

UNCTAD MONOGRAPHS ON PORT MANAGEMENT

*A series of monographs prepared for UNCTAD in
collaboration
with the International Association of Ports and Harbors
(IAPH)*

17

The economic impact of cruise ports: The case of Miami

by

*Araceli (Angie) Wright
Seaport Relations
Port of Miami*

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NOTE

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INTRODUCTION TO THE SERIES

UNCTAD has been cooperating with the International Association of Ports and Harbors (IAPH) for some years, in fields that include the production, translation and distribution throughout the world of technical studies in the form of **Monographs**. Through these, it helps to develop the management skills needed for the efficient port operation in developing countries.

One important outcome of the ninth United Nations Conference on Trade and Development (UNCTAD IX) was a new work programme for UNCTAD in the transport field. It is important to stress that the original aim of improving the efficiency of ports which spawned the idea of the UNCTAD/IAPH monograph scheme was reaffirmed.

The UNCTAD Division for Services Infrastructure for Development and Trade Efficiency is thus pleased to be able to continue to cooperate with IAPH, presenting the practical experience gained by a specific port or professionals for the benefit of the international port community.

This cooperation supplements other research, training and technical cooperation activities carried out by the UNCTAD Division for Services Infrastructure for Development and Trade Efficiency that seek in particular to encourage the development of competitive international maritime transport services, reinforce trade structures and promote international cooperation and exchanges of expertise. We would like to thank the authors for their contribution to these monographs, all of which have been made on a voluntary basis.

Jean Gurunlian
Director
Division for Services Infrastructure
for Development and Trade Efficiency

FOREWORD

When UNCTAD first decided to seek the cooperation of the International Association of Ports and Harbors in producing monographs on port management, the idea was enthusiastically welcomed as a further step forward in the provision of information to managers from ports in developing countries. The preparation of monographs through the IAPH Committee on International Port Development has drawn on the resources of IAPH member ports to record, for the benefit of others, the experience and lessons learnt in reaching current levels of port technology and management. In addition, valuable assistance has been given by senior management in ports of developing countries in assessing the value of the monographs at the drafting stage.

I am confident that the UNCTAD monograph series will be of value to managers from ports in developing countries in providing indicators toward decision-making for improvements, technological advance and optimum use of existing resources.

The International Association of Ports and Harbors looks forward to continued cooperation with UNCTAD in the preparation of many more papers in the monograph series and expresses the hope that the series will fill a gap in the information currently available to port managers.

