



# SEAPORTS & LOGISTICS

2016  
NORTH AMERICA  
ANNUAL REPORT

CBRE RESEARCH

**CBRE**



# EXECUTIVE SUMMARY

The Port of Long Beach rose to the top of the second annual CBRE North American Seaports and Logistics Index, up from second place in the inaugural Index, lifted by the strongest logistics real estate market in the nation and healthy cargo volume growth.

The story of 2015 was the shifting balance in the flow of cargo to West and East Coast ports. The East Coast has been slowly gaining market share over the past decade, but the labor dispute on the West Coast in early 2015 accelerated the shift, with shippers more aggressively routing discretionary cargo east to avoid future inventory risk.

The expanded Panama Canal is expected to open in June 2016 and will provide more East Coast alternatives for cargo shipped from Asia, intensifying the competition between East and West Coast ports.

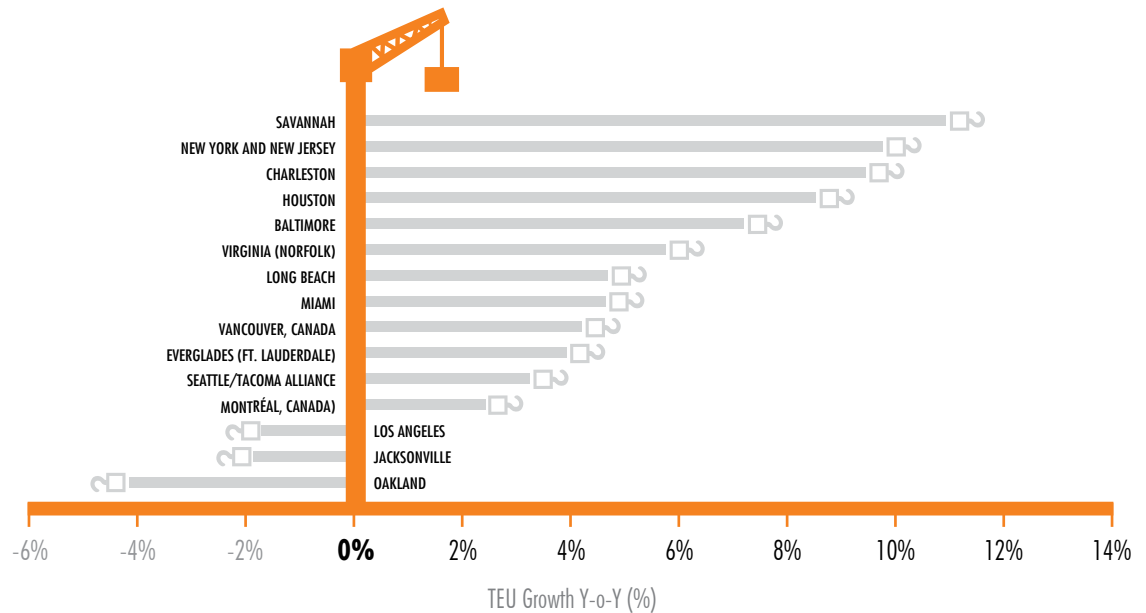
For logistics real estate, the shift in cargo volumes and increased competition between the coasts will create additional flexibility in the supply chain and more location alternatives for distribution and warehouse users.

## LOOK BACK AT 2015

Last year was a tumultuous year for seaports in North America, starting with a slowdown at all the major U.S. West Coast ports. Cargo was left stranded offshore for weeks as management and the International Longshore and Warehouse Union worked out a new contract. The year ended with the opening of the new, wider Panama Canal looming; the upgraded canal will be capable of handling larger post-Panamax and super post-Panamax vessels—delivering cargo from Asia to the U.S. East Coast much faster than was previously possible. These two events make the shifting of inbound cargo from the major West Coast ports to ports on the East and Gulf Coasts the major story of 2015 and 2016.

A gradual migration of cargo volumes related to the Panama Canal expansion has long been expected, but the major business disruption due to the labor strife in Q1 2015 forced importers and exporters to examine their shipping and supply chain strategies much sooner than expected. The result was the rerouting of a portion of cargo from the major West Coast ports (Los Angeles, Long Beach, Oakland, and Seattle/Tacoma) to East and Gulf Coast equivalents (Savannah, Charleston, Norfolk, New York and New Jersey, and Houston). In 2015, the major U.S. and Canadian ports saw growth of 4.6%, with 46.2 million TEUs (twenty-foot equivalent units) handled. The East and Gulf Coast ports captured nearly all of that gain, with growth of 8.3% to reach 22 million total TEUs. Accordingly, the balance between the two coasts has continued to shift eastward, with the West Coast claiming a 52% share of U.S. TEU volume—down from 54% in 2014 and 57% in 2010.

Figure 1: TEU Volumes Moving East



Source: CBRE Research, port authorities for each port, 2015.

Early returns in 2016 suggest that the shifting landscape is settling a bit. Overall cargo volumes have continued to grow, particularly on the import side; West Coast ports uniformly experienced massive growth in January compared to the previous year. That was to be expected, given the near shutdown in January 2015, but growth over January 2014 was also substantial. This suggests a resumption of normal trade between Asian markets and the West Coast—and perhaps even a small recovery of share recently lost to the East Coast. Some shipping analysts contend that many of the shippers with their eyes on the East Coast are waiting for the expanded Panama Canal to open before they reroute additional cargo away

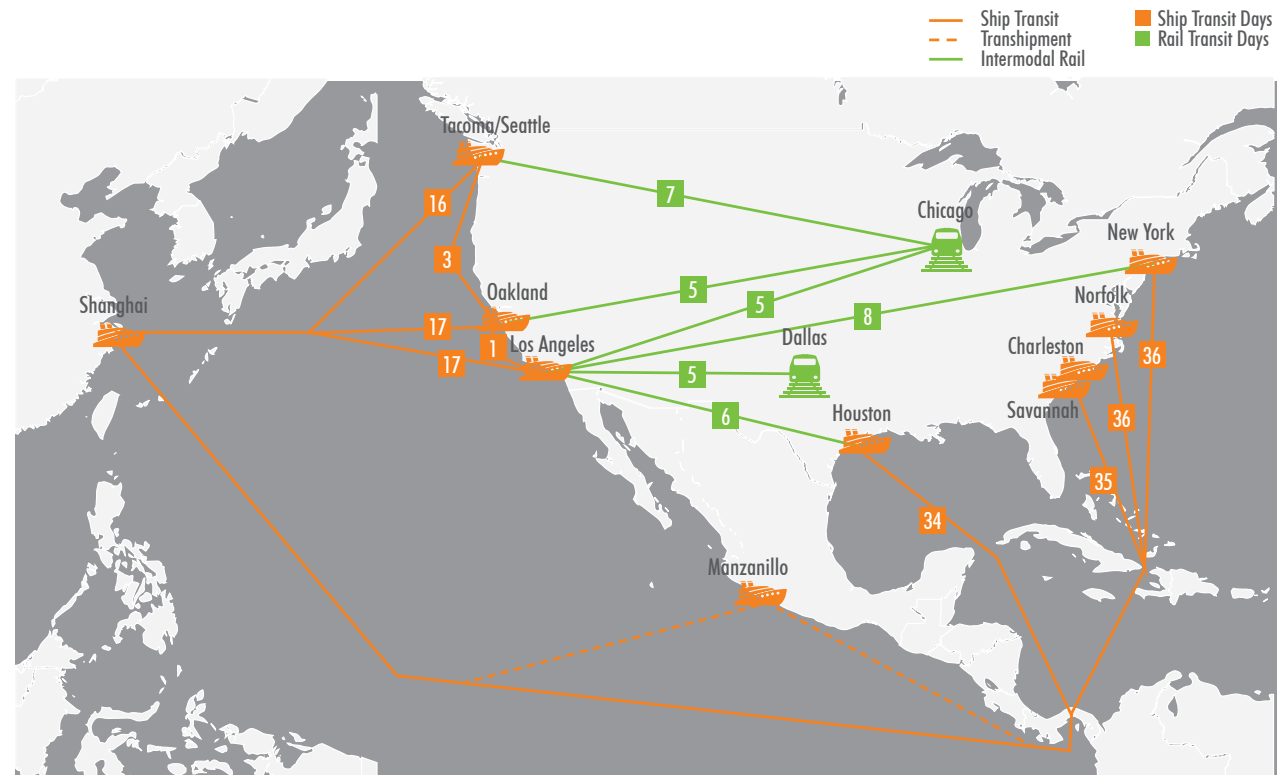
from the West Coast to the East Coast. The big-picture forecast for shipping is mixed, however, with the U.S. economy still on fairly solid ground but the global economic outlook shaky. The Baltic Dry Index, a measurement of the cost of moving raw materials by sea, hit an all-time low in February. The decline in the Index was due to a number of factors, including decreasing demand and an oversupply of cargo ships. The impact has been felt most acutely in foreign markets, but analysts are concerned that demand in the U.S. could diminish in 2017 and beyond if headwinds in the global economy slow economic growth in the U.S.

## PANAMA CANAL UPDATE

The Panama Canal expansion, a more than \$5 billion project that began in 2007 and was initially projected to be completed in 2014, is expected to open for business in June 2016. The expansion adds two new locks, creating a new lane that can handle more traffic and larger ships. The current locks accommodate ships that can hold up to 5,000 TEUs, while the new locks allow passage of the much larger post-Panamax and super post-Panamax ships, which hold up to 14,000 TEUs. Ships of this size are increasingly common, especially for cargo from Asia. According to Maritime Strategies International (MSI), they are expected to represent 62% of total marine traffic by 2030.

Conventional wisdom says that the expansion will increase the amount of cargo and the number of ships that call on eastern U.S. ports from Asia. As we have seen, many shippers chose to reroute a portion of their inbound cargo to the East Coast in order to mitigate risk in the aftermath of the early-2015 port slowdown. Surely much of that cargo will make the trip via the Panama Canal.

**Figure 2: Transportation Flows from Shanghai to North America**



Source: IMS Worldwide, 2013.



**Figure 3: Transportation Line Cost Equivalence**



Source: IMS Worldwide, 2015.

However, for cargo that is currently landing on the West Coast and is “discretionary cargo” (goods that have a final destination outside of the port market or region), the outlook is less certain. The biggest disadvantage of shipping through the Panama Canal is a slower delivery time; cargo shipped through the Canal can take up to 10 days longer to reach the East Coast than cargo moved on intermodal routes from West Coast ports. By applying estimated shipper economics to each port of entry, and logistics cost to each mode of transportation, a transportation cost equivalence line can be generated. This line represents the cost indifference point—for cargo transported across the U.S., the point at which shipping to the East or Gulf Coast ports costs the same as shipping to West Coast ports and then moving freight to its final destination via intermodal transportation. Generally speaking, for Asia Pacific-shipped goods, the cost equivalence line is approximately 400 miles from the East Coast. The line is fairly fluid due to a number of variables that influence transportation costs, including bunker prices, fuel costs, the use of Panamax ships and canal toll rates. The line has been gradually shifting west since 2004, however; shipping freight to most U.S. regions is both quicker and more cost-effective through West Coast ports than it is through the Canal.

The larger cargo capacity of post-Panamax ships will lower the cost threshold associated with shipping containers through waterways to the Gulf and East Coast ports, offering a lower cost per TEU. Some analysts believe the expansion of the Panama Canal will shift the location of the transportation cost equivalence line as a result. A joint study by Boston Consulting Group and C.H. Robinson suggests that the line could move as far west as Chicago by 2020. This is an especially crucial point, as it gives the Eastern ports access to a massive and efficient intermodal facility that is a key component of many supply chains and is, at the moment, largely tied to the West Coast.

It must be said, however, that a move as far west as Chicago is the most aggressive assumption—most forecasts call for a much milder shift. Since general supply chain dynamics will not change and major overhauls of a supply chain are extremely time-consuming and expensive, the impact is expected to be minimal, at least in the near-term. High-value, time-sensitive freight, the type that has already begun to move east, will likely be the first to use the Panama Canal and to take advantage of the shifting cost line, however slight it might be.

The implications for logistics real estate are significant even if the shift of the cost line is relatively small. As cargo enters and exits the country from more locations, supply chains must evolve to support the changing flow of goods. This will be felt in two ways. The first and more immediate is that demand for distribution and

warehouse space will increase in the growing port markets. Existing space will become very tight, creating the need for more supply—in particular, high-quality, prime logistics facilities. The second effect will be the creation of new prime locations along the supply chain corridors. Smaller markets may find themselves along the path of goods flowing to and from a growing port, which will create new demand for distribution space. This is occurring now in Greenville, South Carolina, for example. Connected to the rapidly growing Port of Charleston via the South Carolina Inland Port, the market is within two hours of both Atlanta and Charlotte, the two hub cities of the Southeast, and is within 500 miles of nearly 100 million people. This small manufacturing town is quickly transforming into a key distribution location and is one of the fastest growing industrial markets in the nation, with six million sq. ft. (or 4% of its total stock) under construction as of Q1 2016. This type of growth should be expected in similar secondary and tertiary markets as East and Gulf Coast ports see cargo volumes rise in the wake of the Canal expansion.

**“Companies today are facing monumental supply chain pressures, due to changing consumer behavior and a need to balance cost and service while keeping their business safe. The shifts in port volumes and extreme focus on how best to flow goods globally is further evidence of being in the midst of a supply chain arms race.”**

**Adam Mullen**  
Supply Chain and  
Occupier Leader - Americas, CBRE





# 2016 SEAPORTS AND LOGISTICS INDEX

(CLICK ON A PORT TO SEE MORE DETAIL)

OVERALL SEAPORTS AND LOGISTICS RANKING	PORT	Y-o-Y Change
1	Long Beach	1 ▲
2	New York and New Jersey	1 ▲
3	Los Angeles	-2 ▼
4	Savannah	2 ▲
5	Houston	5 ▲
6	Seattle/Tacoma Alliance	-2 ▼
7	Vancouver, Canada	1 ▲
8	Charleston	-1 ▼
9	Virginia (Norfolk)	0 ►
10	Oakland	-5 ▼
11	Baltimore	0 ►
12	Montréal, Canada	2 ▲
13	Everglades (Ft. Lauderdale)	-1 ▼
14	Miami	-1 ▼
15	Jacksonville	0 ►

Source: CBRE Research, 2016.

## SEAPORT RANKING INDEX METHODOLOGY

In creating the *CBRE Seaports and Logistics Index*, we aimed to blend two major themes—**port infrastructure capabilities** and **real estate fundamentals**. Under each theme, scores for various criteria were weighted by importance and summed to provide a port's score for that theme. A market that ranked first in each of the criteria would receive a total score of 1.0. While the Index is presented as an ordinal ranking, each of the ports on this list presents its own unique set of opportunities and challenges.



## SEAPORT RANKING INFRASTRUCTURE INDEX

Attributes related to the individual ports' infrastructure receive the greatest weighting. While the Index is not merely a list of the largest ports, it does make sense that the more prominent facilities with the most activity would receive some benefit due to their size. The Index is meant to identify opportunities for members of various parts of the real estate and logistics communities. Naturally, ports with greater cargo throughput, which stimulates greater local industrial real estate opportunity, should rise to the top. **Total TEU volume** received the most weight, while **long-term growth** in annual TEU volume and **year-over-year growth** in TEU volume each received slightly lower weight. These three measures together make up the majority of the port infrastructure ranking. While the largest ports tend to rise to the top, outsized growth—both short- and long-term—helped boost Savannah and Virginia into the top five with Los Angeles, New York and New Jersey, and Long Beach.

Also considered in the Index were **local population density and projected population growth**. Because cargo that moves through a port tends to stay within the port's region, areas in or near large population centers are likely to attract significant long-term port activity. As an example, 60% of all cargo that comes into the ports of Los Angeles and Long Beach remains in the Southern California region.

Looking at other critical port infrastructure, we considered five additional components that are necessary to operate a modern logistics hub. The following categories received lower weightings, and together bring the total to 100%: **number of Class I rail lines serving the port, number of container terminals, mean low water channel depth, total number of cranes, and total number of post-Panamax cranes**. These are key attributes for high-volume port activity and, in the case of channel depth and post-Panamax cranes, signal the readiness of the port to accommodate the larger cargo ships that are increasingly common and will be passing through the expanded Panama Canal in 2016 and beyond.

PORT INFRASTRUCTURE RANKING	PORT	Y-o-Y Change
1	New York and New Jersey	1 ▲
2	Savannah	2 ▲
3	Long Beach	0 ►
4	Virginia (Norfolk)	1 ▲
5	Los Angeles	-4 ▼
6	Charleston	0 ►
7	Vancouver, Canada	0 ►
8	Houston	2 ▲
9	Seattle/Tacoma Alliance	-1 ▼
10	Baltimore	1 ▲
11	Miami	2 ▲
12	Oakland	-3 ▼
13	Everglades (Ft. Lauderdale)	-1 ▼
14	Montréal, Canada	0 ►
15	Jacksonville	0 ►

Source: CBRE Research, 2016.





