment activities in the Caribbean. Should the US ports, particularly the Florida ports with 48-50 ft. deep channels, be able to compete with the Caribbean ports for transshipment cargo, then on-dock rail becomes even more important in delivering cargo to consumption points in the US in a more time and cost effective manner than using non-Florida ports, most notably Savannah and the San Pedro Bay ports of Los Angeles and Long Beach. Key to regain the ability to transship cargo is the need to competitively price the transshipment services. Currently, ILA labor costs and security issues and regulations at US ports, particularly Florida ports, make transshipment services cost prohibitive. More specifically, the cost and potential time delays of US Customs and Border Protection (CBP) inspections of containers and subsequent stripping of containers during inspection, even for containers not ultimately destined for the US is the key hindrance in developing US transshipment services. These institutional practices severely limit the ability of Florida ports to compete with the transshipment hubs developing in the Caribbean, and will likely result in an erosion of jobs that would have otherwise occurred in Florida. The competitive disadvantage of the cost and potential time delays associated at a Florida port for a transshipment operation limits the economic impact that could otherwise have been realized by the current port infrastructure by the State and private marine terminal operators.

On-going investment in rail infrastructure in the US will enhance direct, all-water Panama Canal service to the US East and US Gulf Coasts' ports, and enhance access to these discretionary markets. Two rail projects will reduce transit times from US Atlantic Coast Ports into the Midwest. The Heartland Corridor Project will provide significant rail improvements for Norfolk Southern between Norfolk and the Midwest. The Crescent Corridor will provide improved service between the US Gulf and US North Atlantic, while the National Gateway Project will provide significant transit time improvements for the CSX service connecting New York and Baltimore to key Midwestern points, with a focus on the North Baltimore/Toledo (OH) Intermodal Container Transfer Facility (ICTF). Rail investments by the Kansas City Southern (KCS) and Centerpoint near Rosenberg, TX will provide significant intermodal access into the key manufacturing centers and distribution activity of the Monterey and Saltillo areas of Mexico. Also, near Rosenberg, the Union Pacific is developing an ICTF which will further improve intermodal access into the Midwest from the West Gulf area.

*Container terminal development* will also influence shipping and logistics patterns. The Port of New York purchased the Military Ocean Terminal at Bayonne (MOTBY) which avoids air draft restriction imposed by the Bayonne Bridge. The Port has also announced the intent to address the air draft restriction of the Bayonne Bridge. Baltimore has recently entered into a 50-year concession with Ports America Chesapeake

for the Seagirt Marine Terminal, with the development of a 50-ft. berth as part of the concession agreement. Philadelphia is currently involved in an RFP for development of the Southport Terminal and Norfolk has terminal expansion capability at Craney Island.

Specifically, recent improvements and planned infrastructure development at US South Atlantic and Florida Ports include:

**Port of Charleston**

- The Port has approximately 449 acres of dedicated container terminal operations. To accommodate the larger container ships serving world trade, the Charleston Harbor channels leading to all container terminals are now dredged to -45 feet at mean low water (5- to 6-foot tidal lift), while the entrance channel is 47 feet. The Port is investing \$1.3 billion to deepen the channel to 50 feet. The completion is expected around 2024.
- The Port has approved projects focusing on infrastructure and equipment upgrades such as four container handler masts for the Wando Welch Terminal and improved rail for Veterans Terminal. Twenty-five acres of new container yard to be used for refrigerated containers were added to the Wando Welch Terminal. The former area was reclassified for loaded dry container stacks, adding over 1,000 container slots to the Port.
- A \$23 million improvement at Columbus Street Terminal added 70 acres of storage yard and added additional rail infrastructure, which now permits oversize rail. The RoRo cargo operations were moved from the Union Pier Terminal to this location to handle the growing BMW business. The lifting capabilities of this terminal were also increased up to 500 tons.
- The Port of Charleston's plan includes the development of a new three post-Panamax ship berth, 280-acre container terminal on the former Charleston Naval Complex. The \$600-million project, supported by South Carolina law, will boost capacity by 1.4 million TEUs.
- In December, 2007, the approval was granted by both South Carolina and Georgia to create a bi-state port office to proceed with the planning and development of the Jasper Ocean Terminal. The parcel is approximately 1,400 acres that lies on the South Carolina side of the Savannah River in Jasper County. The terminal is expected to be operational by 2025. However, in December, 2011, the South Carolina State Ports Authority suspended funding for its joint project citing the current deepening project of the Savannah River would not enable the river to accommodate the size of the vessels that will start coming through the new Panama Canal locks after 2014.
- In order to attract additional Asian container service, the South Carolina Ports Authority has been pursuing a distribution strategy. To date, several distribution

centers have located near the port or on port property. These distribution center developments include:

- Wal\*Mart DC operated by American Port Services on Port property;
- Sam's Club distribution center near Wando Welch Terminal;
- Fruit of the Loom 350,000 sf distribution center under construction;
- JIMCO Group, based in Savannah, opened a bulk transload operation on Port property. It will receive products by rail or truck and export it internationally in containers.
- 200 million sf spec, class A industrial space available for development within a 30 mile range
- Two large logistics center planned with over 5,000 sf in a 60 mile radius
- Continental Tire planning new \$500 million plant in Sumter, SC
- Bridgestone Corporation building 1.5 million sf manufacturing plant in Aiken, SC.
- 1 million sf of distribution center capacity in mid-South Carolina; and
- 10,000 acres of developable within a 1-hour drive of Charleston.

### **Port of Savannah**

- The Garden City Terminal is a 1,200-acre facility that features 9,693 linear feet of continuous berthing and more than 1.3 million square feet of covered storage. The terminal is equipped with fifteen high-speed container cranes (4 super post-Panamax and 11 post-Panamax) as well as an extensive inventory of yard-handling equipment. The port plans to spend \$1.2 billion over the next ten years on terminal densification efforts, including the addition of 2 high speed super post-Panamax cranes every 18 months. The terminal is also adding 86 Rubber Tired Gantry cranes (RTG) as part of the Port's full RTG conversion which will improve efficiencies at the Port. In addition, Garden City Terminal is within 6.3 miles of I-16 (east/west) and 5.6 miles of I-95 (north/south), with access to more than 100 trucking companies.
- CSX Transportation (CSXT) and Norfolk Southern Railroad (NS) provide Class I rail service. As a key intermodal advantage, the "James D. Mason" on-terminal intermodal container transfer facility (ICTF), or "Mason" ICTF, provides overnight rail service to Atlanta. A 6,000 foot extension on the ICTF center is scheduled to begin in 2012. The extension will combine a track between the two onsite rail yards. In addition to the rail, the construction of the overpass of S.R. 307. With these two improvements, there will be more efficient flow for trucks and rail. Two- to four-day delivery via the ICTF is also available to inland destinations such as Charlotte, Chicago, Dallas, and Memphis.
- As the volume of cargo moving through the Port of Savannah escalates and the ships carrying that cargo grow even larger, plans call for Savannah's channel to be deepened from its present depth of -42 feet to -48 feet at mean low water to accommodate the next generation of deep-draft vessels. Completion of this project is projected for 2014.

**Jacksonville Port Authority (JAXPORT)**

- JAXPORT has historically participated in the Caribbean trade, more specifically; the port controls nearly 75 percent of the US-Puerto Rican trade. However, in 2009, Mitsui OSK Lines (MOL), along with terminal operator TraPac, signed a long-term lease and developed a 158-acre dedicated container terminal at Dames Point. This development will add capacity of nearly a 1 million TEUs to the port. In addition, Hanjin has announced plans for an additional 90-acre container terminal adjacent to the existing MOL/TraPac facility.
- JAXPORT's FY2011 capital improvement program includes installation of two new gantry container cranes, refurbishment of the rail infrastructure at Blount Island and investments in wharf rehabilitation at Talleyrand and Blount Island.
- Since the MOL/TraPac terminal opened in 2009, many retailers and 3PL firms have begun to take advantage of the global container services offered at the facility. In addition, more than 10 million square feet of warehousing and distribution space has been developed in Northeast Florida over the last few years.
- The Port was recently awarded a \$10 million TIGER III grant to construct on-dock rail to the Dames Point facility.
- Jaxport's Talleyrand and Dames Point Terminals are now dredged to a maintained depth of -40 ft. Blount Island Terminal is maintained to -38/-40 ft. The Port is under study by the US Army corps of engineers to authorization further deepening of the channel.
- JAXPORT's transportation infrastructure consists of the following:
  - Excellent north-south rail access to Southern Florida via Florida East Coast Railroad (FEC);
  - Access via CSX into Central Florida and the Winterhaven industrial distribution center currently under development by CSX;
  - East-west rail service via CSX and NS and good northbound service as well into the Midwestern US; and
  - Excellent highway access to key Southeastern markets.
- Accompanying the container terminal development at Jacksonville, there has been significant actual development and interest in the development of distribution centers in the area. Currently BJ's and Wal\*Mart have distribution centers near the Port, and these are primarily used for export activity to the Caribbean.

**Port of Palm Beach**

- With respect to containerized cargo, the Port of Palm Beach's container carrier, Tropical Shipping, serves ports throughout the Caribbean including the Bahamas, US Virgin Islands and Dominican Republic.

- While it is expected that the Port of Palm Beach will continue to serve the Caribbean, specifically the Bahamas trade, it is unlikely that the port will compete for Asia, India Sub-Continent (ISC) and European cargoes. This is due to the fact of the limited draft of -32' at High Water that prohibits vessels in excess of 700' LOA to enter the port. Urban development and recreational marine industries nearby severely constrain any major port expansion
- In 2005, the Port embarked on a 10-year capital improvement program estimated at \$122M. Land and current infrastructure constraints are being dealt with by redeveloping and improving the port with three major construction projects which began in 2007. Currently the Port is undergoing a Master Plan update to identify potential cargo opportunities and infrastructure redevelopment.
- One of the Port of Palm Beach's promising assets is its on-dock rail, which served Cuban trade in the 1950s, and the Port operates its own switching operations and interchanges with Florida East Coast Railway (FEC) bordering the Port to the west. However, current operations conflict with local traffic as the switching operation blocks a major six lane arterial in both the morning and evening peak hours. FDOT, the Port and the City are looking at alternatives to mitigate impacts.
- The Port recently has improved its on-dock rail, redeveloped land for cargo lay-down and opened a second truck gate off of US Highway 1 in mid-2008. The Port has thus far received commitments of over \$35M in grants from the Florida Department of Transportation, which has recognized the importance of augmenting capacity to the Southeast Florida ports.

### **Port Everglades**

- The Port has recently adopted a Master/Vision Plan update. According to the Port Authority, significant strategic changes from the 2006 plan included in the Master/Vision Plan include:
- Adding a new 16.5-acre on-port Upland Enhancement area related to the release of a portion of the existing 8-acre Conservation Easement that will allow the Port to create four new cargo berths in the Southport Turning Notch.
- Changing from a two-phase to a single-phase approach to the Southport Turning Notch expansion and decoupling from the US Army Corps of Engineers Deepening and Widening program.
- Refining the US Army Corps of Engineers Deepening and Widening program to reflect changes since 2007, which will allow the Port to deepen its channels to 50 feet from the current depth of 42 feet.

- Inclusion of a passenger ferry operations with proposed destinations such as Cuba. In fact, daily ferry service to and from Nassau, Bahamas began in December 2011.
- Modifying vessel and crane positioning in Southport due to Federal Aviation Administration object height to restrictions resulting from the close proximity of Fort Lauderdale-Hollywood International Airport.
- Revised Phasing of bulkhead projects to reduce costs.
- Advancing the Intermodal Container Transfer Facility into the 5-year Master Plan and deferring the Crushed Rock facility to the 10-year Vision Plan.

### **Port of Miami**

- The Port of Miami recently adopted a 25-year Master Plan which will improve both cargo and cruise efficiencies at the Port. In addition, three key projects are planned or underway: the Port of Miami Access Tunnel (POMT), the Port's Deep Dredge project and construction of an on-dock rail facility.
- In December, 2007, the Miami city commission voted to proceed with the tunnel project that will link the Port of Miami terminals to I-395 and I-95 and therefore relieving truck congestion through the City. The Port of Miami Tunnel (POMT) project is currently being built by MAT Concessionaire, LLC, in partnership with the Florida Department of Transportation (FDOT), Miami-Dade County and the City of Miami. By connecting SR A1A/MacArthur Causeway to Dodge Island, the project will provide direct access between the seaport and highways I-395 and I-95, create another entry to the Port of Miami besides the Port Bridge, and keep the Port of Miami, the community's second largest economic generator, competitive. Additionally, The POMT will improve traffic flow in downtown Miami by reducing the number of cargo trucks and cruise related vehicles on congested downtown streets, and will aid ongoing and future development in and around downtown Miami.
- The Port's Deep Dredge project is timed to coincide with the opening of an expanded Panama Canal in 2014, which will allow a new generation of larger cargo vessels to pass through the Canal. Governor Scott directed the Florida Department of Transportation to amend their work plan to include \$77 million for the dredging project. Once the port is dredged to a depth of 50 feet, larger, Super Post-Panamax ships can load and unload cargo there, enabling the Port of Miami to become a first port of call for ships coming through the expanded Panama Canal in 2014.
- The US Department of Transportation awarded the Port of Miami with a \$22.7 million grant to restore and rail service between the Port and the Florida East Coast (FEC) Rail Yard in Hialeah providing direct cargo access to the national rail system, further enhancing intermodal capacities when completed in 2013.

### **Port of Tampa**

- Tampa currently has 25 acres dedicated to container development; however there is an additional +/-80 acres adjacent to the terminal that can be developed in the near-term if necessary. The Port is currently quadrupling the capacity of its Port's America operated container terminal. The port has various sites available for container development which include Port Redwing, Hookers Point, and Pendola Point; however, significant capital investments would need to be made to develop these sites.
- Partnering with CSX and FDOT, the Port has started construction on Tampa Gateway Rail Project with completion expected in mid 2012. This will provide on dock rail access. In addition, construction is underway on FDOT's I-4 Connector Project. This more than \$500 million project that will provide direct port access to the interstate system without traversing city and county roads, greatly eliminating delays and environmental and maintenance costs. This project is to be completed by mid-2013.
- Construction will begin early this year on the single largest project planned at the port – the \$40 million modernization and expansion of the port's main oil terminal known as REK Pier, the primary entry point for gasoline for all of west/central Florida's nearly 9.0 million residents and the jet fuel for Orlando Airport.

As demonstrated in this chapter, the dynamic changes in the import logistics patterns that have occurred since 2002 to serve the Southeastern, Eastern, Gulf and Midwestern markets have resulted in potential opportunities to grow the role of Florida in the international logistics industry. This includes the development of distribution centers and logistics parks to serve the Florida consumption markets, as well as increasing the role of Florida's ports in attracting imports that are now consumed in Florida but imported via other non-Florida ports. Growth in Florida's role in the logistics industry will provide an economic catalyst to create additional logistics industry related employment within the State. The focus of the next chapter is the development of logistics centers and distribution centers to enhance the State's role in the logistics industry.

### III. Florida Distribution Center Market Assessment

This chapter focuses on the potential market for the development and expansion of the logistics industry within the State of Florida.

#### 1. Trends in Florida Distribution Center and Warehousing Activity

The distribution center market in Florida has historically been characterized by retail and wholesale industries that serve the key consumption markets throughout the State with import and domestic shipments, as well as by the freight consolidators primarily located in South Florida and Jacksonville that serve the Caribbean and Latin American export trade. This Caribbean and Latin American trade is driven by the construction and tourism activity. In addition, there is also a well established logistics supply chain to chandler the cruise vessels calling the Florida ports with hotel/retail items.