Goon Kok-Loon
Chairman
Human Resources Development Committee
IAPH

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Chapter One

The importance of the cruise trade

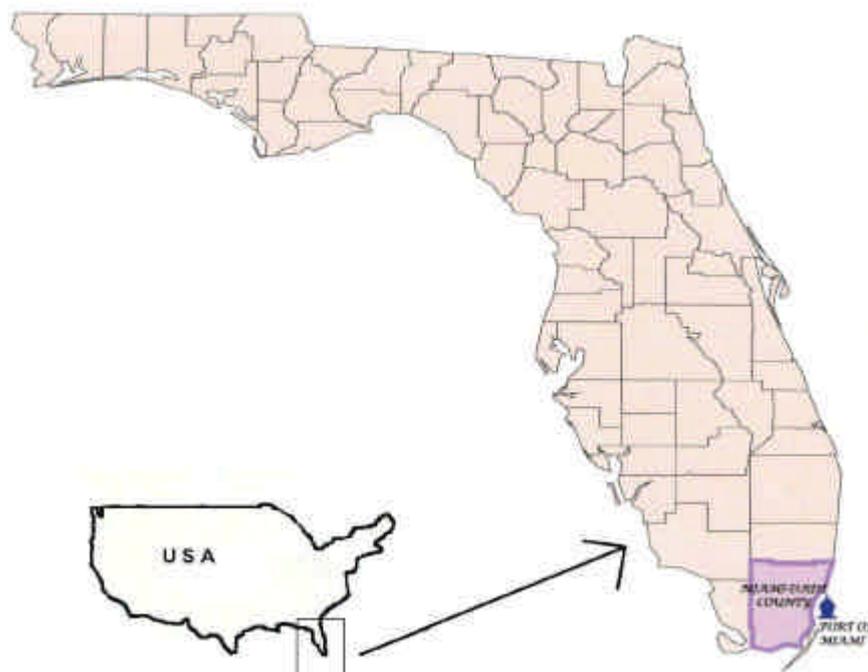
Florida and Miami-Dade County

1. The State of Florida, in the United States of America, is a peninsula located at the southeast tip of the North American landmass. The Atlantic Ocean bounds it to the east, the Gulf of Mexico to the west and the Straits of Florida to the south. With a population of 15.9 million (2000) inhabitants, Florida is the fourth most populous state in the nation. Net migration into the state has been approximately 250,000 people each year. Florida's population is thus projected to be more than 18.5 million by 2015.
2. In 1998, the service-based economy of Florida registered a gross state product of \$418 billion, placing it among the top fifteen world-market economies and fifth in the Americas. International trade, along with financial and ancillary services, accounts for the larger part of the state's economic activity. Tourism is a year-round activity and Florida's second-largest industry. Approximately 47 million tourists visited the state in 2000.
3. Specialized manufacturing is also important. More than 17,000 firms are established in Florida, making it second only to California in number of firms in the aerospace and defense-related industries. The growing number of electronics and high-technology manufacturers are served by 18 foreign trade zones and more than 800 business parks, including multi-use, industrial, research-and-development, and office parks.
4. The strategic geographical location of Florida, in the middle of north-south and east-west ocean shipping routes, is complemented by a unique and well-organized intermodal transportation system.
5. Florida's 14-deepwater ports place all businesses within a maximum distance of 150 kilometres (90 miles) of a seaport and close to global markets. The state's 20 major commercial airports — of which 12 are international — put many major cities of the eastern United States and those in the Caribbean and Central America within a three-hour flight. Florida is also at the centre of the marketplace of the Americas with 800 million consumers. Moreover, fourteen freight railroad systems connected by nearly 4,800 kilometres (3,000 miles) of track and four major interstate highway systems totaling 19,200 kilometres (12,000 miles)

provide for efficient intermodal transfer of freight for overnight delivery of goods to nearly 60 per cent of the United States population.

6. Located along the southeast tip of the Florida peninsula, Miami-Dade County encompasses more than 5,200 square kilometres (2,000 square miles), has 2.2 million inhabitants (1999 estimate), and is the largest “local” Government in the southeastern United States. Biscayne Bay and the Atlantic Ocean bound it to the east, Everglades National Park to the west, the Florida Keys to the south, and Broward County to the north. Miami-Dade County is larger than the states of Rhode Island and Delaware, and approximately the same size as Trinidad and Tobago.

FIGURE 1: THE STATE OF FLORIDA AND MIAMI-DADE COUNTY)



7. The Miami-Dade County Seaport Department is one of the major economic generators for the county. The Port of Miami is strategically positioned on the major north-south and east-west ocean trade routes, and performs a dual role as *Cruise Capital of the World* and cargo *Gateway of the Americas*.

8. The Miami-Dade County Aviation Department, or Miami International Airport (MIA), is the main economic generator for the county's economy. MIA is the primary connecting point for air travel between the Americas and the Caribbean, and a major gateway to Europe. Approximately 1,500 flights

arrive and depart MIA each day. Its extensive air service network covers over 150 cities on four continents, positioning it among the busiest passenger airports in the world. With a total 15.8 million-passenger count in 1999, MIA ranked third in the United States for international travelers. Total number of passengers during the same period reached 34 million, ranking Miami International Airport in the top ten in the United States.

9. Besides a vibrant seaport and airport that connect Miami to the rest of the world, Miami-Dade County also has the highest concentration (over 500) of freight forwarders in the United States. The international trade mix includes 53 consulates, 33 bi-national chambers of commerce, 20 foreign trade offices, 13 Edge Act Corporations¹ and 38 foreign banks. There is also an impressive contingent of multinational corporations, telecommunications companies and business-support industries.

The Port of Miami

10. The Port of Miami is a 260-hectare (650 acres) island facility, located in environmentally sensitive Biscayne Bay, adjacent to downtown Miami. A fixed-span bridge connects the port to the mainland. The island complex is approximately 3.8 kilometres (2.4 miles) long, 640 metres (0.4 miles) at its widest point and 10.5 kilometres (6.5 miles) total shoreline. Entrance to the harbor is through a 12.80 metres (42 feet) deep, 152 metres (500 feet) wide channel known as Government Cut, dredged across the south tip of Miami Beach, then 131.06 metres (430 feet) wide to a 274.32 metres (900 feet) approach channel to the Port of Miami. Maximum tide levels are about 0.67 metres (2.2 feet) at the highest and 0.31 metres (1.0 feet) at the lowest.

11. The official name of the port is Dante B. Fascell² Port of Miami-Dade, and is a department of Miami-Dade County government. The Port of Miami is a non-operating seaport. It provides the infrastructure for the private sector to conduct all commercial operations. The actual loading and discharging of vessels is carried out by independent stevedoring companies that contract with the individual cargo and cruise lines. Financially independent from the county's tax coffer, the seaport generates its operating revenue from its billings for wharfage, dockage, storage, rent, water, etc. Different financial vehicles are used for the financing of major expenses and projects. These may involve state and federal grants and matching funds, bond issues, and loan programmes.