## REAL ESTATE MARKET RANKING METHODOLOGY

The real estate ranking component is critical, albeit secondary to a slight degree, in the focus of the Index. In the overall ranking, the total weight of the real estate ranking is less than that of the port attributes. The Index attempts to view markets from the perspective of both owners and occupiers, with the goal of identifying markets that have healthy real estate fundamentals overall, rather than conditions that might benefit one side more than the other. Another key to the real estate ranking methodology is that both current conditions and a forecast are used to identify the markets with the greatest potential for growth. The Index measures the local industrial markets that are most influenced by port activity. For the ports of Los Angeles and Long Beach, for example, the market statistics and activity in the South Bay submarket and Inland Empire market are factors.

As with the port infrastructure methodology, the index attempts to view the potential aspects of all markets fairly, rather than focusing on only the largest or busiest. There is naturally more potential opportunity in larger markets, however, so some of them have risen to the top of the ranking.

Among real estate characteristics, the most influential criteria were **a market's total size, availability of existing space, demand activity, historical and forecasted construction rates, and rent growth characteristics.** Each market's position in its own cycle was also judged. From this perspective, the "sweet spot" will be markets that have healthy amounts of existing and planned space relative to their size, and have experienced growth during the current recovery cycle but have not yet reached or exceeded their respective cyclical peaks. These markets, which strike a healthy balance between the factors deemed favorable by owners and those deemed favorable by occupiers, scored best in the ranking. Markets that skewed too far toward owners (with rents beyond peak) or occupiers (with stagnant rent and availability recoveries) did not fare as well.

REAL ESTATE RANKING	PORT	Y-o-Y Change
1	Los Angeles	0 ▲
1	Long Beach	0 ▲
3	Houston	0 ▲
4	Oakland	0 ▲
5	Seattle/Tacoma Alliance	0 ▲
6	New York and New Jersey	0 ▲
7†	Baltimore	1 ▲
7†	Montréal	1 ▲
9	Vancouver, Canada	4 ▲
10	Everglades (Ft. Lauderdale)	0 ▲
11	Charleston	0 ▲
12	Miami	-3 ▼
13	Virginia (Norfolk)	2 ▲
14	Jacksonville	0 ▲
15	Savannah	-2 ▼

Source: CBRE Research, 2016.

WEST COAST

EAST/GULF COASTS

**Port of Long Beach** - (1st; +1) - With healthy volume growth of 5.4% in Q4 and annual growth of 15%, Long Beach's experience in 2015 contrasts sharply with that of its neighbor, Los Angeles. Much of Long Beach's growth was driven by the arrival of a new Asian shipping line, which suggests that the growth is sustainable. Along with strong infrastructure and an outstanding real estate market, this was enough to boost Long Beach to the top of the Index.

**Port of Los Angeles** - (3rd; -2) - The Port of Los Angeles benefits from the strongest industrial real estate market in the nation and one of the most robust port infrastructures in the world. Nevertheless, an uncharacteristically slow year, with volumes down 2.2%, dinged Los Angeles in the ranking. Given all the inherent advantages Los Angeles enjoys, this slump is likely to be short-lived.

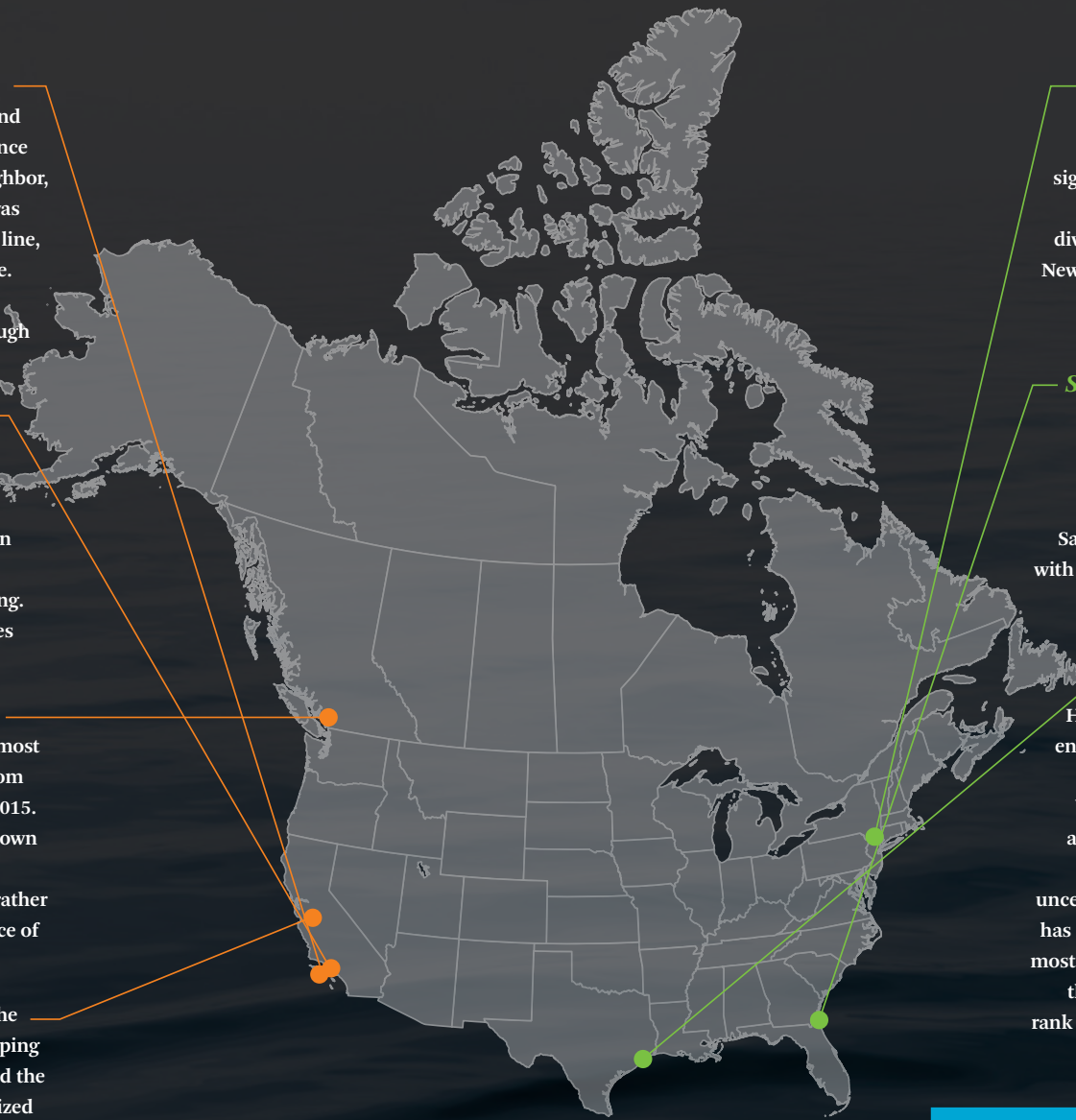
**Port Metro Vancouver** - (7th; +1) - Vancouver's step up on the Index was due almost entirely to volume growth that set it apart from other West Coast ports, which struggled in 2015. The growth largely stemmed from the slowdown at the American ports to its south—some shippers chose to divert cargo to the north, rather than to the east, underscoring the importance of the West Coast's proximity to Asia.

**Port of Oakland** - (10th; -5) - Although the local real estate market is quite strong, slumping volumes (both short-term and long-term) and the closing of the port's America terminal penalized the Port of Oakland significantly in the rankings, and called its future strength into question.

**Port of New York and New Jersey** - (2nd; +1) - Like all of the East Coast ports, New York and New Jersey benefited significantly from the slowdown on the West Coast early in 2015. A large portion of the diverted cargo made its way to New York and New Jersey, leading to all-time record volumes in 2015 and the East's top spot in the CBRE Index.

**Savannah** - (4th; +2) - Adding to already robust volumes (fifth-largest in 2014), substantial short-term growth pushed Savannah's port infrastructure score up to second in North America. The outlook for Savannah is mixed, however—as a river port with shallow depths and narrow turning lanes, receiving the larger post- and super post-Panamax ships may prove difficult.

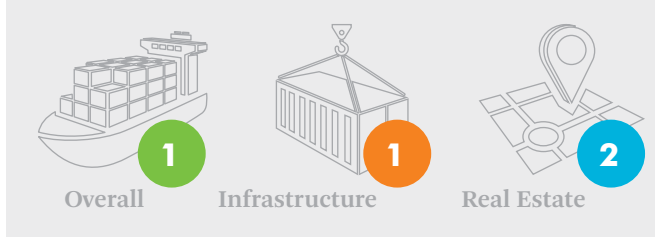
**Houston** - (5th; +5) - Rumors of Houston's demise in the face of a slumping energy market are exaggerated. The port has seen growth of nearly 10% in 2015, driven by a strong petrochemical export business and some residual effect of the west-to-east cargo shift. Despite some local economic uncertainties, the industrial real estate market has remained strong too, with the submarkets most attached to the port faring best. Together, these gave Houston a somewhat surprising rank of fifth best port market in North America in this year's Index.



Appendix: Local Market Port Rankings



# PORT OF LONG BEACH



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PORT FACTS	
Total TEU Volume 2015 (000s)	7,192
Y-o-Y Change	5.4%
Total Cranes / Post-Panamax Cranes	67 / 66
Channel Depth (feet)	76
Container Terminals	6
Leading Trading Partners	China, Japan, South Korea, Taiwan, Hong Kong
Rail Operators	Union Pacific, BNSF

Source: Port of Long Beach, 2016.

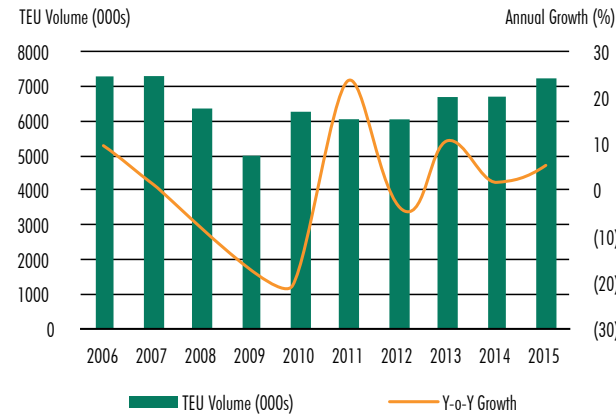
## PORT OVERVIEW

- The Port of Long Beach sits immediately adjacent to the Port of Los Angeles. They are the largest cargo ports in the U.S., together handling approximately 33% of the shipping containers that enter the U.S. The Port of Long Beach is the smaller of the two, with a 2015 TEU volume of 7.2 million.
- The Port of Long Beach annually moves cargo worth more than \$180 billion, specializing in trade with the Far East. The top imports that run through Long Beach are crude oil, electronics, plastics, and clothing. Long Beach also handles a significant portion of U.S. energy exports, including petroleum coke, petroleum bulk, and chemicals.
- By container volume, the ports of Long Beach and Los Angeles together are the world's ninth-busiest port complex—after Shanghai, Singapore, Shenzhen (China), Hong Kong, Busan (South Korea), Ningbo (China), Qingdao (China) and Guangzhou (China).

## INDUSTRIAL MARKET OVERVIEW

- The Port of Long Beach is located in Long Beach, CA, approximately 20 miles south of downtown Los Angeles. The port is in the South Bay submarket and most directly influences the South Bay submarket and the Inland Empire market. For the purposes of this report, the industrial real estate statistics will be a blend of South Bay and Inland Empire. Although the Inland Empire is 70 miles east of the port, its size and its status as one of the world's primary bulk distribution markets make its connection to the port enormous.
- The combined South Bay/Inland Empire real estate market ended 2015 with an average net rent of \$6.52. This figure is 18% lower than the pre-recession peak and 30% higher than the recessionary low. While this market has been among the most active in the U.S., rent growth is consistent and measured. Growth is forecast to continue at a steady average rate of 3.4% over the next five years.
- The impact of the growth of imports moving through the port can be seen in the demand for functional Class A space, especially in the Inland Empire. The combined market delivered 19.8 million sq. ft. in 2015—nearly all of it in the Inland Empire. This robust volume has roughly offset the user demand in the market, and has provided some degree of equilibrium to the market.

## Annual TEU Volume and Growth Rate



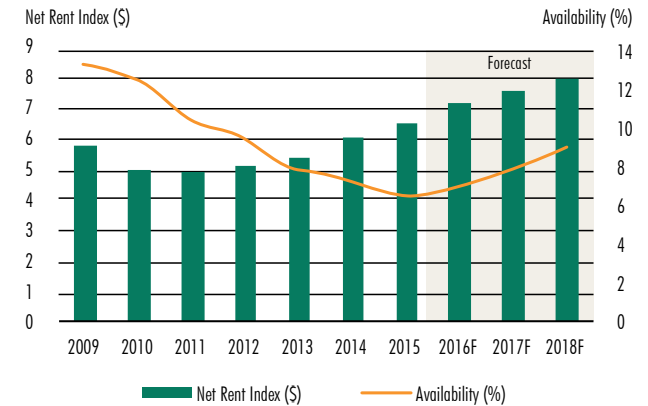
Source: American Association of Port Authorities, February 2016.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	712
Q4 2015 Availability Rate	6.3%
Y-o-Y Change (bps)	-70
2015 Net Absorption (MSF)	23.1
2015 Deliveries (MSF)	19.8
Under Construction (MSF)	21.8
2015 Net Rent Index (PSF)	\$6.52
Y-o-Y Change	7.8%

Source: CBRE Econometric Advisors, Q4 2015.

## Forecasted Availability and Rents

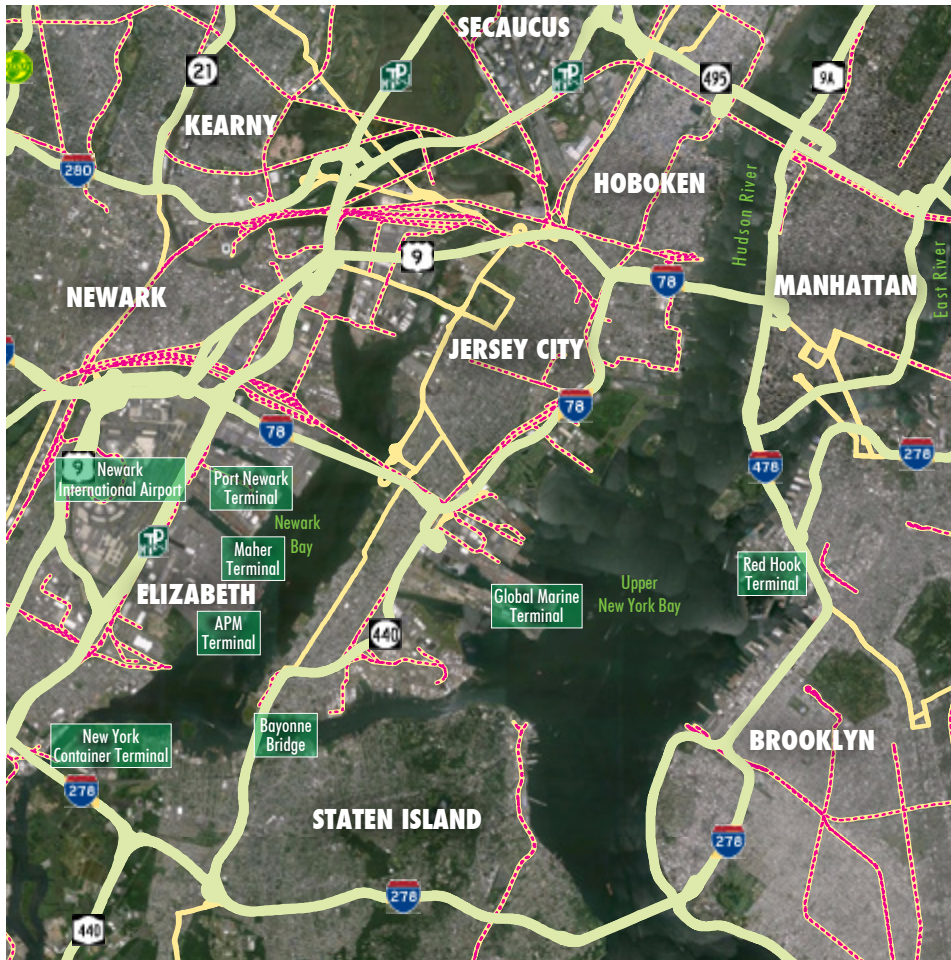
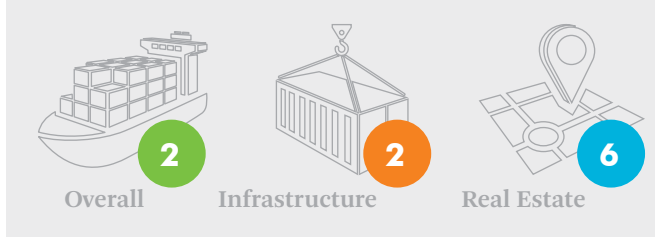


Source: CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

- The Port of Long Beach has approved a fiscal year 2016 budget that calls for \$555 million in capital expenditure, including replacement of the Gerald Desmond Bridge and redevelopment of the Middle Harbor container terminal.
- The port is spending \$1.3 billion to replace the George Desmond Bridge that will span the Port's Back Channel. The new bridge will be higher to allow additional clearance for post- and super-Panamax cargo ships. The new bridge will have six lanes and four emergency lanes to meet the region's long-term transportation needs. This project is estimated to be completed in 2018.
- The Middle Harbor upgrade project, which commenced in 2011, is a nine-year, \$1.31 billion plan that will upgrade the wharf, water access, storage areas, and rail access. In early 2015, the delivery of new gantry and stacking cranes completed the project's first phase, and its entire northern half.

