

Select U.S. Ports Prepare For Panama Canal Expansion

Port of Charleston



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“We are the fastest growing port in the country.”

– Byron Miller, vice president, marketing and sales support, Port of Charleston¹

Port of Charleston

The Port of Charleston has the deepest water in the southeastern U.S. and handles more than \$65.1 billion in imports and exports annually.² According to the South Carolina State Ports Authority (SCSPA), it provides “260,800 jobs across the state in the maritime, transportation, distribution and manufacturing industries while providing an overall economic impact of \$45 billion each year.”³ The port “directly handles over 19.1 million tons of cargo annually.”⁴ It “is one of the busiest container ports along the Southeast and Gulf coasts and is recognized as one of the nation’s most efficient and productive ports. The Charleston Customs district ranks as the nation’s eighth largest in dollar value of international shipments.”⁵

Owned and operated by the SCSPA, the port has been positioning itself for growth by “heavily investing in its new and existing terminals with a 10-year, \$1.3 billion capital plan. A new terminal that will boost total container capacity in the port by 50 percent is set to open in 2018.”⁶

Location, Size and Terminals

Located in the South Atlantic state of South Carolina, the Port of Charleston is made up of five public terminals: Columbus Street Terminal, North Charleston Terminal, Union Pier Terminal, Veterans Terminal and Wando Welch Terminal. It has connections to rail, highway, and air transport routes that go across the U.S. The port’s deep water enables its terminals to handle a variety of cargo, including bulk, break bulk and container cargo.

Operating Status

The Port of Charleston was deeply affected by the Great Recession and has yet to fully recover its 2007 operating revenue and income. In part, this is because of a 2012 investment in infrastructure and capital projects that reflects an interest in long-term recovery and that will position the port well for post-Panama Canal expansion.

Figure 1

Operating Status

Year	Operating Revenue (in thousands of dollars)	Operating Expenses (in thousands of dollars)	Operating Income (in thousands of dollars)
2013	\$140,388	\$124,061	\$16,327
2012	130,948	123,674	7,274
2011	124,649	108,006	16,643
2010	111,744	103,372	8,372
2009	136,201	110,517	25,684
2008	165,092	110,399	54,693
2007	153,442	103,566	49,876
Average Growth Rate (2007 to 2012)	-9%	20%	-67%

Source: PriceWaterhouseCoopers LLP (2011, 2012, 2013) ⁷⁻⁹

Figure 2

Cargo Summary

Year	Container Volume (in thousands of TEUs)	Outbound Tonnage	Inbound Tonnage	Total Tonnage
FY 2014 (estimate)	1,685			
FY 2013 (estimate)	1,560			
FY 2012	1,432	23,412	40,233	63,645
FY 2011	1,384			
FY 2010	1,278			
FY 2009	1,368			
FY 2008	1,695			
FY 2007	1,884	6,290	18,070	24,360
Average Growth Rate (2007 to 2012)	-24%	272%	123%	161%

Source: Wilbur Smith Associates, Inc.;⁴ PriceWaterhouseCoopers LLP (2011, 2012, 2013)⁷⁻⁹

Cargo

During the Great Recession, the Port of Charleston diversified the types of cargo coming in and leaving its terminals. The total volume in TEUs has only begun to meet pre-2008 levels. However, total tonnage has more than doubled since 2007. The break bulk pier tonnage has doubled during this time, to 1.62 million tons in 2013. Given the port's proximity to regional forestry resources, many of the Southeast's forestry products — lumber, paper and pulp — go through the port on their way to other parts of the U.S. and the world.

Facilities: Cargo Terminals

The Port of Charleston has five public marine terminals, four of which are operated by the South Carolina State Ports Authority (SCSPA). The North Charleston Terminal is jointly operated by the SCSPA and Ceres Marine. At low tide, the port has a deepest point of 47 feet.

Figure 3

Top 10 Exports and Imports, 2012

Rank	Exports	Imports
1	Paper and paperboard, including waste	Furniture
2	Wood pulp	Auto parts
3	Auto parts	Sheets, towels, blankets
4	Logs and lumber	Fabrics, including raw cotton
5	Fabrics, including raw cotton	Auto and truck tires and tubes
6	General cargo, misc.	General cargo, misc.
7	Synthetic resins	Menswear
8	Mixed metal scrap	Apparel, misc.
9	Unclassifiable chemicals	Women's and infant wear
10	Poultry, chiefly fresh and frozen	Paper and paperboard, including waste