¹ These are domestic corporations organized for the purpose of foreign banking or other international or foreign financial operations and have a federal charter.

² For Mr. Dante B. Fascell, a renowned Florida politician.

12. The seaport is a “clean port”, which does not handle bulk cargoes or potentially dangerous or hazardous cargoes such as fuel oils. In addition to palletized, project, and roll-on/roll-off cargo, the majority of cargo is containerized, representing little pollution threat to the bay or surrounding ecosystems.

13. With over forty shipping lines calling on more than 130 countries and 360 ports across the globe, the Port of Miami is the largest container port in Florida and ranks among the top 10 in the United States. Markets served include Africa, Asia, the Caribbean, Central America, Europe, the Middle East and North America and South America. Geographic location and strong cultural ties to Latin America and the Caribbean are contributing factors to the considerable commerce with these markets.

14. During fiscal year 2000, a total of 2,424 ships docked at the port, carrying 7.8 million tons of cargo, including 4.5 million tons of imports and 3.3 million tons of exports, and a total 868,178 TEUs. Latin America and the Caribbean regions accounted for 60 per cent (4.7 million tons) of the total trade. Trade with Europe has been increasing steadily, and in fiscal year 2000 represented 24 per cent (1.9 million tons) of the total tonnage. A significant increase in commercial trade is now anticipated with Africa and the Far East.

15. In 1960, Miami-Dade County assumed control of the seaport from the City of Miami. The seaport was then located on the coast close to downtown and faced Dodge Island, which had been created back in 1902 when the harbour was initially dredged to allow access of vessels. The county immediately announced plans to construct a new port facility on Dodge Island and the new Port of Miami was opened in 1963. Throughout the 1960s, the seaport flourished as the cruise and cargo industries developed. During the 1970s, the port’s activity increased tremendously. By 1979, it was obvious that the facilities were woefully inadequate to support new business.

16. Thus, in 1980, the Port of Miami embarked on an ambitious \$250 million expansion programme, which doubled its size to more than 240 hectares (600 acres), expanding facilities onto adjacent manmade Lummus Island. It also provided sophisticated cargo handling equipment, new cruise terminals, and much needed office space.

17. In the mid-1990s, Dodge and Lummus islands were joined by using spoil materials from dredging, thus becoming a single island facility. Today, the port bears no resemblance to its humble beginnings in the 1890s.

18. The port now has approximately 260 hectares (650 acres) dedicated to rolling stock, container yards, refrigerated warehouse space, gantry crane

facilities, 12 modern cruise terminals, and administration offices for the port, Government agencies, several shipping lines, maritime organizations and cruise lines.

FIGURE 2: THE PORT OF MIAMI



Impact of the cruise industry on the port and the county

19. Since 1897, when the first passenger ship sailed out of Miami bound for Nassau (Bahamas), the Port of Miami has held a preeminent position as a leading cruise port. By the mid-1970s, the port had become the first to host more than one million passengers in a single year, and by 1980, when 1.5 million people cruised from Miami, the port had solidified its reputation as the *Cruise Capital of the World*.

20. Nowadays, the port has simultaneous berthing capacity for six mega cruise vessels,³ in addition to berthing facilities for smaller cruise ships and passenger ferries. Planned passenger improvements include expansion of berthing facilities to accommodate additional mega-ships and vehicular ferry

³ Those having lengths over 300 metres and exceeding 2,000 lower berths.

services, as well as significant road improvements to minimize conflicts between cargo and cruise activities.

21. During fiscal year 2000, eighteen cruise ships, totaling 1.4 million gross registered tons, were homeported at Miami's seaport, and close to 3.4 million passengers passed through its passenger terminals. Total port revenues were \$72.5 million and cruise activities accounted for approximately \$33.7 million, or 46 per cent of the total. These revenues were derived from passenger wharfage, parking, dockage fees, water and electrical services, and other miscellaneous charges.

22. The estimated total impact on the local economy resulting from port activities during fiscal year 2000 exceeded \$8 billion and 45,000 jobs. Approximately 50 per cent of the total economic and employment effect is attributable to cruise-related activities, as the following figures indicate:

- ?? Direct cruise economic benefits were \$1.7 billion;
- ?? Total cruise economic benefits were \$4.5 billion;
- ?? An estimated 23,000 jobs can be attributed to cruise-related activities.