# PORT OF NEW YORK & NEW JERSEY



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PORT FACTS	
Total TEU Volume 2015 (000s)	6,372
Y-o-Y Change	10.4%
Total Cranes / Post-Panamax Cranes	65 / 47
Channel Depth (feet)	50
Container Terminals	6
Leading Trading Partners	China, Brazil, India, Germany, Italy, UK
Rail Operators	CSX, Norfolk Southern, Canadian Pacific

Source: Port of New York and New Jersey, 2016.

## PORT OVERVIEW

- The Port Authority of New York and New Jersey is a joint venture between the two states. It is charged with overseeing not only port activity, but JFK and LaGuardia International Airports, as well as many of the area's bridges and tunnels.
- The Port of New York and New Jersey is the largest port on the east coast and the third largest in the U.S. In 2015, the port handled a record volume of more than 6.4 million TEUs, which represented a 10.4% increase over 2014. One of the primary draws of the port is its proximity to one of the nation's most concentrated consumer markets.
- The port has a diverse set of trading partners and, due to its location in the northeast U.S., draws shipments from all parts of the world. Trade with China represents approximately 30% of the port's total volume, while Brazil and Vietnam are its fastest growing trade partners. Perishable items, energy, and raw materials are the largest import and export items flowing through the port.

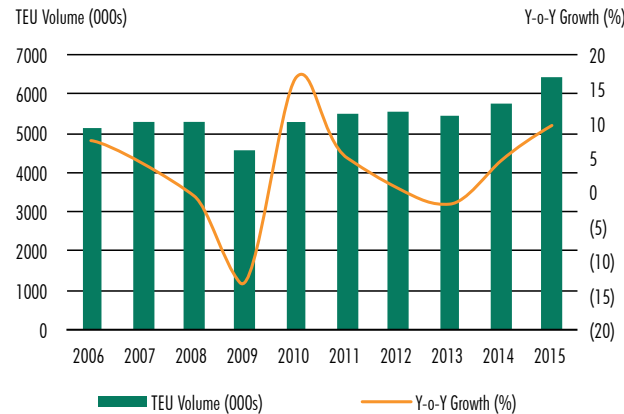


# PORT OF NEW YORK & NEW JERSEY

## INDUSTRIAL MARKET OVERVIEW

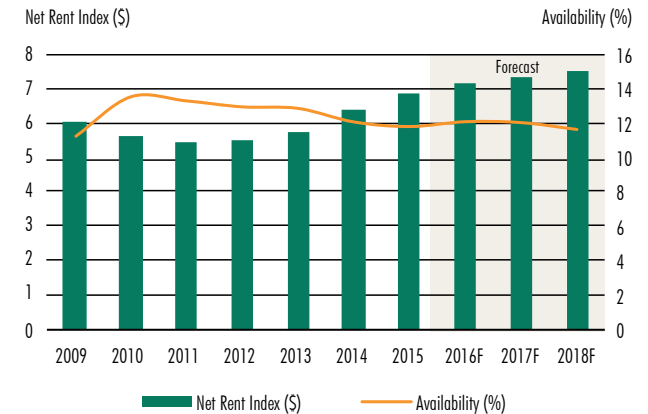
- The Port of New York and New Jersey is a collection of terminals in New York City and Northern New Jersey. For the purposes of this report, the industrial real estate statistics will refer to a blend of the Northern New Jersey and New York markets.
- Leasing activity was especially strong in 2015, with 36% of new lease commitments signed in one of the port submarkets. The market as a whole absorbed 16.0 million sq. ft. of space, while the submarkets directly adjacent to the port (Hudson Waterfront, Newark, Linden/Elizabeth, Carteret/Avenel) absorbed 3.87 million sq. ft. Availability fell by 180 basis points (bps) and rent increased by 6.2% to \$6.82.
- In 2015, industrial developers delivered 3.0 million sq. ft. of new product to the New Jersey market, while breaking ground on 6.0 million sq. ft. of new projects. Newly delivered speculative industrial projects have been leased up six months after completion, on average. Increased demand and tightening supply will continue to drive new construction in the market over the next three years; we anticipate deliveries outpacing net absorption by a factor of nearly 5 to 1. Rents are projected to grow at a healthy annual rate of 4.0%.

## Annual TEU Volume and Growth Rate



Source: American Association of Port Authorities, February 2016.

## Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

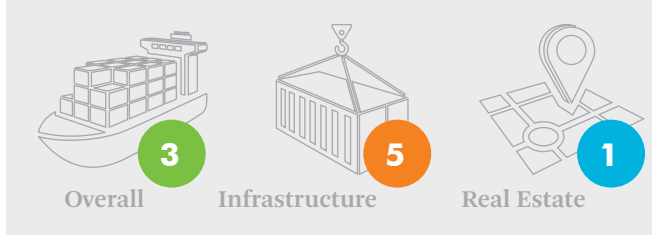
REAL ESTATE MARKET STATS	
Size of Market (MSF)	736
Q4 2015 Availability Rate	10.0%
Y-o-Y Change (bps)	-180
2015 Net Absorption (MSF)	16.0
2015 Deliveries (MSF)	3.0
Under Construction (MSF)	6.0
2015 Net Rent Index (PSF)	\$6.82
Y-o-Y Change	8.3%

Source: CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

- The Port Authority of New York and New Jersey is midstream in the implementation of a \$4.3 billion capital plan to invest and upgrade existing port infrastructure. Most notably, 64 feet of air draft is being added to the Bayonne Bridge to improve the accessibility of the primary terminal, Port Newark-Elizabeth, for post-Panamax ships. Currently, only the Port Jersey terminal is able to easily accommodate the larger ships. Alterations to the Bayonne Bridge are expected to be finished by mid-2019.
- In addition to the \$600 million investment in the existing ExpressRail, there are plans to build a new ExpressRail facility in Jersey City. ExpressRail is a rail network supporting intermodal freight transport at the major container terminals at the ports of New York and New Jersey.

# PORT OF LOS ANGELES



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PORT FACTS	
Total TEU Volume 2015 (000s)	8,160
Y-o-Y Change	-2.2%
Total Cranes / Post-Panamax Cranes	86 / 76
Channel Depth (feet)	53
Container Terminals	8
Leading Trading Partners	China, Japan, South Korea, Taiwan, Thailand
Rail Operators	Union Pacific, BNSF

Source: Port of Los Angeles, 2016.

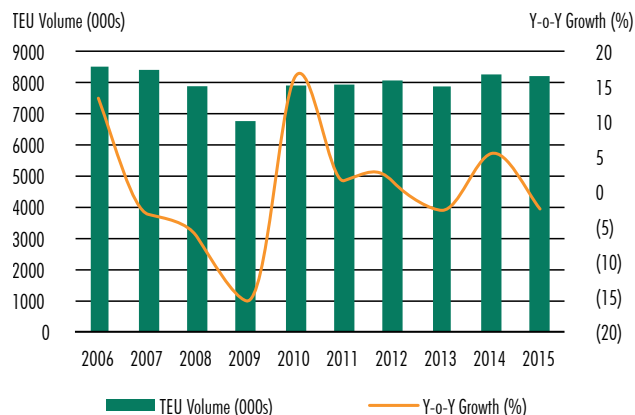
## PORT OVERVIEW

- The Port of Los Angeles is the largest port in the U.S., in terms of TEU volume throughput. In 2015, the port handled more than 8.1 million TEUs, exceeding the volume in the next-busiest port—the neighboring Port of Long Beach—by more than 13%. More than 30% of the nation’s container volume flows through the Los Angeles and Long Beach ports.
- The Port of Los Angeles handles more than 150 million tons of cargo each year—more than any other port in North America. The top import items are furniture, food and perishables, consumer goods, and raw materials. The top export items are paper goods, food, and chemicals.
- Proximity to Asian markets, a very large local economy, and robust, post-Panamax-ready infrastructure have made the Port of Los Angeles the primary destination for U.S. imports from the Far East. However, the rapidly growing demand has placed a strain on port trucking services, which are struggling to find enough truck chassis to haul the cargo off the docks. This has led to increased truck wait times and higher drayage costs.

## INDUSTRIAL MARKET OVERVIEW

- The Port of Los Angeles is located in San Pedro, CA, approximately 20 miles south of downtown Los Angeles. The port is in the South Bay submarket and most directly influences the South Bay submarket and the Inland Empire market. For the purposes of this report, the industrial real estate statistics will be a blend of South Bay and Inland Empire. Although the Inland Empire is 70 miles east of the port, its size and status as one of the world's primary bulk distribution markets make its connection to the port enormous.
- The combined South Bay/Inland Empire real estate market has a total stock of 712 million sq. ft. and an availability rate of 6.3%, which is down by almost half from its recessionary peak. The rate is still 18% from full recovery, however, and is forecast to deliver an average of 20.8 million sq. ft. over the next three years, giving occupiers a reasonable amount of modern space to choose from.
- The combined market has seen some of the strongest user demand in the U.S., with 24.7 million sq. ft., or 3.5% of total stock, absorbed in 2015. This trend is projected to slow a bit over the next three years, with demand averaging 13.4 million sq. ft. forecasted—down from its lofty 2011-2014 averages but still near the top among its peer port markets.

## Annual TEU Volume and Growth Rate



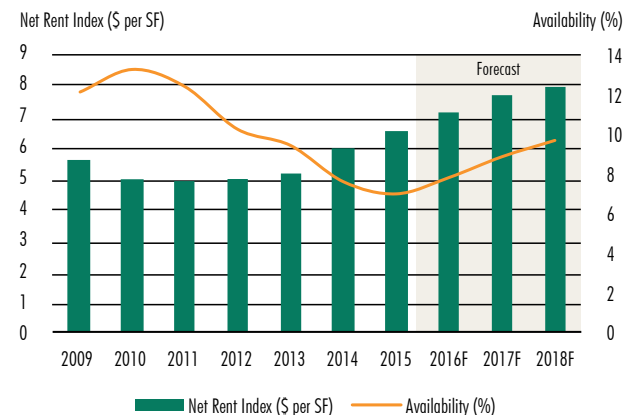
Source: American Association of Port Authorities, February 2016.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	712
Q4 2015 Availability Rate	6.3%
Y-o-Y Change (bps)	-70
2015 Net Absorption (MSF)	23.1
2015 Deliveries (MSF)	19.8
Under Construction (MSF)	21.8
2015 Net Rent Index (PSF)	\$6.52
Y-o-Y Change	7.8%

Source: CBRE Econometric Advisors, Q4 2015.

## Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

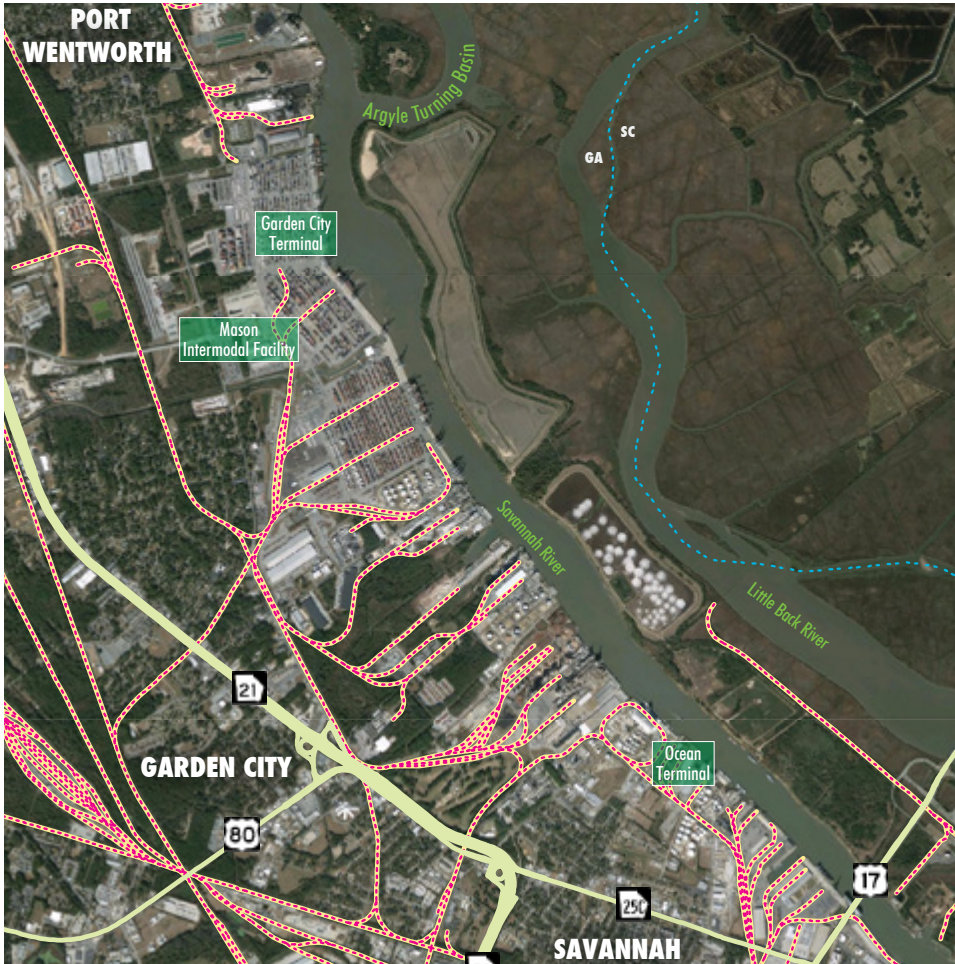
## PORT INFRASTRUCTURE INVESTMENTS

- The port is in the midst of a five-year, \$1 billion capital improvement plan that will enhance existing terminals, upgrade rail infrastructure and deepen water berths and channels to provide greater access for post-Panamax ships. Among the programs underway is a five-year, \$274 million expansion that will extend TraPac's wharves, deepen water depths and construct a new on-dock rail facility.
- An estimated 38% of the capital improvement budget for the 2014-2015 fiscal year—a total of \$109 million—was spent on transportation improvement projects intended to improve freeway access to port and nearby intermodal facilities. This included the I-110/SR-47 Connectors Improvement Program and the C St./I-110 Access Ramp Improvement project—both intended to improve the flow of truck and passenger vehicle traffic.
- The Ports of Los Angeles and Long Beach have together commenced a new, \$4.5 billion transportation infrastructure project that will upgrade terminal roads and bridges, easing congestion for truckers and the general public. This project is expected to complete in phases over the next decade.



# PORT OF SAVANNAH

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PORT FACTS	
Total TEU Volume 2015 (000s)	3,737
Y-o-Y Change	11.7%
Total Cranes / Post-Panamax Cranes	33 / 23
Channel Depth (feet)	42
Container Terminals	2
Leading Trading Partners	Northeast Asia, Mediterranean, Southeast Asia, Northern Europe
Rail Operators	CSX, Norfolk Southern

Source: Port of Savannah, 2016.