Source: South Carolina State Ports Authority¹⁰

Figure 4

Facilities: Terminals

Terminal	Total Acreage	Size (in sq. ft.)	Number of Warehouses	Type of Cargo	Number of Cranes	Channel Depth (in feet)	Berth Length (in linear feet)
Columbus Street	155	259,149	2	Roll-on/roll-off, break bulk, project cargo	3	45	3,500
North Charleston	201	N/A	N/A	Container	6	45	2,500
Union Pier	N/A	500,000	N/A	Break bulk		35	2,470
Veterans	110	96,993	2	Bulk, break bulk, roll-on/roll-off, project cargo	0	35	4,452
Wando Welch	689	187,680	1	Container	11	45	3,800

Source: South Carolina State Ports Authority¹¹⁻¹⁵

Facilities: Passenger Terminals

Union Pier Terminal is a one-berth, one-ship terminal visited by ships from more than 11 different cruise companies annually, bringing an estimated \$37 million in economic impact to the Charleston area.¹⁶ These cruise ships represent about 3 percent of all ships that call on Charleston annually. Union Pier is near parking and shopping for tourists and farther away from the heavy cargo terminals with which it shares waterways. In 2012, total passenger volume reached 189,445, up from 47,298 in 2009.¹⁷

Facilities: Cranes

The Port of Charleston has 20 shipside cranes designed to move different types of cargo. Wando Welch, the largest terminal, focuses on ship-to-shore cranes that move TEUs. It has nearby rail connections to CSX Transportation and Norfolk Southern Corp. railways. Intermodal rail volume increased 50 percent between

2011 and 2013. North Charleston Terminal has six cranes with 41 moves per hour per crane. Truck turn time at both terminals averages approximately 23 minutes. Columbus Street Terminal has three TEU cranes. It also has on-dock connections to CSX and Norfolk Southern railways and switching services available for Palmetto Railways.

The port also features a mobile floating crane owned and operated by Charleston Heavy Lift that can move among all of the terminals and can lift cargo from ship to ship, from ship to truck, from ship to rail and from ship to storage yard. Charleston Heavy Lift is a joint venture between J.E. Oswalt and Sons Inc. and Stevens Towing Co. Inc.

Vessels Accommodated

According to the SCSA, “a total of 1,839, 1,745 and 1,695 vessels (excluding barges) docked [at the Port of Charleston] during the years ending June 30, 2013,

Figure 5

Type and Number of Cranes

Type	Number	Outreach
Columbus Street Terminal		
Paceco/Espana Post-Panamax	2	145 ft.
Paceco/Hyundai	2	196 ft. 10 in.
IHI	1	121 ft.
North Charleston Terminal		
IHI Post-Panamax	4	145 ft.
ZPMC Post-Panamax	2	196 ft. 9 in.
Wando Welch Terminal		
IHI Post-Panamax	1	145 ft.
Paceco/Hyundai Super Post-Panamax	4	190 ft.
HHI/GE	2	196 ft. 9 in.
ZPMC Post-Panamax	2	196 ft. 9 in.
Morris Post-Panamax	3	146 ft.
IHI	1	121 ft.

Source: South Carolina Ports Authority^{11, 12, 15}

2012 and 2011, respectively.”¹⁸ “The Port Authority provided services to 18 out of the top 20 largest container ship lines based on U.S. containerized import and export cargo volumes.”¹⁹ Following the 45-foot harbor deepening project completed in 2012, the port handled 1.68 million TEUs in 2014. The port regularly handles vessels carrying more than 9,000 TEUs and drafting up to 48 feet. At least six vessels enter the harbor each day. Pier container volume increased 8 percent in fiscal year 2014.

Foreign Trade Zones

The South Carolina State Ports Authority was named fDi magazine’s “Global Foreign Zones of the Future” in 2010 and 2011. There are currently three foreign trade zones in South Carolina, with 32 strategically located sites throughout the state. Foreign trade zones link directly from the Wando Welch and North Charleston terminals. Although shippers in 24 states use Charleston to access foreign customers and suppliers, 45 percent of SCSPA “tonnage and about a third of containers are related to South Carolina firms. North Europe and Asia are the SCSPA’s top markets, combining for 54 percent of total volume, but more than 150 nations are served directly from SCSPA docks.”²⁰

Transportation and Access

The Port of Charleston is accessed by railways, motor carriers and airlines.²¹ According to the SCSPA, “CSX and Norfolk Southern both operate large, well-equipped rail yards in Charleston served by double-stack intermodal trains. RapidRail dray program provides cost-competitive, efficient and seamless connection between the marine terminals and rail yards. Charleston offers best-in-class high and wide rail clearances for oversize/over-dimensional moves.”²² Motor carrier access includes direct interstate highway access to five major highway arteries. More than 150 trucking firms operate in Charleston.