The majority of DC growth in Florida has occurred in three regions:

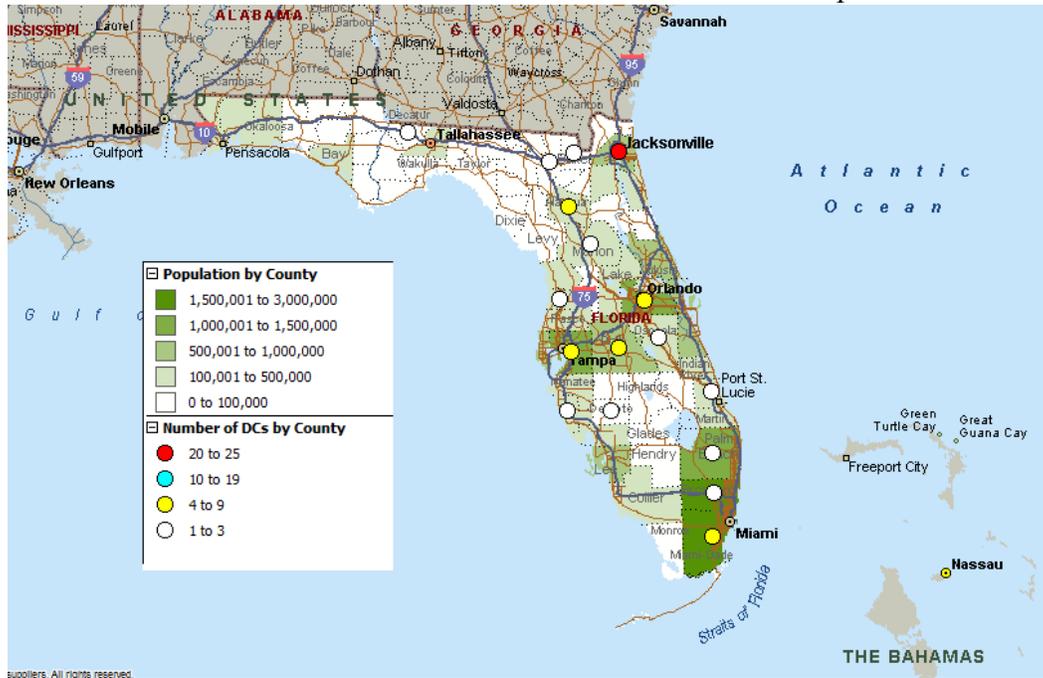
- Miami-Dade/Broward Counties: Serves the South Florida retail and wholesale markets; food wholesalers near the Port of Palm Beach, Port of Miami and Port Everglades infrastructure serve cruise and island export markets; consolidators focus on near-airport facilities to also serve air cargo market at Miami International Airport (MIA).
- I-4 Corridor (Tampa-Lakeland-Orlando): Serve growing population and tourism in Central Florida; also ability to serve South Florida retail and wholesale markets; excellent highway and rail access from hinterland.
- Greater Jacksonville Area: Ability to serve into North/Central Florida as well as westbound; inexpensive land, low congestion; excellent highway and rail access that can also access South Florida. In addition, a Jacksonville and Northeast Florida location provides an alternative to DC locations in Savannah to serve the Southeastern market. From an import standpoint, however, increased water depth is required at the Port of Jacksonville to effectively compete with Savannah as a major import distribution center for the Southeastern US with deeper water, it is likely that the Port of Jacksonville could be a key gateway port providing direct competition with Savannah as a port of entry for Asian import containerized cargo.

#### 1.1 Key Demographics Underlying Distribution Center Development

The growth in distribution, warehousing and logistics-related services has centered in key population and consumption centers as demonstrated in Exhibit 14. *The largest number of distribution centers has developed in the Jacksonville area, and*

*these centers typically serve the Northeastern Florida markets, as well as the Southeastern markets in Georgia. Essentially these DC operations parallel the type of development that has occurred in the Savannah area. (Distribution Center activity by key retail/wholesale industry can be found in Appendix A).*

Exhibit 14 – Location and Concentration of Florida DCs – Top 25 Retailers



Source: Chain Store Guide, Martin Associates and Florida Demographic Estimating Conference Database

As previously illustrated, there is a strong relationship between DC location and population/consumption centers. Furthermore, areas with projected population growth and a higher concentration of younger families tend to be attractive to planned distribution center growth, as these areas represent growing retail markets. According to the Demographic Estimating Conference Database, Florida’s population is anticipated to grow to 23.8 million people by 2030, which equates to a 1.2% annual growth rate over the 20-year period, as shown in Exhibit 15, while accompanying table in Exhibit 15A details population and growth by county.

Exhibit 15 - Florida Population Forecast 2010-2030

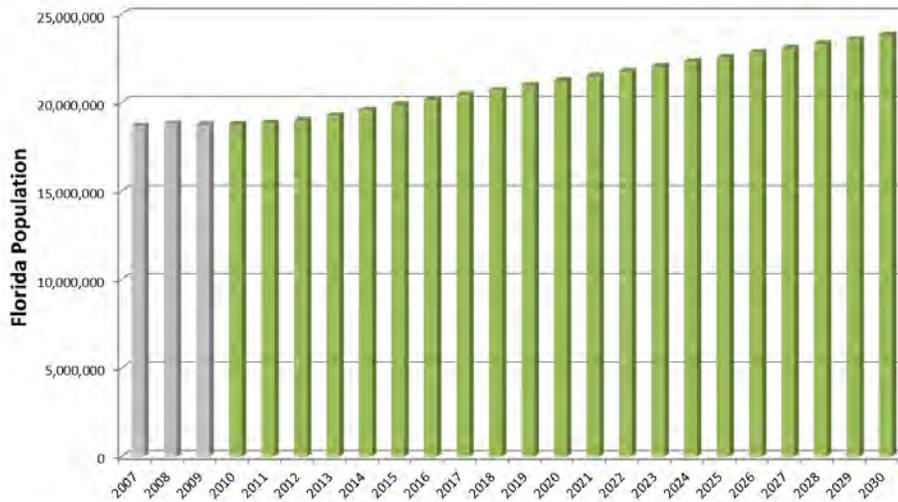


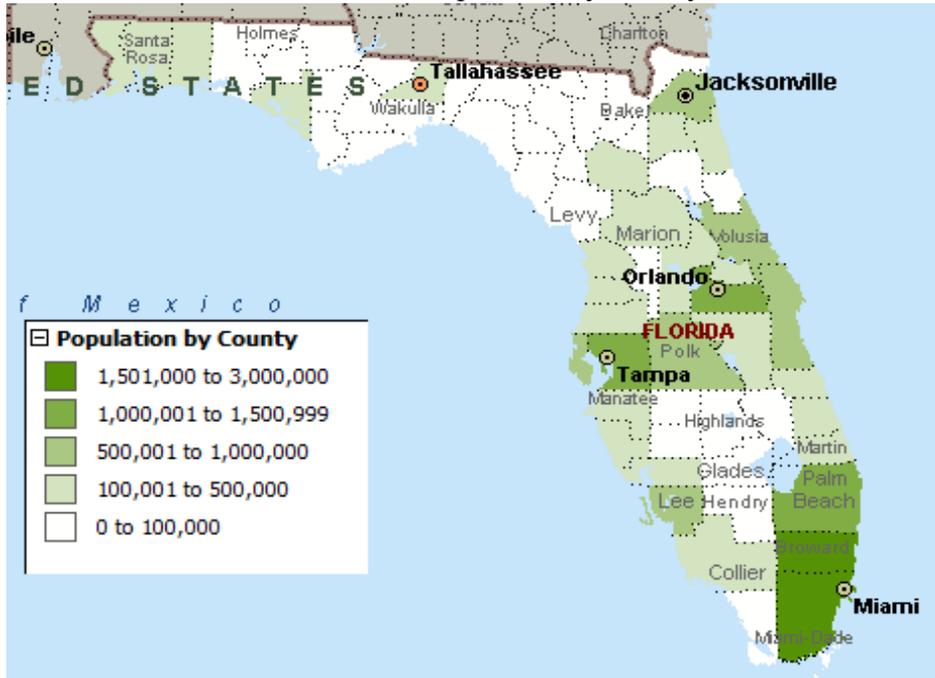
Exhibit 15A - Florida Population Forecast 2010-2030, County Detail

County	2010	2030	% Change	Increase in Population	County	2010	2030	% Change	Increase in Population
Alachua	257,553	323,373	26%	65,820	Leon	274,900	321,204	17%	46,304
Baker	25,916	33,035	27%	7,119	Levy	40,680	53,241	31%	12,561
Bay	170,176	210,870	24%	40,694	Liberty	8,212	10,509	28%	2,297
Bradford	29,308	34,333	17%	5,025	Madison	20,297	23,260	15%	2,963
Brevard	554,897	695,700	25%	140,803	Manatee	318,589	418,538	31%	99,949
Broward	1,742,891	1,903,007	9%	160,116	Marion	330,647	469,280	42%	138,633
Calhoun	14,576	16,735	15%	2,159	Martin	143,848	172,676	20%	28,828
Charlotte	165,842	212,576	28%	46,734	Miami-Dade	2,476,289	2,854,094	15%	377,805
Citrus	142,808	189,685	33%	46,877	Monroe	78,150	75,507	-3%	(2,643)
Clay	185,512	271,177	46%	85,665	Nassau	73,078	104,030	42%	30,952
Collier	333,554	483,576	45%	150,022	Okaloosa	196,781	245,053	25%	48,272
Columbia	67,097	85,190	27%	18,093	Okeechobee	39,712	46,931	18%	7,219
DeSoto	34,588	40,193	16%	5,605	Orange	1,110,993	1,527,285	37%	416,292
Dixie	16,212	20,757	28%	4,545	Osceola	273,274	462,530	69%	189,256
Duval	899,535	1,120,624	25%	221,089	Palm Beach	1,286,778	1,549,365	20%	262,587
Escambia	312,492	349,681	12%	37,189	Pasco	440,268	619,047	41%	178,779
Flagler	95,671	180,611	89%	84,940	Pinellas	927,119	937,471	1%	10,352
Franklin	12,371	13,921	13%	1,550	Polk	583,810	772,183	32%	188,373
Gadsden	49,807	57,825	16%	8,018	Putnam	74,216	79,454	7%	5,238
Gilchrist	17,571	24,174	38%	6,603	Santa Rosa	145,259	197,478	36%	52,219
Glades	11,330	12,541	11%	1,211	Sarasota	389,290	507,386	30%	118,096
Gulf	16,750	17,990	7%	1,240	Seminole	423,715	526,028	24%	102,313
Hamilton	14,752	16,374	11%	1,622	St. Johns	186,056	311,858	68%	125,802
Hardee	28,314	30,594	8%	2,280	St. Lucie	274,363	431,256	57%	156,893
Hendry	41,026	51,057	24%	10,031	Sumter	99,351	187,882	89%	88,531
Hernando	165,520	231,683	40%	66,163	Suwannee	43,135	53,273	24%	10,138
Highlands	99,741	124,791	25%	25,050	Taylor	23,132	26,007	12%	2,875
Hillsborough	1,199,428	1,582,495	32%	383,067	Taylor	23,132	26,007	12%	2,875
Holmes	19,897	22,090	11%	2,193	Union	15,657	18,609	19%	2,952
Indian River	141,930	197,347	39%	55,417	Volusia	506,528	613,185	21%	106,657
Jackson	52,782	59,602	13%	6,820	Wakulla	31,772	46,307	46%	14,535
Jefferson	14,783	16,629	12%	1,846	Walton	57,927	88,451	53%	30,524
Lafayette	9,779	11,591	19%	1,812	Washington	25,017	29,622	18%	4,605
Lake	293,478	451,550	54%	158,072					
Lee	616,626	948,874	54%	332,248	<b>Total</b>	<b>18,796,488</b>	<b>23,821,151</b>	<b>27%</b>	<b>5,024,663</b>

Source: Demographic Estimating Conference Database, updated August, 2010

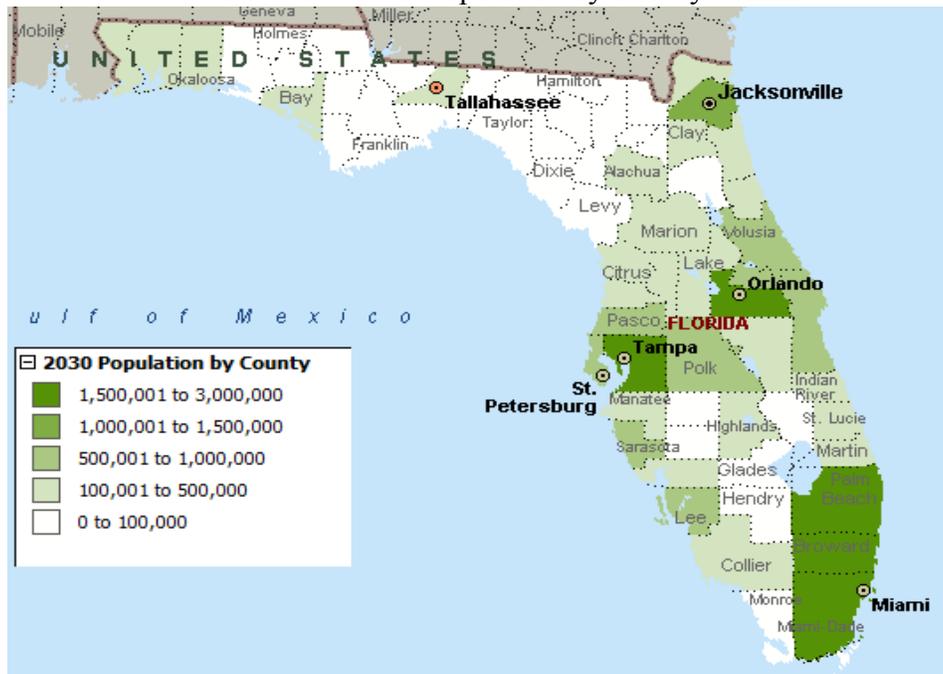
Exhibits 16 and 17 depict the Florida population by county in 2010 and 2030.

Exhibit 16 – Florida Population by County - 2010



Source: Demographic Estimating Conference Database, updated August, 2010

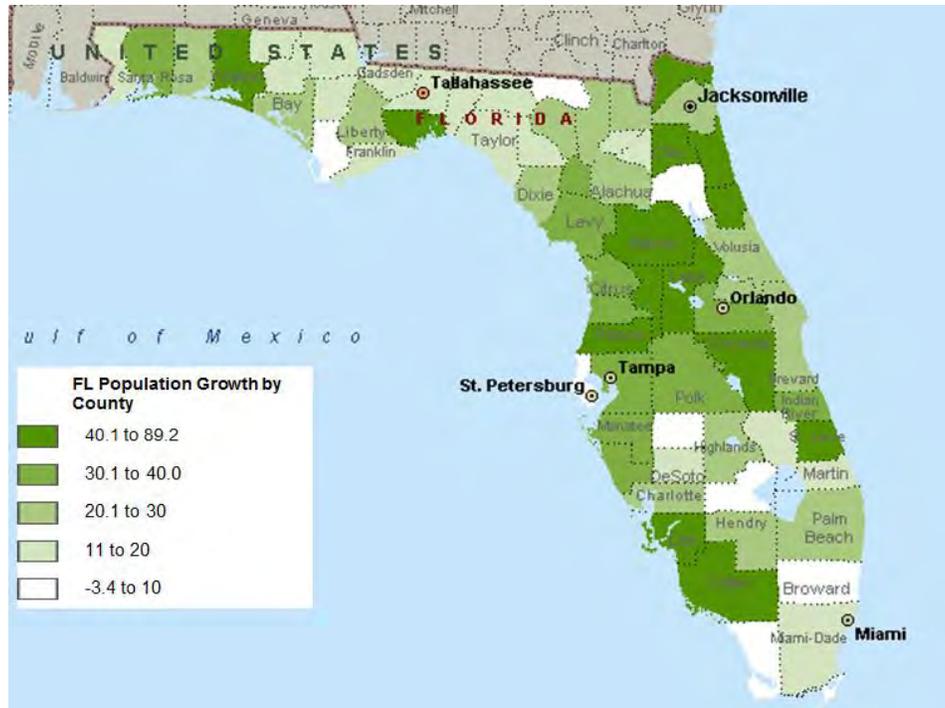
Exhibit 17 – Florida Population by County – 2030



Source: Demographic Estimating Conference Database, updated August, 2010

Exhibit 18 shows the percent change in population over the 2010-2030 period. The greatest population growth is projected in Northeast and Central Florida. Fifteen counties are expected to demonstrate a more than a 40% change in population by 2030 – ten of those counties lie north of Lake Okeechobee, through the I-4 Corridor to Jacksonville. It is important to note that this projected growth in population in these more northern and central counties are a key factor that will drive distribution center/logistics center development.

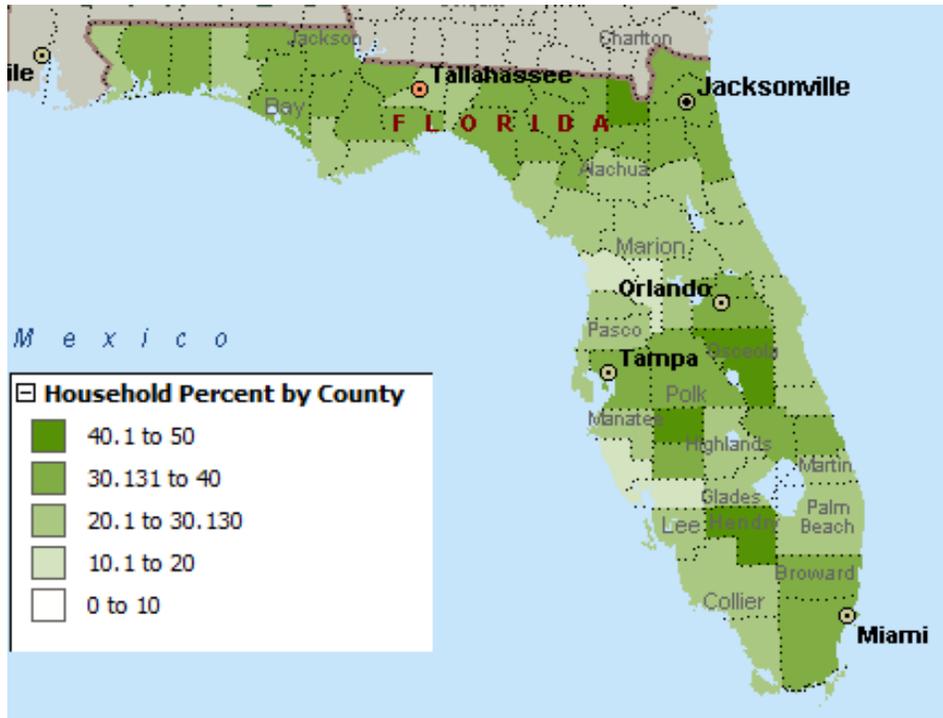
Exhibit 18 – Florida Population by County – Percent Change 2010-2030



Source: Demographic Estimating Conference Database, updated August, 2010

As shown in Exhibit 18, the highest concentration of population growth over the next twenty years is anticipated to occur in the central and northeast regions of the state. Furthermore, family households with children under the age of 18 are more concentrated in the center and northern regions of the state, as shown in Exhibit 19 below. From an importers and DC developer’s perspective, markets that represent population growth as well as a concentration of younger families are more attractive than markets characterized by a lower level of projected growth and a smaller concentration of families with fewer children. Therefore, from a demographic perspective, the northern and central counties appear to be most attractive.