23. Moreover, jobs created as a result of cruise-related port activity tend to pay higher wages than jobs in other sectors. In 1999, the average wages in the county for cruise-related jobs were \$44,494, while a typical retail job averages \$18,707 annually. Also, cruise-related jobs are longer lasting and benefit from training programmes.

24. Other salient economic benefits to the county from cruise operations are:

- ?? Passengers arriving and departing through the area's airports constitute approximately 12 per cent of overall airline traffic;
- ?? An estimated 40 per cent of passengers stay 1.2 nights prior to or after their cruise, thus benefiting local hotels, restaurants and retail stores;
- ?? The cruise lines employ more than 6,700 people in Miami-Dade County, with a payroll exceeding \$300 million;
- ?? Cruise ships take their provisions at the port;
- ?? Cruise ships personnel shop for goods and services while homeported in Miami;
- ?? The advertising and marketing of cruises.

Chapter Two

The cruise products and the shipping lines

The cruise products available from Miami

25. Tourists are attracted to a cruise vacation by a myriad of factors and even by minor details. Studies conducted by the cruise industry have identified the top five reasons why cruising is rated higher than other vacation types. These are pampering, relaxation, the chance to visit several destinations, good value for money, and a variety of activities. Other reasons advanced by the studies are the relative ease of planning and arranging the holidays, the comfort of unpacking only once and sleeping while the ship sails to a new destination, and a good way to try out a vacation spot for a return stay.

26. In fact, the ship itself is a vacation destination with pool, shopping, gambling, planned fun activities, quality entertainment, fine dining, and comfortable accommodations. A cruise vacation is very often, too, a way to meet interesting people, a romantic getaway, or an innovative setting for a family reunion.

27. Also, within the last few years, the use of cruises as venues for business meetings has been growing, and the lines are designing ships to accommodate this new trend. Conference rooms, audio/visual equipment, computer centres, copy and fax machines, microphones, flip charts and easels are some of the business amenities now found in the newer vessels. Some lines go so far as to provide meeting coordinators, secretaries and language translators.

28. The products offered by the major cruise lines operating from the Port of Miami include:

Carnival Cruise Lines

3-, 4-, 5- and 7-day Eastern Caribbean, Western Caribbean and Bahamas cruises – with the following ports of call: *Calica/Cancún and Cozumel/Playa del Carmen (Mexico), George Town (Cayman Islands), Key West (Florida, United States), Nassau (Bahamas), Ocho Ríos (Jamaica), San Juan (Puerto Rico) and St. Croix, St. John and St. Thomas (US Virgin Islands).*

Norwegian Cruise Line

3-, 4- and 7-day Eastern Caribbean, Western Caribbean and Bahamas cruises – with the following ports of call: *Belize City (Belize), Costa Maya and Cozumel (Mexico), George Town (Cayman Islands), Great Stirrup Cay and Key West (Florida, United States), Nassau (Bahamas), Ocho Ríos (Jamaica), Roatán (Honduras), San Juan (Puerto Rico), St. Maarten (Netherlands Antilles), and St. John and St. Thomas (US Virgin Islands).*

Royal Caribbean International

3-, 4-, 7-, 10-, 11-, 14-, and 15-day cruises to Bahamas, Caribbean, Panama Canal, and transatlantic to Europe – with the following ports of call: *Coco Cay and Nassau (Bahamas), George Town (Cayman Islands), Key West (Florida, United States), Labadee (Haiti), Ocho Ríos (Jamaica), Oranjestad (Aruba, Netherlands Antilles), Willemstad (Curaçao, Netherlands Antilles), San Juan (Puerto Rico), St. Thomas (US Virgin Islands), Acapulco, Cozumel/ Playa del Carmen and Cabo San Lucas (Mexico), Panama Canal (Panama), Puntarenas/Caldera (Costa Rica), San Diego (California, United States), Barcelona and Málaga (Spain), Tenerife (Canary Islands, Spain) and Funchal (Madeira, Portugal).*

29. Air-sea packages, available through travel agents, are the primary means of attracting greater numbers of cruise passengers. Travel agents have a far greater impact on the cruise industry than in any other area. The validity of this statement is confirmed by the percentage of revenue generated through travel agents in selected sectors:

Cruises	above 95 per cent
Airlines	70 per cent to 80 per cent
Hotels	10 per cent to 20 per cent
Car rentals	20 per cent to 60 per cent.

30. Moreover, a recently published study by Cruise Lines International Association (CLIA) for a five-year period shows that 90 per cent of cruise passengers use travel agents; 43 per cent use them as just an order taker, while 57 per cent use travel agents as an advisor at least some of the time.

