

Florida's Cruise Industry: A Statewide Perspective

November 2013

Florida's Cruise Industry Statewide Perspective



Introduction

Recognizing the importance of the cruise industry to the present and future economic prosperity of the state of Florida, the Florida Department of Transportation commissioned this report to furnish a statewide perspective.

The report is designed to help provide a framework for actions—including engagement with cruise lines and cruise ports and appropriate deployment of fiscal resources—to ensure that Florida retains and enhances its longstanding position as the nation's leading cruise state.

While such efforts should aim to encourage deployment at Florida's ports of additional cruise ships and/or bringing in of larger vessels in place of currently deployed ships, there is no intention whatsoever to give preference or advantage to any one Florida port or cruise line over another. Rather, the intent is to furnish extensive background information and provide possible implementation actions - at both the state and federal policy levels - that encourage cruiserelated economic growth to benefit the people of Florida.

Insights gathered for this report include information from each of the following Florida cruise ports: Port Canaveral, Port Everglades, Port of Jacksonville, Port of Key West, PortMiami, Port of Palm Beach and Port of Tampa. Study team members also gathered direct input from Carnival Corp. (including its Princess Cruises unit), Disney Cruise Line, Norwegian Cruise Line and Royal Caribbean Cruises Ltd. In addition, members of the study team met with leadership of the Florida-Caribbean Cruise Association, including its Security and Operations Committee.

Executive Summary

Florida has long held the distinction of being the number one U.S. cruise state, home to the top three cruise ports in the world — PortMiami, Port Everglades and Port Canaveral. However, Florida is in danger of losing this economically favorable status, with potential redeployment of the increasingly large floating assets of the cruise industry to other markets.

Great future opportunity clearly exists, as the Cruise Lines International Association (CLIA) continues to cite the cruise industry as the fastest-growing segment of the travel industry and notes that because only approximately 24 percent of U.S. adults have ever taken a cruise vacation, there remains an enormous untapped market.

As detailed in this report, the cruise industry is continuing to bring new ships into service on a global basis, with a focus upon larger vessels, those capable of carrying as many as 4,000 or more passengers per sailing – twice the capacities of the vessels introduced as the first "megaships" two decades ago. While the larger vessels provide opportunities for greater economic impacts, they may not consistently be deployed at Florida ports if the appropriate infrastructure is not in place. Impediments such as low bridge clearance must also be addressed.

In fiscal year 2012, Florida ports combined to report almost 14 million cruise passenger embarkation and debarkation (revenue passengers), with projected growth to 21.6 million by fiscal 2026. (It bears noting that the longtime cruise industry standard for counting revenue passengers is to present a total of embarkations and debarkations, so, for example, a sailing of a ship to and from a port with 4,000 passengers aboard would be recorded as having a passenger count of 8,000.)



At the same time, the cruise industry's total contribution to Florida's gross state product (GSP), already at nearly \$2.43 billion in fiscal 2011, is forecast to reach almost \$3.83 billion by fiscal 2026, with total cruise-related employment in Florida growing from 58,725 to 92,588 over this 15-year span. There is no question that the cruise industry is vital to the economic prosperity of Florida now and in the future.¹

Whether or not these projections will actually come to fruition, however, depends upon the ability of the state of Florida and its ports to fulfill industry demands. At both the executive and legislative levels, the importance of the cruise industry to the state of Florida has been widely recognized, as illustrated by priority funding of port-related infrastructure. Whereas much of this state investment has been focused on the swift, efficient movement of freight, the port infrastructure and landside connections have also spurred cruise-related development and proven beneficial to cruise companies and their passengers.

In addition, Florida cruise ports and the cruise lines operating from them have made hundreds of millions of dollars of investments, particularly at ports where long-term agreements are in place to guarantee passenger activity in the future. Over the last twelve months, Florida has increased its level of spending on improvements at Florida's seaports. This has included significant investments in cruise related infrastructure, including a mix of channel, berth, and terminal improvements at Port Canaveral, Port Everglades, Port of Key West, and PortMiami. Additional state investment in these ports should not only help ensure continued and expanded relationships between the cruise lines and ports, but also encourage new and expanded long-term agreements which will support the continued economic strength of Florida's cruise industry.

In expanding upon the relationships between Florida's ports and cruise lines, it is important to keep in mind the four primary considerations of cruise line decision-makers in positioning vessels:

- Port infrastructure availability
- Airlift capabilities
- Marketing of the home port as a destination unto itself
- Proximity of ports of call and regulations

It may be argued that Florida's dominance in the cruise industry is largely related to its strategic positioning at the gateway to the Caribbean and the Bahamas, which continue to represent by far the most appealing destination for cruise vacationers, with the Caribbean at 43 percent and the Bahamas at 25 percent, tied with Alaska and well ahead of the next destination on



the list, Hawaii, at 15 percent, in a survey for which respondents could list multiple destinations.²

That said, sufficient waterside and landside capacity has been essential to the state's growth as the leading player in the global cruise industry marketplace. It is imperative that sufficient waterside and landside capacity be in place to accommodate this activity. As cruise lines build and deploy larger vessels, it is essential that facilities keep pace so that the general industry practice of positioning the newest and biggest cruise ships at Florida home ports is maintained.

The cruise industry presence in Florida is not limited to one or two ports; rather, home port operations span virtually the entire length of the state's Atlantic Coast, from Jacksonville to Port Canaveral to Palm Beach to Port Everglades to Miami, and include Tampa on the Gulf Coast, as well as the popular port of call of Key West. With the cruise industry trend of placing ships within a drive-to market, further port development of Florida's Gulf Coast may present new opportunities for additional growth. The Greater Tampa Bay region has 8 million consumers, and 30 million consumers within an 8 hour drive, however Tampa's growth potential is limited due to the Tampa Bay Bridge.

Although the contributions of the cruise industry to the state of Florida are tremendous and the millions of annual cruise passengers hosted by the state are highly significant, incredible growth opportunities still exist, as fewer than five percent of the U.S. population sails on a cruise each year. By further promoting cruising from Florida through existing visitor/tourismpromotion initiatives (which serve the further purpose of promoting cruise port cities as destinations unto themselves), among other means, the state will be in a better position to capitalize on this vast largely untapped market.

As outlined in the findings and implementation actions at the conclusion of this report, numerous additional

¹2011 study by Business Research and Economic Advisors for CLIA.

² American Association of Port Authorities and Florida-Caribbean Cruise Association

steps, including some at the federal policy level, should be considered to further advance the contribution of the cruise industry to Florida and its people. This statewide study and its implementation actions are intended to act as a catalyst for growth of the Florida cruise industry and thus the statewide economy and socioeconomic well-being of Floridians.

Global Cruise Industry Overview

Dominant Markets and New Emerging Markets

Established Markets: The Caribbean and the Mediterranean

The largest markets currently dominating the cruise industry are focused on the Caribbean, including the Bahamas, and the Mediterranean. These two markets alone account for more than 50 percent of all "bed days." Passenger bed days are the number of days that all berths were occupied during the calendar year. For example, a single passenger on a 7-day cruise represents one passenger carrying and seven passenger bed days.

The Caribbean is a long-established market that for many years has offered a tropical destination for travelers to visit without the hassle of international travel. In recent years, tighter restrictions have required additional documentation and procedures for cruise passengers, but the convenience of Florida to the Caribbean region remains undeniable.

The Caribbean market has continued to grow throughout the years and is accessible by all ports on the East and Gulf Coasts of the United States as well as emerging ports in South America. Growth in this market continues to provide opportunities as well as challenges as home ports and Caribbean ports of call implement investment strategies to accommodate the increasing size of cruise vessels and strategies to manage increasing levels of vessel traffic. For example, some popular destinations have had to turn away ships days before they are due to arrive. In response to this issue, cruise lines have developed their own "out island' ports of call as means to provide exclusive Caribbean experiences for their passengers. As such, itineraries need to consider both the availability and capacity of home ports and ports of call.

The other large market in the cruise industry is the Mediterranean. This market has experienced significant growth in the past few years, particularly as passengers are beginning to look for a different experience than that offered by the Caribbean. This market has a different appeal as the leading ports are considered must see destinations such as Barcelona, Spain, or Venice, Italy. There is also the advantage of being able to embark and debark at various locations throughout the area allowing ships to attract clientele from a wider market. With port calls in the Mediterranean, Baltic, Black Sea, and Atlantic Isles, Europe has around 250 ports visited by cruise ships, offering travelers vast sailing options as well as sourcing passengers from each of those port cities. In some cases, these seagoing European cruises link with river cruises as well.

Emerging/New Markets: China, Latin America, Cuba

While the Caribbean and Mediterranean markets currently dominate the global cruise industry, significant growth opportunities have been identified in some of the world's emerging economies, particularly China and Brazil. China alone has over 300 million middle class citizens, with most located in coastal cities. As a result, China has become the largest spender in international tourism, opening a huge market source for the cruise industry. Brazil has also emerged on the stage with a climb from 29th in spending in 2005 to 12th in 2012. Market size and increases in disposable income provide the cruise lines with new markets. Many of these markets are being explored today with smaller vessels to test and develop business and to justify investments in infrastructure necessary to accommodate the newer, larger vessels.

There is a growth trend toward home-porting cruise vessels in Latin America—a trend that could impact Caribbean cruise volumes from Florida ports. Among the most successful such home ports, with significant growth potential, is Panama. This is largely because many South Americans, Brazilians in particular, encounter difficulties in securing U.S. visas to cruise from Florida/U.S. ports, so they opt to cruise from Panama. Cruise industry executives seem to see great potential for home-porting in Panama, where major investments have been made in port facilities and where the biggest maritime infrastructure investment in the world - the Panama Canal expansion - presents a tourist destination unto itself. The Panama Canal also presents opportunities for repositioning of cruise ships. Itineraries from Panama may include, in addition to traditional Caribbean ports of call, various Central/ South American ports and Cuba.

Once opened to normalized relations, Cuba is likely to offer new opportunities for cruise itineraries from Florida ports. Cuba forms a natural geographical



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triangle with Tampa and Mexico as the other vertices. While Tampa Bay as well as South and Central Florida ports are geographically best positioned for serving Cuba ports, it has been confirmed that the New Orleans trade and business community has been actively, systematically, approaching Cuba cruise opportunities such that it may well now be at the forefront in this market.

While Brazil has long been considered an up-andcoming market for the cruise industry, limitations are impeding the industry's growth within the country. The main factors for this include high costs, legal challenges and lack of infrastructure. While perhaps a competitor for the nearby portion of the Caribbean region, embarkation and debarkation fees for passengers are significantly higher, driving up the cost of a cruise vacation. In preparation for the 2014 World Cup and 2016 Olympic Games, the Brazilian government is investing money into the country's cruise ports in order to increase hotel capacity and accommodate more visitors for these events. This will also provide significant infrastructure capacity for future service.

China has made significant steps to ensure that cruise ships are welcomed to the country. Chinese authorities have redone regulations to expedite the visa and customs process for cruise passengers. In doing so, international passengers are not only able to travel to the country, they are also able to maximize their time at ports of call by clearing customs faster. In addition, Chinese businesses are now allowed to operate cruises for the first time, resulting in the 2013 deployment of the nation's first luxury cruise liner. With China's emerging economy, it has become the largest spender in international tourism, thus opening a huge source market for the cruise industry. Chinese officials continue to encourage the growth of this market by writing the cruise industry development into the 12th Five Year Plan on marine economy development. However, some limitations to this market include inadequate infrastructure and a lack of adequate guides who can give cruisers the proper exposure to the Chinese culture.

The growth in these markets is not seen presently as a direct threat to the Florida cruise industry, and may even be viewed as an opportunity to test new markets and to expand the growth of the industry as a whole. As tourists in these countries begin to learn about cruising and see the great value of doing so, they will look for other destinations, like Florida, to cruise from. In particular, Florida is well positioned for this as the largest, top of the line cruise ships are homeported in Florida. In order to ensure such future tourism, Florida must retain these elite vessels which offer a unique experience not found anywhere else in the world.