Exhibit 19 – Percent of Florida Households with Children under 18



Source: Demographic Estimating Conference Database, updated August, 2010

## 1.2 Economic Factors Impacting Locational Decisions

Prior to the 2008 housing crash and subsequent global economic downturn, the Florida market industrial market was thriving, especially in Central Florida along the I-4 Corridor. Speculative buildings were being constructed by developers with optimism. Since 2008, however construction of industrial space and absorption has come to a standstill. Exhibit 20 compares key metrics of the industrial real estate market throughout the State of Florida. As expected, vacancies have increased and the asking rates are low. Perhaps the most telling figure of the weakened industrial real estate market is the fact that in Q3 2007, the six key markets in Florida were constructing 11 million square feet of industrial space while in Q3 2011, only one market – Jacksonville is beginning to show construction activity in the state. It is important to note that Jacksonville has the lowest lease rates in the areas included in the analysis.

**FLORIDA LOGISTICS CENTER MARKET ANALYSIS UPDATE**

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Exhibit 20 – Comparison of Key Metrics in Key Florida Industrial Markets  
2007-2011

<b>Market</b>	<b>Q3 2007 Vacancy Rate Percent</b>	<b>Q3 2011 Vacancy Rate Percent</b>
Palm Beach	6.0%	10.8%
Miami	4.5%	7.0%
Broward	5.0%	8.7%
Tampa Bay	3.7%	9.2%
Orlando	5.7%	15.9%
Jacksonville	5.0%	11.4%
<b>Market</b>	<b>Q3 2007 Asking Lease Rate SF/YR</b>	<b>Q3 2011 Asking Lease Rate SF/YR</b>
Palm Beach	\$8.45 - NNN	\$6.28 - NNN
Miami	\$8.28 - Ind. Gross	\$6.77 - Ind. Gross
Broward	\$8.42 - NNN	\$6.76 - NNN
Tampa Bay	\$7.28 - NNN	\$5.13 - NNN
Orlando	\$5.49 - NNN	\$5.26 - NNN
Jacksonville	\$4.54 - NNN	\$3.97 - NNN
<b>Market</b>	<b>Q3 2007 Square Feet Under Construction</b>	<b>Q3 2011 Square Feet Under Construction</b>
Palm Beach	633,863	0
Miami	3,699,594	0
Broward	2,016,986	0
Tampa Bay	2,614,013	0
Orlando	1,313,380	0
Jacksonville	1,458,800	235,000

Source: CB Richard Ellis

\* NNN lease rates do not include operating expenses insurance and taxes which is estimated about \$2.50/sf in South Florida and \$1.50/sf in Central and Northern Florida markets

*It should be noted that the lease rates identified for Palm Beach County in Exhibit 20 are predominantly derived from coastal submarket areas such as Boca Raton, Delray Beach, Boynton Beach/Lantana, Lake Worth/Wellington, West Palm Beach, Riviera Beach, and Jupiter. Lack of industrial development of rural Palm Beach County areas (as well as other counties adjacent to Lake Okeechobee) such as Belle Glade/Clewiston/Pahokee/Okeechobee limit available published data for similar parameters. It is anticipated that lease rates in rural Palm Beach County area would be less than those identified for coastal regions.*

## **2. Implications of National Trends in the Development of Logistics Centers and Distribution Centers in Florida**

Nationally, distribution and warehousing trends are indicating that there is demand for larger distribution properties by big-box retailers and third-party logistics providers (3PLs). The most popular sites are 500,000 square feet and greater in areas served by seaports. According to Grubb & Ellis, “the availability of large, Class A properties is beginning to tighten, which is forcing rent escalation. In the 750,000-square-foot and larger sector, rents increased 21 percent on an annualized basis in the third quarter. Rents rose 4 percent in the 250,000- to 500,000-square-foot segment”<sup>2</sup>. Retailers are looking to position themselves near key end markets in order to reduce transportation costs and increase ability to supply product in an efficient and timely manner. These retailers are also looking more to engage the services of 3PLs to save on costs, such as transportation. Currently, fuel surcharges in the Southeast are \$.35 per mile. Distribution strategies now in the planning stages will take 12-18 months for a company to find, secure and modify DC property before starting operations.

Also, retailers are interested in high quality, large, efficient facilities. Characteristics of new DCs include 35 ft. clearances, energy-efficient lighting and building materials, low-flow plumbing, and solar collectors. Also, automation is becoming increasingly present. As an example, Skechers Footwear built a new 1.8 million sf warehouse near Long Beach, consolidating seven small warehouses. This consolidation has led to an increase of efficiency from stocking/pulling 7,000 shoes per hour to 20,000 shoes per hour<sup>3</sup>.

In terms of consolidation of facilities, more mature companies that have older, smaller-sized warehouses may be candidates into looking to consolidate to a newer, state-of-the-art facility. Also, there is a growth of direct-to-consumer sales – led to retailers consolidating fulfillment for online retailing and store-base “brick and mortar” operations into one DC.

Looking forward in Florida, interviews conducted with key developers indicate that the Miami market is beginning to show slight signs of activity leading to some stabilization. Vacancy has now reached 7% and specs are beginning to be built again in Miami-Dade, however they are still waiting for Broward to catch up. Three new sites in Miami include: Prologis, DCT Industrial and KTR Capital which are expected to bring over 750,000 square feet to the Miami-Dade industrial market. Initially, KDR was to build two 150,000 SF warehouses, but decided to combine parcels in order to have the ability to market as one larger space due to a greater demand for that size. In South Florida, the availability of larger parcels is limited.

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<sup>2</sup> “Built to Grow”, Journal of Commerce, November 21, 2011

<sup>3</sup> “Racing Toward Efficiency”, Journal of Commerce, November 11, 2011

As more industrial warehouse space is absorbed in Miami-Dade and Broward counties and available parcels are depleted, the natural shift would likely move to the north. Overall, real estate developers indicate that the South Florida market, with respect to the retail distribution market, will still compete for accounts up to 300,000 square feet, and maintain that the larger facilities will continue to develop in Central and Northern Florida.

The Central Florida market remains sluggish and is not expected to rebound until 2013. Aside from the absence of new construction, there is a surplus of vacant space in Central Florida – highest vacancy in the state (16-19%), and an abundance of shuffling is expected to occur as retailers, consolidators and 3PLs tweak their supply chain either by consolidating facilities or expanding into new space.

With respect to North Florida, Jacksonville is more positioned to serve the North Florida as well as the non-Florida Southeast region, and is not viewed as direct competition to South Florida. Few retailers are debating between Jacksonville or Miami site, but more between a Jacksonville and Savannah site. With deeper water at JAXPORT, this port could be positioned as a gateway port competing with Savannah for import distribution center development.

In terms of exports, Florida ports compete for the export market that serves Latin America and the Caribbean. While Jacksonville will remain in control of the Puerto Rican market, the South Florida ports will continue to be successful in the Latin American and Caribbean due to the large Latin American business community in South Florida. The FTAs recently signed by the US government between both Panama and Colombia is expected to bolster export activity through these ports in the coming years. The close-knit community of suppliers to the Caribbean and Latin America are strongly rooted in Miami-Dade County, and relocation to other regions does not appear feasible. A key concern of the consolidators is the additional trucking cost and additional lead time that would be incurred if operations were relocated to the north. Also, many of these consolidators also handle air freight, so proximity to the Miami International Airport (MIA) in areas such as Hialeah and Medley is critical.

After the Panama Canal is expanded in 2014, it is anticipated that transshipment activity in the Caribbean will continue to flourish. Four ports have traditionally served the Caribbean transshipment operations: Colon (Panama), Caucedo (DR), Freeport (Bahamas) and Kingston (Jamaica). Currently, there are numerous expansions at these facilities as well as other regional developments in Colombia (APL) and Costa Rica (APM Terminals). Transshipment port development is also targeted for Cuba. Recently, there has been interest from retailers to investigate the potential to place offshore DCs in the Caribbean, near key transshipment hubs. These DCs could provide importers the ability to strip the containers at the transshipment site, and then provide additional packaging, racking, etc. services at the Caribbean site prior to reloading into standard marine containers or even into specially designed 53 ft. containers for direct delivery to mainland regional DCs and retail depots to maximize the cubing potential of the lighter weight retail products. If the development of offshore DC were to come to fruition, it

could impact future decisions regarding Florida, as well as import distribution center development along the Atlantic and Gulf regions.

### **3. The Importance of Rail in the Success of the Development of Logistics Centers**

Recently, there have been numerous infrastructure development projects at Florida ports that once implemented, will have significant impacts on not only Florida, but the Southeast Region. These include the authorization and funding for the deepening of the Port of Miami channel, the development of an on-dock rail ICTF at the Port of Miami, the development of a near-dock ICTF at Port Everglades and the development of an on-dock rail at JAXPORT (for which the Port was recently awarded \$10 million in TIGER III funds). Also, partnering with CSX and FDOT, the Port of Tampa has started construction on Tampa Gateway Rail Project which will also provide on-dock rail access. As seen from these from these examples, rail is certainly of the utmost of importance to Florida ports moving forward. In addition, CSX has been developing their intermodal facility at Winter Park, and the potential development of the US 27 freight rail corridor is currently under study.

The role of Logistics Centers (LCs) in the US has increased in over time. The current developments in rail access at the state of Florida ports follow in the footsteps of ports that have developed on-dock facilities to serve LCs. In order to assess the key elements of success of an LC, Martin Associates developed case studies of key ICTF/LCs in the US. Eleven US locations and railroads for case studies were identified. The case studies of each location include descriptions of the intermodal rail yard for the designated railroad. In several case studies additional intermodal rail yards operated by other Class I railroads were also described. The case studies also describe multiple intermodal yards operated by individual railroads in one location. The case studies focus on the following US locations and railroads:

- Kansas City, MO – NS;
- Alliance, TX – BNSF;
- San Bernardino, CA – BNSF;
- Joliet, IL – BNSF;
- Louisville, KY – NS;
- Front Royal, VA – NS;
- Harrisburg, PA – NS;
- Charlotte, NC – NS;
- Nashville, TN – CSX;
- Austell, GA – NS; and
- Columbus, OH.

Interviews were conducted with city, county, regional and state economic development agencies and Chambers of Commerce to collect quantitative and qualitative

data on the development of warehouse/DC development and intermodal rail facilities in the designated locations. Data was collected regarding current warehouse/DC developments, future developments and descriptions of local intermodal rail yard facilities. Qualitative assessments of the relationship between the intermodal rail yards and the development of DCs in their respective locations were obtained from the interviews. Private developers of industrial complexes incorporating DC facilities and intermodal rail facilities were also surveyed. The surveys included discussions on planned expansion of building capacity, intermodal rail capacity and lift capacity at the rail yards. Class I railroads were contacted for descriptions of their intermodal rail yards in the ten locations. *The case studies are presented in Appendix B.*

## **Implications**

Several areas in the US are experiencing major investments in large industrial park and multi-modal complex developments. These developments are capitalizing on local multi-modal transportation systems that allow the development to serve large broad markets. Characteristics of the large intermodal/logistics complexes are:

- Large parks of 1,000 acres or more;
- Development of millions of square feet in DCs, warehouses and other facilities;
- Intermodal rail yards on hundreds of acres;
- Access to interstate highways serving markets north to south and east to west; and
- Air cargo airports.

The development of these facilities has the potential to generate significant economic impacts in a local economy. Key examples of large intermodal/logistics complexes are:

- **AllianceTexas** – the 17,000 acre complex with 6,200 acres developed for industrial use and an additional 6,000 acres that can be developed. This expansion has the potential to increase building capacity by 60 million sf. The on-site BNSF intermodal rail yard has a 600,000 lift capacity than can expand to 1.5 million lifts. Union Pacific also provides boxcar service. The complex is served by three interstate highways and an on-site air cargo airport. Half the tenants at AllianceTexas utilize the BNSF intermodal facility.
- **CenterPoint Intermodal Center-Joliet** – the 3,200 acre complex opening in 2010 will have a 2,200 acre industrial park with a potential to develop 30 million sf of building space. The complex will also have a 990 acre intermodal rail yard operated by Union Pacific.
- **CenterPoint Intermodal Center-Elwood** – the 2,200 acre complex includes an 800 acre intermodal rail yard operated by BNSF. The rail yard has been developed on 429 acres and has a lift capacity of 800,000 units. The yard has expansion capacity of 300 additional acres that will enable lift capacity to reach 2 million lifts per year. The Union Pacific also has access to the Elwood center.

The center has 8 million sf of building space developed and has the potential to expand another 4 million sf.

- **AllianceCalifornia** - the 2,000 acre complex has developed and sold 7.7 million sf of building space with plans to expand development by an additional 5.3 million sf. The complex is two miles from the 376 acre BNSF intermodal yard. About 65% of the yard has been developed leaving room for potential expansion. The complex has access to multiple interstate highways and the Roadway and Yellow Freight hubs are nearby. In addition, the developer (Hillman) is also developing the 2.1 million sf InterChange Business Center four miles away. The center is also two miles from the BNSF intermodal yard.
- **International Freight Gateway** – the 1,340 acre complex in Kansas City that opened in 2008. The gateway includes the 370 acre CenterPoint-KCS Intermodal Center and a 970 acre industrial park. The park has the potential for a 7 million sf build-out.
- **Gardner Intermodal Yard** – the 400 acre BNSF intermodal yard in Kansas City is adjacent to the 600 acre intermodal rail-served Logistics Park Kansas City.

Other rail developments in the US include the Heartland Corridor Project will provide significant rail improvements for Norfolk Southern between Norfolk and the Midwest. The Crescent Corridor will provide improved service between the Gulf and North Atlantic, while the National Gateway Project will provide significant transit time improvements for the CSX service connecting New York and Baltimore to key Midwestern points, with a focus on the North Baltimore/Toledo (OH) Intermodal Container Transfer Facility (ICTF). Rail investments by the Kansas City Southern (KCS) and Centerpoint near Rosenberg, TX will provide significant intermodal access into the key manufacturing centers and distribution activity of the Monterey and Saltillo areas of Mexico. Also, near Rosenberg, the Union Pacific is developing an ICTF which will further improve intermodal access into the Midwest from the West Gulf area.

*As indicated in this section the location of an ICTF appears to be critical in the establishment of a successful logistics center. Based on the review of the past successes of LCs, a critical ingredient is the proximity to a major ICTF. Potential LCs in Florida should consider the proximity to existing or planned ICTFs. Also, ample available land (large parks consist of 1,000 acres or more) to house millions of square feet in DCs, warehouses and other facilities interstate highway access serving regional consumption markets is necessary.*

#### **4. Summary of Factors Underlying the Success of Distribution Center Development in Florida**

The findings of this chapter have identified specific factors that appear to be critical in the successful development of distribution centers, and/or logistics centers, which are essentially clusters of distribution centers capitalizing on economies of scale in

terms of fixed costs (security, utilities, rail and highway infrastructure). These factors include:

- Population density;
- Projected growth in population, representing growth in consumption activity;
- Concentration of families representing potential consumption activity; and
- Proximity to major rail and highway infrastructure.

Not included in the analysis to date are the logistics costs associated with the location of a DC and/or logistics center. The logistics costs include not only proximity to the markets (i.e. growing population centers and young families representing future consumption potential), but proximity to existing or potential logistics supply chains (i.e. import distribution centers and ports). In addition, land and labor costs also enter into the locational decision, as does minimization of inventory carrying costs. These additional cost factors are evaluated in the following chapter.

## **IV. DC Logistics Cost Analysis to Serve Florida Population**

The focus of this chapter is the development of a logistics cost analysis to determine the optimal location(s) in Florida to serve as potential sites for distribution center/logistics center development. To determine the optimal location of a DC site in Florida, to serve the Florida consumption markets, two scenarios were developed. These scenarios are described as:

Scenario 1) the identification of an optimal location to serve the Florida consumption market by a regional DC/logistics center that would serve the retail outlets, regardless of port of entry. This logistics cost analysis factors in lease rates, labor and weighted trucking costs for delivery to Florida consumption markets, and further assumes that retailers will serve the Florida market from the existing supply chain network consisting of ports and import DCs not located in Florida.