31. The proximity of the port to the airport with its adequate facilities, broad geographic distribution of flights and easily accessible ground transportation is the determining factor for the success of these air-sea packages. Accordingly, the Miami International Airport (MIA) serves as the primary gateway for 80 per cent of Miami's cruise passengers.

FIGURE 3: MIAMI AND SOME CRUISE DESTINATIONS



32. The cruise industry recognizes the travel agent as their primary source of business growth. Consequently, it is very supportive of the travel agency community and the two enjoy a very close working relationship.

The pivotal role of shipping lines

33. The most prevalent cruises are those lasting between 3 to 7 days, termed "short" cruises. Consequently, geography plays a major role when shipping lines devise itineraries. The geographic location of Miami is an undeniable advantage to reach the most popular cruise destinations — not only in the Caribbean, but also Mexico, Central America and the northern coast of South America. It also contributes to its homeport status – being the origin and terminus of cruise itineraries.

34. The attractions and amenities available at destinations along the cruise itinerary are indeed important considerations. Blue water, white sandy beaches and sun continue to be a draw, but are no longer sufficient. Theme parks, casinos and entertainment centres in the United States, as well as low airfares to Europe are emerging as competition to the popular island destinations in the region. In response, many of these are launching advertising campaigns to remain attractive tourist locations. Some promote scuba diving, shopping, cultural and historical attractions and museums. Considering that one of the reasons people go on cruises is to investigate a

destination for a future vacation, the decision to diversify offerings is a sensible one.

35. The typical shore activities of cruise passengers in these destinations include: sightseeing; shopping; visiting tourist attractions; participating in organized excursions; visiting museums, churches, or cultural sights; going to the beach; eating at local restaurants; and, participating in sports, such as tennis or golf.

36. Baby boomers,⁴ in particular, are culture seekers who want to enrich themselves and want to return home with more to show from a vacation than just a suntan. They want to come back smarter, better informed, and thus seek out such attractions as museums, lectures and historical tours.

37. In addition to the interests of their clients when devising itineraries and choosing ports of call for popular destinations, the cruise lines also take into consideration other factors, such as: adequacy of port facilities; cost-efficiency; and, passenger safety at destination. In some ports of call wharves are inadequate, head taxes⁵ are too high, and passenger safety is deficient. A recent example is Ocho Ríos, where there is talk of the lines bypassing this Jamaican port-of-call because it is too small for their new ships and the island is perceived as having a serious crime problem.

38. There is a degree of commonality between homeports and ports of call: Both must provide adequate, cost-effective facilities and infrastructure, as well as basic safety and security, convenience and attractions. Beyond these, the homeport is challenged with a host of different issues. The five points considered key to being a successful homeport are:

- 1) Outstanding port services and an equally appealing city;
- 2) Modern and efficient airport with substantial airlift;
- 3) Attractive tourist destinations and itineraries;
- 4) Large population centre;
- 5) Drive accessibility to that population.

39. In addition to excellent port infrastructure, (described in detail in the following chapter) Miami has name value and attraction power as a destination. It combines a beautiful city, wonderful beaches, ideal climate, excellent airport, top-rated hotel accommodations and palpable multicultural ambiance.

⁴ Those born after the Second World War, specifically, between 1946 and 1964.

⁵ In addition to the ticket price, the cruise lines assess the charge for passenger wharfage — *head tax*. Afterward, the lines pay the port directly, based on the seaport's published tariff rate.

40. Cruise lines conducting homeport operations require the availability of air transportation and sufficient supply of overnight lodging. MIA, the primary airport serving the Port of Miami, is in the midst of an aggressive expansion that will almost double passenger capacity to 72.1 million by 2005. Similarly, Miami-Dade County has sufficient hotel accommodations available to meet the present and prospective needs of the cruise industry. As of January 2001, these totalled 464 hotels and motels, and 47,700 rooms.

41. The standards for hotel room accommodation vary among the lines. Typically, the lines prefer to be able to accommodate approximately one-quarter of cruise passengers in overnight lodgings as part of either a pre- or post-cruise stay-over. The duration of this stay-over ranges from one night to three, four, or seven nights.

42. The number of destinations, islands or mainland, has grown steadily along with the cruise industry. In 1969, there were essentially four destinations: the Bahamas, Jamaica, Puerto Rico and the US Virgin Islands. Today, the itineraries of the cruise lines make it possible to choose among more than fifteen ports of call, including a 104-day world cruise.