In addition to these emerging markets, some markets come as a surprise to industry members themselves. Currency swings may shift markets unexpectedly, leaving the industry unprepared to serve a new market. Currently, some of the major lines have rules in place banning the sale of tickets sourced in one country to passengers in another to prevent such unpredicted markets swings. It should be underscored that, because the inventory of the cruise industry largely consists of literally "floating assets," deployments and redeployments of assets are significantly easier than, for example those of landbased accommodations. Stated quite simply, a 5,000 passenger cruise ship can be moved to the other side of the world easier than moving even a 50 room hotel to the other side of a city. Thus, for Florida to remain the top cruise state well into the future, competition for cruise industry business must be viewed on a global basis.

River Cruise Markets

Instead of sailing on the oceans, some cruise ships have taken to the rivers of Europe, Asia and North America. Companies like American Cruise Lines and Viking River Cruises have sought to serve this niche market within the cruising industry. A vast majority of these ships are newly built, with many to be completed in 2013 and 2014. Most vessels hold less than 200 passengers, significantly smaller than the oceangoing ships being launched today. American Cruise Lines' six ships, for example, are newly-built, with its vessels holding between 50 and 150 passengers and are U.S.-flagged, built and crewed. While river cruising is particularly popular within the United States on the Mississippi River, there are a number of other waterways on which these ships cruise. For example, American Cruise Lines offers 35 cruise itineraries to 28 states including one in Florida.

While Viking currently has no river cruise itineraries scheduled within or from the U.S., they will be launching their first ocean-going cruise in May 2015 with the completion of the Viking Star. In June of 2014, the owner of American Cruise Lines is launching the Pearl Mist, a part of the Pearl Seas Line which combines international travel with the intimate experience of cruising on a 210-passenger ship. Florida is capable of capturing this market as the infrastructure is already in place to handle this size of ship and would be an ideal launching site for the desired North American market with the opportunity to access the culturally diverse countries of South America and the Caribbean. As well, these types of vessels could fill the anticipated void in Key West if larger ships are no longer able to call at the port. With only two such vessels on order, expansion to North America may still be a long way off, but Florida should start working to determine how best to capture this market.

Seasonal Trends and Legal Restrictions: Alaska, Florida and Hawaii

Weather-related conditions and legal restrictions place limitation upon U.S. markets, not just in the continental United States, including Florida, but also in Alaska and Hawaii.

In terms of weather conditions, the Alaskan market is hindered by the cold climate, which makes cruising undesirable, and at times impossible, during the winter months. As such, cruise ships typically only call on these ports during the summer and reposition elsewhere in winter. For many cruise lines, the winter destination will be the Florida/Caribbean market.

Florida ports have many ships based at them on a yearround basis, but the activity level is increased with seasonal home-portings in winter months as many residents of the northern U.S. want to get away from cold weather and escape to a warmer climate.

In the legal sphere, Hawaii has somewhat limited cruise operations as most ships serving a multi-island itinerary are U.S.-flagged vessels, constructed in the United States, owned by U.S. citizens and crewed by U.S. citizens and U.S. permanent residents, pursuant to the Merchant Marine Act of 1920, commonly referred to as the Jones Act. Foreign flag vessels may serve a multi-island itinerary, but must include a foreign port in the itinerary. In addition, new regulations, like the North American Emissions Control Area (described in more detail below) are creating shifts in itineraries.

A significant legal restriction impacting potential U.S./ Florida cruise itineraries is another federal mandate related to cabotage – the Passenger Vessel Services Act of 1886, which imposes restrictions on foreignflagged passenger vessels. These vessels are allowed to make round trips to U.S. ports with calls at other U.S. ports as long as at least one foreign port is called. Passengers cannot embark or debark at a port of call, but must embark and debark at the port of origin. Violations of this statute carry a prohibitively significant per-passenger penalty of \$300. While a few cruise operators utilize U.S. flag vessels in specific markets, such as Alaska and Hawaii, the overall market is clearly dominated by foreign-flag ships. The PVSA has restrictions.

Key Trends and Growth Expectations

On a global scale, the cruise industry has sustained growth despite the economic recession. Cruise lines continue to seek new customers and new ports of call to appeal to travelers of all sorts. In 2012, 20.3 million passengers cruised globally with 60 percent sourced from North America, according to CLIA, and forecasts for calendar 2013 estimate that 20.9 million passengers will cruise globally. As the cruise lines continue to expand existing markets and develop new ones, port-of-call decisions must consider passenger safety. Locations with high levels of unemployment, poverty, crime, and political turmoil will be avoided and/or removed from itineraries. A recent example of this is the decrease in passengers leaving from California on Mexican itineraries.

Due to the change in demands and the globalization of the industry, market shares have shifted in the past few years. Table 1 shows how the number of bed days has changed in the 2006–2011 period as well as the shift in market share for a particular destination, based on information provided by members of the CLIA. Most notably, the Mediterranean region has had significant growth, diverting a significant share of the market away from Caribbean cruises. With that being said, the Caribbean still has the largest market share, as shown in Table 2. In addition, there has been a shift to a more globally sourced market. As the number of cruise passengers increases, the percent from North America has decreased, as illustrated in Figure 1.

Factors Driving Positioning Decisions

Regardless of destination, cruise lines tend to focus on four key areas when determining where ships will be positioned:

- Port infrastructure availability
- Airlift capabilities
- Marketing the home port as a destination unto itself
- Proximity to ports of call and regulations

Without these elements, cruise lines have a more difficult time attracting customers to their location. In order for a port to be successful, it should focus on these areas for improvements to ensure that cruise lines will prosper in the years to come.

Port Infrastructure

Cruise port infrastructure is a highly important aspect for a potential home port. On the water side, important considerations include channel depth, channel width, and turning capabilities. On the landside, there must be adequate berthing space, efficient terminals, adequate parking and sufficient

Table 1. Shift in Passenger "Bed Days" by Market, 2011 to 2014

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Market	Change in Number of Bed Days	Market Share Shift			
Caribbean	10%	-0.4			
Mediterranean	-7.8%	-3.9			
Europe/Scandinavia	37.9%	-3.8			
Alaska	12.8%	+0.1			
Australia/New Zealand/S. Pacific	77.5%	+2.2			
South America	3.3%	-0.3			
Asia	154.5%	+2.5			
All Other Program	5.2%	-2.5			

connective roadway and/or rapid-transit connectivity. Typically the most desirable days for leaving a home port are Saturday and Sunday. In many cases, all berths are already occupied, leaving no room for an increased passenger throughput. This also means that berths are predominately left empty during the less desirable weekdays. Strategies that have been deployed in Alaska to combat this imbalance focus on giving the cruise lines incentives to shift their itineraries. In order to attract more cruise ships, and maintain ones already there, ports must make proper investments in their infrastructure.

One of the biggest challenges facing the industry in the coming years is the growth of the fleets by both the number of ships in operation and their individual tonnage. Currently, the combined order book for cruise lines for deliveries from 2013 through 2018 shows the launch of 22 newbuild cruise ships to add to the already extensive fleet currently operating worldwide.

Typically, these new additions are also increasing their capacity to not only accommodate more passengers but also to include more onboard attractions and amenities. The new Oasis-class ships of Royal Caribbean Cruises Ltd. are the largest cruise ships in operation with a standard capacity of 5,400 passengers and potential maximum capacity of 6,296 passengers. At present, two ships of this size are sailing and one additional ship on order for a mid-2016 launch.

As new cruise ships have increased in size, substantial effort will be required to continue to accommodate them in the future. This shift has a significant impact on land side operations as more berths are needed to service the actual vessels and larger terminals are needed to handle the increase in the number of passengers.

Table 2. Global Cruise Market Share by Region

Market	Number of Bed Days (millions)	Market Share
Caribbean	36.2	33.7%
Mediterranean	22.0	20.4%
Europe/Scandinavia	8.5	7.9%
Alaska	6.7	6.2%
Bahamas	6.5	6.1%
Mexico (West)	3.5	3.3%
Transatlantic	3.1	2.9%
Australia/New Zealand/S. Pacific	2.9	2.7%
Trans Canal	2.7	2.5%
South America	2.6	2.4%
Hawaii	2.2	2.1%
Other	10.6	9.9%

Just as critical is the impact to waterside and channel operations. With beams averaging 130 feet and the Oasis-class spanning a staggering 213 feet, one of the biggest drivers in need for channel/slip widening at Florida's seaports is the accommodation of the growing cruise ship size. Table 3 lists the cruise ships currently on order including their respective dimensions.

Whereas Florida certainly cannot expect to capture all of the newbuilds coming into the cruise market – or, with the cruise industry's diversification strategies in place, even a majority of them – it is essential to the state's future in the industry that many of these new vessels are deployed at Florida ports. To do so, sufficient landside and waterside infrastructure must be in place. Florida's major cruise ports, independently and in partnership with the state, have made and continue to make significant investments in cruise infrastructure. Port Canaveral, with

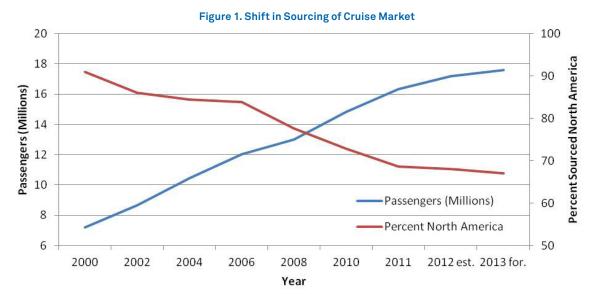


Table 3. Cruise Ships on Order through 2016 (*Note: Passenger Capacity based on double occupancy)

New Ship	Tonnage	Passenger Capacity*	Length	Beam	Draft	Launch Date
AIDAstella	71,300	2,192	827ft	106ft	26ft	3/17/2013
Viking Skadi	N/A	N/A	443ft	37ft	N/A	N/A
MSC Preziosa	139,400	3,502	1,093ft	125ft	26ft	3/23/2013
AmaVida	N/A	106	260ft	37ft	N/A	3/26/2013
Viking Tor	N/A	190	443ft	37ft	N/A	3/31/2013
AmaPrima	N/A	164	443ft	38ft	N/A	4/3/2013
Avalon Artistry II	N/A	128	361ft	N/A	N/A	4/11/2013
Viking Var	N/A	190	443ft	37ft	N/A	N/A
Norwegian Breakaway	146,600	4,028	1,062ft	130ft	27ft	4/30/2013
Avalon Expression	N/A	166	443ft	36ft	N/A	5/6/2013
Europa 2	42,830	516	740ft	88ft	21ft	5/1/2013
Viking Forseti	N/A	190	443ft	37ft	N/A	5/25/2013
Scenic Jewel	N/A	169	443ft	N/A	N/A	Spring 2013
Royal Princess ⁺	141,000	3,600	1,082ft	125ft	27ft	6/10/2013
Viking Rinda	N/A	190	443ft	37ft	N/A	6/15/2013
Viking Jarl	N/A	190	443ft	37ft	N/A	7/19/2013
Le Soleal	10,600	264	466ft	59ft	N/A	7/1/2013
Viking Atla	N/A	190	443ft	37ft	N/A	8/23/2013
Viking Baldur	N/A	190	443ft	37ft	N/A	8/27/2013
Viking Magni	N/A	190	443ft	37ft	N/A	9/10/2013
Norwegian Getaway⁺	146,600	4,028	1,062ft	130ft	27ft	1/31/2014
Tauck River Cruising's MS Inspire	N/A	N/A	442ft	N/A	N/A	3/1/2014
Avalon Poetry II	N/A	128	361ft	36ft	N/A	3/1/2014
Avalon Impression	N/A	166	443ft	36ft	N/A	3/1/2014
Avalon Illumination	N/A	166	443ft	36ft	N/A	5/1/2014
Regal Princess ⁺	141,000	3,600	1,082ft	125ft	27ft	6/1/2014
AmaSonata	N/A	164	443ft	38ft	N/A	Spring 2014
Viking Ocean Cruises (Unnamed)	N/A	888	700ft	95ft	25ft	Spring 2014
Uniworld's S.S. Catherine	N/A	159	443ft	N/A	N/A	Spring 2014
Tui Cruises' Mein Schiff 3	99,300	2,500	968ft	N/A	26ft	Spring 2014
Tauck River Cruising MS Savor	N/A	N/A	443ft	N/A	N/A	6/1/2014
Quantum of the Seas	167,800	4,180	1,090ft	136ft	29ft	11/1/2014
Costa Cruises' Costa Diadema	132,500	0	1,004ft	122ft	26ft	Fall 2014
P&O Cruises (Unnamed)	141,000	3,611	1,082ft	N/A	27ft	3/1/2015
AIDA Cruises (Unnamed)	125,000	3,250	1,045ft	N/A	27ft	3/1/2015
Anthem of the Seas	167,800	4,180	1,090ft	136ft	29ft	Spring 2015
Viking Ocean Cruises (Unnamed)	N/A	888	700ft	N/A	25ft	Spring 2015
Tui Cruises' Mein Schiff 4	99,300	2,500	968ft	N/A	26ft	Spring 2015
Norwegian Escape	163,000	4,200	1,090ft	N/A	26ft	10/1/2015
Holland America (Unnamed)	99,000	2,660	968ft	115ft	26ft	Fall 2015
AIDA Cruises (Unnamed)	125,000	3,250	1,090ft	N/A	26ft	3/1/2016
Royal Caribbean (Oasis III)	225,282	5,400	1,181ft	213ft	31ft	Mid-2016
Carnival Cruise Lines (Unnamed)	135,000	4,000	1,004ft	N/A	26ft	Winter 2016
Titanic II	40,000	1,680	270ft	106ft	25ft	2016
Royal Caribbean (Quantum III)	167,800	4180	1,090ft	136ft	29ft	Mid-2016