Scenario 2) this scenario identifies the most optimal port-DC pairing that would serve a smaller-sized specialty/boutique import DC serving the Florida market. The total logistics cost including ocean voyage cost and drayage or rail to DC location as well as lease rate, labor and trucking cost for delivery to Florida consumption markets. This does not consider established logistics chains of large retailers that have already established their central import DC locations.

To evaluate these scenarios, the following logistics cost analysis for a 250,000 square foot facility is presented.

### **1. Logistics Cost Analysis to Serve the Existing Cargo Flows and Logistics Supply Chains in Florida**

Asia is the major trading partner for Florida for containerized imports. While portions of the Asian cargo consumed in Florida consumption centers has historically moved via the South Florida container ports of Miami and to a lesser extent Port Everglades, much of this imported Asian cargo consumed in these regions has moved by rail from the Port of Savannah and the San Pedro Bay Ports of Los Angeles and Long Beach, specifically:

- Savannah - containers received at the Port of Savannah and moving directly from the Port to consumption points and regional DCs and depots centers within Florida;
- West Coast ports - containers imported via the Southern California Ports of Los Angeles and Long Beach; the Pacific Northwest Ports of Seattle and Tacoma and via Oakland. These containers are railed directly from the ports to the consumption points and regional DCs in Florida; and

- Distribution center cargo - this category represents cargo imported via East coast ports, primarily Savannah or West Coast ports into import distribution centers located in the Southeastern United States and then moved via domestic truck (or rail to a limited extent) into Florida to consumption points and/or regional distribution centers and depots.

In 2009, the Florida ports handled 38% of the 2.2 million tons of Asian imported containerized cargo into Florida. This represents a potential of 1.4 million tons imported from Asia into Florida that are not moving via Florida ports. The non-Florida ports handling this imported containerized cargo from Asia into Florida and the share of imported Asian cargo into Florida they moved in 2009 were:

- 39% moves via West Coast Ports (36% via Los Angeles and Long Beach);
- 13% moves directly via Savannah;
- 4% from New York; and
- 2% from Charleston.

Furthermore, in 2009, the Florida Ports handled 70% of the 3.1 million tons of non-Asian imported cargo moving into Florida. This represents an additional 945,300 tons of potential containerized cargo not now handled by Florida ports. The ports handling these containers into Florida were:

- 7% moves via New York;
- 6% via Los Angeles and Long Beach;
- 3% from Savannah;
- 3% from Charleston; and
- 2% each from New Orleans, Houston, New Orleans, Philadelphia and Norfolk.

This excludes international cargo (primarily Asian cargo) moving via truck into Florida from DC origins such as Savannah and Atlanta, which was estimated at 8.8 million tons or 1 million TEUs.<sup>4</sup> To detail these truck movements, Exhibit 21 presents the top 20 origins of containerized truck traffic into Florida. Distribution centers in Atlanta, Savannah, and New York are evident in this listing of key truck origins.

Under the existing scenario, it is assumed that these origins of truck moves will remain constant, and the Florida ports will continue to under serve the Florida consumption markets.

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<sup>4</sup> Florida Trade and Logistics Study, Florida Chamber of Commerce Foundation and Florida Department of Transportation, by Cambridge Systematics and Martin Associates

Exhibit – 21 Top 20 County Origins of Retail/Wholesale Truck Cargo into Florida

<b>Sum of TRUCKS</b>	
<b>Origin County (non-Florida)</b>	<b>Total</b>
Atlanta, GA	58,771
New York, NY	50,490
New Orleans, LA	27,112
Savannah, GA	25,526
Albany, GA	25,158
Los Angeles, CA	23,254
Chicago, IL	22,023
Dallas-Fort Worth, TX	16,263
Jackson, MS	15,538
Cedar Rapids, IA	14,310
Pittsburgh, PA	13,227
Houston, TX	12,119
Baltimore, MD	11,634
Buffalo, NY	11,340
Cleveland, OH	10,545
Raleigh, NC	10,354
Cincinnati, OH	10,277
Nashville, TN	10,249
Huntsville, AL	9,734
Charlotte, NC	9,553

Source: Florida Trade and Logistics Study, 2010

Exhibit 22 demonstrates that Miami-Dade County is the largest destination market for non-Florida retail truck movements into the state, followed by Duval, Hillsborough, Orange and Broward counties. As expected, these locations reflect the concentration of population, as well as distribution centers. Exhibit 23 quantifies the number of out-of-state retail goods truck moves received by Florida County.

Exhibit 22 – Retail/Wholesale Truck Cargo Flows into Florida by County



Exhibit 23 Destinations of Retail/Wholesale Truck Flows by Florida County – Number of Trucks

Destination County	Total
Miami-Dade County, FL	246,633
Duval County, FL	64,213
Hillsborough County, FL	60,482
Orange County, FL	59,845
Broward County, FL	41,013
Palm Beach County, FL	23,521
Pinellas County, FL	23,202
Polk County, FL	22,242
Bay County, FL	12,509
Escambia County, FL	11,450
Lee County, FL	10,437
Seminole County, FL	10,173
Brevard County, FL	9,200
Hernando County, FL	8,615
Volusia County, FL	8,160
Marion County, FL	6,423
Manatee County, FL	6,252
Leon County, FL	5,918
Okaloosa County, FL	5,657
Lake County, FL	5,290

Source: Florida Trade and Logistics Study, 2010

The following analysis presents the identification of optimal locations to serve the Florida consumption market by a regional DC/depot that would serve the retail outlets, regardless

of port of entry (Scenario 1). This logistics cost analysis factors in lease rate, labor and weighted trucking cost for delivery to Florida consumption markets, and assumes that retailers will serve the Florida market from the existing supply chain network consisting of ports and import DCs.

First, potential DC locations in Florida were identified. The DC locations included in this analysis are Hialeah, Medley, Lake Okeechobee, Orlando and Jacksonville. The corresponding lease rate information was obtained from CBRE Market View reports Q3 2011 (for detail see Exhibit 20). Again, since published data does not exist for rural Palm Beach County, lease rates were blended with existing Palm Beach, Orlando and South Florida rates as published by CBRE statistics. Separate annual lease rates per square foot were then developed for 250,000 square foot facilities. Adjustments were made to account for inconsistencies between NNN<sup>5</sup> and industrial gross lease rates. These annual lease rates for each size DC were divided by the average number of inbound and outbound loads for each respective DC size. The average number of inbound and outbound loads was based on interviews conducted with DC operators as well as Martin Associates in-house data bases.

Wages for warehouse labor were obtained for each potential DC location from the Bureau of Labor (BLS) Occupational Statistics of - Mean Hourly Wage. The wage was calculated on a weighted average of:

- Laborers and Freight, Stock, and Material Movers, Hand;
- First Line Supervisor of Helpers, Laborers, and Material Movers, Hand; and
- Transportation, Storage, Distribution Managers.

Next, a weighted average truck distance was developed (based on PC Miler) to serve retail/wholesale markets from each DC location – Hialeah, Medley, Lake Okeechobee, Orlando and Jacksonville. Exhibit 24 identifies and illustrates the top 11 markets that were used in developing this weighted average. The top 11 markets account for 73% of the consuming Florida population.

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<sup>5</sup> A **triple net lease** (Net-Net-Net or NNN) is a lease agreement on a property where the tenant or lessee agrees to pay all real estate taxes, building insurance, and maintenance on the property in addition to any normal fees that are expected under the agreement (rent, premises utilities, etc.). In such a lease, the tenant or lessee is responsible for all costs associated with the repair and maintenance of any common area.

Exhibit 24 - Florida Consumption Markets used to Develop Weighted Truck Averages

Consumption Market		Population	Percent
1	Hillsborough/Pinellas/Polk Counties	2,710,357	19.9%
2	Miami-Dade County	2,476,289	18.2%
3	Ft. Lauderdale (Broward County)	1,742,891	12.8%
4	Orlando (Lake/Orange Counties)	1,404,471	10.3%
5	Palm Beach County	1,286,778	9.4%
6	Brevard/Volusia Counties	1,061,425	7.8%
7	Jacksonville (Duval County)	899,535	6.6%
8	Ft. Myers (Lee County)	616,626	4.5%
9	Ocala/Gainesville (Alachua/Marion Counties)	588,200	4.3%
10	Treasure Coast (Indian River/Martin/St. Lucie Counties)	560,141	4.1%
11	Tallahassee (Leon County)	274,900	2.0%
<b>Total</b>		<b>13,621,613</b>	<b>100.0%</b>
Total Florida Population (2010)		18,773,356	
Top 11 Markets Percent of Population		73%	

Source: Florida Demographic Estimating Conference, January 2010 and the Florida Demographic Database, August, 2010

The final step in the analysis was to develop the cost of moving the retail/wholesale goods into the potential DC/logistics center locations in Florida. Under existing logistics chains, cargo is trucked into Florida from origins throughout the US. Top origins of this cargo include Atlanta, New York, New Orleans, Savannah and Albany (GA) as depicted earlier in Exhibit 21. This truck move into Florida represents another leg of logistics chain to serve the retail market in Florida. In order to consider the total inland logistics cost including from the US point of origin, the top 75 percent of the total truck trips into Florida from non-Florida origins were weighted based on number of trips and weighted cost to move the cargo to each Florida DC site and added to the lease, labor and weighted truck costs to serve Florida population.

*When the total inland cost is applied, a DC site in the Jacksonville/Duval County area is the most cost effective location to serve the Florida population, with an Orlando/I-4 Corridor site also competitive. A Jacksonville/Duval County site offers the lowest total logistics cost to serve the Florida consumption market, when the non-Florida sources of the retail and warehouse cargo are considered in the analysis. However, a site in the Orlando/I-4 Corridor would provide a very competitive logistics cost within \$50 per truck load of the total logistics cost using a Duval County location.*

Exhibit 25

Logistics Cost per Full Truckload – Inland Origin to DC Location to Florida  
Consumption Market  
(250,000 SF Facility)

Least Cost Routing Highlighted in Yellow

<b>DC SITE - ORLANDO/I-4 CORRIDOR</b>	
DC Square Footage	250,000
Total Cost via Truck	\$3,030
<b>DC SITE - JACKSONVILLE/DUVAL COUNTY</b>	
DC Square Footage	250,000
Total Cost via Truck	\$2,953
<b>DC SITE - HIALEAH</b>	
DC Square Footage	250,000
Total Cost via Truck	\$3,669
<b>DC SITE - MEDLEY</b>	
DC Square Footage	250,000
Total Cost via Truck	\$3,695
<b>DC SITE - LAKE OKEECHOBEE</b>	
DC Square Footage	250,000
Total Cost via Truck	\$3,462

Source: Martin Associates

## 2. Logistics Cost Analysis to Serve the Florida Consumption Market with Florida Ports and a New Logistics Supply Chain

With respect to the development of new logistics chains and the use of Florida ports to serve the Florida markets (Scenario 2), the following methodology was used to estimate the ability of the Florida ports to compete on a cost basis to serve the Florida market. The methodology incorporates the same factors previously described in Scenario 1 (lease rates, labor costs and drayage to the weighted Florida consumption markets) in conjunction with ocean voyage costs from overseas port to US port of entry and the inland transportation (truck or rail) from port of entry to the DC location as detailed below.

Ocean voyage costs were developed for an Asian trade lane to the Ports of Miami, Port Everglades, Tampa, Jacksonville and Savannah. Martin Associates' voyage cost model was used to estimate the voyage costs of calling each port. The Martin Associates' voyage costing model for a 4,800 TEU vessel was calibrated for each port and each trade lane. It was assumed that the vessel was deployed on a direct routing, and further that 800 containers were discharged at each port. Productivity and vessel turn time was assumed equal at each port. The cost analysis included voyage costs by trade lane, terminal costs, and port costs via each port. The Martin Associates' voyage costing

model, has been used by Martin Associates to estimate the national economic benefits of channel deepening and maintenance dredging projects for approval by the US Army Corps of Engineers; to evaluate fleet deployment and equipment utilization strategies for ocean carriers; to develop and define competitive market strategies for public port authorities; and to assess the impact on transportation costs of the use of larger vessels, by specific trade lanes.

The key inputs into the voyage costing model are:

- Vessel Type;
- Vessel Flag of Registry;
- Vessel Speed (knots):
- Design Speed;
- Operating Speed;
- Design Draft;
- Constrained Draft;
- TPI (tons per inch of dispersion) due to draft constraints;
- Load Port;
- Mileage for entire route;
- Port days (based on vessel load/discharge rate and ports of call on a voyage);
- Use of Panama, Suez Canal;
- Canal Fees;
- Vessel Capital Costs:
- Capital repayment;
- Vessel Operating Costs:
- Crew wages;
- Maintenance and repair;
- Insurance; and
- Miscellaneous.

The values of the inputs are derived from several sources. The deadweight tonnage and flag of registry are first developed. On average, a 4,800 TEU container ship represents the type of vessels currently deployed on the East Coast and Gulf Coast routings. These vessels are typically foreign flag vessels, since the operating costs, particularly crew costs, are significantly less than the crew costs on US flag vessels. A 4,800 TEU vessel typically has a design draft which is consistent with most container port capabilities on the East and Gulf Coast, and is compatible with the current depth dimension of the Panama Canal. It is to be emphasized that with an expanded Panama Canal (as well as increased Suez routings), and the ability of vessels in excess of 7,000 TEUs to transit the Canal, a 50-foot channel depth will be necessary to accommodate these vessels at first-inbound ports. Furthermore, the ability to use a larger vessel – 7,000+ TEU vessels versus a 4,800 TEU vessel – will provide significant cost savings per container.

The values for operating costs and capital costs as well as design speed, TPI, design draft, etc. are obtained from the US Army Corps of Engineers Deep Draft Self

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Propelled Vessel Cost Data Base, while current bunker fuel prices are from Bunker World. Also, port and terminal charges were assumed equalized for the Florida ports.

Next, drayage and trucking rates were developed for each port-DC location pairing. Weighted cost per mile truck rates with current fuel surcharge rates (34%) were developed from interviews with trucking companies and Martin Associates' in-house data base. Mileages from port to DC locations were developed from PC Miler. Intermodal rates used in this analysis (where applicable) were developed from averages of data collected from various sources including the Surface Transportation Board (STB) 1% Waybill Sample, Intermodal Department of Ocean Carriers, and Martin Associates' in-house data bases. Intermodal lift charges and drayage rates were applied to ports that do not have on-dock rail access.

With respect to Scenario 2, when using a Florida port/import DC combination, the DCs in the Miami area, Hialeah and Medley, provide the least cost routing to serve the Florida market, paired with a South Florida port routing, for imported Asian cargo.

**Exhibit 26 - Total Logistics Cost per Container to Serve Florida Retail Markets  
By DC Location on Asian Routing 250,000 SF  
Least Cost Routing Highlighted in Yellow**

<b>DC SITE - ORLANDO/I-4 CORRIDOR</b>							
Port of Entry, Vessel Size	Miami 4800	Miami 7000	PEV 4800	JAXPORT 4800	Tampa 4800	Savannah 4800	LA/LB 6000
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000	250,000
Total Cost via Truck	\$3,564	\$3,178	\$3,468	\$3,361	\$3,162	\$3,723	
Total Cost via Rail	\$3,818	\$3,432	\$3,781			\$3,819	\$3,327
<b>DC SITE - JACKSONVILLE/</b>							
Port of Entry, Vessel Size	Miami 4800	Miami 7000	PEV 4800	JAXPORT 4800	Tampa 4800	Savannah 4800	
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000	
Total Cost via Truck	\$4,115	\$3,730	\$4,014	\$3,312	\$3,755	\$3,592	
Total Cost via Rail	\$4,063	\$3,678	\$3,999				
<b>DC SITE - HIALEAH</b>							
Port of Entry, Vessel Size	Miami 4800	Miami 7000	PEV 4800	JAXPORT 4800	Tampa 4800	Savannah 4800	
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000	
Total Cost via Truck	\$3,147	\$2,761	\$3,155	\$3,993	\$3,753	\$4,345	
Total Cost via Rail	\$3,147	\$2,761		\$3,885		\$3,972	
<b>DC SITE - MEDLEY</b>							
Port of Entry, Vessel Size	Miami 4800	Miami 7000	PEV 4800	JAXPORT 4800	Tampa 4800	Savannah 4800	
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000	
Total Cost via Truck	\$3,139	\$2,759	\$3,181	\$4,015	\$3,779	\$4,371	
Total Cost via Rail	\$3,139	\$2,759		\$3,907		\$3,999	
<b>DC SITE - LAKE OKEECHOBEE</b>							
Port of Entry, Vessel Size	Miami 4800	Miami 7000	PEV 4800	JAXPORT 4800	Tampa 4800	Savannah 4800	
DC Square Footage	250,000	250,000	250,000	250,000	250,000	250,000	
Total Cost via Truck	\$3,304	\$2,588	\$3,259	\$3,846	\$3,398	\$4,203	
Total Cost via Rail	\$3,289	\$2,573		\$3,772		\$3,963	

Source: Martin Associates

Under Scenario 2 which assumes a new import logistics chain to serve the Florida market with a Florida port and DC location, a South Florida DC with a South Florida port provides the lowest logistics cost for Asian imported cargo consumed in Florida, followed by the combination of an Orlando/I-4 DC and a Gulf Coast port. *It is to be emphasized that this analysis focuses only on serving the Florida consumer market, not the Southeast consumer base beyond Florida. However, as this table suggests, all*

***three Florida port ranges can provide a more cost effective routing to serve the Florida consumption market than Savannah and intermodal land bridge from Los Angeles/Long Beach***

In addition, the logistics cost analysis under Scenario 2 with the development of a new import logistics supply chain examines the cost savings to serve the Florida market with the deepening of the Miami channel to -50 feet. The column highlighted in orange shows the cost savings due to the Port of Miami's ability to handle a fully-laden 7,000 TEU vessel. With the use of a deeper draft vessel that will likely be deployed on a first in-bound routing, the cost advantage of the use of a South Florida port and local import DC enhances the cost effectiveness of a South Florida port/DC combination. It should be noted that at the time of this report, Miami is the only Florida port authorized and funded to deepen. However, other ports in Florida, JAXPORT and Port Everglades, as well as Savannah, are currently under review by the US Army Corps of Engineers to determine authorization.