43. Generating itineraries and timely deployment of adequate vessels to reach preferred destinations is an on-going task for the shipping lines, which implies considerable investment. As an example, two large vessels that are set to come into operation in 2002 and 2003 are estimated to cost \$ 450 million each. In particular, the increase in size of cruise vessels poses a challenge to ports. In the 1960s cruise ships averaged 120 metres (400 feet) in length, 450 lower berths⁶ and 18,000 grt. The largest cruise ships sailing these days are over 275 metres (900 feet) in length, have between 2,600 and 3,600 lower berths and their grt fluctuates between 90,000 and 142,000. Annex 1 shows the main characteristics of cruise vessels having Miami as homeport.

44. The lasting strength of the Port of Miami as a cruise homeport is also attributable to its being an important business and population centre. Two of the major cruise lines, Carnival Cruise Lines and Royal Caribbean have their international headquarters located in the city. The third largest — Norwegian Cruise Lines — also has its national head office located in Miami. An efficient public transportation network allows staff and cruise passengers to reach the downtown area in less than five minutes.

⁶ The capacity of cruise vessels can be stated by the number of beds available to passengers, which can be deployed in one or two levels. The term "lower berth" measures bed capacity at one level. Occupancy rates of 110 per cent mean that some beds of the second level are being used.

FIGURE 4: MEGASHIPS BERTHED IN MIAMI



45. The benefits accruing from cruise base-port operations to the local economy have greatly increased competition for homeport status, to the point that, today, almost 100 ports are vying for 20 cruise lines. Bearing in mind that ship re-deployment takes one year, and building a mega-terminal takes three years, the strategy pursued by the Port of Miami is to anticipate the needs of the cruise lines and act upon them.

46. Overall, the pivotal role of the shipping lines in making cruises such a phenomenal success cannot be overestimated. They generate the new cruise products (e.g. itineraries and destinations), deploy and operate expensive vessels and, together with travel agents, follow the changing preferences of travelers to offer them appealing air-sea packages every season. The fast reaction of the shipping lines to adapt their cruise packages to signals coming from the travel networks is paramount in successfully marketing their ships and destinations.

Chapter Three

Facilities and services provided at the Port of Miami

The challenge of cruise trades

47. The dual billing of cargo Gateway of the Americas and Cruise Capital of the World presents the Port of Miami with some unique challenges. Foremost is the need to meet the functional requirements of both trades, cargo and cruise, while maintaining an aesthetically pleasing appearance that satisfies the expectations of the tourists.

48. Lighting and landscaping are among the means that the port successfully uses to mitigate the manifestation of the cargo infrastructure. These complement the clear physical separation of the two trades. As indicated in Figure 5, cruise operations are conducted on the northeast side of the island-port, while cargo ships work along the south side of the port.

49. The diversity of issues inherent in the cruise trade requires that more than one division within the port be involved. The nature of the issue to be addressed or resolved determines which section is to handle it. As an example, contractual agreements with shipping lines, policy matters and similar topics are dealt with at the top executive level of the seaport management team. Ongoing service accommodations, on the other hand, are part of the functions of the marketing division, just as issues relating to operations are resolved by the cruise operations division and accounting matters are the responsibility of the finance division.

The facilities and the services for cruise passengers

50. The island-port is bordered by approximately 6.5 kilometres of quay. The following table shows the space allocated to the various operations within the port. This configuration makes possible several berthing scenarios to accommodate cruise ships of different lengths. Annex 2 provides the detailed quay and berth locations and dimensions.

51. There is an efficient use of the premises for cruise and cargo terminals. Most of the surface is devoted to open storage for containers and covered storage for goods, including a refrigerated warehouse. There are also several office buildings occupied by the port administration,

53. In a modern passenger terminal, the flow of passengers, luggage and ship stores is segregated. A three-story terminal building, positioned parallel to the ship, is designed to accomplish the separation. The following figure corresponds to terminals 3, 4 and 5 used by Royal Caribbean at the Port of Miami. Embarking passengers who purchase air-sea packages from a travel agent check their luggage at the airport of origin and don't see it again until they reach their cabin aboard the vessel. All the baggage handling is prearranged as part of the package. These passengers go directly to the second level to check in for the cruise, and proceed to the third level to board the vessel. Passengers with accompanying luggage check it in on the ground level and then proceed to the second and third levels.

54. An adjustable passenger bridge connects the third level of the terminal to the ship over the 12-metre-wide apron. Disembarking cruisers enter the terminal through the third floor. After passing through the Immigration and Naturalization Service (INS), the passengers descend to the ground level, where the baggage handling area, as well as customs, airline check-in counters, and car rental agencies are located.