⁺Ship is scheduled for a Florida port deployment.

significant investments in Cruise Terminals 5 & 6, and the widening and deepening of its turning basin and channel, is moving forward with another \$75 million dollar investment in Cruise Terminal 1. Port Everglades has recently rehabilitated several of its cruise terminals and is home to the only terminal in the world designed to homeport Oasis class vessels. Currently, it is moving forward with another \$36 million dollar investment to rehabilitate Cruise Terminal 4 and lengthen Slip 2 to be able to accommodate the world's current cruise fleet with the exception of the Oasis class vessels. PortMiami has also invested significantly in its cruise terminals and supporting infrastructure in order to handle larger vessels. Its recently completed master plan helps identify specific projects and the port currently is moving forward with over \$22 million in additional improvements. All of these investments are designed to support the increasing size of the cruise ships. The state is providing matching funds for almost all of these programmed improvements. Still, as ports that are long-established leaders in the cruise industry begin to reach their maximum capacities, it may be advisable to pursue development of additional cruise facilities at Florida ports that currently do not have such substantial cruise industry presence.

Airlift Capabilities

In addition to port infrastructure, the infrastructure of the surrounding area also plays an important role. Airlift is one of most critical factors as over 60 percent of cruise passengers arrive/depart via airplane. While proximity to a major airport is not a feature that can be easily changed, the number of available flights per day is a key factor in transportation to a cruise. Also, rapid-transit connections between airport and seaport facilities, such as people-movers, may enhance efficiencies in this regard.

As the industry has evolved, international access has also become a primary consideration. Cruise passengers are sourced from a global market, so much so that international guests on the Oasis of the Seas and the Allure of the Seas, based in Port Everglades, account for over 50 percent of the total passengers. Without an ability for passengers to reach a home port, cruise lines lose access to potential markets.

Home Port as a Destination

Key secondary factors in the cruise market are the pre- and post-night stays by passengers in the home port community. As passengers arrive early or extend their vacation after, there is a significant impact on the host community in hotel, restaurant, and attraction spending. As cruise lines sell their itineraries, the ability to provide a host community capable of offering these types of services and attractions provides an added marketing tool—not to mention positive economic impacts in the host communities. Investments under way, like "The Cove" at Port Canaveral, support extended stays for home-port passengers and also may help the port compete for port-of-call traffic, subject, of course, to Passenger Vessel Services Act restrictions. Most Florida cruise ports, to varying degrees, market pre- and post-cruise packages, often in conjunction with area convention and visitor entities.

Proximity to Destinations and Emissions Control Areas Restrictions

Although many cruise lines are focusing more and more on the cruise ship experience as a destination in and of itself, cruise line decision-makers seek to build itinenaries with destinations in close proximity to each other in an effort to maximize ports of call and excursions. The Mediterranean and Caribbean Basins provide ample destinations within hours of each other. Figure 2 on the following page displays a number of the Caribbean's ports of call averaging a distance of 300 nautical miles apart. Florida's ports are ideally positioned as home ports for the Caribbean market due to this proximity. For example, cruise ships embarking from PortMiami travel an average of 393 nautical miles to reach the first ports of call in an estimated 11 hours travel time and travel an average 300 nautical miles (nine hours) between subsequent ports of call.

One additional factor that may influence the cruise industry in relation to destination proximity is the Emission Control Area, or ECA, under the International Convention for the Prevention of Pollution from Ships (MARPOL), which initially came into effect in 2012, bringing in stricter controls on emissions of sulphur oxide (SOx), nitrogen oxide (NOx) and particulate matter for ships trading off the coasts of Canada, the United States and the French overseas collectivity of Saint-Pierre and Miquelon.

In order to mitigate any harmful impact of emissions, the International Maritime Organization (IMO) and coastal nations have established ECAs to reduce the amount of harmful emissions from commerce and passenger vessels, alike. Currently, there are three areas designated as ECAs, the Baltic and North Seas and North America. Florida's cruise ports appear to be the least impacted by The North American ECA, which is the most recent, put into place Aug. 1, 2012, and requires fuel sulphur content for ships operating within 200 nautical miles of the North American coastline to be no more than 1 percent, with further reductions to no more than 0.1 percent in 2015. (See Table 4.). To adhere to the ECA requirement, ships, including cruise vessels, now carry at least the standard bunker fuel and the lower-sulphur fuel and switch between the two when entering and exiting the ECA.



* Note: As of January 1, 2014, the US Caribbean Sea ECA emcompassing the jurisdictional waters 50 nautical miles out from Puerto Rico and U.S. Virgin Islands, will take effect.

Green Cruising

With global deployments and destinations, the cruise industry has implemented extensive efforts to lessen their impact on the surrounding marine environments and local populations. By "greening" their operations, the cruise lines have met and, in some cases, exceeded the international and national environmental regulations. These efforts include energy efficiency, waste management and emissions technologies and measures. Ships are being outfitted with the latest state-of-the-art machinery and design concepts and adopting innovative operational changes to mitigate the impact to the surrounding aquatic and atmospheric environments. These measures not only provide benefits to the environment but also to the cruise lines' bottom-line (through, for example, reduced fuel consumption) and reinforce their exploration into the technologies and innovations of tomorrow.

Florida's Cruise Industry

While the cruise industry has shifted to a more global market, Florida still has a dominant strategic position within the industry. The proximity of Florida to the Caribbean, Bahamian, and South American markets allows ready access to more than 42 percent of industry ports of call.

Table 4. North America Emission Control Area regulatory enforcement schedule

Outside an ECA established to limit SOX and particulate matter emissions	Inside an ECA established to limit SOX and particulate matter emissions
4.50% m/m prior to 1 January 2012	1.50% m/m prior to 1 July 2010
3.50% m/m on and after 1 January 2012	1.00% m/m on and after 1 July 2010
0.50% m/m on and after 1 January 2020*	0.10% m/m on and after 1 January 2015

* Depending on the outcome of a review, to be concluded in 2018, as to the availability of the required fuel oil, this date could be deferred to 1 January 2025.

Existing Cruise Ports and Infrastructure

Florida has seven deep-water seaports that are currently contracting with one or more cruise lines to provide home-port or port-of-call berthing, provisioning and passenger embarkation services for one or multiple cruise vessels. Port Canaveral, Port Everglades, Port of Jacksonville, Port of Key West, PortMiami, Port of Palm Beach, and Port of Tampa all participated in interviews that assisted in the production of this statewide cruise study and provided a holistic representation of the seven deep-water cruise ports in Florida. Other state ports, such as those of Pensacola and Panama City along the Florida Panhandle, have looked at various times at cruise industry participation and others, such as Port Manatee, near the entrance to Tampa Bay, have home-ported cruise ships in the past. These ports without current cruise activity may have future cruise industry opportunities, particularly in the case of Gulf of Mexico ports in positioning of passenger vessels serving Cuban ports of call once international political relationships become normalized.

The port profiles in the following section describe the seven Florida deepwater ports with current cruise activity, their cruise infrastructure and basic operations. In evaluating this information, it may be helpful refer back to Table 3 on page 7 and the Appendix for cruise ship dimensions, as the size of many current ships and newbuilds facilities. Some are too large to be accommodated at Florida cruise facilities, some Florida ports are already moving ahead to meet such needs.

Port Canaveral

Port Canaveral, under the aegis of the Canaveral Port Authority, is a deep-water seaport located in Brevard County on the east coast of Florida near Cape Canaveral and Cocoa Beach and serves both cargo and cruise operations. The port has its own governing body made up of a board of five commissioners and a chief executive officer.

The port's federally authorized channel is seven nautical miles in length. The entrance channel is 44 feet mean lower low water (mllw) and the main channel is 41 feet mllw. The maximum vessel draft allowed in the channel is 39 feet 06 inches. The present central turning basin depth is 38 feet and is 2000 feet x 1400 feet radius. The present west turning basin is 35 feet in depth and is also 2500 feet x 1775 feet radius. Tidal restrictions are only in place for ships with drafts greater than 38 feet, which requires transit in the channel to begin two hours prior to high water.

Port Canaveral has seven cruise terminals, and two planned cruise terminals, and is the current home to seven year-round cruise ships. With what port officials tout as the largest year-round fleet in the state, Canaveral has seen a steady and consistent growth in passengers. In 2012 Port Canaveral had 3.76 million revenue passengers and an estimated 4 million in 2013. This includes gaming cruises and both embarkations and debarkations. Port Canaveral passenger count is projected to be more than 5 million by 2015. The cruise lines that home-port at Canaveral are Carnival Cruise lines, Disney Cruise lines, Royal Caribbean and Victory Casino Cruises. In 2011, the port had a 35 percent increase in port-of-call cruise visits to 116 total calls, increasing to 168 in 2013.



Recent/Scheduled Improvements and Work Programs

The ability to provide sufficient navigational access and maneuverability for the newer generation of larger cruise ships is a key factor in the advancement of widening and deepening projects at Port Canaveral, with \$24.4 million in state funding accelerating the timetable for this federally authorized project by four years. Key improvements for Port Canaveral include:

- Design for a new 185,000sf cruise terminal is underway November 2013. This \$90 million investment, which is scheduled to open in November 2014, includes a 1,000 space parking garage.
- A second 170,000sf cruise terminal is planned for 2016-2017.
- Recently completed Phase 1 of West Turning Basin Widening and Deepening project includes the 'Corner Cutoff,' which removed old berths and replaced them with new containership and multipurpose vessel berths. This project allows larger vessels to turn in a new 1,775-foot-wide west turning basin (WTB) with a constant 39-foot draft and provides new access roads, utilities and a 17-acre upland storage yard.
- Scheduled for completion in 2014, the channel widening project is designed to increase capacity for cruise and cargo by widening the channel from 400 feet to 500 feet.
- Cruise Terminal 6, completed in 2012, is the newest 90,000-square-foot, \$66 million terminal. This project includes a \$23 million pier, a \$3 million gangway system and a \$7.5 million parking garage with retail.
- Completed in October 2013, Canaveral Cove Phase 1 expansion is a 22,000-square-foot, seven-story Welcome Center that includes an observation deck. A 6000-seat amphitheater, meeting event space and exhibit area is scheduled for completion in 2015-2016.

Port Everglades

The Port Everglades Department is a self-supporting enterprise fund of Broward County and is governed by the Broward County Board of County Commissioners. Port Everglades is on the east coast of Florida near Ft. Lauderdale.

The port is a leading global deep-water cruise port by total revenue passenger count, having a count of 3.68 million in fiscal 2012, with this figure projected to approach 5 million in 2015. On November 26, 2011, Port Everglades broke its own world record for the most passengers passing through a port in a single day, with more than 53,500 revenue passengers.

Currently 12 cruise lines and 41 ships call Port Everglades home, including some of the largest cruise ships in the world, such as the *Carnival Sunshine, Grand Princess* and super post-Panamax *Oasis of the Seas* and *Allure of the Seas*. The port's waterway access includes a 7,500-foot-long outer entrance channel that is 45 feet deep and 2,400 feet long, and an inner channel that is 42 feet deep and approximately 400 feet wide.