***It is to be emphasized that this analysis focuses only on serving the Florida market, not the entire Southeastern US with a Florida Port and DC location. The scope of this study does not include analysis beyond Florida, such as the location of a Florida port/DC combination to serve as a Southeastern US logistics hub.*** If the scope were expanded to include the development of an import distribution center to serve Florida and the Southeastern US markets, the optimal port pairing and DC location would most likely differ, and a Northern Florida port routing with a 45-50ft. channel would become competitive with the South Florida ports as well as Savannah.

## V. Potential Distribution Center Demand/Absorption in Florida

In this chapter, an estimate of the potential demand for distribution center space is developed. It is to be emphasized that no estimate is made for potential demand by specific type of activity, as this is outside the scope of the study. The focus of the analysis is to convert projected retail/wholesale consumption activity into the demand for retail distribution.

The potential absorption forecast for DC square footage in Florida is generated by developing relationships between population and current warehouse distribution space in Florida. Currently, the CB Richard Ellis MarketView Reports (Q3 2011) identify 540 million square feet of warehousing and distribution square footage in the seven Florida key markets as presented in Exhibit 27. In comparison, the Atlanta market currently contains 387 million square feet of bulk warehouse space.

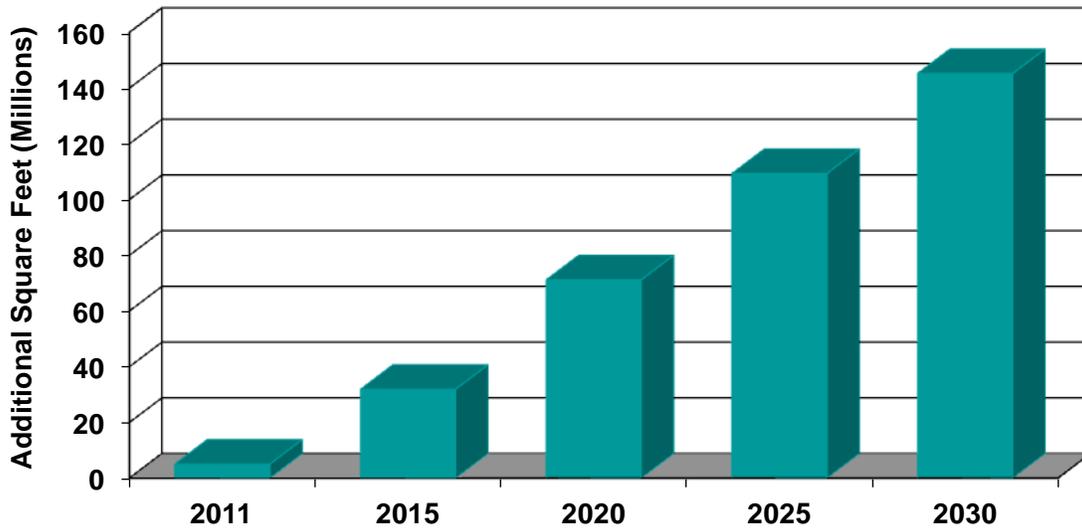
Exhibit 27 – Current Florida Industrial Square Footage by Type

(in millions of SF)					
Industrial Market	Manufacturing	R&D/Flex	Whse/Distribution	Other	Total
Palm Beach	5.1	10.0	30.3		45.3
Miami	20.6	13.5	175.3	7.8	217.1
Broward	6.8	11.6	74.3	1.3	94.0
Tampa Bay	32.0	12.6	92.8	3.0	140.4
Orlando	19.9	7.9	74.7	3.6	106.1
Jacksonville	19.0	8.4	66.1	4.3	97.9
Polk County	5.2	0.6	26.9	1.5	34.2
<b>Total Florida Major Markets</b>	<b>108.5</b>	<b>64.7</b>	<b>540.3</b>	<b>21.5</b>	<b>735.0</b>
2011(Q3) CB Richard Ellis, MarketView Report					

Source: CB Richard Ellis

To estimate the future potential demand for warehouse and distribution center space, the relationship of current Florida DC space to Florida population was estimated and was then grown at the Florida population growth forecast of 1.2% annually through 2030. The incremental demand for new retail/wholesale DC square footage that will be absorbed in Florida is estimated from the current base of 540 million square feet, *assuming a full utilization of the current supply*. The demand forecast for additional distribution center square footage is shown in Exhibit 28.

Exhibit 28 – Florida Distribution Center Potential Additional Demand/Absorption  
2011-2030



Source: Martin Associates

This analysis suggests that there is a demand of approximately 145 million square feet of distribution center space in Florida by 2030. This represents a 27% growth over the current 540 million square feet in Florida. It is to be emphasized that the incremental growth in this analysis assumes the full utilization of the existing 540 million square feet in Florida. It is apparent that over time, as Miami-Dade and Broward Counties become more densified and constrained, that a northbound progression of development will occur. At this time, it is difficult to speculate the amount of square footage that will be absorbed by each market as location decisions will be made on a case-by-case basis by DC operators/retailers based on current and future distribution and logistics plans, and the types of facilities necessary to serve each individual companies needs. However, based on distribution of population, it appears that 30%-35% of the total 145 million square feet could be absorbed in South Florida, if the South Florida market can be cost competitive with the North and Central Florida regions. This translates into a potential demand for about 44 to 50 million square feet of distribution center space in Southern Florida by 2030.

The future location of DCs will be influenced by the cost of available land and lease rates, labor costs, transportation infrastructure and transportation costs to key domestic logistics supply chains of the suppliers or with the use of Florida ports under a new import supply chain. The private sector developers, combined with the availability of land parcels will determine optimal site location. The combination of Florida ports and used for the import of a specific product line and the share of product line to serve the Florida market supplied by non-Florida ports and DC locations, combined with land, labor and distribution costs will be critical in driving the location of a DC or Logistics

Center. Once these logistics factors have been considered, interviews with developers have indicated that tax incentives and other potential county and state subsidies will often drive the ultimate locational choice.

## VI. Economic Impact of Distribution Activity

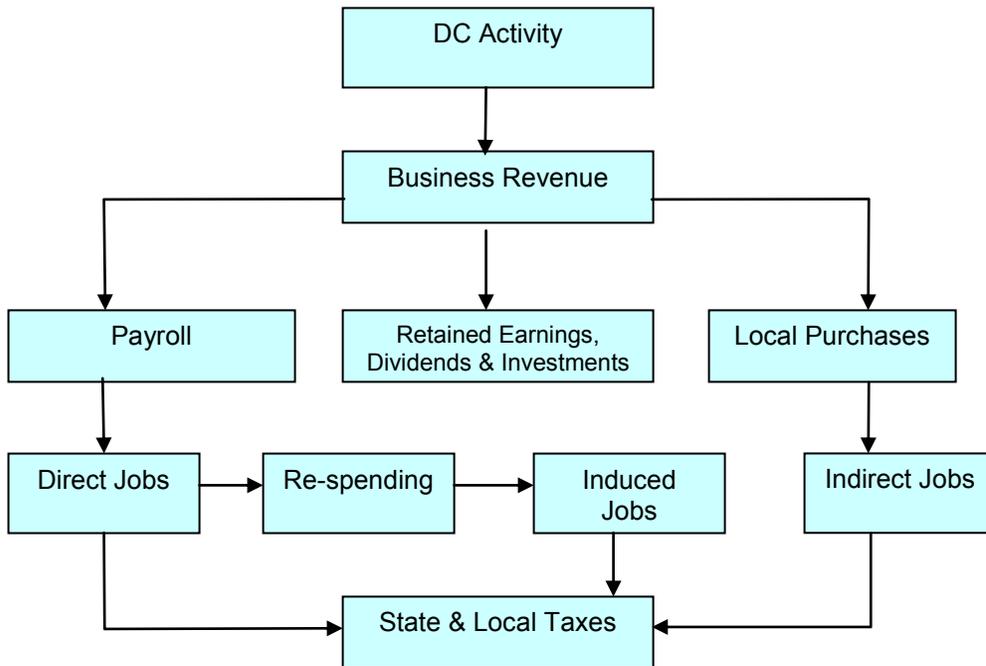
The findings of the market analysis estimate the demand/absorption for additional DC activity. This analysis focuses on the economic impacts of the development of the potential DC square footage forecasted for Florida.

The study employs a methodology and definitions that have been used by Martin Associates to measure the economic impacts of seaport and airport activity at more than 250 ports and airports in the United States and Canada. The Martin Associates' economic impact model has been used extensively in Florida, including cargo and cruise impact analyses for the Port of Palm Beach, Port Everglades, Port of Tampa, Jaxport and the Port of Miami. It is to be emphasized that only measurable impacts are included in this study. In order to ensure defensibility, the Martin Associates' approach to economic impact analysis is based on data developed through an interview program and extensive in-house data bases of the Port communities' tenants. Specific re-spending models have been developed for the South Florida area to reflect the unique economic and consumer profiles of the regional economy. To further underscore the defensibility of the study, standardized input-output models are not used. Instead, the resulting impacts reflect the uniqueness of the individual LC operations, as well as the surrounding regional economy.

### 1. Impact Definitions

Distribution center activity contributes to the local and regional economy by generating business revenue to local and national firms providing distribution and cargo handling services at the facility. These firms, in turn, provide employment and income to individuals, and pay taxes to state and local governments. Exhibit 29 shows how activity at a distribution center complex generates impacts throughout the local, state and national economies. As this exhibit indicates, the impact of a distribution center facility on a local, state or national economy cannot be reduced to a single number, but instead, the distribution activity creates several impacts. These are the revenue impact, employment impact, personal income impact, and tax impact. These impacts are non-additive. For example, the income impact is a part of the revenue impact, and adding these impacts together would result in double counting.

Exhibit 29 - Flow of Economic Impacts Generated by Distribution Activity



At the outset, distribution activity generates business revenue for firms which provide services. This business revenue impact is dispersed throughout the economy in several ways. It is used to hire people to provide the services, to purchase goods and services, and to make Federal, state and local tax payments. The remainder is used to pay stock-holders, retire debt, make investments, or is held as retained earnings. It is to be emphasized that the only portions of the revenue impact that can be definitely identified as remaining in the local economy are those portions paid out in salaries to local employees, for local purchases by individuals and businesses directly dependent on the facility, in contributions to state and local taxes and in lease payments by tenants.

➤ The employment impact of distribution activity consists of three levels of job impacts:

- **Direct employment** -- jobs directly generated by distribution activity. Direct jobs generated by this activity include warehousemen, dispatchers, yard jockeys located at the DC and line haul trucking companies moving cargo between inland origins and destinations and the DC terminals. It is to be emphasized that these are classified as directly generated in the sense that these jobs would experience near term dislocation if the activity at the LC were to be discontinued.
- **Induced employment** -- jobs created throughout the local economy because individuals directly employed due to distribution activity spend their wages locally on goods and services such as food, housing and clothing. These jobs are held by residents located throughout the region, since they are estimated based on local and regional purchases.

- ***Indirect Employment*** -- are jobs created locally due to purchases of goods and services by firms, not individuals. These jobs are estimated directly from local purchases and include jobs with local office supply firms, maintenance and repair firms, parts and equipment suppliers, etc.
- **Personal income impact** consists of employee wages and salaries (excluding benefits) received by individuals directly employed due to distribution center activity. Re-spending of these earnings throughout the regional economy for purchases of goods and services is also estimated. This, in turn, generates additional jobs -- the induced employment impact. This re-spending throughout the region is estimated using a regional personal earnings multiplier, which reflects the percentage of purchases by individuals that are made within the South Florida area. The re-spending effect varies by region -- a larger re-spending effect occurs in regions that produce a relatively large proportion of the goods and services consumed by residents, while lower re-spending effects are associated with regions that import a relatively large share of consumer goods and services (since personal earnings "leak out" of the region for these out-of-region purchases). The direct earnings are a measure of the local impact since they are received by those directly employed by LC distribution activity.
- **Business revenue** consists of total business receipts by firms providing services in support of the distribution activity. **Local purchases for goods and services** made by the directly impacted firms are also measured. These local purchases by the dependent firms create the indirect impacts.
- **State and local taxes** include taxes paid to the state and local governments by firms and by individuals whose jobs are directly dependent upon and supported (induced jobs) by activity at the LC facility.

The impacts presented in this report are measured in terms of:

- Jobs (direct, induced and indirect);
- Personal income;
- Business revenue; and
- State and local taxes.

## 2. Methodology

The direct impacts of the potential distribution center activity presented in this report are estimated based on interviews with industrial developers, Florida warehouse operators/consolidators, current Florida DC operators and trucking/drayage companies.

Since tenants are not currently occupying the facility and actual employment figures are not available, direct job impact ratios and relationships are developed from the interview process. Key relationships used in this analysis include:

- A weighted average of 450 FTE (full-time equivalent) jobs per million square feet of distribution space;
- An average of 150 inbound loads per day per million square feet of DC space; and
- An average truck driver makes 1-2 trips per day.

In addition, salary and expenditure data was also obtained from an extensive in-house data base that has been developed over previous economic impact studies conducted for Florida seaport warehousing and consolidation activities.

These ratios are then applied to the DC demand forecast presented in the previous chapter to develop the direct impacts.

The induced impacts are based on the current expenditure profile of residents in the South Florida area, as estimated by the US Bureau of Labor Statistics, "Consumer Expenditure Survey". This survey indicates the distribution of consumer expenditures over key consumption categories for South Florida area residents. The consumption categories are:

- Housing;
- Food at Restaurants;
- Food at Home;
- Entertainment;
- Health Care;
- Home Furnishings; and
- Transportation Equipment and Services.

The estimated consumption expenditure generated as a result of the responding impact is distributed across these consumption categories. Associated with each consumption category is the relevant retail and wholesale industry. Jobs to sales ratios in each industry are then computed for the South Florida area, and induced jobs are estimated for the relevant consumption categories. It is to be emphasized that induced jobs are only estimated at the retail and wholesale level, since these jobs are most likely generated in the South Florida area. Further levels of induced jobs are not estimated since it is not possible to defensibly identify geographically where the subsequent rounds of purchasing occur.

The "Consumer Expenditure Survey" does not include information to estimate the job impact with supporting business services, legal, social services, state and local governments, and educational services. To estimate this induced impact, a ratio of State of Florida employment in these key service industries to total State of Florida employment is developed. This ratio is then used with the direct and induced consumption jobs to estimate induced jobs with business/financial services, legal, educational, governmental and other social services.

The indirect impacts are estimated based on the local purchases by the directly dependent firms, combined with indirect job, income and revenue coefficients for the

supplying industries in the State of Florida as developed for Martin Associates by the US Bureau of Economic Analysis, Regional Input/Output Modeling System.

### 3. Economic Impacts of Distribution Center Activity

The economic impacts of the distribution center/logistics center activity are presented in Exhibit 30.