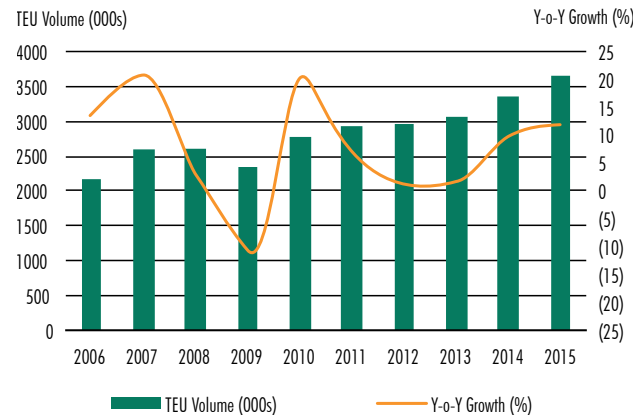
## PORT OVERVIEW

- With TEU growth of 11.7% in 2015, the Port of Savannah was the fastest growing port in the country, and recently became the fourth-largest U.S. port in terms of TEU volume. The port has become a primary choice for logistics operations due to its proximity to the Atlanta market.
- Although it is a river port, Savannah has established itself with an operational environment constructed specifically for large logistics users, free from local traffic and with ample land for industrial development. Several major international retailers have integrated the port into their logistics operations.
- Georgia is a right-to-work state, which has limited unions' traction in the market and increased the predictability of the management and labor relationship at the port. In the wake of the West Coast labor strikes in late 2014, the port's unique advantages have led some supply chain users to shift a portion of their inbound cargo from the West Coast to Savannah.

## INDUSTRIAL MARKET OVERVIEW

- The Savannah industrial market is fueled by an efficient, modern port that is expanding rapidly. The port’s continuous TEU volume growth is attracting a large array of industrial users, which has resulted in a steep decline in the industrial vacancy rate—20% having dropped to 3% over the past three years. The rapid drop in vacancy is supporting rent growth for existing available properties and has spurred a significant amount of speculative construction—1.6 million sq. ft. of such space is currently underway.
- With port activity projected to remain strong (and to increase with future infrastructure improvement), and with Class A space at a premium, new construction of big-box warehouse and distribution space is expected to accelerate in the next 12 to 24 months. In the meantime, Atlanta is benefiting as the large volume of cargo entering the port meets a lack of adequate local warehouse space.

### Annual TEU Volume and Growth Rate



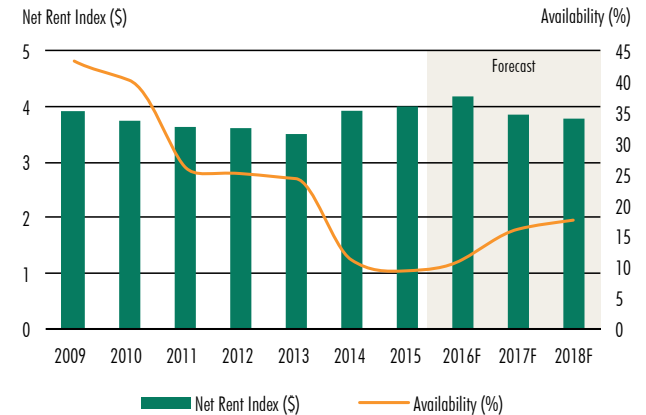
Source: American Association of Port Authorities, February 2016.

### REAL ESTATE MARKET STATS

Size of Market (MSF)	48
Q4 2015 Availability Rate	6.4%
Y-o-Y Change (bps)	-110
2015 Net Absorption (MSF)	1.4
2015 Deliveries (MSF)	0.5
Under Construction (MSF)	-
2015 Net Rent Index (PSF)	\$4.00
Y-o-Y Change	2.3%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

### Forecasted Availability and Rents

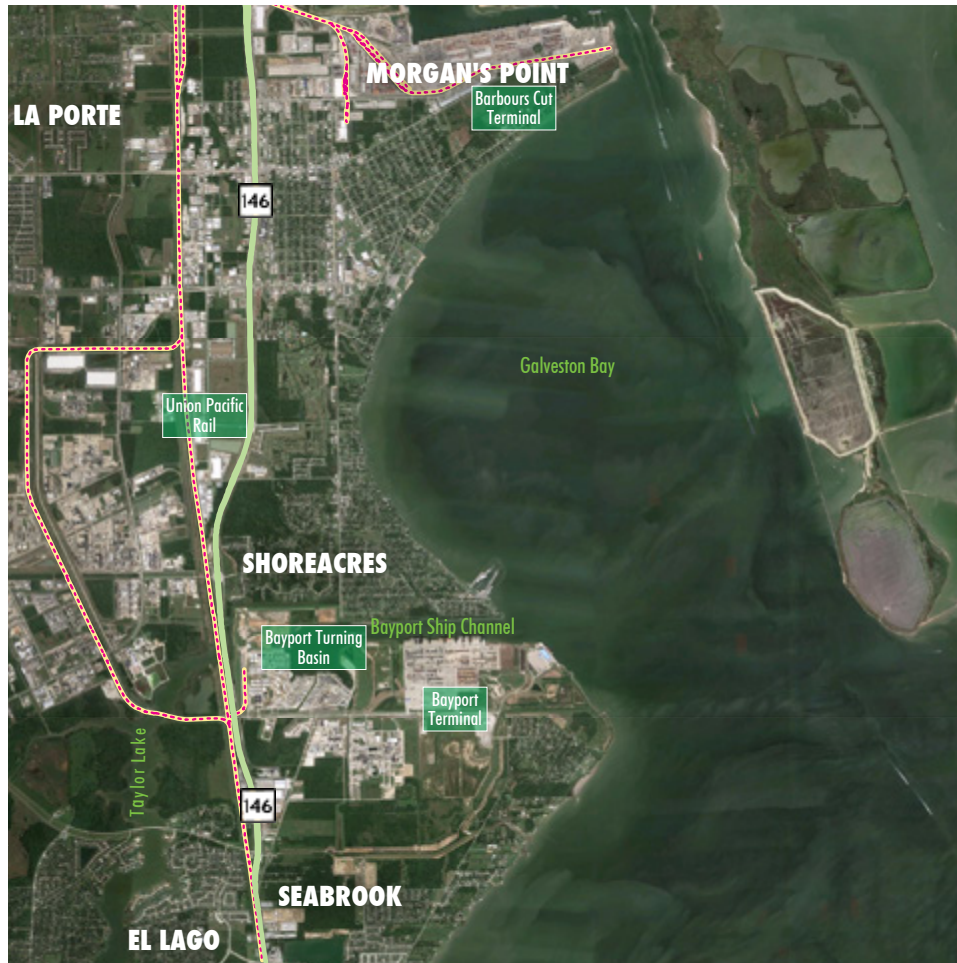
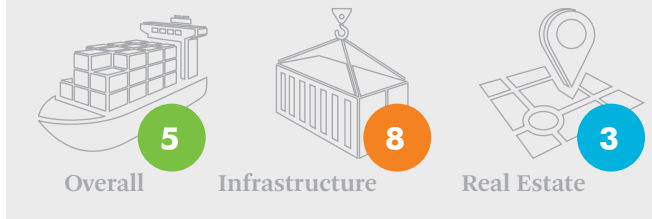


Source: CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

- The Port of Savannah is well positioned to benefit significantly from the Panama Canal expansion, and it has made a number of investments to ensure its continued growth. In September 2015, the long-awaited dredging of the 38-mile stretch of the Savannah River that leads to the harbor began. The Savannah Harbor Expansion Project (SHEP) will deepen the Savannah River Shipping Channel to a depth of 47 feet from its current 42 feet. The economic benefits of the \$700 million project are expected to be substantial, with larger post-Panamax vessels able to call on the harbor with fewer tidal delays.
- The Jimmy DeLoach Parkway Connector project is a major installment in the port’s \$100 million “Final Mile” plan. It will create a dedicated and restricted super highway connection for Savannah’s Garden City Terminal and Interstate 95. Continued capital investments in the Port of Savannah—including crane electrification, highway improvements, and the port dredging project—have the nation’s fastest growing port poised to continue its rapid growth.

# PORT OF HOUSTON



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PORT FACTS	
Total TEU Volume 2015 (000s)	2,131
Y-o-Y Change	9.2%
Total Cranes / Post-Panamax Cranes	30 / 17
Channel Depth (feet)	45
Container Terminals	2
Leading Trading Partners	China, Brazil, Germany, India, Netherlands
Rail Operators	Union Pacific, BNSF, KC Southern

Source: Port of Houston, 2016.

## PORT OVERVIEW

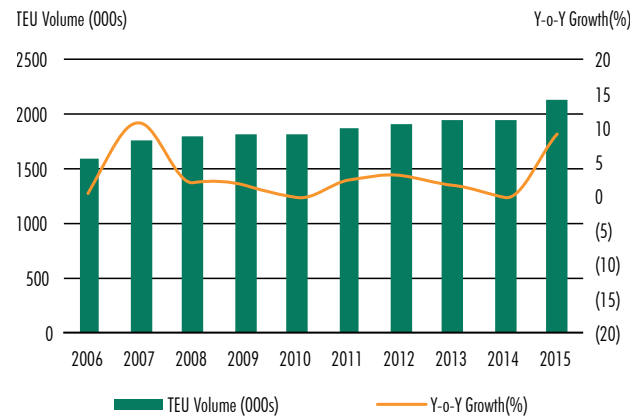
- Though container volume grew by 9.2% in 2015, the value of goods exported from Texas—many of which travel through the Port of Houston—dropped to \$251 billion from 2014's record \$289 billion, as the falling price of crude lowered petroleum export values. The biggest sectors to post losses were computer and electronic products (\$45.3 billion), petroleum and coal products (\$44.1 billion), and chemicals (\$39.9 billion), according to the Census Bureau.
- Despite these losses, the Houston area is projected to see an increase of new exports in the near future. The Ship Channel and southeastern Texas are set to experience a massive uptick in petrochemical product shipments as billions of dollars in downstream petrochemical projects begin to come online in the near and medium term. The recent lifting of the crude export ban is also a boon for throughput in the Houston region.
- This year, the port accepted the first of the large vessels anticipated to arrive upon the completion of the Panama Canal expansion. Along with the oil tankers set to ship crude overseas with the end of the 40-year oil export ban, this has the port optimistic about 2016. The Port Authority announced plans for \$700 million in improvements in the Barbour's Cut terminals, which will accommodate the larger vessels moving through Panama's larger locks, over the next ten years.



## INDUSTRIAL MARKET OVERVIEW

- Although Houston is in the middle of serious commodity slowdown, local economists anticipate mixed performance in the job market and the industrial market in 2016. Volatile oil prices have hit the office market hard, but have yet to derail industrial demand. The east side has yet to see the end of its construction boom, driven by petrochemical expansions. Vacancy in this submarket currently sits at 3.4% with 170 bps of decrease expected over the next two years.
- Combined with the expansion of the Panama Canal and the Houston Ship Channel, midstream and downstream companies see the Houston and Gulf Coast region as a solid investment—evidenced by the nearly \$150 billion in petrochemical projects taking place along the Gulf Coast since 2010, and the \$50-\$60 billion in projects in the Houston area. One refiner’s expansion is expected to increase exports by 12%. Such investment, and the expansion of the Panama Canal, will be important economic drivers for Houston going into 2017 and 2018, further solidifying Houston as a major player on the world stage for global trade.
- Houston’s healthy retail consumer is keeping distribution users active in the market. However, weakened by low oil, the manufacturing industry—in particular, factories producing oil and gas equipment and parts—is not in the clear, and will likely be facing a tough 2016.

## Annual TEU Volume and Growth Rate



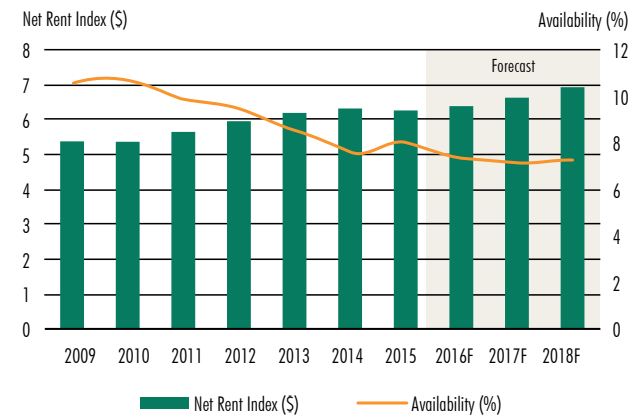
Source: American Association of Port Authorities, February 2016.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	495
Q4 2015 Availability Rate	7.9%
Y-o-Y Change (bps)	60
2015 Net Absorption (MSF)	6.3
2015 Deliveries (MSF)	8.1
Under Construction (MSF)	8.6
2015 Net Rent Index (PSF)	\$6.15
Y-o-Y Change	-1.9%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

## Forecasted Availability and Rents

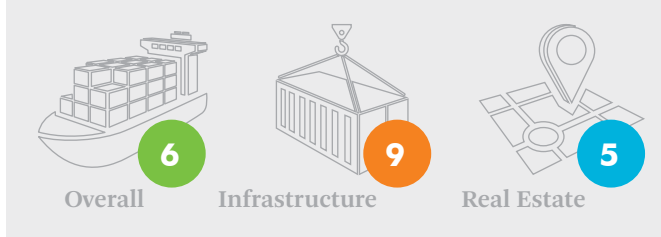


Source: CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

- To ensure that the Port of Houston is able to accommodate post-Panamax ships and the greater cargo volume that will result from the pending Panama Canal expansion and from the demographic growth that is expected for the region, the Port of Houston Authority announced plans for \$700 million in improvements over the next ten years.
- These expansions will add more fuel to Houston’s regional economy overall, and to its industrial sector in particular. Over the past five years, the port contributed \$264.9 billion dollars of economic impact to Texas, despite slumping crude oil prices. For the Port of Houston, traffic is anticipated to increase by 10-15% over the next several years, further tightening supply. The Port’s expansion also represents more opportunities to manufacture and export other commodities, including petrochemicals, resins and plastics, to advanced-manufacturing countries such as Chile, China, Japan and South Korea.

# NORTHWEST SEAPORT ALLIANCE (SEATTLE/TACOMA)



Return to Index

PORT FACTS	
Total TEU Volume 2015 (000s)	3,529
Y-o-Y Change	3.0%
Total Cranes / Post-Panamax Cranes	47 / 46
Channel Depth (feet)	50
Container Terminals	10
Leading Trading Partners	China, Japan, South Korea, Vietnam, Taiwan
Rail Operators	Union Pacific, BNSF

Source: Northwest Seaport Alliance, 2016.

## PORT OVERVIEW

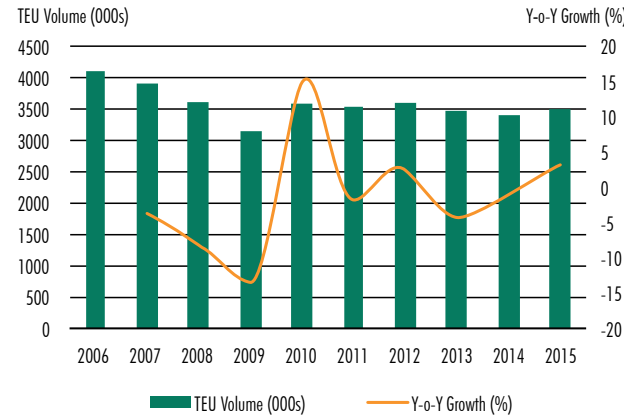
- In August 2015, the Ports of Seattle and Tacoma agreed to form the Northwest Seaport Alliance. The Alliance, which combines operations, planning and marketing for the two ports, handled more than 3.5 million 20-foot equivalent units (TEUs) last year—an increase of 3.0% over 2014.
- The Alliance was formed in response to the consistent yearly dip in market share that each port has experienced recently. Combined, the two ports now handle the fifth-largest TEU volume in North America (behind Los Angeles, Long Beach, New York and New Jersey—and most recently, Savannah, which experienced a record year in 2015). While strong demand for imports and record empty container exports to Asia continue to prop up TEU volumes at the Alliance, domestic imports from Alaska have recently declined 8%, with less oil and gas-related cargo moving through the port due to record-low oil prices.
- The Seattle and Tacoma ports enjoy a measurable proximity advantage to the Asian markets, which has helped bolster trade with China, Japan, and Korea. Their far north location also makes the Ports a virtually exclusive port of call in their trade with Alaska and the North Pacific Fishing Fleet.

# NORTHWEST SEAPORT ALLIANCE (SEATTLE/TACOMA)

## INDUSTRIAL MARKET OVERVIEW

- Leasing activity was strong in the Puget Sound market in 2015, with availability dropping 80 bps and rent increasing by 6.8% to \$9.59—a high not seen since the recession. For the past four years, development has been unable to keep up with demand. This trend continued in 2015 as the 3.4 million sq. ft. of deliveries lagged net absorption by 1.3 million sq. ft. Growth is expected to continue: 866,000 sq. ft. in five developments broke ground in Q4 2015, joining 2.2 million sq. ft. already underway, for a total of 3.0 million sq. ft. now under construction.
- The local economy, which has seen gains in employment, population and trade, added 61,900 jobs in 2015 for an increase of 3.2% over the previous year—twice the 20-year average growth rate of 1.6%. Population increased by 52,100 and is expected to grow by another 53,100 in 2016. These trends are expected to drive future demand for industrial property.