55. Cruise passengers arrive at the terminal using ground transportation services, such as private automobiles, taxis, vans, and buses. Check-in for embarking passengers is on the second floor. Until the vessel is actually open for boarding, the passengers can make themselves comfortable in the large waiting area with plenty of seating, lounges and multimedia entertainment. The comfort and convenience of this waiting period adds to the positive expectations of the wonderful vacation about to begin. Once the ship is ready for boarding, the passengers go to the third level, where the passenger-bridge connecting to the ship's gate is found.

56. Cruise passengers returning from their vacation at sea will follow the reverse process. They will find that the compartmentalized baggage rooms and new luggage handling equipment allow the disembarkation process to proceed smoothly — sequential disembarkation of passengers according to flight priority is frequent. The modernized facilities also result in accelerated processes through the relevant official services (e.g. customs, immigration, etc.).

57. For those vacationers flying out directly after the cruise, registering themselves and their luggage at the airline check-in counters, located on the ground level and inside the terminal, effectively reduces the level of anxiety. There is also a variety of user-friendly and efficient local transportation between the seaport and the airport, culminating in a hassle-free and seamless process.

58. The rate of passenger flow is different for arrivals and departures. Since passengers embarking on a cruise are actually coming from different

points and on different modes of transportation, the flow may start in the morning and continue through to the afternoon. The process for disembarking passengers at the end of the trip is at the approximate rate of 1,200 to 1,400 persons per hour. Since, on average, the cruise vessels carry between 2,000 and 3,500 passengers and usually dock between 06:30 and 07:30 hours, by mid-morning all the passengers have disembarked.

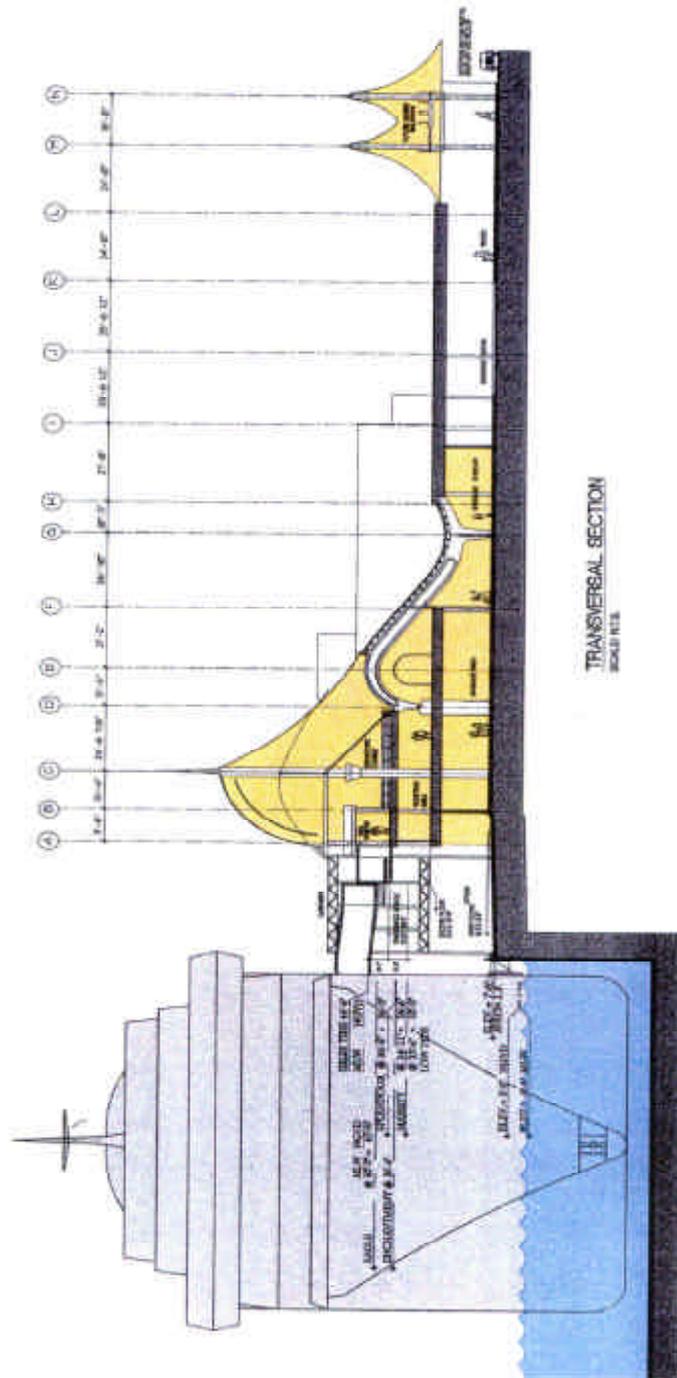
59. Passenger security is paramount and includes passenger-screening procedures similar to those found at airports. These procedures include the inspection of all carry-on baggage and the use of metal detectors for embarking passengers. Additional security techniques are routinely used by both port and cruise line security, but these remain inconspicuous to passengers. Those passengers who wish to have friends visit the ship prior to sailing must check with the cruise line well in advance. All security measures involving passenger identification and visitor control are designed to prevent the introduction of unauthorized weapons and persons on board the vessel.