Exhibit 30 - Economic Impact Summary of Potential DC Demand/Absorption

ESTIMATED ECONOMIC ACTIVITY OF DISTRIBUTION CENTER ACTIVITY				
	2015	2020	2025	2030
<b>JOBS</b>				
DIRECT JOBS	18,158	40,712	62,410	82,909
INDUCED JOBS	8,266	18,532	28,409	37,740
INDIRECT JOBS	12,852	28,816	44,174	58,683
<b>TOTAL JOBS</b>	<b>39,276</b>	<b>88,060</b>	<b>134,993</b>	<b>179,332</b>
<b>PERSONAL INCOME (1,000)</b>				
DIRECT	\$590,135	\$1,323,140	\$2,028,325	\$2,694,543
INDUCED/RESPENDING	\$1,168,467	\$2,619,817	\$4,016,084	\$5,335,194
INDIRECT	\$436,877	\$979,521	\$1,501,570	\$1,994,772
<b>TOTAL INCOME</b>	<b>\$2,195,479</b>	<b>\$4,922,478</b>	<b>\$7,545,979</b>	<b>\$10,024,509</b>
<b>STATE AND LOCAL TAXES (1,000)</b>				
STATE TAXES	\$92,605	\$207,630	\$318,289	\$422,834
LOCAL TAXES	\$69,860	\$156,633	\$240,113	\$318,980
<b>TOTAL TAXES</b>	<b>\$162,465</b>	<b>\$364,263</b>	<b>\$558,402</b>	<b>\$741,814</b>

Source: Martin Associates

As illustrated in the previous exhibit, given the demand forecast scenarios, the distribution center activity by 2030 would generate between 179,332 total jobs. Of these jobs, 82,909 jobs would be directly created on site and with truckers moving goods directly to/from the DC. This compares to a 2009 estimate that Florida employment in trade, logistics, and warehousing totaled 531,000 people in 2009<sup>6</sup>. In total, the direct, induced and indirect jobholders would generate \$10.0 billion of personal income as the result of distribution center operations. By 2030, as a result of the distribution activity a total of \$741.8 million of state and local tax revenue would be generated annually.

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<sup>6</sup> "Florida Trade and Logistics Study," February, 2011

## VII. Summary of Conclusions/Implications

Key findings of this analysis are:

**The Florida industrial real estate market has suffered dramatically due to the effects of the economic downturn.** The Miami market is beginning to show slight signs of activity leading to some stabilization. Vacancy has now reached 7% and specs are beginning to be built again in Miami-Dade County. However, Broward County is recovering more slowly. In South Florida, the availability of larger parcels is limited and retailers interested in larger parcels greater than 250,000 square feet Class A space will be challenged to find such property. The South Florida market, with respect to the retail distribution market, will still compete for accounts up to 300,000 square feet, and maintain that the larger facilities will continue to develop in Central and Northern Florida. The Central Florida market is still sluggish and not expected to rebound until 2013. Aside from the absence of new construction, there is a surplus of vacant space in Central Florida, which has the highest vacancy in the state, and an abundance of shuffling is expected to occur as retailers, consolidators and third party logistics providers (3PLs) tweak their supply chains either by consolidating facilities or expanding into new space. In North Florida, Jacksonville is more positioned to serve the North Florida as well as the non-Florida Southeast region, and is not viewed as direct competition to South Florida. Few retailers are debating between Jacksonville or Miami site, but more between a Jacksonville and Savannah site.

**Dynamic changes in the import logistics patterns that have occurred since 2002 to serve the Southeastern, Eastern, Gulf and Midwestern markets have resulted in potential opportunities to grow the role of Florida in the international logistics industry.** This includes the development of distribution centers and logistics parks to serve the Florida consumption markets, as well as increasing the role of Florida's ports in attracting imports that are now consumed in Florida, but imported via other non-Florida ports. Growth in Florida's role in the logistics industry role will provide an economic catalyst to create additional logistics industry related employment within the State.

**In terms of exports, Florida ports compete for the export market that serves Latin America and the Caribbean.** While Jacksonville will remain in control of the Puerto Rican market, the South Florida ports will continue to be successful in the Latin American and Caribbean due to the large Latin American business community in South Florida. The Free Trade Agreements (FTAs) recently signed by the US government between Panama and Colombia (as well as South Korea) are expected to bolster export activity through these ports in the coming years. The close-knit community of suppliers to the Caribbean and Latin America are strongly rooted in Miami-Dade County, and relocation to other regions does not appear feasible.

**Specific factors that appear to be critical in the successful development of distribution centers, and/or logistics centers, which are essentially clusters of**

**distribution centers capitalizing on economies of scale in terms of fixed costs (security, utilities, rail and highway infrastructure) include population density; projected growth in population, representing growth in consumption activity; concentration of families representing potential consumption activity; and proximity to major rail and highway infrastructure.**

**Based on the logistics cost analysis, the optimal site location to serve the Florida consumer market, under the current logistics supply chain to serve the Florida consumption market, is the Jacksonville/Duval County region, followed by a site located in the Orlando/I-4 Corridor.** This assumes that the *current logistics chain* remains intact, and the focus is on the development of a DC/logistics center to serve the Florida consumption market. This cost analysis includes components of lease rate, labor cost, weighted truck cost to serve the Florida consumption base, and the inland cost of truck cargoes destined to Florida from non-Florida origins.

**Assuming a new logistics chain using Florida ports for import, a South Florida DC with a South Florida port provides the lowest logistics cost for Asian imported cargo consumed in Florida (compared to the current system of using non-Florida ports).** It is to be emphasized that this analysis focuses only on serving the Florida consumer market, not the Southeast consumer base beyond Florida. All three Florida port ranges – South, North and Gulf - can provide a more cost effective routing than the current use of the Port of Savannah and intermodal land bridge routings from the Ports of Los Angeles and Long Beach.

It is to be emphasized that development in North and Central Florida under current logistics chains and the potential to attract DC activity based on new import logistics chains can be accomplished simultaneously. Each DC operator or beneficial cargo owner (BCO) will make locational decisions based on their own unique logistics chains. Certain port and DC pairings may be more advantageous for a specific BCO than another. Given future infrastructure improvements such as dredging and on-dock/near-dock ICTFs, all port ranges in Florida will have the ability to compete to attract accounts that can serve the Florida consumption market from different DC locations. For example, a retailer that modifies a portion of its logistics supply chain to use Florida ports for a specific line of product, while using non-Florida ports for other product lines would maximize its location of a distribution center somewhere between a South Florida Port/DC combination, a Gulf Coast Florida Port/DC location and a Northeastern Florida location. The exact location within Florida, and port used will be driven by the mix of products using Florida ports versus non-Florida ports and more northern distribution centers such as in Savannah or Atlanta. In addition, tax incentives will play a further determining factor as to the ultimate locational decision.

**The Port of Miami's ability to handle a fully-laden vessel in excess of 7,000 TEUS once the channel is deepened to 50 feet will enhance the competitiveness of using a South Florida port and local DC combination.** With the use of a deeper draft vessel that will likely be deployed on a first call inbound routing, the cost advantage of the use of a South Florida port and local import DC is enhanced. Miami is currently the

only Florida port authorized and funded to deepen its channel to 50 ft. The deepening of other ports in Florida, particularly JAXPORT and Port Everglades, as well as Savannah, are currently under review by the US Army Corps of Engineers to determine authorization for a deeper channel. Should these ports succeed in receiving authorization, then the deeper channel at Miami will allow that port and a South Florida distribution center to still remain competitive with the other port ranges in serving the Florida market. With deeper channels at JAXPORT and Port Everglades, these ports would increase their competitive position with respect to Savannah not only in terms of cost savings to serve the Florida consumption market, but also to compete as regional distribution centers for the Southeastern US consumption markets.

**Ultimately, port investment in Florida is necessary.** Specifically, the dredging of the Miami channel to -50 feet, the construction of on-dock rail, and the Port of Miami access tunnel position the Port of Miami to market to carriers the Port's ability to handle a first inbound port call, requiring the 50 foot channel and the on-dock rail to move the containers intermodally. The development of an ICTF at Port Everglades is critical to compete not only with other non-Florida ports, but with the development of transshipment ports and off-shore distribution center development in the Caribbean. The deepening of the St. Johns River to a draft adequate to accommodate a first in-bound port call at the JAXPORT marine cargo terminals is necessary in order to maximize the ability of the Port to serve as a Southeastern US distribution hub, and attract cargo activity and distribution center activity that would otherwise move via Savannah. Without deepening the St. John River, and the development of an ICTF, the significant capital investment made by an Asian carry/terminal operator along with JAXPORT's investment will not result in the economic development impact as planned.

**The location of an ICTF appears to be critical in the establishment of a logistics center (LC).** Based on the review of the past successes of LCs, a critical ingredient is the proximity to a major rail Intermodal Container Transfer Facility (ICTF). This suggests that the development of an LC in Florida should consider the proximity to an existing or planned ICTF. Also, ample available land (large parks consist of 1,000 acres or more) to house millions of square feet in DCs, warehouses and other facilities interstate highway access serving regional consumption markets is necessary.

**An assessment of the demand for retail consumption in Florida indicates that there is potential for an additional 145 million square feet of distribution center space in Florida by 2030.** This represents a 27% growth over the current 540 million square feet of space in Florida. The incremental demand for new retail DC square footage that will be absorbed in Florida is estimated from the current base of 540 million square feet, assuming a full utilization of the current supply. At this time, while it is difficult to speculate the amount of square footage that will be absorbed by each market as location decisions will be made on a case-by-case basis by DC operators/retailers, it is expected that the South Florida market could absorb 30%-35% of the total 145 million square feet projected through the study period, if the South Florida market can cost effectively compete against North and Central Florida regions. This suggests that by

2030, demand for distribution center space in South Florida will range between 44 and 50 million square feet, assuming current space is fully utilized.

**Future locational decisions will consider current and future distribution and logistics plans, and the types of facilities necessary to serve each individual company's needs.** The future location of these DCs will be influenced by the cost of available land and lease rates, labor costs, transportation infrastructure and transportation costs to key consuming markets and from key supplying regions and ports. In addition, incentives by county, state and local governments such as tax subsidizations will also be key factors in the ultimate location of a distribution center/logistics center. It is very important to emphasize that the process of the location of distribution center locations should be driven by the private sector. The State should be cautioned against investing or committing infrastructure investment until private sector decisions and commitments are made. Investment in transportation infrastructure to serve specific land sites in the context of "build and they will come" may lead to inefficient use of State funds. Rather, state infrastructure investments should be developed as part of an incentive package once private sector development has been committed.

## Appendix A - Location of Distribution Center Activity by Industry:

(Source: Chain Store Guide, September 2010; Red markers indicate that at least 1 DC at that location; multiple DCs may locate in one location, but be represented by one marker)

### Apparel and Specialty Stores



### Chain Restaurant Operations

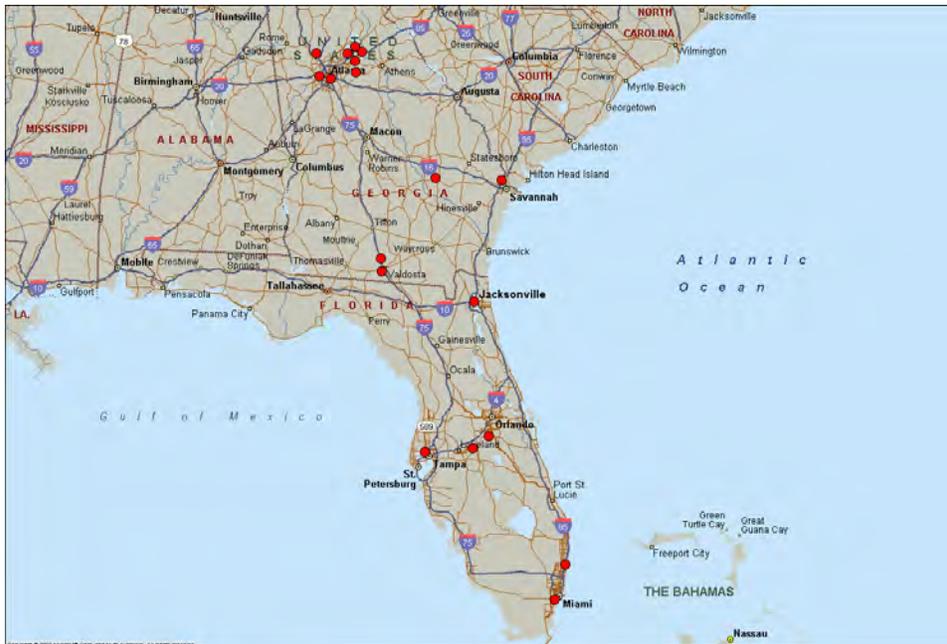


### Drug Stores and HBC

# FLORIDA LOGISTICS CENTER MARKET ANALYSIS UPDATE



## Home Center



Home Furnishings



Supermarket/Grocery/Convenience Store



Discount & General Merchandise/Department Stores



**FLORIDA LOGISTICS CENTER MARKET ANALYSIS UPDATE**

APPAREL & SPECIALTY STORES			DISCOUNT/GENERAL MERCHANDISE AND DEPT STORE				
Company Name	City	State	Company Name	City	State		
Bass Pro Distribution Center	Macon	GA	Ace Tool Company Distribution Center	Largo	FL		
Carters Inc. Distribution Center	Barnesville	GA	Advance Auto Parts Distribution Center	Lakeland	FL		
Carters Inc. Distribution Center	Hogansville	GA	Advance Auto Parts Distribution Center	Thomson	GA		
Carters Inc. Distribution Center	Stockbridge	GA	Albert Uster Distribution	Hollywood	FL		
Chicos Distribution Center	Winder	GA	Army & Air Force Distribution Center	Fort Gillem	GA		
Coach Distribution Center	Jacksonville	FL	AutoZone Distribution Center	Lavonia	GA		
Dick's Sporting Goods Distribution Center	East Point	GA	Best Buy Distribution Center	Dublin	GA		
Hugo Boss Distribution Center	Midway	GA	BJ's Wholesale Distribution Center	Jacksonville	FL		
Marshalls Distribution Center	Decatur	GA	CARQUEST Distribution Center	Ocala	FL		
Nordstrom Distribution Center	Gainesville	FL	Costco Distribution Center	West Palm Beach	FL		
Peter Glenn Distribution Center	Lauderdale Lakes	FL	Costco Distribution Center	College Park	GA		
Phillips-Van Heusen Distribution Center	Austell	GA	Cost-U-Less Distribution Center	Hollywood	FL		
Samsonite Distribution Center	Jacksonville	FL	Dillard's Distribution Center	Valdosta	GA		
The Salty Dog Distribution Center	Daytona Beach	FL	Dollar General Distribution Center	Alachua	FL		
The Sports Authority Distribution Center	Mcdonough	GA	Dollar Store of Oakwood Plaza	Miami Gardens	FL		
<b>DRUG STORE &amp; HBC</b>			Dollar Tree Distribution Center	Savannah	GA		
Company Name	City	State	Company Name	City	State		
AmerisourceBergen Distribution Center	Suwanee	GA	Family Dollar Distribution Center	Marianna	FL		
Cardinal Health Distribution Center	Mcdonough	GA	Four Wheel (Transamerican Auto Parts) Dist.	Jacksonville	FL		
CVS Distribution Center	Orlando	FL	Fred's Distribution Center	Dublin	GA		
CVS Distribution Center	Vero Beach	FL	hgregg Distribution Center	Ellenwood	GA		
McKesson Distribution Center	Lakeland	FL	Ingram Micro Distribution Center	Doral	FL		
McKesson South Region Distribution Center	Duluth	GA	Kmart Distribution Center	Ocala	FL		
Sally Beauty Distribution Center	Jacksonville	FL	Kmart Distribution Center	Forest Park	GA		
Walgreens Distribution Center	Jupiter	FL	Kmart Distribution Center	Newnan	GA		
Walgreens Distribution Center	Orlando	FL	Kohl's Distribution Center	Macon	GA		
<b>HOME CENTER OPERATORS</b>			Macy's Inc. Logistic Center	Miami	FL		
Company Name	City	State	Company Name	City	State		
BLP Distribution Center	Jacksonville	FL	Macy's Inc. Logistic Center	Stone Mountain	GA		
Duron Paints & Wall Coverings Distribution C	Atlanta	GA	Macy's Inc. Logistics Center	Tampa	FL		
Fastenal Distributing Center	Atlanta	GA	Marietta Auto Warehouse	Marietta	GA		
Home Depot Distribution Center	Braselton	GA	Michaels Distribution Center	Jacksonville	FL		
ICI Distribution Center	Oakwood	GA	Navy Exchange Distribution Center	Pensacola	FL		
Lowe's Distribution Center	Kissimmee	FL	Nordstrom Distribution Center	Gainesville	FL		
Lowe's Distribution Center	Valdosta	GA	Office Depot Distribution Center	Orlando	FL		
Lummus Supply Distributing Center	Oakwood	GA	Office Depot Distribution Center	Buford	GA		
Mackey Lumber Distributing Center	Hahira	GA	OfficeMax Distribution Center	Orlando	FL		
O-Gee Paint Distribution Center	Miami	FL	OfficeMax Distribution Center	Smyrna	GA		
Southern Fastening Systems Inc.	Loganville	GA	O'Reilly Auto Parts Distribution Center	Forest Park	GA		
Stock Building Supply Distribution Center	Acworth	GA	Parts Depot Company Distribution Center	Fort Myers	FL		
The Home Depot Distribution Center	Pompano Beach	FL	Parts Depot Company Distribution Center	Miami	FL		
The Home Depot Distribution Center	Tampa	FL	Parts Depot Company Distribution Center	Miami	FL		
The Home Depot Distribution Center	Dacula	GA	Parts Depot Company Distribution Center	Oakland Park	FL		
The Home Depot Distribution Center	Savannah	GA	<b>Company Name</b>			<b>City</b>	<b>State</b>
The Sherwin-Williams Distribution Center	Winter Haven	FL	Parts Depot Company Distribution Center	Orlando	FL		
The Sherwin-Williams Distribution Center	Buford	GA	Parts Depot Company Distribution Center	Tampa	FL		
Tractor Supply Distribution Center	Braselton	GA	Parts Depot Company Distribution Center	West Palm Beach	FL		
Wholesale Building Products Distribution Cen	Vidalia	GA	Parts Depot Company-Bumper to Bumper Dis	Miami	FL		
<b>CHAIN RESTAURANT OPERATORS</b>			PETCO Distribution Center	Orlando	FL		
Company Name	City	State	<b>Company Name</b>			<b>City</b>	<b>State</b>
Benihana Distribution Center	Doral	FL	Peterbrooke Chocolatier Distribution Center	Jacksonville	FL		
Caspers Co. Distribution Center	Tampa	FL	PETSMART Distribution Center #38	Newnan	GA		
Domino's Distribution Center	Groveland	FL	Provide Commerce Distribution	Miami	FL		
Domino's Distribution Center	Kennesaw	GA	Russell Stover Distribution Center	Wildwood	FL		
Dunkin' Donuts Distribution Center	Groveland	FL	Sam's Club Distribution Center	Lakeland	FL		
Garden Fresh Restaurant Distribution Center	Kennesaw	GA	Sam's Club Distribution Center	Villa Rica	GA		
Global Distribution	Miami	FL	Sears Distribution Center	Atlanta	GA		
Huddle House Distribution Center	Atlanta	GA	Steinway Piano Galleries Distribution Center	Alpharetta	GA		
Hungry Howie's Distribution	Lakeland	FL	Target Distribution Center	Midway	GA		
Norsan Food Distribution Center	Tucker	GA	Target Distribution Center	Tifton	GA		
Papa John's Distribution Center	Orlando	FL	TCI Tire Centers Distribution Center	Hollywood	FL		
Planet Hollywood Distribution Center	Orlando	FL	TCI Tire Centers Distribution Center	Tampa	FL		
<b>SUPERMARKET/GROCERY/CONVENIENT STORES</b>			The Pep Boys Distribution Center	Mcdonough	GA		
Company Name	City	State	<b>Company Name</b>			<b>City</b>	<b>State</b>
Albertson's Distribution Center	Plant City	FL	Tiger Direct Distribution Center	Miami	FL		
BJ's Wholesale Club Distribution Center	Jacksonville	FL	Tire Kingdom Distribution Center	Orlando	FL		
Cost-U-Less Distribution Center (Dry)	Hollywood	FL	Tire Kingdom Distribution Center	Riviera Beach	FL		
Flash Foods- Distribution South	Alma	GA	Toys 'R' Us Distribution Center	Mcdonough	GA		
Food Lion Distribution Center	Green Cove Springs	FL	Uni-Select USA Distribution Center	Austell	GA		
H Mart Georgia Distribution Center	Tucker	GA	Walmart GM Distribution Center	Brooksville	FL		
Publix Distribution Center	Boynton Beach	FL	Walmart GM Distribution Center	Alachua	FL		
Publix Distribution Center	Deerfield Beach	FL	Walmart GM Distribution Center	Ft. Pierce	FL		
Publix Distribution Center	Orlando	FL	Walmart GM Distribution Center	Arcadia	FL		
Publix Distribution Center	Sarasota	FL	Walmart GM Distribution Center	Jacksonville	FL		
Publix Distribution Center	Dacula	GA	Walmart GM Distribution Center	Carrilton	GA		
Quik n' Tasty Distribution Center	Pendergrass	GA	Walmart GM Distribution Center	Lagrange	GA		
Sam's Club Distribution Center	Lakeland	FL	Walmart GM Distribution Center	Statesboro	GA		
Sam's Club Distribution Center	Villa Rica	GA	Walmart GM Distribution Center	Mcdonough	GA		
Stuckey's Distribution Center	Atlanta	GA	Walmart GM/Grocery Distribution Center	Winter Haven	FL		
Sweetbay Distribution Center	Plant City	FL	Walmart GM/Grocery Distribution Center	Douglas	GA		
Walmart Distribution Center	Brooksville	FL	Walmart GM/Grocery Distribution Center	Villa Rica	GA		
Winn-Dixie Distribution Center	Miami	FL	Walmart Groceries Distribution Center	Maccleddy	FL		
			Walmart Groceries Distribution Center	Monroe	GA		
			Walmart Pharmaceuticals Distribution Center	Tifton	GA		
			Windstream Supply Distribution Center	Alpharetta	GA		
			Z Gallerie Distribution Center	Mcdonough	GA		