## Annual TEU Volume and Growth Rate



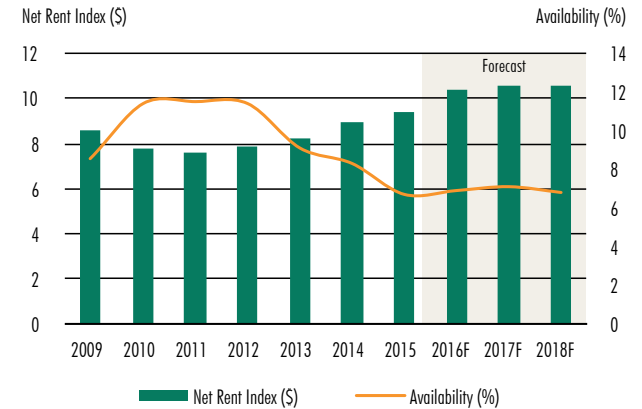
Source: American Association of Port Authorities, February 2016.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	261
Q4 2015 Availability Rate	6.6%
Y-o-Y Change (bps)	-80
2015 Net Absorption (MSF)	4.7
2015 Deliveries (MSF)	3.4
Under Construction (MSF)	3.0
2015 Net Rent Index (PSF)	\$9.59
Y-o-Y Change	6.8%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

## Forecasted Availability and Rents



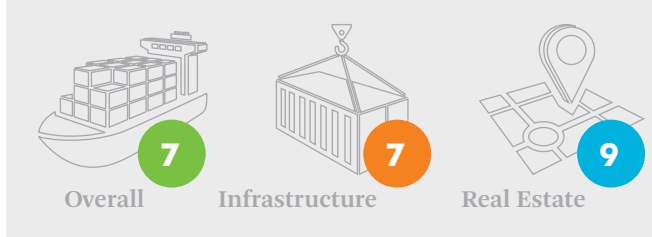
Source: CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

- The Washington State Legislature passed a \$16.2 billion transportation investment package that would complete work on State Route 509 in King County and State Route 167 in Pierce County. The economic impact of job growth resulting from the completion of SR 167 is estimated at \$10.1 billion.
- The Northwest Seaport Alliance began work in January on improving Terminal 5 in Seattle, starting with test pile driving. The installation will continue through March, as the Alliance upgrades their ports to be fully post-Panamax ready.
- The Seattle City Council approved a heavy haul network, which will make the Port of Seattle more competitive with other North American ports, including the Port of Tacoma. The weight limit on roads near port facilities has been raised, aligning Seattle’s policies with other U.S. municipalities and streamlining the transfer of heavy loads.



# PORT METRO VANCOUVER (CANADA)



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PORT FACTS	
Total TEU Volume 2015 (000s)	3,071
Y-o-Y Change	5.4%
Total Cranes / Post-Panamax Cranes	26 / 22
Channel Depth (feet)	52
Container Terminals	4
Leading Trading Partners	China, South Korea, Japan, U.S., India, Brazil
Rail Operators	CN, Canadian Pacific, BNSF

Source: Port Metro Vancouver, 2016.

## PORT OVERVIEW

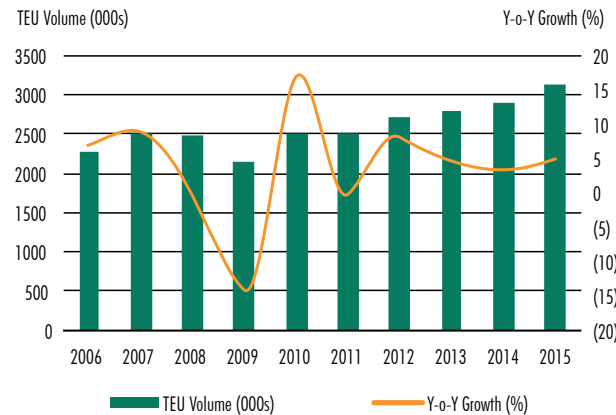
- Port Metro Vancouver, the largest port in Canada and the sixth-largest in North America, handled 3.1 million TEUs in 2015. Volume at the port grew by 5.4% in 2015; annual growth rates exceeding 5% have been in place since 2012. The port's location as the gateway to Asia positions it as the main inbound and outbound point for Canadian cargo.
- In 2015, the port handled nearly 140 million tons of cargo, with coal, automobiles, perishable items and raw materials representing the majority of the cargo. The port is well-positioned as a gateway to Asian markets, with 19% of its imports coming from Japan and South Korea.
- In 2012, the BC Maritime Employers Association and the International Longshore and Warehouse Union Locals 514 and 500 ratified an extension of their collective agreements, guaranteeing a full work agreement through March 2018.

# PORT METRO VANCOUVER (CANADA)

## INDUSTRIAL MARKET OVERVIEW

- Increased container activity had a positive impact on Vancouver’s industrial real estate market in 2015. As container volumes at Port of Metro Vancouver increased, distribution and logistics users continued to be the principal drivers of space requirements in the region. Availability rates and absorption levels in Vancouver both reached record levels in 2015 as demand for industrial space in Canada’s core industrial markets continued to drive the majority of growth.
- With only 200 acres of undeveloped industrial land surrounding Port Metro Vancouver, a looming shortage of available land is expected to make it increasingly hard to sustain current levels of activity. Port Metro Vancouver is expected to exhaust its supply of industrial land over the next 10 years, while an additional 2,500 acres of land will be needed to meet the increasing container demand.

### Annual TEU Volume and Growth Rate

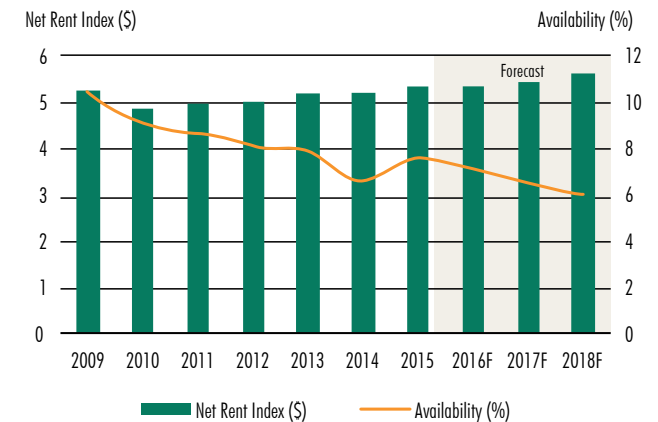


Source: American Association of Port Authorities, February 2016.

REAL ESTATE MARKET STATS	
Size of Market (MSF)	183
Q4 2015 Availability Rate	4.4%
Y-o-Y Change (bps)	-260
2015 Net Absorption (MSF)	6.7
2015 Deliveries (MSF)	2.6
Under Construction (MSF)	4.7
2015 Net Rent Index (PSF)	\$5.32
Y-o-Y Change	2.7%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

### Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

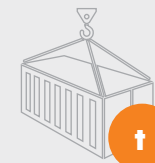
## PORT INFRASTRUCTURE INVESTMENTS

- Port Metro Vancouver is planning for a major expansion of its Centerm container terminal that will include raising container capacity by two-thirds, to 1.5 million TEUs, by 2019. If the \$320 million project goes ahead next year, it will include a new entry gate, additional parking and a new intermodal yard along with the increased capacity.
- Additional projects along the British Columbia coastline are planned to further increase container port traffic—an expansion at Deltaport will see container capacity increase by 600,000 TEUs by 2017, while Prince Rupert will see its container capacity increase by 500,000 TEUs by 2018.

# PORT OF CHARLESTON



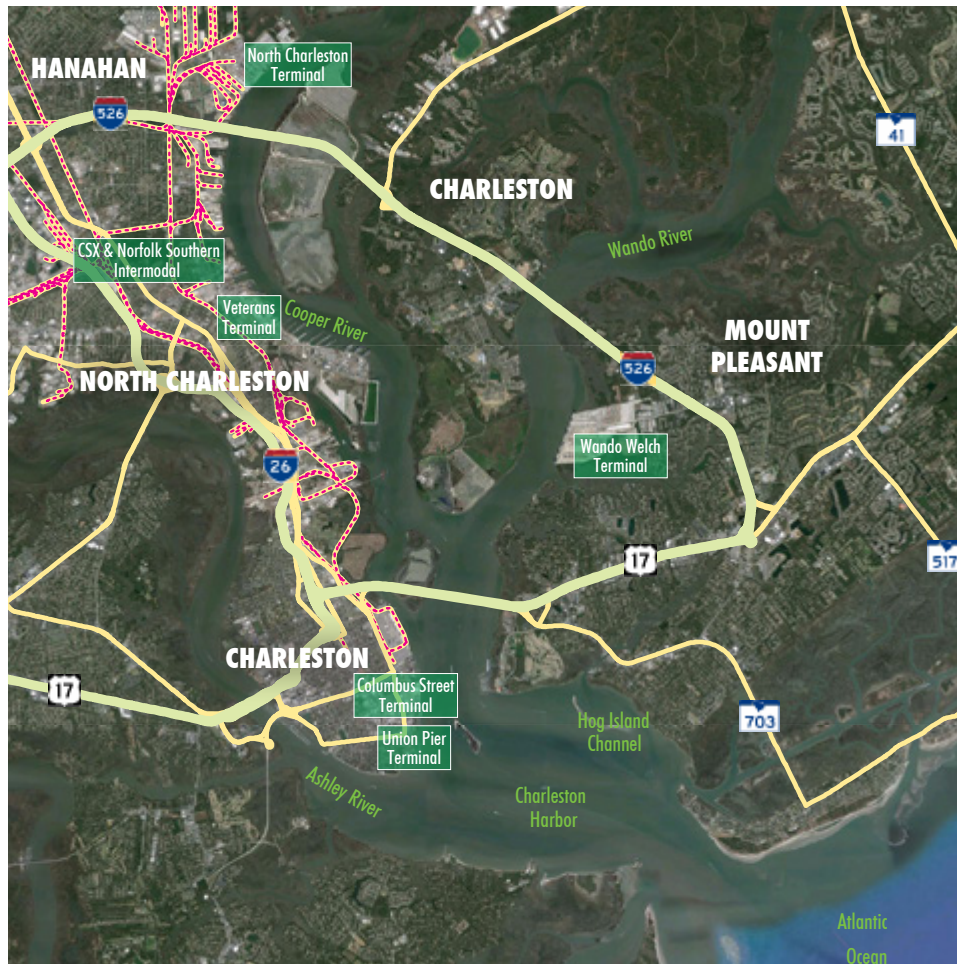
Overall



Infrastructure



Real Estate



## PORT FACTS

Total TEU Volume 2015 (000s)	1,973
Y-o-Y Change	10.1%
Total Cranes / Post-Panamax Cranes	16 / 16
Channel Depth (feet)	45
Container Terminals	2 in operations; 1 under construction
Leading Trading Partners	China, Germany, India, The Netherlands, UK, Brazil, Australia, Vietnam
Rail Operators	CSX, Norfolk Southern

Source: Port of Charleston, 2016.

## PORT OVERVIEW

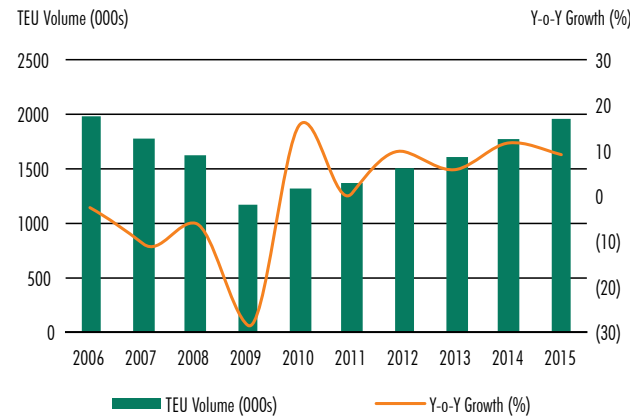
- Charleston has been among the nation's fastest-growing ports each year since the recession; however, volume appears to be slowing and the port has recently fallen behind the Ports of New York and Savannah in terms of growth. With TEU growth of 10.1% in 2015, the Port of Charleston was the third-fastest growing port in the country.
- The development of an inland port in Greer, S.C., amid a manufacturing hub, enables Charleston to achieve higher export TEU levels than the comparable southeastern ports.
- The Port of Charleston has a legacy of being primarily positioned for handling imports and exports to Europe, but traffic to and from Asia is rising rapidly. South Carolina is a right-to-work state, which, combined with Charleston's efficient geographic position, has enabled the port to achieve high levels of performance.



## INDUSTRIAL MARKET OVERVIEW

- Charleston's industrial market is very active, and the land constraints associated with being located adjacent to a large body of water are prompting an increase in speculative development. Although Charleston's industrial market is primarily driven by port activity, the local economy is becoming more robust, as demonstrated by a recent series of automotive and aerospace manufacturing announcements highlighting the market's expanding diversification.
- With 1.7 million sq. ft. currently under construction and plans for a 2.3 million-sq. ft. Volvo manufacturing facility approximately 30 miles from the port, the type of land perceived as viable for industrial development is expected to broaden. Class A distribution product is balanced but as growth in the manufacturing industry continues (specifically among automotive suppliers), speculative development is expected to expand to land currently perceived as being on the outskirts of Charleston's industrial market.

### Annual TEU Volume and Growth Rate



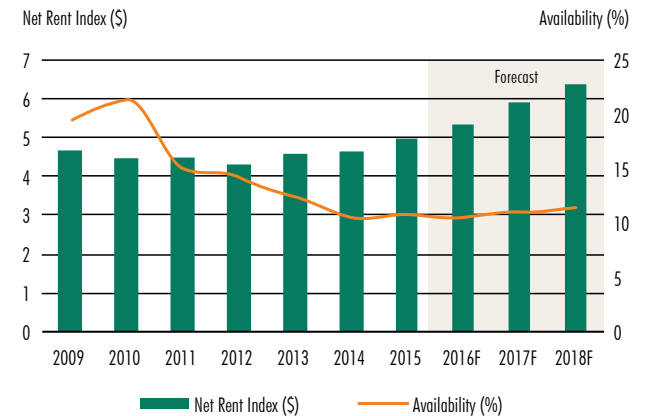
Source: American Association of Port Authorities, February 2016.

### REAL ESTATE MARKET STATS

Size of Market (MSF)	50
Q4 2015 Availability Rate	10.4%
Y-o-Y Change (bps)	0
2015 Net Absorption (MSF)	1.7
2015 Deliveries (MSF)	1.2
Under Construction (MSF)	1.7
2015 Net Rent Index (PSF)	\$5.02
Y-o-Y Change	7.5%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

### Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

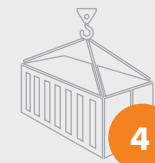
## PORT INFRASTRUCTURE INVESTMENTS

- The South Carolina Ports Authority (SCPA) is midway through a \$2 billion capital improvement program involving highway improvements, the deepening of the harbor, and the construction of a new terminal, a new intermodal container transfer facility, and an inland port in Greer, S.C.
- SCPA began site work on the Hugh K. Leatherman, Sr. Terminal in 2015. The 280-acre terminal, which is expected to increase capacity at the port by 50%, is the only permitted new container terminal on the East or Gulf Coasts. The opening date of the new terminal is anticipated for fiscal year 2019.