In addition, the South Carolina Inland Port extends the Port of Charleston’s reach by 212 miles. Located between Charlotte and Atlanta, the facility is within 500 miles of 94 million consumers.

Employment

According to a 2008 economic impact study, the SCSPA impacts an estimated 260,800 jobs in South Carolina.²³ The vast majority of the impacts arise from port users who ship goods through the port authority, “with the balance, 24,700 (9 percent) jobs, directly and indirectly attributable to port operations. In terms of jobs, such users employ an estimated 236,100 people (91 percent of total jobs).”²⁴ The port employs 6,800 people. Indirect and induced multiplier effects add an additional 17,900 jobs.

Current and Future Port Projects

According to the SCSPA, “the South Carolina State Ports Authority is currently building the only permitted new container terminal on the U.S. East and Gulf Coasts.”²⁵ Located on more than 250 acres of the old Charleston Navy Base, this terminal will boost capacity at the Port of Charleston by 50 percent and will focus on container cargo. Construction is currently underway. The new terminal is planned to open by 2019.

Additional new storage facilities were completed in 2013. At Wando Welch Terminal, a 25-acre refrigerated container yard was completed that centralized all temperature-controlled cargo and increased capacity by 10 percent. At Columbus Street Terminal, a

100,000-square-foot warehouse was built. Finally, the previously mentioned South Carolina Inland Port was completed, extending the port’s reach by 212 miles and providing 40,000 lifts annually. That number is expected to grow to 100,000 lifts annually when the inland port is at full capacity.

According to the SCSPA, “the inland port, providing overnight double-stack rail service, will improve the efficiency of international freight movements between the Port, the upstate manufacturing region and neighboring states, thus promoting economic development in South Carolina. By utilizing the rail line, importers and exporters can maximize tonnage moved per gallon of fuel, which will provide both environmental benefits and costs savings.”²⁶

The Charleston Harbor Deepening Project, which is currently undergoing a feasibility study, is being contemplated in direct relation to the expansion of the Panama Canal. While the port can currently receive eight weekly calls from ships too large for the current Panama Canal, it anticipates that growth from the Panama Canal expansion project will call for a deepening of its port. It has secured funds both locally and federally to execute this project. Multiple studies by the U.S. Army Corps of Engineers and others have determined that this is the “best value for scarce public dollars.” The SCSPA estimates that the project will be completed by 2019.²⁷

Many private investment projects are currently occurring near the port. The SCSPA estimates that more than “20 million square feet of prime Class A industrial distribution centers”²⁸ will be developed in the “Port of Charleston market in the next few years. Speculative buildings in the 200,000 [to] 1.5 million-square-foot range are scheduled for a number of key developments within an hour’s drive of the port facilities, luring large-scale import and export operations to the immediate port area.”²⁹ The total footprint of these projects will be “more than 2,600 acres. Private sector developers are driving this trend. Some of the most prominent companies in the industrial development business are aggressively pursuing and closing projects within a range that will deliver 4+ truck turns per day.”³⁰

Outlook

While it is already being called on by Post-Panamax ships, the Port of Charleston is further positioning itself to become a larger U.S. port player by building a new terminal that will allow an estimated 50 percent increase in capacity. The recently completed inland port further expands its reach. Port officials have set ambitious goals of doubling the port's volume in seven years.³¹

The port's deep waters and increasingly diversified cargo portfolio create many opportunities. Port officials plan to further deepen harbors and channels to more than 50 feet by 2018. They are also looking to increase the amount and types of manufacturing and agricultural goods the port handles.

Given the economic growth occurring throughout the Southeast, the Port of Charleston will increase in importance as local industry grows. As port officials said, "we are the fastest growing port in the country."³² With this growth will come some growing pains. Making sure a trained labor force is available to operate port machinery and maintaining the efficiency for which the port has become known will be ongoing challenges. With a political landscape that values the economic contribution that the SCSPA makes to South Carolina's economy, the port must work to scale its growth while keeping itself nationally and internationally competitive.

Endnotes

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- ¹³ "Union Pier Terminal Quick Reference Sheet," South Carolina State Ports Authority, 2014, www.scspa.com/Cargo/Facilities/Charleston/Terminals/union_pier_quickref.pdf, retrieved May 15, 2014.

- ¹⁴ “Veterans Terminal Quick Reference Sheet,” South Carolina State Ports Authority, 2014, www.scspa.com/Cargo/Facilities/Charleston/Terminals/veterans_quickref.pdf, retrieved May 15, 2014.
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- ³⁰ Ibid.
- ³¹ Author interview with Byron Miller.
- ³² Ibid.