Parking Facilities

- North Port Parking Garage: 2,500 spaces
- Mid Port Parking Garage: 2,000 spaces
- Parking Lot 18: 600 spaces
- Parking Lot 19: 410 spaces

The cruise lines that have chosen Port Everglades as their home port are Balearia Bahamas Express, Carnival Cruise Line, Celebrity Cruises, Cunard, Holland America Line, ISE (Semester at Sea), MSC Cruises, P&O Cruises, Princess Cruises, Royal Caribbean International, Silversea, and Seabourn.

Recent/Scheduled Improvements and Work Programs

- Cruise Terminal 2, 19, 21, and 26 Improvements: Reconfiguration of the existing terminal to increase its capacity was recently completed.
- Berth 4 Extension/Cruise Terminal 4 Expansion: The Cruise Terminal 4 renovation, planned to begin in 2014, will change the terminal layout, add more baggage laydown area and add 172 surface parking spaces. The slip will be extended from 900 to 1,150 feet to handle all but the largest cruise ships.
- Slip 2 Westward Lengthening: Increase the slip's length from 900 linear feet to 1,150 linear feet to accommodate larger cruise ships. The project was reduced from the originally planned 350 linear feet to 250 linear feet to provide additional space required for the Bypass Road realignment west of Slip 2 and allow sufficient working space for future ferry operations and access to the relocated Cruise Terminal 4 intermodal zone.
- Multimodal Facility, Phase 1: Integrate an at-grade intermodal zone, or ground transportation area, with a structured parking facility above to serve the Midport cruise terminals. This facility will

provide 4,000 additional spaces at Midport and will have an elevated transport concourse with moving walkways to connect the terminals.

- Multimodal Facility, Phase 2: Phase 2 will include the addition of 2,000 more spaces and the implementation of the elevated pedestrian moving walkway connecting the 4,000-space parking structure with all the Midport cruise terminals.
- U.S. Army Corps of Engineers Deepening and Widening Program: The project calls for deepening and widening the Outer Entrance Channel from an existing 45-foot project depth over a 500-foot channel width to a 57-foot depth with an 800foot channel width, deepening the Inner Entrance Channel, Main Turning Basin, and Southport Access Channel from 42 feet to 50 feet, and widening the channels within the port to increase the margin of safety for ships transiting to berth.

Port of Jacksonville

The Jacksonville Port Authority, also known as JAXPORT, is an independent body created by the Florida Legislature operating as a landlord responsible for the development of a public seaport in Jacksonville. The port has a seven-member unpaid board, including four mayor-appointed and three governor-appointed members.

JAXPORT has three terminals located on the St. John's River just south of the Georgia Florida border. The port currently has one cruise terminal located at the Dames Point Terminal, which serves as home for the local Carnival Cruise line offices and their one vessel calling on the port, *Carnival Fascination*. In fiscal 2011, Jacksonville had 377,452 revenue passengers and 77 total voyages. In fiscal 2012, the port 3.5 percent passenger count increase, to 390,852. In July 2012, Carnival extended their contract for one more year with an additional one-year renewal option, and, as of February 2013, has executed the extension.

Recent/Scheduled Improvements and Work Programs

The Port had expressed the desire to build a new terminal on a land purchase in Mayport. Wherever it ends up being located, in order to accommodate larger ships, a new terminal would be sited on the oceanward side of Dames Point Bridge, which presents draft restrictions that bar passage by today's largest cruise ships. The relocation project has been continually delayed due to the overall costs, negative public perception of the initial conceptual plans and a need for U.S. Army Corps of Engineers to proceed with additional studies.

Port of Key West

The Port of Key West is the southernmost port of the continental United States and serves the popular tourist destination of Key West. The Port of Key West is governed by the port operations division of the City of Key West

The port is a port of call for regular cruise ship stops that berth at three pier-type docks that include Mallory Square Pier, the Navy's Outer Mole Pier, and the privately owned Pier B at the Westin Resort. While uncommon, a small number of ships also visit the port via anchorage. The city also maintains a domestic ferry terminal in the Key West Bight. These facilities combined constitute one of the busiest ports-of-call in the nation and one of the state's strongest and most sustained ferry port operations. The port received 832,887 port-of-call passengers in fiscal 2012.

Additionally, the Port of Key West supports cruise and ferry activities throughout the state, hosting cruise ships from Miami, Port Everglades, Canaveral, Tampa and Jacksonville as well as ferries from Fort Myers and Marco Island. These passengers are introduced to the unique charm of Key West without contributing vehicular traffic to the overburdened U.S. 1 corridor. Some of the cruise lines that have port-ofcall service to Key West include Carnival Cruise Lines, Celebrity Cruises, Disney Cruise Line, Holland America Line, Norwegian Cruise Line and Royal Caribbean International.

Recent/Scheduled Improvements and Work Programs

Whereas Key West has historically been a popular port of call, improvements are needed to widen and deepen berth and channel areas, and such improvements have yet to enter the feasibility study stage. On October 1, 2013, a referendum is scheduled for voters to determine whether such a study should move forward. In addition to the delay until the referendum, it must be considered that feasibility studies generally take two years. This is being viewed by cruise lines as a lack of commitment on the part of Key West to encourage cruise business, as it is difficult for cruise lines to make deployment decisions and commitments without knowing if their ships will be able to be accommodated. It is likewise difficult for the state to make commitments of infrastructure investment for cruise development at Key West without a clear indication of continued cruise business.

If this is not resolved, this could result in a significant loss of cruise business to the state of Florida, because Key West, long one of the most popular and highly rated ports of call, could be replaced in coming years by new offshore stops, such as Havana and other Cuban ports that lie as few as 100 nautical miles to the south. It is not an exaggeration to say that, without capital investments, Key West's future as a cruise port of call is seriously in question. In the event that the City of Key West decides to make the necessary improvements, the financial investments will be significant for this community. The following outlines recently completed and potential Port of Key West improvements:

- Upgrades to Mallory Dock are complete, including replacement of main pier.
- Improve Mallory Dock cruise facility through enhancements to the existing T-pier.
- Improve Key West Bight Ferry Facility, including extension of ferry pier by 100 feet.
- A study is underway to determine whether to repair or replace the T-pier at Mallory Square.
 Either will enhance the flow of passengers from the cruise ships to downtown Key West and reduce the structural impacts that large ships are having on Mallory Square, a major tourist destination.
- The port will replace police security barricades at Mallory Square with ornate permanent fencing. The new fencing will be more functional and will blend in with the historic architecture of the square.

PortMiami

PortMiami had 3,774,452 revenue passengers in fiscal 2012 and an estimated 4 million revenue passengers in fiscal 2013. By 2015, the Port expects that number to climb to 5 million. PortMiami is governed by Miami-Dade County and the Board of County Commissioners, which appoints a port director to oversee daily port activities, staff assignments and operations.

PortMiami is located on the 520-acre Dodge-Lummus Island, which is east of the City of Miami and south of MacArthur Causeway, connecting to south Miami Beach. Cruise operations only account for about six percent of port property with 30 acres of direct cruise business; however, a good portion of the circulation roadway network and support property are necessary to perform cruise activities at the port, taking up approximately another 70-100 acres.

On the water side, cruise ships approaching from the Atlantic Ocean enter PortMiami using a 500-foot-wide by 2.82-nautical-mile entrance channel through Outer Bar Cut, which is 44 feet deep and travels northwest



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through Bar Cut to Government Cut and its 1,200-footradius Fisher Island turning basin. Cruise ships then can continue along the northern side of the Port along Main Ship Channel, which is 36 feet deep and terminates in the 1,600-foot Main turning basin, which is also 36 feet. There is one cruise terminal on the south side of the port, accessed by the South Channel, which is 42 feet deep to 30 feet deep and is 500 feet wide and uses the western turning basin, which is 900 feet in diameter.

Table 7 lists the specifications of PortMiami's eight cruise terminals located on North Port and South Port and also lists the four major long-term parking garages and two ground-level lots that provide near-terminal parking services. The cruise lines that call PortMiami home are Azamara Club Cruises, Carnival Cruise Lines, Celebrity Cruises, Costa Cruises, Crystal Cruises, Disney Cruise Line, MSC Cruises, Norwegian Cruise Line, Oceania Cruises, Regent Seven Seas Cruises and Royal Caribbean International and port of calls are Aida Cruises. A new ferry service to the Bahamian island of Bimini, provided by Bimini SuperFast Ferry, began in July 2013, offering daily transits to Resorts World Bimini.

Recent/Scheduled Improvements and Work Programs

- PortMiami is currently utilizing seven cruise berths. According to port officials, an eighth cruise berth is needed now, with a ninth, at a combined cost of \$80 million, needed in 2017-2018.
- Alternative method of baggage movement (beltway system).
- Walkway system (incorporating a beltway system).
- Terminal complex (instead of one berth per terminal).
- Berth 1-6: Continue to function as-is, with potential improvements later. Once they reach the end of usable life, adequate adjacent space exists to build new berths while continuing operations during construction.
- Central Intermodal and Southwest Corner Development Zone.
- Develop a new marketing strategy focusing on lines not in South Florida currently that may be growing their presence in the Caribbean region.
- Develop a detailed Master Plan for the new Cruise Terminals.

Port of Palm Beach

The Port of Palm Beach is governed by a Board of Port Commissioners elected at-large by voters within the port district, with an executive port director in place. The Port of Palm Beach is a full-service landlord port located 80 miles north of Miami in Palm Beach County and to the east of Palm Beach Gardens. From the landside the port is directly off Federal Highway U.S.



1 and also connects to the Florida East Coast Railway. From the waterside, the Palm Beach Inlet is a 0.8 nautical-mile-long, 35-foot-deep and 400-foot-wide entrance channel connecting the port to the Atlantic Ocean. The main port channel is 33 feet deep and 300 feet wide with a turning basin that is 33 feet deep and 1,400 feet north and south and 1,210 feet east and west.

The cruise line currently at the Port of Palm Beach is Celebration Cruise Line. In fiscal 2011, cruise revenue passengers totaled 303,000, and, in fiscal 2012, the port saw the number slightly increase to 341,004. The fiscal 2016 forecast suggests a growth to 500,000 revenue passengers.

Some limiting factors to cruise market growth at the port include channel navigation, ship capacity, parking and passenger processing. According to port officials, it will be difficult for the Port of Palm Beach's cruise industry presence to grow beyond the offering of its current successful multi-day cruise ship, Bahamas Celebration, without adding a parking structure.

Recent/Scheduled Improvements and Work Programs

Port officials are looking to several initiatives to enhance the cruise industry presence of the Port of Palm Beach, including:

- Project 7 Intermodal Cruise Terminal Transfer Facility, including additional cruise terminal capacity; enhanced and additional passenger-toship access systems; expansion and realignment of existing wharves; security and access control; and associated infrastructure.
- Project 14 Slip No. 1 Redevelopment: Expansion of the North Wall east to obtain a longer length on the Cruise Berth to accommodate larger ships.
- Project 15 North Wharf Improvements: Redeveloping the North Wharf will expand and realign the wharf upland and seaward. This project is expected to occur concurrent with Project 14.

Port of Tampa

The Tampa Port Authority is governed by a board of seven commissioners, with a chief executive and executive staff in place. The port is located primarily in the downtown Tampa Bay area and has multiple terminals with a vast amount of land encompassing nearly to 5,000 acres. The Port of Tampa has a 41-mile entrance channel that starts at 46 feet at Egmont Channel and shifts to 44 feet deep at Mullet Key Cut. The average overall channel width is between 500 and 700 feet wide. A height restriction is the Sunshine Skyway Bridge, with a total bridge air draft of 175 feet at mean low water.

The port has three cruise terminals currently in operation, which are detailed in Table 10. The Port of Tampa currently serves four cruise lines, including Carnival Cruise Lines, Holland America, Royal Caribbean and Norwegian Cruise Line. In fiscal 2012 the port had 974,259 revenue passengers and is projected to have 1.2 million cruise passengers by 2015, according to the present seaport plan.

With the limitations imposed by the Sunshine Skyway Bridge, newer generations of larger cruise ships cannot call at ports in Tampa Bay, including the Port of Tampa, Port Manatee and St. Petersburg. While Tampa is a regularly used home port for some of the vessels in the current cruise line fleets, as new ships continue to increase in size and older ships are retired or moved to smaller markets, it will become increasingly more difficult for Tampa Bay to maintain a significant place in the industry. Therefore, a statewide study is looking at the feasibility, potential future market, costs and long-term prospects for development of cruise port facilities on the Gulf of Mexico side of the bridge in order to ensure that any threats to the industry are examined.