# THE PORT OF VIRGINIA (NORFOLK)



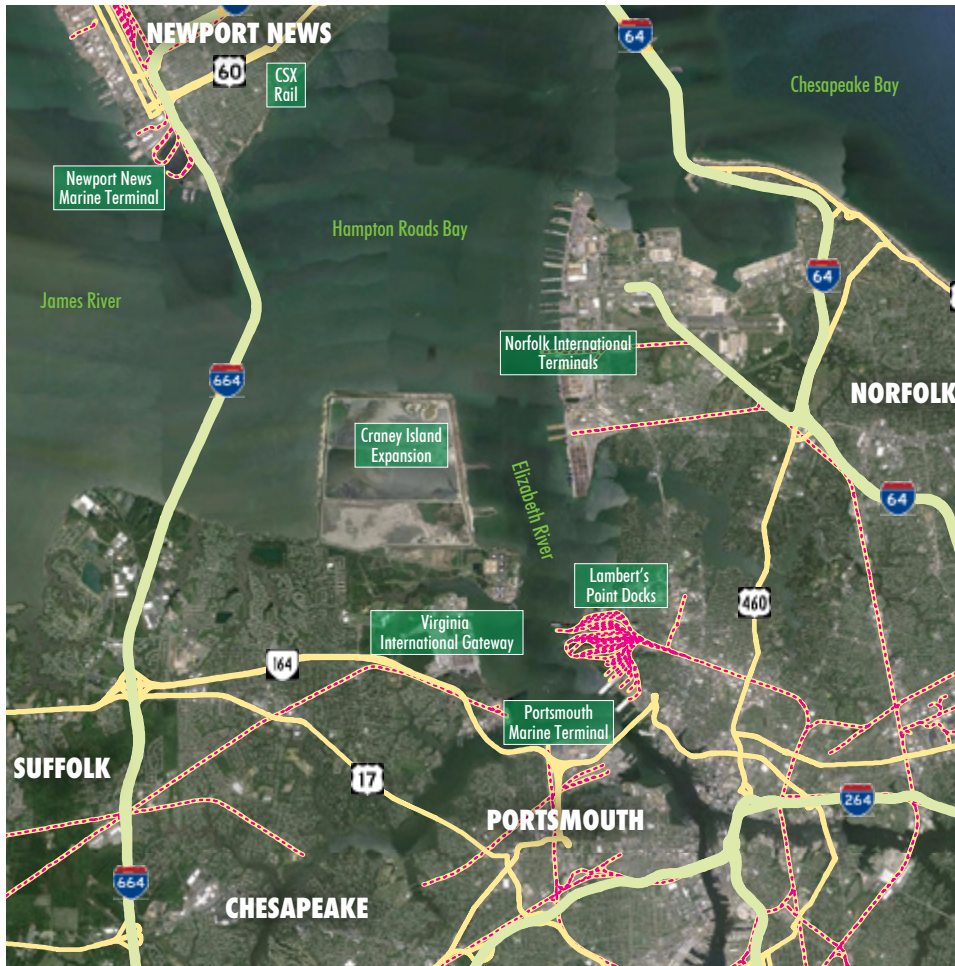
Overall



Infrastructure



Real Estate



PORT FACTS	
Total TEU Volume 2015 (000s)	2,549
Y-o-Y Change	6.5%
Total Cranes / Post-Panamax Cranes	34 / 28
Channel Depth (feet)	50 (authorized to go to 55)
Container Terminals	4
Leading Trading Partners	China, Germany, India, Brazil, Netherlands
Rail Operators	CSX, Norfolk Southern

Source: Port of Virginia, 2016.

## PORT OVERVIEW

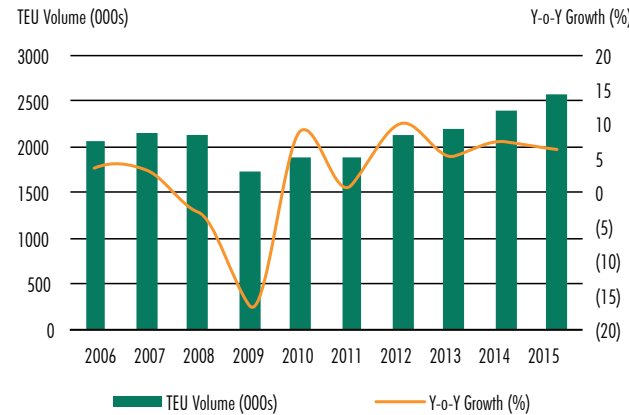
- The Port of Virginia has a harbor depth of 50 feet and no air draft restrictions, unlike most ports on the East Coast. Additionally, the Port has inland port facilities in Front Royal and Richmond, Virginia. The Port offers dual-service on dock rail from CSX and Norfolk Southern.
- The Port of Virginia is growing rapidly and has the strongest rail utilization on the East Coast, with 33% of cargo arriving or leaving via rail. Being centrally located on the East Coast, the Port serves the Northeast, Midwest, and Mid-Atlantic markets within one day's travel.
- Virginia enjoys strong labor relationships as the northern most right-to-work state on the East Coast.

# THE PORT OF VIRGINIA (NORFOLK)

## INDUSTRIAL MARKET OVERVIEW

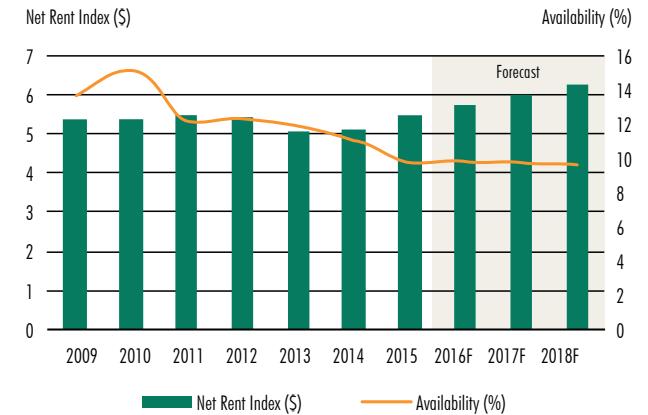
- Since the recession, Norfolk’s industrial market has enjoyed six consecutive years of positive market absorption. Over that time, availability has declined by more than 400 bps, to 10.2%. Net rents, which had been very slow to recover, appreciated 6.8% in 2015 and are forecasted to grow at an average annual rate of 4.7% over the next three years.
- In Q4 2015, Norfolk’s industrial market experienced more than 750,000 sq. ft. of positive net absorption, resulting in 1.6 million sq. ft. of net absorption for the year. The development market remains cautious, with 95,000 sq. ft. currently under construction in two submarkets.

### Annual TEU Volume and Growth Rate



Source: American Association of Port Authorities, February 2016.

### Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

REAL ESTATE MARKET STATS	
Size of Market (MSF)	101
Q4 2015 Availability Rate	10.2%
Y-o-Y Change (bps)	-90
2015 Net Absorption (MSF)	1.6
2015 Deliveries (MSF)	0.8
Under Construction (MSF)	0.3
2015 Net Rent Index (PSF)	\$5.49
Y-o-Y Change	6.8%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

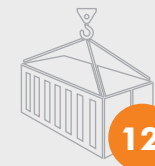
- Terminal infrastructure plans call for an investment of nearly \$700 million over the next three years. This investment will increase container handling capacity by nearly 2 million TEUs.
- The Hampton Roads Regional Transportation Planning Organization has approved \$3.6 billion in roads projects to be completed within the next three years, including doubling the Elizabeth River tunnel and widening Interstate 64 between Norfolk and Richmond.
- Craney Island, the largest fully permitted port expansion project in the United States, represents the future of The Port of Virginia. This long-term multi-phase new terminal project will expand capacity at the port by an addition 5 million TEUs.



# PORT OF OAKLAND



Overall



Infrastructure



Real Estate



PORT FACTS	
Total TEU Volume 2015 (000s)	2,277
Y-o-Y Change	-4.9%
Total Cranes / Post-Panamax Cranes	33 / 27
Channel Depth (feet)	50
Container Terminals	7
Leading Trading Partners	China, Australia, Thailand, Taiwan, Hong Kong
Rail Operators	Union Pacific, BNSF

Source: Port of Oakland, 2016.

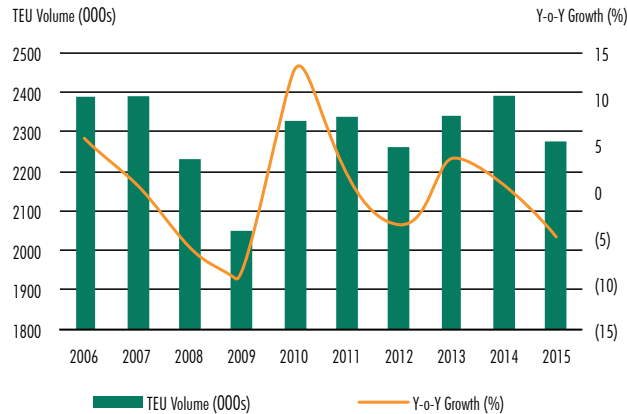
## PORT OVERVIEW

- The Port of Oakland loads and discharges more than 99% of the containerized goods moving through Northern California. The port's 2015 volume of 2.3 million TEUs made it the seventh-busiest container port in the U.S., and ranks San Francisco Bay among the three principal Pacific Coast gateways for U.S. containerized cargo, along with San Pedro Bay in Southern California and Puget Sound in the Pacific Northwest.
- Although it had a rough year—posting a 4.9% year-over-year loss in container traffic as a result of crippling contracts disputes, labor shortages and congestion—the Port of Oakland remains stable. The port's infrastructure (channel depth, cranes, etc.) is able to handle the largest cargo container ships, and 85% of its inbound cargo is destined for Northern California, one of the fastest growing and most affluent regions in the U.S.—a strong indicator of future import demand.
- The Port of Oakland handles trade from more than 100 countries, but 75% of its volume is from Asia. The primary imports are perishable items—fruit, vegetables, meat, fish and beverages—while the primary exports are machinery and raw materials.

## INDUSTRIAL MARKET OVERVIEW

- The Port of Oakland is located in the center of the Oakland/East Bay industrial market and has a significant influence on local warehouse demand. However, the port's influence extends east into the Central Valley and to markets such as Sacramento and Stockton, which house larger, big-box distribution centers. For the purposes of this report, the industrial real estate statistics will be a blend of Oakland/East Bay and Sacramento (which captures the eastern distribution markets).
- The Oakland/Central Valley industrial market continued to see historic leasing demand in 2015, with net absorption of 8.4 million sq. ft.—the second-highest figure in 15 years. The warehouse segment accounted for 55% of that demand, and with it came shrinking availability—the warehouse rate dropped to a record low of 2.0%.
- The Central Valley market—Tracey and Stockton, for example—is situated 70 miles east of the port, but much like the Inland Empire in the south, the market is closely tied to port activity. The Central Valley has seen a spike in demand in recent years; 2015 saw a year-over-year vacancy drop of 220 bps.
- The Oakland/East Bay market has seen some of the strongest user demand in recent history. For the first time demand for industrial space surpassed existing supply. It was driven by the rapid expansion of the logistic sector, which accounted for 33% of large block leasing activity during the second half of 2015.

## Annual TEU Volume and Growth Rate



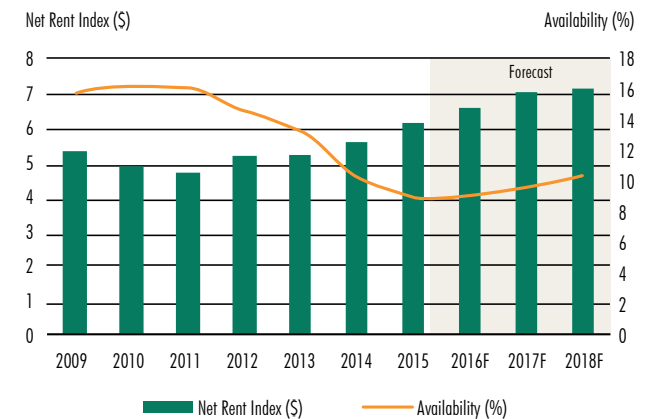
Source: American Association of Port Authorities, February 2016.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	407
Q4 2015 Availability Rate	9.5%
Y-o-Y Change (bps)	-120
2015 Net Absorption (MSF)	8.4
2015 Deliveries (MSF)	3.5
Under Construction (MSF)	2.6
2015 Net Rent Index (PSF)	\$6.16
Y-o-Y Change	8.8%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

## Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

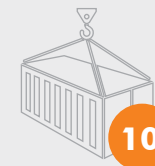
## PORT INFRASTRUCTURE INVESTMENTS

- The Oakland Global Trade & Logistics Center is a joint redevelopment project between the Port of Oakland and the City of Oakland on approximately 500 acres of land that was the former Oakland Army Base. The project, which is planned in two phases, is slated to cost \$1.21 billion.
- Both the City and the port have broken ground on their respective Phase I projects. Phase I will bring, among other things, a new rail yard, a new bulk marine terminal, more than 1 million sq. ft. of warehouse space, and new roads to the port. Phase I will cost \$500 million and will complete in two stages in 2015 and 2017.
- The port is advancing critical infrastructure projects in each of its business lines: aviation, real estate and maritime. The seaport plans to begin constructing a 370,000-sq. ft. Cool Port Logistics Complex next spring, for refrigerated cargo.

# PORT OF BALTIMORE



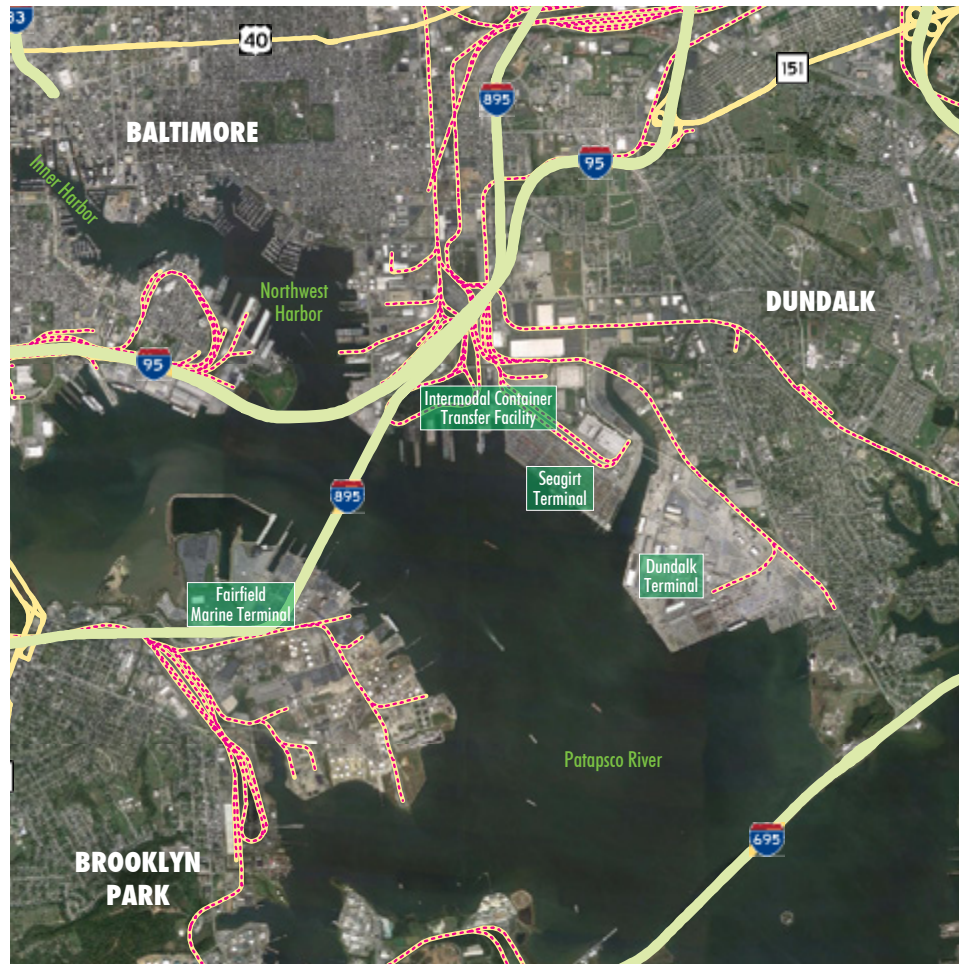
Overall



Infrastructure



Real Estate



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PORT FACTS	
Total TEU Volume 2015 (000s)	840
Y-o-Y Change	7.8%
Total Cranes / Post-Panamax Cranes	25 / 11
Channel Depth (feet)	50
Container Terminals	2
Leading Trading Partners	China, Brazil, Canada, Netherlands, Japan, South Korea
Rail Operators	CSX, Norfolk Southern

Source: Port of Baltimore, 2016.