**FLORIDA LOGISTICS CENTER MARKET ANALYSIS UPDATE**

HOME FURNISHINGS					
Company Name	City	State	Company Name	City	State
1-800-Mattress Distribution Center	Pompano Beach	FL	Mattress Firm Distribution Center	Saint Petersburg	FL
Aaron Rents Distribution Center	Auburndale	FL	Pacific Showrooms Distribution Center	Atlanta	GA
Aaron Rents Distribution Center	Duluth	GA	Pier 1 Distribution Center	Savannah	GA
Acoustical Specialties & Supply Distribution C	Pensacola	FL	Portobello America Distribution Center	Pompano Beach	FL
All Interior Supply Distribution Center	Fort Lauderdale	FL	Prestige Mills Distribution Center	Calhoun	GA
All Interior Supply Distribution Center	Orlando	FL	Professional Ceramics Distribution Center	Fort Myers	FL
All Interior Supply Distribution Center	Riviera Beach	FL	R.A.Siegel Distribution Center	Groveland	FL
All Interior Supply Distribution Center	Tampa	FL	Rooms To Go Distribution Center	Lakeland	FL
Alpha Tile & Stone Distribution Center	Clearwater	FL	Rooms To Go Distribution Center	Suwanee	GA
Alpha Tile & Stone Distribution Center	Fort Myers	FL	Royal Sleep Products Distribution Center	Ocala	FL
Alpha Tile & Stone Distribution Center	Naples	FL	Shoreline Flooring Supplies Distribution Cente	Altamonte Springs	FL
Alpha Tile & Stone Distribution Center	Orlando	FL	Shoreline Flooring Supplies Distribution Center	Cape Coral	FL
Alpha Tile & Stone Distribution Center	Sarasota	FL	Shoreline Flooring Supplies Distribution Center	Delray Beach	FL
American Signature Distribution Center	Thomasville	GA	Shoreline Flooring Supplies Distribution Center	Fort Myers	FL
Brook Furniture Rental Distribution Center	Norcross	GA	Shoreline Flooring Supplies Distribution Center	Fort Walton Beach	FL
Buffkin Ceramic Tile Distribution Center	Melbourne	FL	Shoreline Flooring Supplies Distribution Center	Gainesville	FL
City Mattress Distribution Center	West Palm Beach	FL	Shoreline Flooring Supplies Distribution Center	Holly Hill	FL
CMH Flooring Distribution Center	Lawrenceville	GA	Shoreline Flooring Supplies Distribution Center	Jacksonville	FL
CORT Furniture Leasing Distribution Center	Winter Park	FL	Shoreline Flooring Supplies Distribution Center	Lakeland	FL
CORT Furniture Leasing Distribution Center	Kennesaw	GA	Shoreline Flooring Supplies Distribution Center	Largo	FL
Custom Wholesale Floors Distribution Center	Jacksonville	FL	Shoreline Flooring Supplies Distribution Center	Melbourne	FL
Custom Wholesale Floors Distribution Center	Miami	FL	Shoreline Flooring Supplies Distribution Center	Miami	FL
Custom Wholesale Floors Distribution Center	Orlando	FL	Shoreline Flooring Supplies Distribution Center	Miami	FL
Custom Wholesale Floors Distribution Center	Tampa	FL	Shoreline Flooring Supplies Distribution Center	Naples	FL
Custom Wholesale Floors Distribution Center	Clarkston	GA	Shoreline Flooring Supplies Distribution Center	Naples	FL
Design Flooring Distributors Distribution Cent	Orlando	FL	Shoreline Flooring Supplies Distribution Center	Ocala	FL
Duffy & Lee Distribution Center	Lakeland	FL	Shoreline Flooring Supplies Distribution Center	Orlando	FL
E.C.F. Supply Distribution Center	Plant City	FL	Shoreline Flooring Supplies Distribution Center	Orlando	FL
Georgia Oak Floor Distribution Center	Alpharetta	GA	Shoreline Flooring Supplies Distribution Center	Pensacola	FL
Georgia Oak Floor Distribution Center	Fayetteville	GA	Shoreline Flooring Supplies Distribution Center	Pompano Beach	FL
Georgia Oak Floor Distribution Center	Macon	GA	Shoreline Flooring Supplies Distribution Center	Port Charlotte	FL
Georgia Oak Floor Distribution Center	Marietta	GA	Shoreline Flooring Supplies Distribution Center	Rockledge	FL
Grange Furniture Distribution Center	Dania	FL	Shoreline Flooring Supplies Distribution Center	Saint Augustine	FL
Grange Furniture Distribution Center	Atlanta	GA	Shoreline Flooring Supplies Distribution Center	Sarasota	FL
Gulf Tile Distribution Center	Bradenton	FL	Shoreline Flooring Supplies Distribution Center	Stuart	FL
Gulf Tile Distribution Center	Brandon	FL	Shoreline Flooring Supplies Distribution Center	Tallahassee	FL
Gulf Tile Distribution Center	Lakeland	FL	Shoreline Flooring Supplies Distribution Center	Tampa	FL
Gulf Tile Distribution Center	Largo	FL	Shoreline Flooring Supplies Distribution Center	West Palm Beach	FL
Gulf Tile Distribution Center	Port Richey	FL	Sikes Tile Distribution Center	Oakland Park	FL
Gulf Tile Distribution Center	Spring Hill	FL	Sikes Tile Distribution Center	Stuart	FL
Gulf Tile Distribution Center	Tampa	FL	Sikes Tile Distribution Center	Stuart	FL
Haverty Furniture Distribution Center	Lakeland	FL	Southern Wholesale Flooring Distribution Cen	Albany	GA
Haverty Furniture Distribution Center	Braselton	GA	Southern Wholesale Flooring Distribution Cen	Norcross	GA
Hoboken Floor Distribution Center	Pompano Beach	FL	Space Flooring Distribution Center	Augusta	GA
Hoboken Floors Distribution Center	Jacksonville	FL	Space Flooring Distribution Center	Columbus	GA
Hoboken Floors Distribution Center	Orlando	FL	Space Flooring Distribution Center	Dalton	GA
Hoboken Floors Distribution Center	Atlanta	GA	Space Flooring Distribution Center	Kennesaw	GA
Holly Hunt Distribution Center	Miami	FL	Space Flooring Distribution Center	Macon	GA
J.C. Penney Distribution Center & Warehouse	Forest Park	GA	Space Flooring Distribution Center	Norcross	GA
Johnson Wholesale Floors Distribution Center	Jacksonville	FL	Space Flooring Distribution Center	Savannah	GA
L. Fishman & Son Distribution Center	Augusta	GA	Space Flooring Distribution Center	Suwanee	GA
L.A. Waters Distribution Center	Statesboro	GA	Tampa Tile Distribution Center	Clearwater	FL
LaSalle Bristol Distribution Center	Lakeland	FL	Tampa Wholesale Furniture Distribution Cente	Tampa	FL
LaSalle Bristol Distribution Center	Ashburn	GA	Tile Center Inc. Distribution Center	Madison	GA
Leath Furniture Distribution Center	Miami	FL	Tile Center Inc. Distribution Center	Martinez	GA
Master Tile Distribution Center	Jacksonville	FL	Tile Center Inc. Distribution Center	Statesboro	GA
Master Tile Distribution Center	Seminole	FL	W.S. Badcock Distribution Center	Thomson	GA
Mastercraft Flooring Distribution Center	Orlando	FL	William M. Bird & Company Distribution Center	Pensacola	FL
Mattress Firm Distribution Center	Jacksonville	FL	William M. Bird & Company Distribution Center	Lawrenceville	GA

## **Appendix B – Intermodal Yard and Logistics Center Case Studies**

### **CASE STUDY: KANSAS CITY**

The Kansas City Region is served by multiple intermodal rail yards in Kansas and Missouri. These rail yards include:

Norfolk Southern opened an intermodal rail yard in the Northland Industrial Park in 1994. The yard covers 99 acres. The yard includes four loading tracks totaling 9,965 ft and two 4,500 ft support tracks. There are 575 parking spaces and 396 stack spaces. The yard has a lift capacity of 150,000 units per year but currently is operating at about 100,000 lifts per year.

Union Pacific opened a 26 acre intermodal rail yard in Armourdale, KS in the 1970s. The yard has two tracks totaling 6,000 ft. There are 600 parking spaces and 300 stack spaces. In 2007 the yard handled 50,000 lifts although it has a 100,000 lift capacity.

Union Pacific also operates the 35 acre Neff Intermodal Yard in Kansas City, MO. This yard opened in 1980. The yard has two tracks totaling 8,000 ft, 500 parking spaces and 100 stack spaces. The yard has a lift capacity of 125,000 lifts per year.

KCS and CSX recently opened (2008) their International Freight Gateway in Kansas City, MO. The 1,340 acre complex includes a 970 acre industrial park with 5 million sf of DC development projected and an additional 2 million sf at full build-out. The Gateway also includes the 370 acre CenterPoint-KCS Intermodal Center. The Intermodal Center is comprised of a 300 acre intermodal rail facility and 70 acres for build-out for offices and other buildings. The yard includes 1 track of 8,000 ft for intermodal operations and 3,340 ft for an automobile rack. The yard will expand with the inclusion of six 7,000 ft tracks and 200-300 parking spots. Currently the intermodal yard is operating with a 10,000 lift capacity which will increase to 500,000 lifts per year. Eventually lift capacity will reach 1 million units per year.

Burlington Northern operates the 45 acre Argentine Intermodal Yard in Kansas City, KS. The yard has three tracks totaling 10,200 ft. There are 1,300 parking spaces and 200 stacking spaces. There are 12 inbound and 6 outbound trains daily, 55% of the units are COFC.

Burlington Northern has developed the Gardner Intermodal Yard in Gardner, KS. The 400 acre yard will have an initial 500,000 lift capacity which will increase to 1.5 million lifts at full build-out. The adjacent 600 acre Logistics Park Kansas City is also under development. The Park is intermodal-served and up to 7 million sf of DC/warehouse space is projected to be developed.

SMARTPORT, a marketing agency for the Kansas City Region's economic development was surveyed as part of the case study. SMARTPORT indicated the region's intermodal rail yards serve a 250 mile radius. The agency states growth in the region is due to several factors including being located in the 3<sup>rd</sup> largest truck market in the US, having the largest FTZ area in the US, having the most underground warehouse space in the US and having the largest air cargo airport in the Midwest.

In general, SMARTPORT reports warehouse and DC development in the Kansas City area is growing due to the fact that 90% of the US market can be served by truck within two days, resulting in lower transportation costs, and also due to the high level of multi-modal transportation infrastructure in the area including service by four Class I railroads, the local interstate highway system and multiple cargo related airports. Another factor is the development of new business parks including:

- The 800 acre KCI intermodal Business Center being developed around the Kansas City International Airport. Phase 1 development involves 183 acres with four buildings totaling 1.8 million sf. Tenants of the Center will be from the aviation industry.
- The 1,000+ acre New Century AirCenter of which 280 acres has been developed to date. This includes the development of 4.2 million sf of space for offices, warehousing, distribution and manufacturing. On-site rail (BNSF) is used regularly by 18% of the current tenants.
- The 155 acre Midwest Commerce Center. Building development is projected to be 2.2 million sf. The first spec building to be built is 520,000 sf.
- The development of 40 acres in Olathe, KS. One 600,000 sf spec building has been built.

The Kansas City Region is also unique for its underground warehouse and industrial space. Developed from former limestone mines, these facilities offer lower operating costs. To date 24 million sf of space has been developed and more will be coming on-line in the future.

SMARTPORT states warehouse and DC development in the Kansas City area cannot be tied directly to the area's intermodal yards. Intermodal yards are one factor in site selection. Distance and lower transportation costs to serve markets are more critical. Another critical factor is the availability of low cost warehousing. On-site intermodal rail facilities may not be critical to industrial park tenants who choose a park location for its low cost warehousing. Tenants at parks with on-site rail may not be rail or intermodal dependent, or they could possibly use other intermodal rail facilities rather than the yard at the host park.

**CASE STUDY: ALLIANCE, TX**

AllianceTexas is a 17,000 acre industrial, commercial and residential complex being developed by Hillwood (a Perot Company). Development started in 1988 and includes several components. The Alliance Global Logistics Hub is a multi-modal complex that includes BNSF's Alliance Intermodal Facility first opened in 1993. The intermodal facility has a lift capacity of 600,000 units per year. Lift capacity is projected to reach 1 million lifts by 2011. Potential maximum capacity is 1.5 million lifts per year. The intermodal facility handles eight inbound and nine outbound double-stack trains daily. The facility has four strip tracks totaling 24,400 ft, 3,920 parking spaces and 300 stacking spaces. Half of the Logistics Hub is dependent on the intermodal rail yard.