Currently, Tampa and New Orleans enjoy leading placement of cruise ships for the Eastern Gulf market, while Galveston leads the Western Gulf, and now Houston is starting to attract ships. If Florida's West Coast cannot accommodate larger ships in the next five to 10 years, established and emerging ports beyond Florida, such as New Orleans, Galveston, Houston and Mobile, could win out, particularly in serving ports of call in Cuba with large cruise ships. However, due to propitious geography, future opportunities for Tampa to serve the Cuban market with smaller cruise ships and/or ferries may still exist.

Recent/Scheduled Improvements and Work Programs

Following are among recently completed cruiserelated enhancements at the Port of Tampa:

• \$3.5 million in renovations to the port's cruise terminals.



• 730-space Channelside parking garage, bringing to more than 4,100 the total number of garage and surface spaces available for cruise passengers.

Cruise Lines

Several attributes of the major cruise lines and of several smaller operators are described below.

- Carnival Corporation. Publicly held and traded, Carnival Corporation is the world's largest cruise ship operator, with its brands controlling an approximate 47 percent share of total worldwide cruise market. The company, with headquarters in Miami and Southampton, England, controls more than 200,000 lower berths on a combined fleet of more than 100 vessels. Carnival Corp. presently has at least 10 additional cruise vessels on order through 2018. Carnival's portfolio of 10 brands and additional travel partnerships is extensive and includes many of the gold-standard cruise companies: Carnival Cruise Lines, Holland America Line, Princess Cruises, Seabourn Cruise Line in North America, P&O Cruises UK, Cunard Line, AIDA in Germany, Costa and Iberocruceros Europe, and P&O Cruises Australia. The Carnival Corp. cruise brands combine to offer a range of vacation products to consumers with varied tastes, income levels, and national origins. Combined, more than 9 million people sail on Carnival brands annually.
- Royal Caribbean Cruises, Ltd. The world's second-largest cruise operator and a publicly held corporation, Miami-based RCCL owns five lines: Royal Caribbean International (RCI), Celebrity Cruises, Pullmantur, Azamara Club Cruises and CDF Crosières de France. RCCL companies combine to operate a fleet of more 40 vessels, with a combined capacity of more than 85,000 lower berths, controlling approximately 17 percent of the world cruise market. With its initiative to deploy at least 50 percent of its total vessels in non-

U.S. markets, RCCL is expanding its international presence while, through RCI, placing into U.S.based service (home-ported at Port Everglades) over the past three years the industry's two largest ships, Oasis of the Seas and Allure of the Seas, each with a standard double-occupancy capacity of 5,400 passengers and potential maximum capacity of 6,296 passengers. The two vessels scheduled for delivery to RCI between now and 2015 are the *Quantum of the Seas* and *Anthem of the Seas*, each with maximum passenger capacity of 4,905, and a third similar ship is slated for 2016 delivery.

- Norweigan Cruise Line. Norwegian Cruise Line (Norwegian), a publically traded company headquartered in unincorporated Miami-Dade County, is the third-largest cruise line operator in the world, controlling more than 30,000 lower berths, representing approximately 8 percent of the worldwide cruise market. The Norwegian fleet consists of a dozen vessels, with the latest addition being the 4,000-passenger *Norwegian Breakaway*, which entered service in May 2013 on a Bermuda itinerary from New York. Three additional ships are on order through 2017, with the latter two slated to be larger than the Breakaway class, carrying 4,200 passengers.
- MSC Cruises. A division of privately held, Geneva-Switzerland-based Mediterranean Shipping Co. S.A., MSC Cruises is the fourth-largest cruise operator in the world, controlling 13 ships, with a total of approximately 22,000 lower berths, representing a 6 percent market share. Backed largely by Italian capital, MSC Cruises has focused deployments on the European market. It's only scheduled U.S. home-porting for 2013 is that of its 3,959-passenger MSC Divina, which is slated to begin a year-round deployment from PortMiami in November 2013.

While lines in the "other" category are far smaller in terms of fleet size, they include a number of important and unique brands that provide increased diversity within the industry overall. Representative lines are discussed below:

 Disney Cruise Line. Disney Cruise Line, formally named Magic Cruise Co. Ltd., is a subsidiary of publically traded The Walt Disney Co. Disney Cruise Line has headquarters in the Orlando area (Celebration, Fla.) and London and, with its four ships, ranging in capacity from 2,400 to 4,000 passengers, controls nearly 3 percent of the global cruise market. The line began based upon a formula of combining cruise offerings with theme park experiences. Currently, Disney has contracts with both Port Canaveral and PortMiami to homeport ships. The company has contract options for two additional vessels.

- **Regent Seven Seas Cruises.** Formerly Radisson Seven Seas Cruises, Miami-based Regent Seven Seas Cruises offers luxury cruises that are marketed as truly all-inclusive cruises on three relatively small vessels, with passenger capacities ranging from 490 to 700. It is owned by a unit of Apollo Management, which also has a 28.1 percent share of Norwegian. Its *Seven Seas Navigator* operates out of PortMiami on voyages of as many as 24 days, with this long cruise calling six ports along Brazil's Amazon River.
- Oceania Cruises. Miami-based Oceania Cruises, also owned by an Apollo Management unit, operates four luxury cruise ships, with capacities ranging from 824 to 1,260 passengers, with a fifth 824-passenger capacity ship currently under charter to Hapag-Lloyd and slated to rejoin the fleet in mid-2014. Some of the fleets sailings are from PortMiami.
- Silversea Cruises. Based in Monaco and owned by a family out of Rome, Silversea Cruises operates six luxury vessels, each with a capacity in the 192- to 540-passenger range, with an additional similar ship slated to join the fleet via acquisition in September 2013. Several sailing from Port Everglades are scheduled for the 2013-14 winter season.
- Celebration Cruise Line. Celebration Cruise Line operates a single 1,200 passenger ship from the Port of Palm Beach specialized in the Bahamian market. It is unique from the other lines in that operations include cargo and ferry services between South Florida and the Bahamas.

Florida Ports Utilization

Currently, over 90 cruise ships call at Florida ports as their home port for seasonal or year-round itineraries. Of Florida's ports, the Ports of Key West and Canaveral provide port-of-call services. Table 5 and table 6 summarize the cruise lines' ships utilization of Florida ports. A detailed list of deployments at Florida ports and ship specifications are in the Appendix at the end of this report.

Florida Cruise Port Competitors

To a large degree, Florida is in a unique position within the hierarchy of home ports in that they are positioned to provide the primary home port opportunities for the industry due to the close proximity to the Caribbean/Bahamian destinations. To a great degree, the cruise industry is a product of Florida and this, to date, has been reflected reflected in the ability of these primary ports to meet the needs of the industry. In addition, cruise vessels deployed by the major lines to the region can be well-supported by the ability of the Florida tourism infrastructure to lure visitors from throughout the world, while also providing a large number of local cruise consumers to the marketplace. With the establishment of the North American Emission Control Area, as detailed above. Florida ports are closer to their Caribbean destinations and are better positioned for ships to limit their time spent in the emissions restricted area. As shown in Figure 2, Florida provides the shortest distance to international, unregulated waters and ports of call compared to other U.S. ports.

Growth of the industry away from Florida ports has been generated to a significant degree by the supply of ships, the cruise industry's desire to expand its overall consumer market, and a trend to more closely serve new markets with growing disposable income. Florida ports are restricted in terms of the total berth and terminal capacity that can be offered to the cruise industry. This is driven both by the physical limitations of the ports themselves and by their financial ability to continue building facilities to meet the increasing demands of the cruise industry.

The home ports of Charleston, Baltimore, Norfolk, and New York and New Jersey on the east coast and the home ports of New Orleans, Houston, and Galveston in the Gulf region are among those that, in addition to Florida's ports, offer itineraries in the Caribbean region.

International consumer markets are also being served by home ports outside the continental United States that also serve the Caribbean region, including San Juan, Puerto Rico. Ports in Panama, for example, cater to the international consumer market with less rigorous visa practices.

Economic Impacts of Florida's Cruise Industry

As described above, Florida dominates the global cruise industry, serving the single largest established cruise market. With mature and expanding infrastructure at ports located throughout the state, Florida is well-positioned to continue its role as the industry leader, but to do so will require continued investments in a competitive marketplace that has "floating assets" at its heart. The economic impact of the cruise industry to Florida is significant and comes from multiple sources, including cruise passengers, cruise lines, and cruise ports, as follows:

Table 5. Home Ports Utilization FY 2012

Home Port	Total Ships	Passenger Capacity Range*	Length Range (ft)	Total Passenger Count
Port Canaveral	10	1,754-3,646	855-1,115.5	3,761,056
Port Everglades	42	208-5,400	236-1,187	3,678,713
Port of Jacksonville	1	2,052	855	390,852
PortMiami	30	694-4,100	594-1,093	3,774,452
Port of Palm Beach	2	1,686	673	341,004
Port of Tampa	7	1,266-2,240	719-965	974,259

*Note: Based on double occupancy.

Table 6. Port-of-Call Utilization

Port of Call	Cruise Lines
Port of Key West	6
Port Canaveral	3
PortMiami	1

Cruise Passengers

For cruise passengers, spending includes the cost of the cruise as well as transportation expenses, additional tourist expenditures in the home port community, port-of-call expenditures, and on-board spending not covered in the cruise price. The greatest overall influences of the spending categories on the state of Florida are the transportation expenses and pre- and post-night tourism-related expenditures, as all passengers incur transportation costs, and a vast majority engage in pre and/or post night activities. Included are airfare, shuttle services, parking, hotel accommodations, restaurants/entertainment, and retail.

Based on a 2012 study by Business Research and Economic Advisors for the Cruise Lines International Association, it is estimated that passengers embarking from ports in the United States spend an average of \$119.03 per visit. Passengers staying overnight at the home port typically stay 1.1 nights and account for



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more than 80 percent of total spending by embarking passengers. Driven by spending on lodging and additional dining expenses, this passenger group spends an average of \$256 per visit. Passengers arriving on the day of the cruise spend an average of \$31.34 per visit for parking, transit, retail, and food and beverage service.

Port-of-call expenditures currently only affect the Port of Key West and, to a lesser extent, Port Canaveral. For Key West, this is the primary source of income from the cruise industry as no ships are home-ported there. Port-of-call passengers spend an average of \$123.58 per visit, including tours and excursions,

Additionally, while not directly expended in Florida, on-board spending is supported by home-port provisioning industries. And spending by crew members in port also add to the industry's economic impacts. Port-of-call passengers and cruise crew members represent additional sources of landside spending, with crew spending an average of \$47.75 per visit.

Cruise Lines

Spending by cruise lines has a significant influence on the local economy of both a home port and a port of call. Upon arrival at a port, a ship must pay for all port fees and services needed to dock, such as Customs and Border Protection, navigational aid, and dockage. Additionally, for every voyage, cruise lines must purchase provisions for the ships, including food, amenities, fuel, and equipment. Other expenditures are focused on the vessels themselves. While vessels are typically constructed abroad, the construction of new ships allows for an increase in available voyages and bed nights within the Florida market.

With an anticipated investment of \$12 billion, 19 new ships are contracted or planned for the North American fleet through 2015. If historical trends continue, and if infrastructure is sufficient to support them, the new, larger vessels will be delivered to Florida ports with the smaller older vessels redeployed elsewhere. Repairs and maintenance are also needed and are typically performed within or near a vessel's home port.

Cruise lines also have significant spending on the corporate side, including marketing, sales, and administrative functions. For Florida, this is an important factor as many of the major cruise lines, including Carnival Corporation, Royal Caribbean International, and Norwegian Cruise Line - maintain headquarters facilities in the state. Finally, the cruise lines are often involved in the development of terminal facilities funded through public/private partnerships with Florida's ports.

Cruise Ports

Expenditures by the ports themselves have one of the greatest continuous impact on the local economy. The addition of features such as new and/or renovated terminals and parking facilities not only creates local jobs but also encourages cruise ships to come to and/ or remain at a port as well.