## PORT OVERVIEW

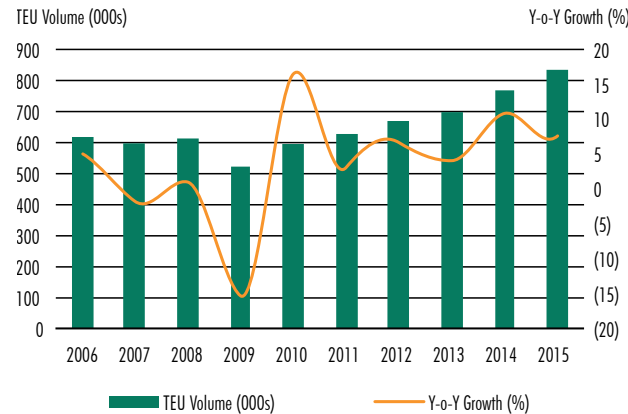
- Cargo moving through the Port of Baltimore has grown by an average of 8.2% every year since 2010. Baltimore's port is the most inland of all the East Coast ports, and receives vessels twice the size of those that can currently pass through the Panama Canal (vessels as large as 14,000 TEUs). It does not have any air draft or water limitations that would limit the size of ship that can berth at the port.
- Situated within the nation's fourth-largest and wealthiest consumer market, the Port of Baltimore is within a 12-hour drive of two thirds of the U.S. population, making the port a well-positioned logistics location. The State of Maryland has the highest median income in the nation (\$69,826) and the metro area is one of the wealthiest in the country, ranking third in effective buying power (at \$242 billion) and fourth in retail sales (with \$137 billion). The large population of consumers with strong buying power has created demand for imported goods in the immediate market and expanded region.
- The Port of Baltimore has taken an important step forward to create doublestack capability by engaging with CSX to increase the operating height of the Howard Street Tunnel. This will enable Baltimore to connect with CSX National Gateway and provide shippers with a single entry point option to satisfy both local and hinterland destinations. The total project cost of \$425 million is expected to be split between the federal government, Maryland, and CSX; the project timeline is planned for five years once permitting is complete.



## INDUSTRIAL MARKET OVERVIEW

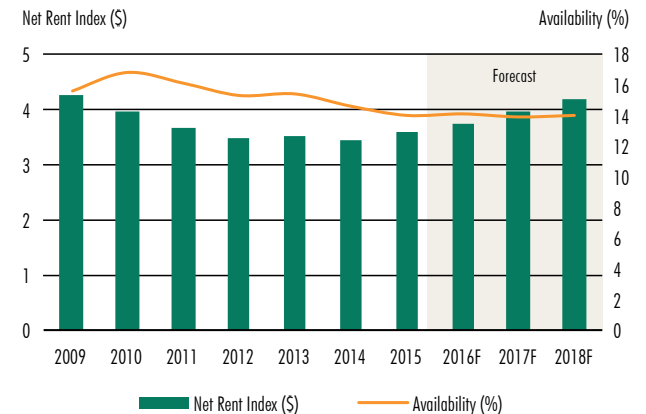
- Overall leasing activity was strong in 2015, with 2.6 million sq. ft. absorbed on net. Approximately two thirds of that occurred in the city of Baltimore, a submarket that is closely tied to port activity. Availability fell to 14.0%—down 110 bps, year over year.
- New construction remains steady, with 1.8 million sq. ft. delivered in 2015 and another 1.8 million sq. ft. in the pipeline—most of which is speculative. This is the highest level of spec construction in the current cycle.

### Annual TEU Volume and Growth Rate



Source: American Association of Port Authorities, February 2016.

### Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

### REAL ESTATE MARKET STATS

Size of Market (MSF)	161
Q4 2015 Availability Rate	14.0%
Y-o-Y Change (bps)	-110
2015 Net Absorption (MSF)	2.6
2015 Deliveries (MSF)	1.8
Under Construction (MSF)	1.8
2015 Net Rent Index (PSF)	\$3.64
Y-o-Y Change	2.0%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

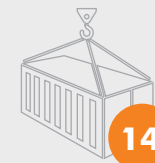
### PORT INFRASTRUCTURE INVESTMENTS

- Ports America Chesapeake has invested more than \$100 million in the Seagirt Marine Terminal, which features a new berth with 50 feet of draft and four new super-post-Panamax cranes.
- In early 2016, the U.S. Army Corps of Engineers began work on a \$25.6 million dredging project that will deepen the port's main channel to 51 feet. The port also has plans to build an 8-acre cargo-staging area that will improve overall cargo-handling capability and enhance rail access at the Fairfield Terminal, helping to increase efficiency in the port's roll-on/roll-off operations, which are the largest in the nation.
- Tradepoint Atlantic, a 2,500 acre site on Sparrow's Point, a former steel mill located on the eastern side of the harbor, is in the early stages of a multiphase project that could add up to 20 million sq. ft. of prime distribution space and a new cargo terminal. The terminal could increase the Port of Baltimore's capacity by 1 to 3 million TEUs.

# PORT OF MONTRÉAL (CANADA)



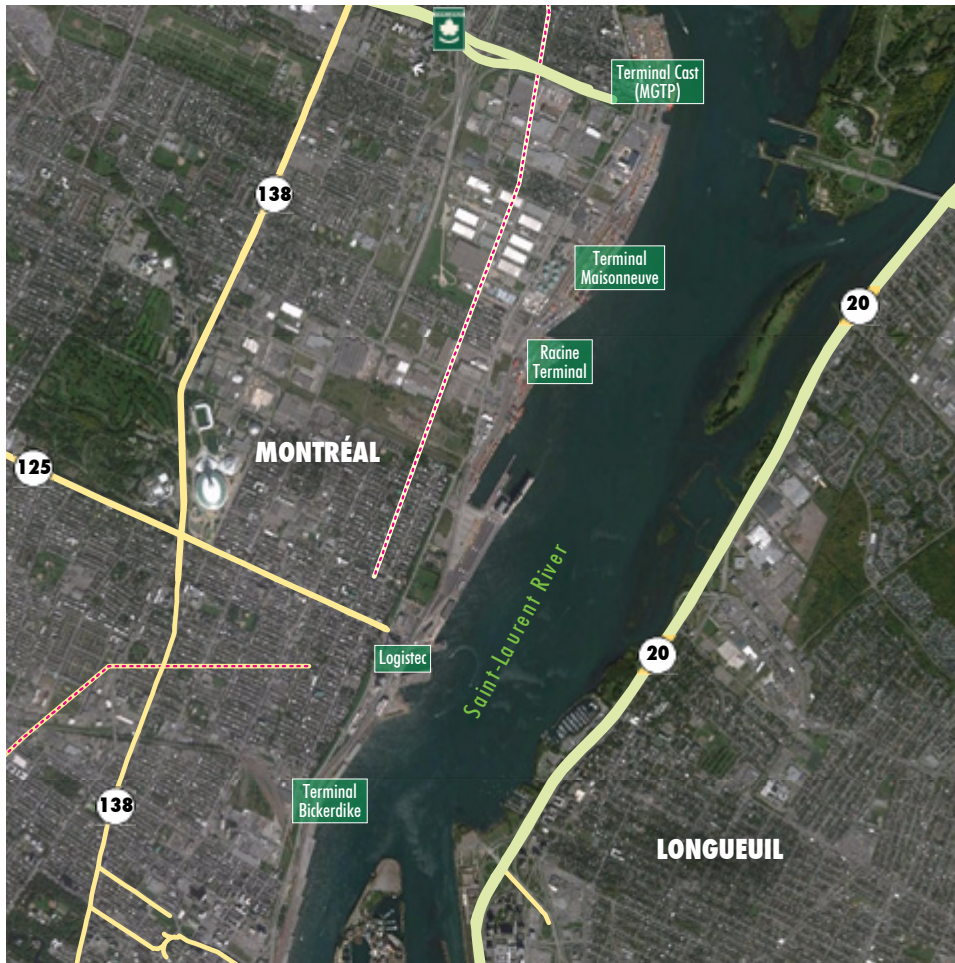
Overall



Infrastructure



Real Estate



## PORT FACTS

Total TEU Volume 2015 (000s)	1,446
Y-o-Y Change	3.1%
Total Cranes / Post-Panamax Cranes	41 / 0
Channel Depth (feet)	37
Container Terminals	4
Leading Trading Partners	Northern Europe, Mediterranean, Asia, Middle East, Latin America
Rail Operators	CN, Canadian Pacific

Source: Port of Montreal, 2016.

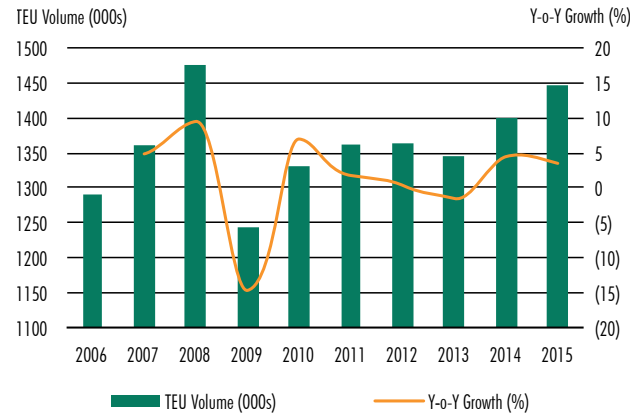
## PORT OVERVIEW

- The Port of Montréal is the largest Canadian port serving the East Coast, and is the port closest to the Midwestern U.S., offering the most direct route to Europe and the Mediterranean. In 2015, the Port of Montréal experienced a 3.1% increase in TEU volumes—to a total of 1.4 million.
- Diversity is the specialty of the Port of Montréal, as it is capable of handling a variety of cargo types, including containerized, non-containerized, dry bulk and liquid bulk. The Montréal Port Authority recently authorized the passage of vessels up to 44 meters wide in the Quebec-Montréal section of the St. Lawrence navigation channel, opening the port to post-Panamax ships. Previously, the authorized width was 32 meters, without exceptions. The port's depth of 37 feet makes it inaccessible for the larger post-Panamax ships, however.

## INDUSTRIAL MARKET OVERVIEW

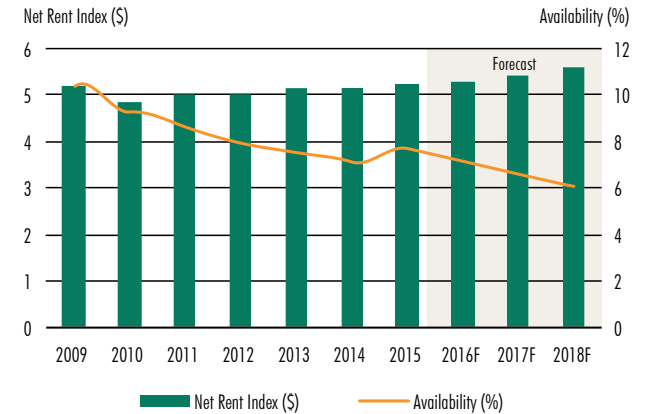
- Four million sq. ft. of new supply was delivered to the Greater Montréal Area (GMA) in 2015, the highest level in more than a decade. Demand for new generation space continued to be geared towards distribution and warehousing activities, though the combination of new supply and a sluggish economy resulted in virtually zero net absorption for 2015—a far cry from the 3.9 million sq. ft. of positive absorption in 2014.
- From an economic perspective, export activity is expected pick up in 2016 as a result of the low Canadian Dollar and low oil prices.

## Annual TEU Volume and Growth Rate



Source: American Association of Port Authorities, February 2016.

## Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	300
Q4 2015 Availability Rate	7.8%
Y-o-Y Change (bps)	80
2015 Net Absorption (MSF)	-
2015 Deliveries (MSF)	4.0
Under Construction (MSF)	0.5
2015 Net Rent Index (PSF)	\$5.32
Y-o-Y Change	2.7%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

## PORT INFRASTRUCTURE INVESTMENTS

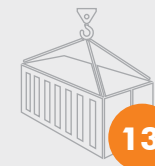
- The province of Quebec is expected to spend \$1.5 billion on maritime infrastructure projects over the next five years. The plan is expected to create 10,000 new jobs by 2020 and 30,000 new jobs by 2030.
- The \$135.0 million Viau container terminal at the Port of Montréal began construction in June 2015 as part of a multi-phase project aimed to increase Montréal's total container capacity to 2.1 million TEU. The project is expected to be complete by the fall of 2016 and is the first component in the Port of Montréal's strategy to improve its infrastructure. As of November 2015, the construction process was fully underway. Once the first phase is completed, a secondary berth will be constructed to accommodate the additional container activity.



# PORT EVERGLADES (FT. LAUDERDALE)



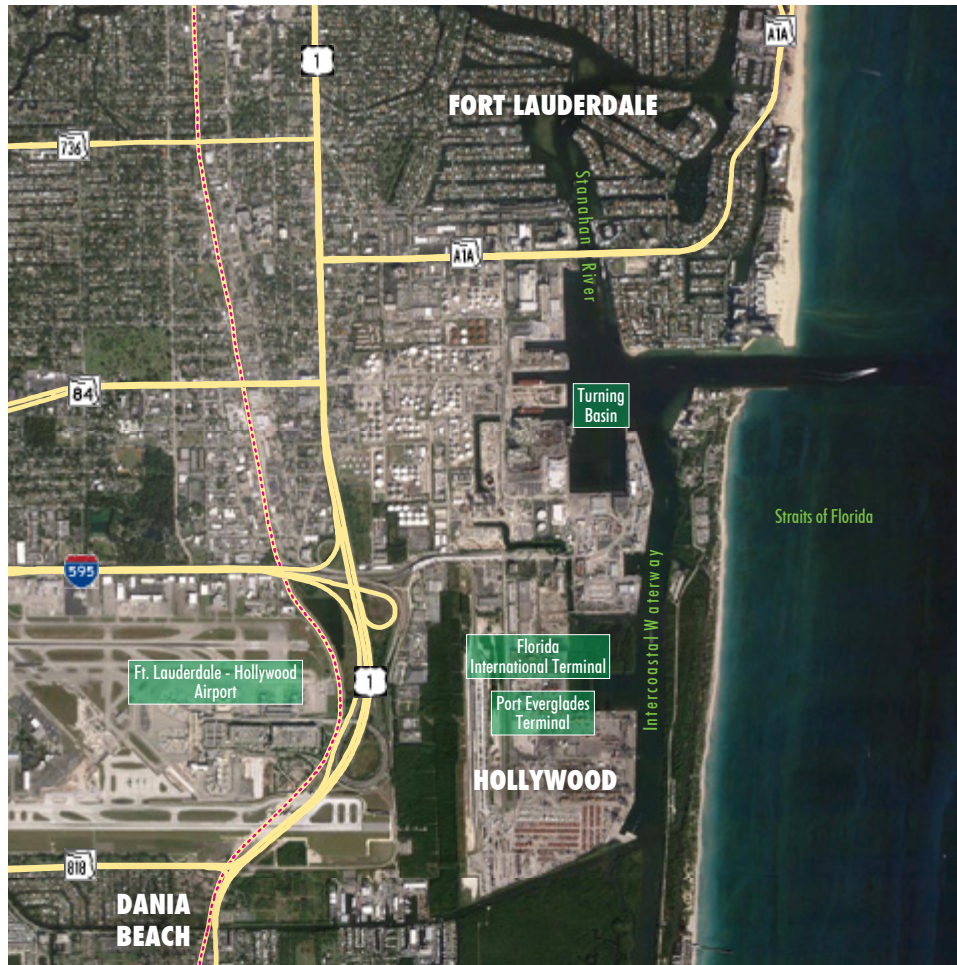
Overall



Infrastructure



Real Estate



## PORT FACTS

Total TEU Volume 2015 (000s)	1,061
Y-o-Y Change	4.7%
Total Cranes / Post-Panamax Cranes	18 / 9
Channel Depth (feet)	42
Container Terminals	2
Leading Trading Partners	China, Honduras, Guatemala, Brazil, Taiwan
Rail Operators	Florida East Coast Railway

Source: Port Everglades, 2016.

## PORT OVERVIEW

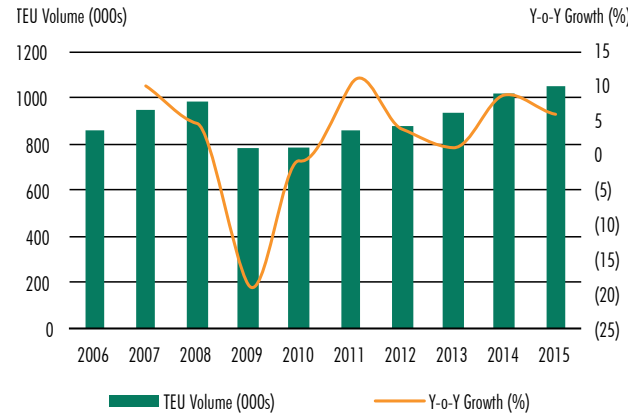
- Having reached 1 million TEUs for the first time in 2014, the container volume at Port Everglades grew another 5% in 2015, to 1.06 million TEUs. The port is Florida's top seaport for containerized trade, and is the top U.S. gateway for trade with Latin America and the Caribbean, handling 15.3% of the nation's total international trade with Central and South American countries.
- Port Everglades generates nearly \$29 billion in business activity annually and is a major driver of both local and regional employment, with more than 13,000 direct jobs and 220,000 port-affected jobs statewide. The port is particularly active in the import, storage, and distribution of petroleum products, with more than 20% of all of Florida's energy requirements served by product that comes through the port.
- The Foreign-Trade Zones Board's 76th annual report to the U.S. Congress has ranked Port Everglades the third-highest exporting Foreign-Trade Zone (FTZ) in the country for warehousing and distribution activity. Since 2009, the port's FTZ-approved businesses have been expanding to areas beyond the port, growing from a total of 305 acres at four sites to nearly 400 acres at 15 sites.