In addition to operating the intermodal rail yard, BNSF also provides rail service to facilities on the western side of the Logistics Hub. Union Pacific provides rail service to facilities on the eastern side of the Logistics Hub. The Logistics Hub also includes the Ft. Worth Alliance Airport, a 100% industrial based airport. AllianceTexas is also 15 minutes from the Dallas/Ft. Worth International Airport. AllianceTexas has direct connection to three interstate highways. Similar to Kansas City, AllianceTexas can serve a large truck market (111 million people) within two days. AllianceTexas also contains three industrial complexes:

Westport at Alliance consists of 3,500 acres dedicated to industrial and distribution activities. Development began between 1992 and 1994. Westport has direct access to the Ft. Worth Alliance Airport, to I-35W and to the intermodal facility and BNSF line. Facilities in Westport are rail served by BN. Future development at Westport includes transload facilities and a container yard.

Alliance Gateway is a 2,400 acre site dedicated to distribution, manufacturing and industrial users. Construction began between 1992 and 1994. Gateway is rail-served by Union Pacific (no intermodal yard); some facilities are rail-served. Gateway has direct access to State Highway 170, is 5 minutes from State Highway 114 and US 377, and is 10 minutes from I-35W.

Alliance Commerce Center is a 300 acre business park. Construction of the Center began between 1992 and 1994. The Center is designed to accommodate 1.7 million sf of building space ideal for distribution, light manufacturing, high-tech and aviation support firms. The Center is accessed by I-35W, FM 156 and the Eagle Parkway. The Center is directly across from the American Airlines Maintenance Base at the Ft. Worth Alliance Airport.

Currently, the AllianceTexas development includes 29 million sf of building space housing corporate campuses, office complexes, tech and data centers, destination retail stores, entertainment venues, residential housing (6,700 single-family homes), schools, churches and community shopping; 200 corporate residents and 28,000 employees.

Future expansion at AllianceTexas includes development of 6,000 industrial acres, 60 million sf of warehouse development and an increase of lift capacity from 600,000 units to 1.5 million units per year. A new section of the Interstate highway under construction will improve the movement of vehicles between the east and west properties of AllianceTexas. This will improve the flow of vehicles between the DC and warehouse facilities in the east properties and the intermodal rail yard in the west property. The improvement will result in new DC and warehouse development and spur rail usage.

**CASE STUDY: SAN BERNARDINO, CA**

BNSF began operating the BNSF Intermodal Facility in San Bernardino in 2002. The facility occupies 376 acres, 246 acres of which have been developed. The facility has four strip tracks totaling 22,400 ft, six 8,000 ft storage tracks, 3,602 parking spaces and 300 stacking spaces. The facility handles eight inbound and seven outbound trains daily. The facility is operating at near lift capacity, 567,000 lifts in 2007 of which 72% was COFC.

Two miles from the BNSF facility is AllianceCalifornia, another Hillwood trade and logistics center development, located on 2,000 acres anchored in and around the former Norton Air Force Base (now the San Bernardino International Airport). The airport is an all-cargo airport with a 10,000 ft runway. The center has immediate highway access to I-10, I-215, the future I-210 extension and interchange and state highways 66, 30 and 330. The center is also 5 minutes from the Roadway and Yellow Freight hubs and 15 miles from Ontario International Airport.

AllianceCalifornia opened in 2003 with 550,000 sf of building space available and has developed and sold 7.7 million sf for building space through 2008. AllianceCalifornia is comprised of seven developments:

- Centergate Corporate Campus – 2.1 million sf ;
- Northgate – six buildings/3.2 million sf ;
- Southgate – 6 buildings/2.6 million sf ;
- Westgate – 4 buildings/2.2 million sf ;
- Gateway North – 2 buildings/1.3 million sf ;
- Gateway South – 2 buildings/1.4 million sf ; and
- Central Park – 26 buildings/0.2 million sf.

Hillwood is also developing the InterChange Business Center, four miles from AllianceCalifornia and two miles from the BNSF Intermodal Facility. The total build-out is 2.1 million sf however, 0.8 million sf has been built and sold. The Center has immediate access to I-215 and the future I-210. It is two miles north of I-10. It is also 5 minutes from the Roadway and Yellow Freight hubs.

**CASE STUDY: JOLIET, IL**

The BNSF Logistics Park Intermodal Yard, 35 miles south of Chicago, opened in 2002 on developed on 429 of 800 acres. The yard has four strip tracks totaling 33,043 ft, 5,200 parking spaces and 6,000 stacking spaces. The yard handles 8 inbound and 4 outbound trains daily and in 2008 handled 800,000 lifts, all COFC. The yard can expand 300 acres and increase capacity to 2 million lifts per year. The Union Pacific delivers boxcars to the Elwood tenants

Adjacent to the Logistics Park is the 2,200 acre CenterPoint Intermodal Center (Elwood) in Elwood, IL which opened in 2002. The Center has developed 8 million sf of warehouse space. There is 4 million sf of expansion potential however new development has slowed with the national economy and future development will be on spec.

Five miles to the north, development of the CenterPoint Intermodal Center (Joliet) in Joliet, IL is underway with an expected opening in 2010. This 3,200 acre complex includes a 2,200 acre industrial park and a 990 acre intermodal rail yard operated by Union Pacific.

The combined CenterPoint centers offer up to 30 million sf of potential industrial facilities and 500 acres for container, trailer and equipment storage.

By comparison, Union Pacific's Global III Intermodal Terminal in Rochelle, IL has not been as successful. Opened in 2003, the terminal occupies 1,200 acres, four loading tracks with a potential to add a fifth track, 4,000 parking spaces and a 7,200 container/trailer yard at full build out. The terminal has a lift capacity of 200,000 units per year however; it only handles 200,000 lifts per year. The 85 mile distance west of Chicago is a disadvantage in that the resulting dray to Chicago is too costly.

**CASE STUDY: LOUISVILLE, KY**

Norfolk Southern operates two intermodal rail yards in Louisville:

Buechel, opened before 1980, occupies 30 acres. It has two tracks totaling 2,136 ft, 200 parking spaces and 340 stacking spaces

Appliance Park Intermodal Yard occupies 32 acres. It has two tracks totaling 4,202 ft, 570 parking spaces and 100 stacking spaces. West Coast interline intermodal service is available via Chicago and Kansas City with BNSF and Union Pacific

CSX closed its Louisville intermodal yard in the 1980s to consolidate intermodal operations in Cincinnati.

Industrial park operators surveyed report in general there is no direct intermodal rail service between the West Coast and Louisville. With the exception cited at Appliance Park, West Coast containers are trucked between BNSF/UP intermodal yards in Memphis, St Louis and Chicago and the Louisville area. With respect to East Coast marine containers, the Louisville area is served by rail via the Port of Norfolk. Three industrial park operators were identified:

Riverport, a 2,000 acre industrial park opened in 1982. It did not develop its first DC until 1989. By the end of 1990 it had a total of 1 million sf of DC space developed. Another 1 million sf was added over 1991/1992. Development continued through 1999 with 1 million sf increments per year. Riverport now has approximately 9 million sf of DC developed. Most tenants receive containers by truck from Memphis, St Louis and Chicago.

The 900 acre Appliance Park (not associated with the NS Appliance Park facility) is the global headquarters of GE Consumer & Industrial. Functions carried out at the park include administration, sales and marketing, IT and technology functions, and advanced development and technology. The park operates a private railroad comprised of 27 miles of trackage and 1,900 dedicated rail cars. The park also has one 47 acre warehouse.

Bluegrass Industrial Park in Jefferson, KY has developed 240 buildings totaling 10-11 million sf (42,500 sf average per building). The park has 121 tenants that are primarily focused on the domestic market. Rail at the park is not used by the tenants.

**CASE STUDY: FRONT ROYAL, VA**

The Virginia Ports Authority (VPA) opened an inland intermodal port in Front Royal, VA in 1985. The 160-acre terminal is operated by Virginia International Terminals, is not fully developed and can be expanded in the future if necessary. The Virginia Inland Port has five rail spurs totaling 17,820 ft and a three-dock crossdock facility. Trains are backed into the terminal for loading and discharge. The terminal is located one mile from I-66 and five miles from I-81. Volume has averaged 40,000 containers annually. Rail service is provided by Norfolk Southern on to and from Norfolk. A dedicated rail service between Norfolk and Front Royal is to begin in the near future. Although not an NS property, the Virginia Inland Port is considered as NS's "intermodal rail yard" in the area.

Front Royal is located in Warren County. The County has a small number of DCs in operation. Data provided by the VPA shows the County is home to DCs/warehouses operated by:

- Family Dollar (970,000 sf and 997 employees);
- Ferguson Enterprises (615,000 sf and 350 employees);
- SYSCO (800,000 sf and 388 employees); and
- Winchester Cold Storage (275,000 sf).

These operations are dependent on port and maritime activity (to some extent) according to the VPA. An additional 12,000 sf DC not related to port and maritime activity is also located in the County. Other non-DC/warehouse maritime dependent businesses in Warren County are:

- Dupont – automobile finishes (370 employees);
- Blue Ridge Prestain – pre-painted wood trim (30 employees);and
- Tory Plastics – polyolefin foam for automobiles (120 employees).

To the extent the Virginia Inland Port may have the potential to serve other Northern Virginia Counties, a listing of port/maritime dependent and non-dependent distribution and warehouse capacities in Northern Virginia are presented below. The following are the port and maritime dependent distribution and warehouse capacities:

- Frederick County – 1.6 million sf
- Winchester County – 766,000 sf
- Prince William County – 206,000 sf
- Fairfax County – 183,000 sf
- Loudoun County – 181,000 sf
- Culpeper County – 150,000 sf
- Manassas County – 150,000 sf
- Reston – 121,000 sf
- Alexandria – 40,000 sf

The following is a list of non-port and maritime dependent distribution and warehouse capacities by county:

- Prince William County – 258,000 sf
- Frederick County – 189,000 sf
- Culpeper County – 150, 000 sf
- Fairfax County – 97,000 sf
- Loudoun County – 97,000 sf
- Stafford County – 32,000 sf
- Mechanicsville – 12,000 sf

**CASE STUDY: HARRISBURG, PA**

Norfolk Southern operates two intermodal rail yards in Harrisburg:

**Harrisburg (Lucknow)** opened in 1974 and occupies 179-190 acres. Of this area, 70 acres is dedicated to intermodal operations, the balance contains support yards and other operations. There are six tracks totaling 17,800 ft and 1,470 parking spaces. The yard has a 300,000 lift capacity. The yard handles both TOFC and COFC equipment. Spurs from the yard go to privately owned warehouses. Adjacent to the yard is the Lucknow Industrial Park. PPG is located in the park and ProLogis manages two or three warehouses.

**Rutherford Rail Yard** occupies 250 acres, 122 acres of which are dedicated to intermodal operations. The remaining acres are dedicated to support yards. The yard has three tracks totaling 10,000 ft and 710 parking spots. The yard has an annual lift capacity of 275,000 units. In 2007 the yard handled 182,000 lifts. UPS is a major customer of the Rutherford yard and operates several warehouses nearby on 19<sup>th</sup> Street.

A partial listing of Harrisburg area distribution centers provided by the Tri County Planning Commission shows a large number DCS operate in the South Central Pennsylvania Region. The following is a summary of a partial listing of warehouse capacity in the region:

- Dauphin County – four DCs totaling 2 million sf
- Lancaster County – seven DCs totaling 7.2 million sf
- Lebanon County – one DC of 1 million sf
- Cumberland County – 13 DCs totaling 12.9 million sf
- York County – 16 DCs totaling 11.5 million sf

The following is a summary of the largest distribution and industrial parks in South Central Pennsylvania provided by the Capital Region Economic Development Company. The summary includes:

- ProLogis Park (Cumberland County) – 5 buildings totaling 3.7 million sf
- Blue Mountain Logistics Center (Dauphin County) – three buildings totaling 1.4 million sf
- Carlisle Distribution Center (Cumberland County) – three buildings totaling 1.3 million sf
- Northport Industrial Park (Lebanon County) – two buildings totaling 1.2 million sf
- Greenspring Industrial Park (York County) – one building of 675,000 sf
- Turnpike Industrial Park (Dauphin County) – 325,000 sf
- Dauphin Drive Distribution Center (Cumberland County) – 310,000 sf
- Fairview Industrial Park (York County) – six buildings totaling 272,000 sf
- Earland Industrial Park (Lancaster County) – eight buildings totaling 261,000 sf

**CASE STUDY: CHARLOTTE, NC**

Norfolk Southern and CSX have intermodal yards in Charlotte.

NS Intermodal Charlotte occupies 40 acres, has 5,300 ft of trackage and 600 parking spaces. The yard has a lift capacity of 153,000 units per year with satellite yards. Without the satellite yards the capacity is 60,000-70,000 lifts. NS Intermodal Charlotte is expanding – without satellites. Expansion is being conducted in two phases:

- Phase 1 – 12,000 ft of trackage, 2,261 parking spaces and 250,000 lift capacity and
- Phase 2 – 21,500 ft of trackage, 3,357 parking spaces and 350,000-390,000 lift capacity,

CSX Charlotte Terminal occupies less than 100 acres. It has 10,000 ft of trackage, 365 parking spaces and 160,000 lift capacity.

The Charlotte USA Region has a large DC presence. The following is a list of DC capacity by county in the Region.

- Mecklenburg County – 10.4 million sf
- York County – 3.7 million sf
- Lincoln County – 1.9 million sf
- Iredell County – 1.6 million sf
- Catawba County – 1.5 million sf
- Cararrus County – 1.3 million sf
- Rowan County – 1.0 million sf
- Chesterfield County – 0.8 million sf
- Gaston County – 0.5 million sf
- Cleveland County – 0.1 million sf

Cities in Mecklenburg County with large DCs are:

- Charlotte;
- Matthews;
- Huntersville;
- Indian Trail; and
- Concord.

**CASE STUDY: NASHVILLE, TN**

CSX operates an intermodal yard in Nashville on 66 acres with two 1-mile tracks. The yard has a capacity of 200,000 lifts working two shifts. Currently the yard is handling 100,000 lifts with one shift. The yard handles two double-stack trains daily which is 95% international containers. One train is from the West Coast and is routed via Chicago with a change of trains. The second train is from Savannah and Charleston and is routed through Atlanta with a change of trains. The domestic containers are from East Coast markets.

The warehouse sector represents about 1/3 of the Nashville industrial market. The sector includes 1,613 buildings totaling 64.2 million sf. About 4% of this market is available. The top 20 distribution operations in the Nashville area are located in:

- Nashville;
- La Vergne;
- Gallatin;
- Smyrna;
- Lebanon;
- Portland;
- White House;
- Spring Hill; and
- Clarksville.

**CASE STUDY: AUSTELL, GA**

Norfolk Southern operated the John W. Whitaker Intermodal Terminal in Austell. NS purchased the 800 acre site along its mainline in 1996. The intermodal terminal was developed on 450 acres of the property. The terminal includes four loading/unloading tracks totaling 20,000 ft, 26,000 ft of support track and a two-mile runaround track. The terminal also has 3,200 parking spaces and 360 stacking spaces. The terminal has a 275,000 lift capacity.

Warehousing and DC activity in the Austell area has been limited according to interviews conducted in this case study. The Cobb County Chamber of Commerce the Austell yard has had minimal impact on this type of development in the area. Coldwell Banker reported the Austell yard has had minimal impacts on DC development. King Industrial Realty also reported intermodal rail hasn't hurt but no one is building because it is there. King also reported heavy traffic on I-20 discourages development in the area and that there is also minimal land to develop.

On the contrary, the CSX Fairburn intermodal yard 25 miles south of Austell is serving growing DC development in that area. There are big box stores developing near Fairburn and there is more land available for development.

**CASE STUDY: COLUMBUS, OH**

Columbus is home to the Rickenbacker Inland Port, which is a truly multi-modal facility offering trucking, air and rail services in one location. Rickenbacker Inland Port is serviced by two of the largest rail providers in the United States, Norfolk Southern and CSX. The majority of rail freight traveling to Columbus is international and has reached the Ohio Valley via the East and West Coast ports.

The Norfolk Southern Rickenbacker Intermodal Terminal is capable of handling more than 400,000 containers annually. Norfolk Southern's first intermodal terminal and fully integrated logistics park provides access to both East Coast and West Coast Ports and has over 15,000 acres of existing or planned DC and warehouse development. This terminal integrates intermodal, carload, air cargo, and logistics capabilities and accommodates delivery of overweight containers to adjacent distribution centers.

Strategically located in the heart of the Rickenbacker Inland Port, the Rickenbacker Global Logistics Park will provide up to 29 million square feet of additional development space to complement the 40 million square feet of existing space:

- A master-planned 1,576-acre logistics park;
- An advanced international air cargo airport, rail intermodal facility, US Foreign Trade Zone and distribution.