For example, the \$54 million in renovations to four cruise terminals at Port Everglades in 2012 were estimated to have created 1,000 construction jobs. This equates to \$40.7 million in personal income as well as \$3.7 million in state and local taxes.³

But more importantly, the investments create long-term economic impacts from the creation of permanent jobs at the ports and throughout the impacted industries. With Florida ports seeking to expand their business and increase passenger volumes, several large-scale projects have been identified that will allow for further job creation and growth, including \$55 million in terminal improvements at PortMiami and \$57 million to deepen and widen the channel at Port Canaveral. In addition, feasibility of a new cruise terminal on the Gulf side of the Sunshine Skyway Bridge in Tampa Bay is being studied.

In order to estimate the overall impact of the Florida cruise industry, a Florida-specific U.S. Maritime Administration (MARAD) Port Kit was utilized. This is the same version used by the State to evaluate the return on investments anticipated from port investments. This software determines the regional economic impact of cruise ship embarkations and debarkations. Key input factors that influence how much of an impact is felt include number of vessel calls; average number of passengers per cruise call; voyage type (multi-day or daily); passenger mode of transportation to port: and average number of hotel nights spent pre or post cruise. It is important to note that the numbers reported only reflect the effects of port visits on a region. They do not reflect the additional impacts associated with corporate offices, dry-docking, and other related impacts. A summary of the outputs from the MARAD Port Kit, adjusted to 2013 dollars, is shown in Table 7.



With nearly 14 million revenue passengers visiting the state, cruise operations were found to contribute more than \$2.4 billion annually to the gross state product (GSP) as well as nearly 59,000 jobs statewide. Market trends indicate that this will continue to grow as cruise lines work to attract new customers and expand their operations. Over the next five years, Florida ports collectively estimate an increase in passenger volumes by nearly 26 percent, up to over 17 million revenue passengers annually by fiscal 2016, which would generate over \$3 billion annually.⁴ This number increases significantly over the next 10 to 15 years based on port-driven cruise forecasts. By 2026 Florida can expect to serve over 21 million revenue passengers, contributing \$3.8 billion in gross state product. ⁵ Of course, these estimates are based upon the ability of Florida's ports to provide sufficient infrastructure to not just retain existing levels of cruise business but, moreover, to attract significant additional volumes.

Florida's Future Opportunities

From the cruise lines' and ports' perspectives, there are many opportunities for the state of Florida to maintain and grow its presence in the industry. These opportunities include types of investments needed and regulatory and policy initiatives. Presented below are the key topics from industry interviews.

Key Considerations Driving Growth/Decline in Florida

Infrastructure Investments

Maintenance and improvement of ports' infrastructure is vital to the continued partnerships between ports and the lines. Berths and terminals must keep pace with the growing fleet of cruise ships in terms of both individual ship size and fleet size. Channels must also have the capacity to handle the increased dimensions of ships. Similarly, the connections between the port and the airport need to be improved, or at the very least maintained in good shape, as these two entities are interdependent on each port's capacity to handle cruise passenger volumes as well as noncruise volumes.

During the industry interviews, the ports identified future cruise-related, revenue-generating developments for their individual ports. These agenda items, as identified by respective port officials, are outlined below:

• Port Canaveral: Deepening and widening the ship

Table 7. Summary of the Economic Output Generated by Florida's Cruise Industry

	FY 2011	FY 2016	FY 2021	FY 2026
Passengers (Millions)*	13.7	17.2	19.2	21.6
Annual Growth Rate**	-	4.8%	3.5%	3.1%
GSP Direct (\$000)	1,713,237	2,150,925	2,401,033	2,701,162
GSP Indirect/Induced (\$000)	715,765	898,625	1,003,116	1,128,505
GSP Total (\$000)	2,429,003	3,049,551	3,404,150	3,829,669
Direct Employment	41,398	51,974	58,018	65,270
Indirect/Induced Employment	17,327	21,754	24,283	27,318
Total Employment	58,725	73,728	82,301	92,588

* Passenger volumes include home port, port of call, ferry operations, day cruise, etc.

** As determined from FY2011

channel, which is already underway. Maintaining this channel is crucial to the continued growth of cruise operations.

- **Port Everglades:** Widening the channel connecting the Southport terminals. Currently, the channel provides one-way traffic except when Cruise Terminal 25 is used, which obstructs all traffic to Southport.
- Port of Jacksonville: Diversifying itineraries and a new terminal development will increase business at the port. Due to its North Florida location, Jacksonville is situated where three cruise itineraries could be offered: Caribbean (present), Bermuda, and Canada and New England. Somewhat similar to the case with the Port of Tampa, Jacksonville's cruise operations are constrained by air draft restrictions (175 feet at MLW). A new permanent terminal would be located on the seaside of the Dames Point Bridge eliminating air draft restrictions.
- **Port of Key West:** The widening and deepening of the ship channel. Key West is unique among the Florida ports as a strictly port-of-call port. In order to continue to accommodate the growing cruise ship design and fleet, the port's channel must be widened and deepened.
- PortMiami: Development of two new berths with terminals and garages. In order to maintain its title as the Cruise Capital of the World, PortMiami will need to further develop its cruise capacity with two new berths.
- **Port of Palm Beach:** Construction of an intermodal facility for cruise parking, bus depot, taxi drop-

⁴ Five-year forecasts are based on estimates provided in the 011/2012-2015/2016 Five Year Seaport Mission Plan, as well as estimates on ferry and single-day cruises developed by Cambridge Systematics, Inc. based on input from the seaports.

⁵Long*-range forecasts are based on estimates obtained from port master plans, port interviews, a review of the 2010 Florida Seaport System Plan forecasts, and supplemental analysis by Cambridge Systematics, Inc.

off, truck deliveries and warehouse space. This facility will allow the port to expand its operations to home port two ships and provide RO-RO operations when cruise ships are out of port.

• **Port of Tampa:** Potential new Skyway Terminal development. The potential for locating a new terminal on the gulfside of the Sunshine Skyway Bridge, should be examined in order to accommodate the larger cruise ships.

Tourism-Related Investments

The current trend of cruise vacationers is to extend their vacation beyond the cruise to include pre- and/or post-cruise stays in the home-port city. Investments in a city's attractions and tourism-related infrastructure encourage these trends.

Florida's port communities have invested varying levels in these types of attractions. Following are some examples:

- The Canaveral Port Authority is in the process of a major master planning and redevelopment effort to make its Cove area into a regional tourist and resident destination, with 500,000-plus square feet of leasable restaurant, retail and office space expected at build-out. The master plan for the Canaveral Cove project includes a \$22.5 million, 22,936-square-foot welcome center. The project is currently in a significantly advanced state of construction and is expected to open in September 2013.
- The Port of Tampa is located in the Channel District of Tampa, adjacent to the Channelside Bay Plaza shopping center and the Florida Aquarium. The Channel District and South Downtown form an emerging neighborhood focused on residential and entertainment uses. Retail and entertainment uses present a synergy with cultural amenities in the area, particularly the nearby Tampa Bay Times Forum, which host more than 150 events per year, including NHL games of the Tampa Bay Lightning. Despite this relative proximity, retail in the area has struggled, but revitalization plans are being considered.
- PortMiami is located on an island just off the heart of Miami. The area offers numerous attractions, including South Beach, Downtown Miami and Everglades National Park. Bayside Marketplace, in particular, is well-positioned in the heart of downtown to capture potential landside spending from cruise passengers. This open-air center was opened in 1987 and contains 228,000 square feet of leasable retail space. Retail, dining and entertainment offerings are few within the boundaries of the port due to its island location.
- The 600,000-square-foot Greater Fort Lauderdale/ Broward County Convention Center is located in the northern section of Port Everglades; numerous

hotels can be found nearby, though outside the port boundaries.

Incorporating cruising into statewide marketing and promotional campaigns will increase visibility and knowledge to the broader population, including those who have never cruised at all or outside of the state. Programs like VISITFLORIDA.com and Sunny.org can include cruise operations and still support the broader goal of economics of Florida tourism while buttressing the cruise lines' existing marketing strategies.

Incentives and discounts are investment options that some view as having considerable potential. The cruise industry is dominated by weekend embarkations, leaving weekday operations minimal to non-existent. Increased flexibility of itineraries would create growth in the port and cruise numbers. Incentives to diversify itineraries will also create new opportunities and revenue sources, including pre- and post-cruise tourism. In order to draw in more cruisers, including first-time cruisers, discount programs could be created similar to Disney's Florida Residents Walt Disney World Discounts. Currently, for example, Carnival Cruise Lines has an incentive discount campaign primarily focused on filling remaining cabins, but it is not broadly advertised.

Regulatory and Policy Issues

There are opportunities for legislative initiatives at the state and national levels that support advancement of the state's cruise industry and thus, positive economic strides.

An extensive study of the Passenger Vessel Services Act and implementation of visa waiver programs are two examples of undertakings that could increase the passenger throughput at many ports. The Passenger Vessel Services Act, as explained above, prohibits the transport of passengers between U.S. ports. Further study and better understanding of the legislation is needed to determine the benefits, if any, to Florida ports. Visa waivers could grant many international travelers, including potentially those from the strong Brazil market, admittance to the United States for not only cruises but vacations in general.

Another limiting issue is the availability of U.S. Customs and Border Protection (CBP) personnel. CBP must inspect all passengers and crew on a cruise. This is often a lengthy process due to the large number of passengers and limited resources of CBP. As ships continue to grow in size, a more efficient



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and expeditious process needs to be employed while still providing the necessary safety and security of the ship and its passengers while facilitating a swifter flow of more people. Innovative ideas along these lines include a program similar to the Global Entry Program used in airports where passengers are cleared before arriving for their cruise. Another approach is an electronic inspection process whereby passengers will be electronically cleared at a kiosk. Ultimately, it would be up to CBP to implement such changes to its operations. Of course, it is imperative that sufficient CBP personnel are in place at ports to carry out such duties.

The Emission Control Area (ECA), as detailed earlier, puts into question the availability of fuel. There is an opportunity to support the development of fuel supply projects and investigate alternative means of meeting the ECA requirement. Emissions control technologies are being developed with the explicit purpose of removing harmful emissions from ship exhaust while still burning the standard fuel. Exhaust gas cleaning systems, or scrubbers, remove harmful emissions before they are emitted from the ship's stack. Additional equipment and storage are needed for scrubbers, but manufacturers are hailing these technologies as more cost-effective than fuel switching. Alternative fuels such as Liquefied Natural Gas (LNG) have the potential to supplement the demand for refined fuel, but more research is needed on LNG's performance, reliability, economic feasibility, public perception, and fuel distribution. Exhaust scrubbers and LNG are currently being investigated heavily by the U.S. Environmental Protection Agency (EPA), U.S. Navy, U.S. Department of Transportation and shipping and cruise companies alike. The EPA's support of these technologies will help to lessen the demand on traditional fuel sources.

Onshore power supply is a common topic discussed at the port, national and international levels as a viable option to prevent emissions and decrease fuel consumption while ships are at berth. Onshore power supply allows ships to "plug in" to the local electrical grid for power and shut off engines. The true potential of shore power is dependent on the local grid's power source (i.e. coal, nuclear, renewable, etc.) and capacity as well as the localized impact of the vessel emissions. The World Ports Climate Initiative (WPCI) has developed a network of ports implementing this technology and strongly supports the expanding of onshore power supply globally. This network includes ports in Europe and the west coast of North America where ambient air quality is considered to be below



national standards or in nonattainment areas by U.S. definition. At present, Florida ports have not employed onshore power as they are not considered to be in nonattainment areas designated by the U.S. EPA.

One of the major concerns expressed by several cruise line executives is the costs associated with port calls, specifically, pilot cost. The pilot fee structure was put into place when ships were smaller with less sophisticated technology and primarily stemmed from cargo movements. Currently, the cost of a port call is determined by the time required and the size of the vessel. For cruise lines in particular, this has become a concern as the vessels themselves have grown in size and been equipped with advanced navigation technologies. The increased size automatically increases the piloting charge even though many of the technology investments allow a ship to almost steer itself and ultimately pose less of a risk than the older, smaller vessels. Successfully negotiating changes to the piloting fees has proven difficult. The Florida Pilot's Association is a self-governed state association that sets its own rates. This differs from the structure in many states and countries where the pilots are employees of a state or port, with some countries even allowing the master of the vessel to serve as a pilot. The reality is that the financial future of pilots, like others providing services to the cruise industry in Florida, depends upon a continuing workload, which will disappear should cruise activity migrate to another state.