# PORT EVERGLADES (FT. LAUDERDALE)

## INDUSTRIAL MARKET OVERVIEW

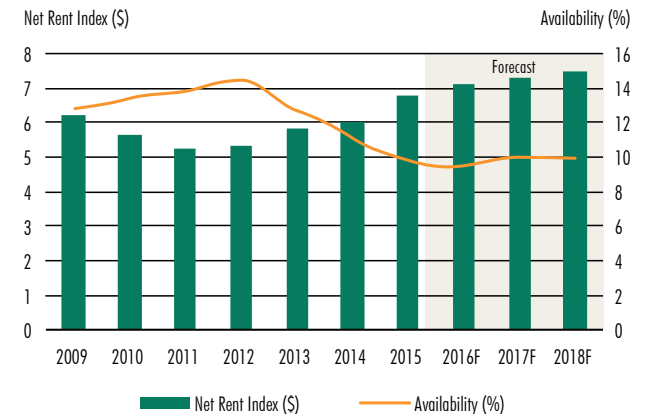
- Broward County's industrial market registered 1.5 million sq. ft. of net absorption in 2015. Most of the leasing activity involved warehouse/distribution properties, followed by R&D/flex. Manufacturing space exhibited negative net absorption of 126,923 sq. ft. in 2015.
- In Broward County, nearly 180,000 sq. ft. was delivered in the fourth quarter, primarily in the Pompano/Fort Lauderdale submarkets. In aggregate, nearly 2 million sq. ft. was delivered in 2015. Most of the buildings were Class A warehouse/distribution space of 44,000 sq. ft. or more. In total, 341,000 sq. ft. is in various stages of completion and is expected to deliver in 2016.

## Annual TEU Volume and Growth Rate



Source: American Association of Port Authorities, February 2016.

## Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

REAL ESTATE MARKET STATS	
Size of Market (MSF)	92
Q4 2015 Availability Rate	8.8%
Y-o-Y Change (bps)	-200
2015 Net Absorption (MSF)	1.5
2015 Deliveries (MSF)	1.9
Under Construction (MSF)	0.3
2015 Net Rent Index (PSF)	\$6.77
Y-o-Y Change	11.9%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

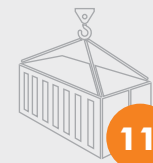
## PORT INFRASTRUCTURE INVESTMENTS

- Port Everglades has identified \$1.6 billion in capital investments over the next 20 years to improve productivity. In early 2016, the U.S. Army Corps of Engineers approved the port's plan to deepen the main navigational channels from 42 feet to an overall depth of 50 feet, and to widen the Entrance Channel and parts of the Intracoastal Waterway so that cargo ships can safely pass docked cruise ships. The estimated cost is \$374 million and construction is anticipated to be completed by 2022.
- In July 2014, the Florida East Coast Railway completed a \$53 million, 42.5-acre near-dock intermodal container transfer facility that will transfer international and domestic containerized cargo between ship and rail. This near-dock facility improves upon the old, smaller intermodal, which was located two miles from the port. In its first full year of operation, the facility has boosted cargo volumes by 26%.
- The Southport Turning Notch extension project will lengthen the existing turning basin for cargo ships from 900 feet to 2,400 feet at the existing depth of 42 feet, which will allow for five new cargo berths.

# PORTMIAMI



Overall



Infrastructure



Real Estate



## PORT FACTS

Total TEU Volume 2015 (000s)	1,008
Y-o-Y Change	5.3%
Total Cranes / Post-Panamax Cranes	13 / 6
Channel Depth (feet)	52
Container Terminals	3
Leading Trading Partners	China, Honduras, Guatemala, Brazil, Netherlands, Dominican Republic
Rail Operators	CSX, Norfolk Southern

Source: PortMiami, 2016.

## PORT OVERVIEW

- Thanks to PortMiami's geographic location, the world's largest shipping lines offer regular service from PortMiami to more than 250 ports in more than 100 countries around the world. In particular, PortMiami is the leading gateway to Central and South America, handling more than half of the eight million tons of cargo coming from or going to Latin America each year. Last year, the port reached a milestone, surpassing one million TEUs for the first time.
- With state-of-the-art quarantine and refrigeration systems, PortMiami is one of the busiest ports in the U.S. for refrigerated container traffic, moving nearly four million tons of perishable cargo, such as flowers and fruit.
- Having recently completed its Deep Dredge project, which deepened the Port's harbor from 42 to 52 feet, PortMiami became the only port south of Port of Virginia able to accommodate post-Panamax vessels.

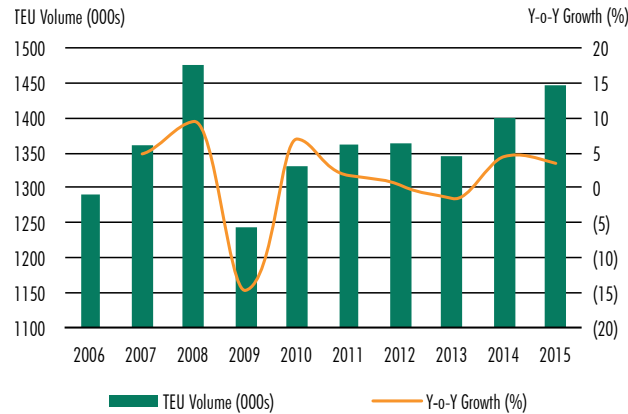




## INDUSTRIAL MARKET OVERVIEW

- Overall vacancy for Q4 2015 was 3.4%, representing a quarter-over-quarter drop of 40 bps and a year-over-year drop of 80 bps. Vacancy in Miami's industrial market remained below 4.0% for all of 2015; the market has not seen current levels since 2007. The industries most active in Q4 2015 were related to miscellaneous retailers and transportation support activities. Miami's industrial market closed Q4 with 1.1 million sq. ft. of net absorption, bringing total net absorption for the year to 3.2 million sq. ft.
- In the last quarter of 2015 alone, more than 500,000 sq. ft. of new industrial space was delivered. Currently, there are 35 proposed construction projects totaling more than 7.5 million sq. ft.—500,000 sq. ft. of which have already broken ground. Much of the growth can be linked to personal consumption expenditures, exports, state and local government spending, and nonresidential fixed investment. Shrinking vacancy rates have applied persistent upward pressure on rents, which has spurred development across the Miami industrial market.

## Annual TEU Volume and Growth Rate



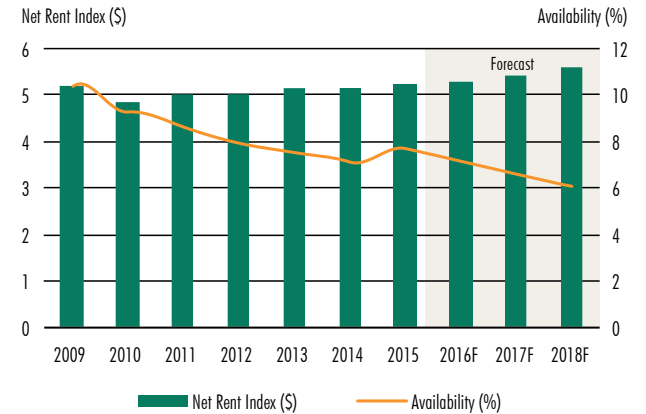
Source: American Association of Port Authorities, February 2016.

## REAL ESTATE MARKET STATS

Size of Market (MSF)	209
Q4 2015 Availability Rate	5.4%
Y-o-Y Change (bps)	-110
2015 Net Absorption (MSF)	3.2
2015 Deliveries (MSF)	1.9
Under Construction (MSF)	0.5
2015 Net Rent Index (PSF)	\$8.52
Y-o-Y Change	15.9%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

## Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

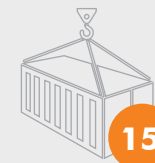
## PORT INFRASTRUCTURE INVESTMENTS

- PortMiami recently underwent more than \$1 billion worth of capital improvements and is officially ready to accept post- and super-post-Panamax ships. The port's Deep Dredge project was completed in September 2015. Following the completion of the canal's expansion in spring 2016, PortMiami will be the U.S. port closest to the Panama Canal that is able to berth mega-ships from Asia.
- Four new super-sized gantry cranes arrived at the port in October 2013, giving PortMiami a total of 13 cranes, six of which are super-post-Panamax. Once post-Panamax vessels begin to call at PortMiami, these cranes will allow quicker offloading of containers. These cranes are the largest in any Southeastern U.S. port and can service cargo vessels up to 22 containers wide, and up to nine containers above deck and 11 containers below.
- A new fast-access tunnel connects the port directly to the U.S. Interstate Highway System, providing rapid turnaround time for the movement of import and export goods.

# PORT OF JACKSONVILLE



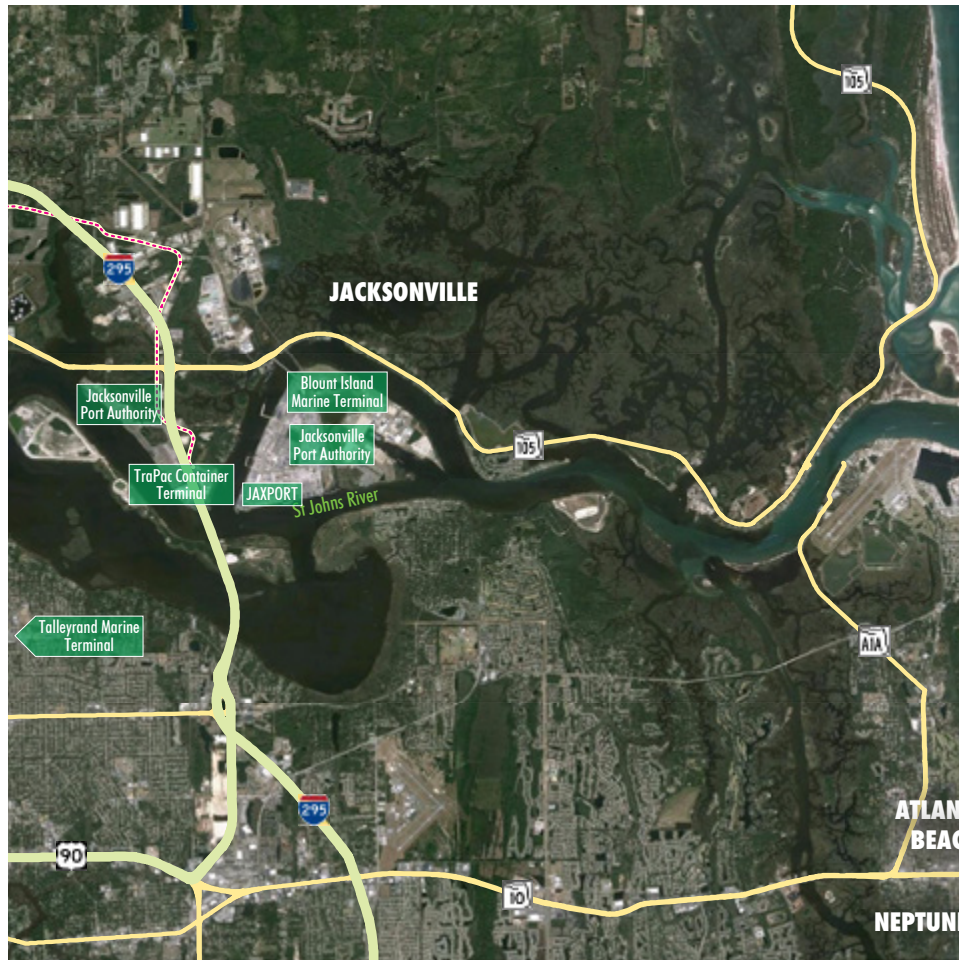
Overall



Infrastructure



Real Estate



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## PORT FACTS

Total TEU Volume 2015 (000s)	915
Y-o-Y Change	-2.6%
Total Cranes / Post-Panamax Cranes	27 / 6
Channel Depth (feet)	40
Container Terminals	3
Leading Trading Partners	China, Japan, Puerto Rico, Brazil, Venezuela
Rail Operators	CSX, Norfolk Southern, Florida East Coast Railway

Source: Port of Jacksonville, 2016.

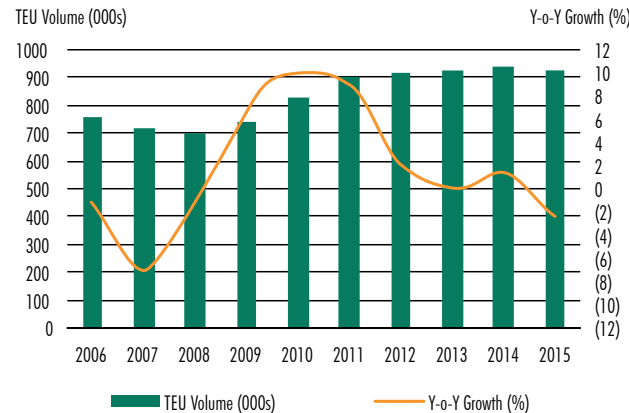
## PORT OVERVIEW

- The Port of Jacksonville is located within one day of more than 60 million people. The port terminals are located in proximity to three interstate highways and three Class I railways.
- The port has the widest shipping channel in the southeast—wide enough to allow two ships to pass simultaneously. The channel’s 40-foot depth, however, is insufficient for post-Panamax ships and many fully-loaded conventional ships.
- The port handles a wide range of cargo but specializes in automotive and military cargo. Jacksonville is one of only 17 ports authorized to handle military shipments in the U.S. It is also the top automotive export port in the U.S.

## INDUSTRIAL MARKET OVERVIEW

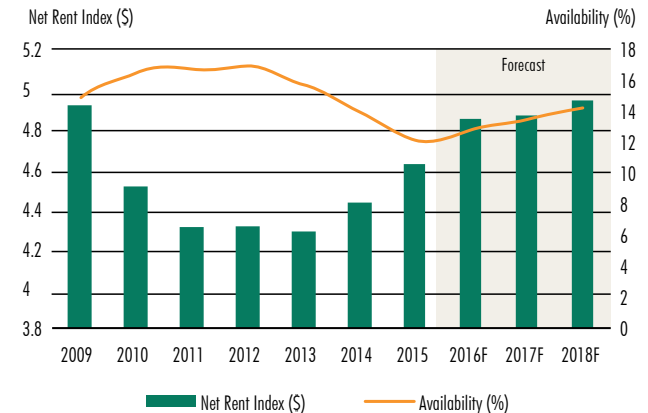
- Jacksonville's industrial market had a strong 2015, with availability falling 70 bps to 12.9%. This was driven by warehouse and distribution leasing, which generated 1.4 million sq. ft. of net absorption.
- Solid demand and falling availability—down 70 bps in 2015—helped spur the development market, which has begun to pick up pace. More than 1 million sq. ft. was delivered in 2015, with another 700,000 sq. ft. currently under construction.

### Annual TEU Volume and Growth Rate



Source: American Association of Port Authorities, February 2016.

### Forecasted Availability and Rents



Source: CBRE Econometric Advisors, Q4 2015.

### REAL ESTATE MARKET STATS

Size of Market (MSF)	98
Q4 2015 Availability Rate	12.9%
Y-o-Y Change (bps)	-70
2015 Net Absorption (MSF)	1.4
2015 Deliveries (MSF)	1.1
Under Construction (MSF)	0.7
2015 Net Rent Index (PSF)	\$4.65
Y-o-Y Change	5.0%

Source: CBRE Research, CBRE Econometric Advisors, Q4 2015.

### PORT INFRASTRUCTURE INVESTMENTS

- At the Port of Jacksonville, two infrastructure improvement projects are currently underway. First, an improved intermodal transfer facility is nearly complete at the Dames Point terminal, scheduled to open in early 2016. Next, three 100-gauge cranes are scheduled to be delivered and installed at the Blount Island Terminal by the summer of 2016.
- A project to deepen the federal channel along the St. Johns River, from 40 to 48 feet, is currently in the engineering and design phase. The project will allow the Port to accommodate the larger and fully-loaded ships passing through the Suez and Panama canals, and is projected to increase the Port's annual volume to 2 million TEUs.



## CONTACTS

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### PORTS LOGISTICS GROUP

CBRE's Port Logistics group is a specialty practice comprised of industrial specialists with an emphasis toward the knowledge and workings of the nation's seaports and the critical component that the ports play within the overall supply chain. Additional information can be found at [www.cbre.us/services/industrial/port-logistics](http://www.cbre.us/services/industrial/port-logistics).

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