Table 8 summarizes the state's potential role in helping the industry address key factors impacting their operation.

Actions To Be Taken

Table 8. Summary of Key Factors and Reactions by the Industry and the State

Key Factors	Industry Reaction	Role of the State
Fewer than 35 percent of the country's channels are operating at their federally designated dimensions	• Deploy ships only where accessibility is present to support safe operations	Support port investments in maintenance dredgingLobby for federal port dredging projects
Landside infrastructure (terminals and berths) must be maintained and expanded	 Invest in renovations to maintain existing terminals and berths Invest in expansion projects of existing infrastructure 	 Support funding of maintenance and development of landside infrastructure Support mixed use/ intermodal terminals
Cruise operations are not considered a sufficient reason for federal channel dredging project funding	 Deploy ships where channel dimensions provide safe navigation 	 Support ports with cruise-related dredging projects Promote consideration by U.S. Army Corps of Engineers of validity of cruise-related funding for dredging projects
The addition of new terminals and berths will accommodate an increased number of ships at port	 Increase deployment at port Increase itineraries with the desired embarkation day 	Support investments in berth creation
ECA will increase fuels costs and impact profitability in certain U.S. markets	 Minimize itineraries in U.S. waters impacted by Emission Control Area Equip vessels with advanced scrubbers Fuel switching Operational equivalences 	 Support port investments in shore power where appropriate and fuel supply and infrastructure Support research in clean technologies, i.e., scrubbers, alternative fuel, operational efficiency
U.S. Customs and Border Protection clearance process	 Currently investigating innovative measures to decrease clearance time Reducing the number of U.S. port of calls 	Coordinate with U.S. Customs and Border Protection
Some international passengers denied visas for the U.S.	 Lobby for visa waivers Deploy ships in countries with less strict visa process 	Assist in the litigation process to provide visa waivers
The Passenger Vessel Services Act imposes restrictions on foreign-flagged cruise ships	 May limit port of call itineraries at Florida's cruise ports 	• Further understand and study of the PVSA to determine the impacts to U.S. ports
Fewer than 5 percent of the U.S. population cruises annually	 Discounted rates used for the remaining cabin space 	 Large-scale advertising campaign to encourage new passengers Incorporate cruise business into already present campaigns, i.e., VISITFLORIDA.com and Sunny.org Provide incentives to Florida residents and first-time passengers

Florida's Future Opportunities

Florida is well positioned to maintain—and expand upon—its favorable status as the dominant player in the cruise industry through ensuring sufficient port infrastructure capability and capacity for increasingly large cruise vessels; providing appropriate airlift capacity and swift, efficient links between airport and seaport facilities; and marketing Florida and its home port cities as destinations unto themselves. Continuing to be in Florida's favor is its proximity to the globally leading cruising grounds of the Caribbean, and, potentially, when relations normalize, Cuba may present additional opportunities in the region.

Florida's cruise industry future is bright, but only if appropriate investments are made, and its future is likely to be even brighter if certain policy changes take place at federal and state levels. Action must be taken, lest Florida lose its position as the world's cruise capital – and the benefits this delivers to the economic and social benefit of its people.

To this end, consistent with the challenges and objectives expounded upon within the text of this



report, several actions may be considered. These are presented as federal-level and state-level implementation actions.

Federal-level policy Implementation Actions

- A policy effort in Washington towards making visa waivers available for Brazilians and others to be able to cruise easily from Florida ports.
- A policy effort in Washington to further study and better understand the Passenger Vessel Services

Act of 1886. While vessels are allowed to make round trips to U.S. ports with calls at other U.S. ports as long as at least one foreign port is called. Passengers cannot embark or debark at a port of call, but must embark and debark at the port of origin. This may impact port-of-call opportunities at Florida's ports.

- A policy effort in Washington to promote deployment of additional U.S. Customs and Border Protection personnel at Florida cruise ports, to ensure enhancements in smooth, efficient processing of passengers cruising on the industry's largest vessels, and, particularly in light of CBP exploration of actually reducing cruise port complements, replacing people with automated processing mechanisms. A Florida home port would be ideal for a pilot study of such automated processing.
- A policy effort in Washington to encourage full use of federal Harbor Maintenance Tax revenues for their intended purpose and for streamlining the approval process for key channel projects.

State-level Implementation Actions

 A policy effort in Tallahassee to work with the Florida Harbor Pilots Association and the industry to promote a more competitive pilot cost structure in Florida, emphasizing that the financial future of those providing services to the cruise industry of Florida is dependant upon maintaining and increasing levels of cruise activity in the state.

- Development of incentive programs to draw cruise vacationers to Florida and to encourage longer pre- and/or post-cruise stays in the state, making greater contributions to the Florida economy.
- Additional state investment in cruise port infrastructure, both landside and waterside, particularly at ports where long-term agreements are in place between ports and lines. This investment would focus on enabling facilities to better handle increasingly large cruise vessels, through state assistance in infrastructure improvements such as port channel deepening and widening projects.
- Additional state investment in port-related connective infrastructure, including better linking cruise port and airport facilities.
- Support of development of fuel supply projects and investigation of alternative measures to meet Emission Control Area requirements.
- Further study of alternatives to remove future impediments to growth, such as air draft restrictions for existing bridges.

Appendix A Tables Cruise Terminal Berth Specifications

Port Canaveral

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal Handling Facility	Parking Capacity
CT 2	South Port	2,153 LF*	33 feet	17,000 ft ²	246
CT 3	South Port	2,153 LF*	33 feet	16,000 ft ²	662
CT 4	South Port	2,153 LF*	31.5 feet	20,000 ft ²	699
CT 5	North Port	970 LF	35 feet	63,000 ft ²	1,536**
CT 6	North Port			90,000 ft ²	1,536**
CT 8	North Port	1,000 LF	35 feet	70,000 ft ²	1,100
CT 10	North Port	1,100 LF	33.5 feet	80,000 ft ²	2,150

Source: Port Canaveral Website

* Continuous Dock

** Shared Parking Facility at CT 5 & 6

Port Everglades

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal Handling Facility	Parking Capacity
CT2	North Port	1,601 LF	31 feet		2,500*
CT4	North Port	900 LF	43 feet		2,500*
CT18	Mid Port	1,648 LF	38 feet		3,010*
CT19	Mid Port	1,300 LF	38 feet		3,010*
CT21	Mid Port	1,475 LF	38 feet		3,010*
CT22/23/24	Mid Port	1,369 LF	43 feet		3,010*
CT26/27	Mid Port	1,337 LF	43 feet		3,010*
CT29	Mid Port	800 LF	43 feet		3,010*

Source: Port Everglades Master Plan and Port Staff *Shared Parking Facility for North Port and Mid Port

Port of Jacksonville

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal Handling Facility	Parking Capacity
10	Dames Point	1,280 LF*	41 feet	63,000 ft ²	499

Source: Source: Jacksonville Port Authority Staff and Website * Continuous Dock

PortMiami

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal Handling Facility	Parking Capacity
В	North Channel	1,200 LF	36 feet	145,408 ft ²	246
С	North Channel	1,200 LF	36 feet	145,408 ft ²	1,332
D	North Channel	1,200 LF	36 feet	115,000 ft ²	873
E	North Channel	1,200 LF	36 feet	115,000 ft ²	656
F	North Channel	1,200 LF	36 feet	187,526 ft ²	
G	North Channel	1,200 LF	36 feet	187,526 ft ²	1,709
J	South Channel	850 LF	30 feet	64,921 ft ²	720

Source: PortMiami 2035 Master Plan

Port of Palm Beach

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal Handling Facility	Parking Capacity
1	North Wharf	450 LF	25 feet	40,000 ft ²	Shared
2	North Slip No. 1	700 LF	33 feet	40,000 ft ²	Terminal Parking

Source: Port of Palm Beach Website

Port of Tampa

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal Handling Facility	Parking Capacity
CT2	272, 273 Channel Side	1,221 LF	33 feet	81,400 ft ²	3,480*
CT3	269 Channel Side	1,050 LF	33.5 feet	90,800 ft ²	3,480*
CT6	267, 268 Channel Side	1,200 LF	30.5 feet	30,000 ft ²	3,480*

Source: Tampa Port Authority Website

* Shared Parking Facility at Channelside

Key West

Berth / Terminal	Location	Berth Length (Linear Feet)	Draft	Terminal	Parking Capacity
1*	Mallory Square	700 LF	34 feet	NA	NA
2	Pier B - Weston Hotel & Marina	1,400 LF	34 feet	NA	NA
3	Outer Mole Pier (Navy property)	1,400 LF	36 feet	NA	NA

Source: Key West Port Authority Staff

* Only operational until sunset

Appendix B Table

Ship Details

Parent Company	Cruise Line	Ship	Homeport	Deployment	Passengers	Crew	Tonnage	Length	Beam	Draft	Flag	Year Built
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Dream	Port Canaveral	Year-Round	3,646	1,367	130,000 GT	1,004ft	122ft	27ft	Panama	2009
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Sensation	Port Canaveral	Year-Round	2,056	920	70,367 GT	855ft	103ft	25.6ft	Bahamas	1993
The Walt Disney Company	Disney Cruise Line	Disney Dream	Port Canaveral	Year-Round	2,500	1,458	129,690 GT	1,115.5ft	137.8ft	26ft	Bahamas	2011
The Walt Disney Company	Disney Cruise Line	Disney Fantasy	Port Canaveral	Year-Round	2,500	1,450	129,690 GT	1,115.5ft	137.8ft	26ft	Bahamas	2012
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Enchantment of the Seas	Port Canaveral	Year-Round	2,250		80,700 GT	989ft	105.6ft	25ft	Bahamas	1997
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Freedom of the Seas	Port Canaveral	Year-Round	3,634	1,360	154,407 GT	1,112ft	185ft	28ft	Bahamas	2006
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Monarch of the Seas	Port Canaveral	Year-Round	2,354		73,937 GT	880ft	106ft	25ft	Bahamas	1991
Victory Casino Cruises	Victory Casino Cruises	Victory 1	Port Canaveral	Year-Round								
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Ecstasy	Port Canaveral/ Port Miami	Year-Round	2,056	920	70,367 GT	855ft	103ft	25.6ft	Panama	1991
Baleària Group	Balearia Bahamas Express	Pinar del Rio	Port Everglades	Year-Round	463		3,454 GT	236ft	85.3ft	9.5ft	Spain	1992
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Freedom	Port Everglades	Year-Round	2,974	1,150	110,000 GT	952ft	116ft	27ft	Panama	2007
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Century	Port Everglades	Seasonal	1,814	843	71,545 GT	815ft	105.6ft	25ft	Malta	1995
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Eclipse	Port Everglades	Seasonal	2,850	1,271	122,000 GT	1,041ft	121ft	27ft	Malta	2010
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Equinox	Port Everglades	Seasonal	2,850	1,250	122,000 GT	1,041ft	121ft	27ft	Malta	2009
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Silhouette	Port Everglades	Seasonal	2,886	1,500	122,400 GT	1,047ft	121ft	27ft	Malta	2011
Carnival Corporation & plc	Cunard Line	Queen Elizabeth	Port Everglades	Seasonal	2,092	900	90,901 GT	965ft	106ft	26ft	Bermuda	2010
Carnival Corporation & plc	Cunard Line	Queen Victoria	Port Everglades	Seasonal	2,014	900	90,000 GT	964.5ft	120ft	26.2ft	Bermuda	2007
Carnival Corporation & plc	Holland-America Line	Amsterdam	Port Everglades	Seasonal	1,380	615	62,735 GT	780ft	105.8ft	27ft	The Netherlands	2000
Carnival Corporation & plc	Holland-America Line	Eurodam	Port Everglades	Seasonal	2,104	929	86,273 GT	936ft	105.8ft	26ft	The Netherlands	2008
Carnival Corporation & plc	Holland-America Line	Maasdam	Port Everglades	Seasonal	1,258	580	55,575 GT	719ft	101ft	24.9ft	The Netherlands	1993
Carnival Corporation & plc	Holland-America Line	Nieuw Amsterdam	Port Everglades	Seasonal	2,106	929	86,700 GT	936ft	105.8ft		The Netherlands	2010
Carnival Corporation & plc	Holland-America Line	Noordam	Port Everglades	Seasonal	1,924	800	82,318 GT	936ft	105.8ft		The Netherlands	2006

Appendix B Table

Ship Details (continued)

Parent Company	Cruise Line	Ship	Homeport	Deployment	Passengers	Crew	Tonnage	Length	Beam	Draft	Flag	Year Built
Carnival Corporation & plc	Holland-America Line	Prinsendam	Port Everglades	Seasonal	835	470	37,983 GT	669ft	106ft	23.6ft	The Netherlands	1988
Carnival Corporation & plc	Holland-America Line	Statendam	Port Everglades	Seasonal	1,260	580	55,819 GT	719ft	101ft	25ft	The Netherlands	1993
Carnival Corporation & plc	Holland-America Line	Veedam	Port Everglades	Seasonal	1,350	580	57,092 GT	719ft	101ft		The Netherlands	1996
Carnival Corporation & plc	Holland-America Line	Westerdam	Port Everglades	Seasonal	1,916	817	82,348 GT	936ft	105.8ft		The Netherlands	2004
Carnival Corporation & plc	Holland-America Line	Zuiderdam	Port Everglades	Seasonal	1,916	817	82,305 GT	936ft	105.8ft	25.6ft	The Netherlands	2002
Mediterranean Shipping Company S.A.	MSC Cruises	Poesia	Port Everglades	Seasonal	2,550	987	92,627 GT	964ft	106ft	26.2ft	Panama	2008
Carnival Corporation & plc	Princess Cruises	Caribbean Princess	Port Everglades	Seasonal	3,100	1,200	112,894 GT	951ft	118ft	26.2ft	Bermuda	2004
Carnival Corporation & plc	Princess Cruises	Coral Princess	Port Everglades	Seasonal	1,970	900	91,627 GT	964ft	106ft	27ft	Bermuda	2002
Carnival Corporation & plc	Princess Cruises	Crown Princess	Port Everglades	Seasonal	3,080	1,201	113,000 GT	951ft	118ft	27.9ft	Bermuda	2006
Carnival Corporation & plc	Princess Cruises	Emerald Princess	Port Everglades	Seasonal	3,114	1,200	113,000 GT	951ft	118ft	26.2ft	Bermuda	2007
Carnival Corporation & plc	Princess Cruises	Grand Princess	Port Everglades	Seasonal	2,592	1,100	109,000 GT	951ft	118ft	26ft	Bermuda	1998
Carnival Corporation & plc	Princess Cruises	Island Princess	Port Everglades	Seasonal	1,950	900	91,627 GT	964ft	106ft	26ft	Bermuda	2002
Carnival Corporation & plc	Princess Cruises	Pacific Princess	Port Everglades	Seasonal	826	373	30,277 GT	594ft	84ft	19ft	Gibraltar	1999
Carnival Corporation & plc	Princess Cruises	Ruby Princess	Port Everglades	Seasonal	3,070	1,200	113,000 GT	951ft	118ft	26.2ft	Bermuda	2008
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Allure of the Seas	Port Everglades	Year-Round	5,400	2,384	225,282 GT	1,187ft	213ft	31ft	Bahamas	2010
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Independence of the Seas	Port Everglades	Seasonal	3,634	1,360	154,407 GT	1,112ft	184ft	29ft	Bahamas	2008
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Legend of the Seas	Port Everglades	Seasonal	2,076	720	70,000 GT	867ft	105ft	24.5ft	Bahamas	1994
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Liberty of the Seas	Port Everglades	Seasonal	3,630	1,360	154,407 GT	1,112ft	185ft	28ft	Bahamas	2007
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Oasis of the Seas	Port Everglades	Year-Round	5,400	2,394	225,282 GT	1,186.5ft	213ft	31ft	Bahamas	2009
Carnival Corporation & plc	Seabourn Cruise Line	Seabourn Legend	Port Everglades	Seasonal	208	164	9,961 GT	404ft	63ft	16.5ft	Bahamas	1990
Carnival Corporation & plc	Seabourn Cruise Line	Seabourn Quest	Port Everglades	Seasonal	450	335	3,234 GT	650ft	84ft	21.3ft	Bahamas	2011
Carnival Corporation & plc	Seabourn Cruise Line	Seabourn Sojourn	Port Everglades	Seasonal	450		3,234 GT	650ft	84ft	21ft	Bahamas	2010
Lefebvre Family	Silversea Cruises	Silver Cloud	Port Everglades	Seasonal	296	212	16,800 GT	514ft	71ft	18.7ft	Bahamas	1994

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Appendix B Table Ship Details (continued)

Parent Company	Cruise Line	Ship	Homeport	Deployment	Passengers	Crew	Tonnage	Length	Beam	Draft	Flag	Year Built
Lefebvre Family	Silversea Cruises	Silver Spirit	Port Everglades	Seasonal	540	376	36,000 GT	642ft	86ft	20.3ft	Bahamas	2008
Lefebvre Family	Silversea Cruises	Silver Whisper	Port Everglades	Seasonal	382	302	28,258 GT	610ft	82ft	19.6ft	Bahamas	2001
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Infinity	Port Everglades/ Port Miami	Seasonal	2,170	920	91,000 GT	965ft	105.6ft	26.3ft	Malta	2001
Royal Caribbean Cruises Ltd.	Azamara Club Cruises	Azamara Quest	Port Miami	Seasonal	694	408	30,277 GT	594ft	84ft	19.9ft	Malta	2000
Baleària Group	Balearia Bahamas Express	Maverick	Port Miami	Year-Round	3557		442 GT	131ft	31.2ft		Spain	1990
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Breeze	Port Miami	Year-Round	3,690	1,386	130,052 GT	1,004ft	121.4ft	26.9ft	Panama	2012
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Conquest	Port Miami	Year-Round	2,984	1,150	110,000 GT	953ft	116ft	27ft	Panama	2002
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Destiny (Carnival Sunshine)	Port Miami	Seasonal	3,006	1,040	101,353 GT	896ft	118ft	27ft	Bahamas	1996 (2013)
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Glory	Port Miami	Seasonal	2,974	1,150	110,000 GT	952ft	116ft	27ft	Panama	2003
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Imagination	Port Miami	Year-Round	2,052	920	70,367 GT	855ft	103ft		Bahamas	1995
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Liberty	Port Miami	Year-Round	2,978	1,160	110,000 GT	952ft	116ft	27ft	Panama	2005
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Valor	Port Miami	Seasonal	2,974	1,180	110,000 GT	952ft	116ft	27ft	Panama	2004
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Victory	Port Miami	Year-Round	2,758	1,100	101,509 GT	893ft	116ft	27ft	Panama	2000
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Reflection	Port Miami	Seasonal	3,046		126,000 GT	1,047ft	123ft	27ft	Malta	2012
Carnival Corporation & plc	Costa Cruises	Costa Luminosa	Port Miami	Seasonal	2,260		92,700 GT	958ft	106ft		Italy	2009
Carnival Corporation & plc	Costa Cruises	Costa Mediterranea	Port Miami	Seasonal	2,114	912	85,619 GT	960ft	106ft	26ft	Italy	2003
Nippon Yusen Kaisha	Crystal Cruises	Crystal Serenity	Port Miami	Seasonal	1,070	655	68,870 GT	820 ft	106ft	25ft	Bahamas	2003
Nippon Yusen Kaisha	Crystal Cruises	Crystal Symphony	Port Miami	Seasonal	922	545	51,044 GT	781 ft	99ft	25ft	Bahamas	1995
The Walt Disney Company	Disney Cruise Line	Disney Magic	Port Miami	Seasonal	1,754	945	83,000 GT	964ft	106ft	25.3ft	Bahamas	1998
The Walt Disney Company	Disney Cruise Line	Disney Wonder	Port Miami	Seasonal	1,754	945	83,000 GT	964ft	106ft	25.3ft	Bahamas	1999
Mediterranean Shipping Company S.A.	MSC Cruises	Divina	Port Miami	Seasonal	3,959	1,325	133,500 GT	1,093ft	124ft	27.2ft	Panama	2012
Genting HongKong, Apollo Global Management and TPG Global LLC	Norwegian Cruise Line	Norwegian Epic	Port Miami	Seasonal	4,100	1,753	155,873 GT	1,081ft	133ft	28.5ft	Bahamas	2010

Appendix B Table Ship Do

Ship Details (continued)

Parent Company	Cruise Line	Ship	Homeport	Deployment	Passengers	Crew	Tonnage	Length
Norwegian Cruise Line	Norwegian Cruise Line	Norwegian Pearl	Port Miami	Seasonal	2,394	1,099	93,530 GT	965ft
Norwegian Cruise Line	Norwegian Cruise Line	Norwegian Sky	Port Miami	Year-Round	2,004	934	77,104 GT	848ft
Norwegian Cruise Line	Norwegian Cruise Line	Norwegian Star	Port Miami	Seasonal	2,348	1,083	91,740 GT	965ft
Norwegian Cruise Line	Norwegian Cruise Line	Norwegian Sun	Port Miami	Seasonal	1,936	953	78,309 GT	848ft
Norwegian Cruise Line	Oceania Cruises	Regatta	Port Miami	Seasonal	684	400	30,277 GT	594ft
Norwegian Cruise Line	Oceania Cruises	Riviera	Port Miami	Seasonal	1,250	800	66,084 GT	785ft
Norwegian Cruise Line	Regent Seven Seas Cruises	Seven Seas Mariner	Port Miami	Seasonal	700	445	48,075 GT	709ft
Norwegian Cruise Line	Regent Seven Seas Cruises	Seven Seas Navigator	Port Miami	Seasonal	490	340	28,550 GT	560ft
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Adventure of the Seas	Port Miami	Seasonal	3,114	1,180	137,276 GT	1,020ft
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Majesty of the Seas	Port Miami	Year-Round	2,354	833	73,941 GT	880ft
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Constellation	Port Miami/ Port Everglades	Seasonal	2,038	999	91,000 GT	965ft
Royal Caribbean Cruises Ltd.	Celebrity Cruises	Celebrity Millennium	Port Miami/ Port Everglades	Seasonal	2,138	999	91,000 GT	965ft
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Vision of the Seas	Port Miami/ Port Everglades	Seasonal	2,435	765	78,340 GT	915.4ft
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Fascination	Port of Jacksonville	Year-Round	2,052	920	70,367 GT	855ft
Celebration Cruises	Celebration Cruises	Bahamas Celebration	Port of Palm Beach	Year-Round	1,686	410	35,483 GT	673ft
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Legend	Port of Tampa	Year-Round	2,124	930	88,500 GT	963ft
Carnival Corporation & plc	Carnvial Cruise Lines	Carnival Paradise	Port of Tampa	Year-Round	2,052	920	70,367 GT	855ft
Carnival Corporation & plc	Holland-America Line	Ryndam	Port of Tampa	Seasonal	1,260	580	55,819 GT	719ft
Apollo Global Management	Norwegian Cruise Line	Norwegian Dawn	Port of Tampa	Seasonal	2,224	1,073	92,250 GT	965ft
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Brilliance of the Seas	Port of Tampa	Seasonal	2,100	848	90,090 GT	962ft
Royal Caribbean Cruises Ltd.	Royal Caribbean International	Jewel of the Seas	Port of Tampa	Seasonal	2,110	859	90,090 GT	962ft

В	eam	Draft	Flag	Year Built
1	.05ft	27ft	Bahamas	2006
1	.05ft	26ft	Bahamas	1999
1	25ft	27ft	Bahamas	2001
1	.05ft	26ft	Bahamas	2001
8	84ft	19.5ft	Marshall Islands	1998
1	.06ft	24ft	Marshall Islands	2012
9	93ft	21ft	Bahamas	2001
٤	81ft	24ft	Bahamas	1999
15	57.5ft	29ft	Bahamas	2001
1	.06ft	25ft	Bahamas	1995
10)5.6ft	26.3ft	Malta	2002
10)5.6ft	26.3ft	Malta	2000
10)5.6ft		Bahamas	1997
1	.03ft	25.6ft	Bahamas	1994
7	8.8ft	20ft	Bahamas	1982
10)5.6ft	25.5ft	Panama	2002
1	.04ft	25.6ft	Panama	1998
1	01ft	25.3ft	The Netherlands	1994
1	.05ft	28ft	Bahamas	2002
1	.06ft	28ft	Bahamas	2002
10)5.6ft	28ft	Bahamas	2004