60. The importance of the safe, expeditious and orderly processing of thousands of arriving and departing passengers is a concern shared by the regulatory agencies, the cruise lines and the seaport. The United States Customs Service hosts and coordinates monthly meetings with the various entities involved in the passenger processing procedures. These include the United States Department of Agriculture (USDA), United States Coast Guard, Miami-Dade Police, the cruise lines and seaport personnel. Topics of discussion include security issues, facilitation of passengers and crew, traffic patterns, access to restricted areas, and facility improvements.

61. The goal to strive for is always to make every aspect of the cruise vacation a pleasant and memorable experience. This includes the process of reaching the port, the time spent waiting to embark, and the reverse process of disembarking and leaving the port facility. The various redevelopment projects undertaken by the Port of Miami in the last two or three years have succeeded in greatly enhancing the cruising experience for millions of passengers.

62. Accordingly, the continual upgrading of the facilities to meet the needs of the cruise lines is an ongoing task. A good example is the 32-month improvement on terminals 8 and 9, which was undertaken in four phases comprising seven construction projects. With very tight construction deadlines, lasting from 3 to 11 months, the terminal serving 600-passenger Fantasy class vessels was upgraded to serve the bigger 2,800-lower berths Destiny class vessels. The facility remained open to the trade throughout the refurbishment period.

FIGURE 6. TRANSVERSAL SECTION OF CRUISE TERMINALS



63. Among the future projects is a proposed new passenger gateway and access-road complex, currently in the design stage. The change in passenger operations would channel traffic in cars, buses and taxis into a centralized gate system near the centre of the port. Access to the passenger areas would be controlled at the gate, and admission would be contingent on producing a valid cruise ticket or visitor's pass. New access lanes would conduct traffic from the gate area to the passenger terminals at the eastern and western ends of the seaport. The proposed system would effectively separate passenger traffic from the cargo gate complex, thus enhancing safety and security.

The services for baggage, stores and garbage operations

64. Baggage is typically transported separately, notably in the cases in which the cruise lines contract directly with the bus companies for the transportation of cruise passengers between the airports (MIA and Fort Lauderdale International) and the seaport. The luggage-handling equipment, located on the ground level of the terminal, allows the bags to be sorted out and delivered to the cabins within a half-hour.

65. Passenger luggage is handled by union labor. The work pace is similar to the passenger flow: more hectic on disembarkation. After the luggage-handling process is completed, the same labour proceeds to loading the ship's stores. Because the suppliers arrive at different times throughout the day, the entire process usually lasts until the middle of the afternoon, or anywhere from four to six hours.

66. Both baggage and stores are handled at ground level, the former reaching the apron through the ground level of the passenger terminal. Suppliers carry the latter directly to the apron from where they are loaded into the ship's holds. These operations are carried out well below the level of the passenger-bridge, positioned at the third level of the terminal.

67. An important activity is the collection and disposal of the ship's garbage at the end of the trip. This is carried out according to the regulations established by the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), and Plant Protection and Quarantine (PPQ). USDA personnel at the Port of Miami follow the guidelines established in the Maritime Garbage Handling Procedures manual. The manual is a compliance agreement between individual cruise lines and USDA. It sets out procedures for handling regulated garbage, namely "garbage which is unloaded from any means of conveyance which has returned to the continental United States from overseas, unless specifically exempted by the USDA."

68. Accordingly, the vessel agent must make arrangements with a USDA approved garbage disposal company for the removal and destruction of all regulated garbage. This garbage must be contained in leak-proof plastic bags, at least four millimetres thick and, if necessary, double bagged. USDA officers must monitor the removal of regulated garbage from the vessel to the containers on shore (See paragraph 78). Ship lines, agents or crewmembers are responsible for inspecting the container for missing locks and holes that may allow spillage. They are also responsible for locking the container and making sure that it is completely sealed.

The official services

69. Following are some of the Government agencies with oversight of the cruise industry regarding the monitoring of vessels, passengers, baggage, stores and garbage:

United States Coast Guard (USCG) — Department of Transportation

70. The International Maritime Organization (IMO) establishes international safety standards that govern ocean-going vessels worldwide. Nearly all the cruise vessels in operation today are registered under flags of various countries, and each ship must also comply with the vessel inspection laws of the country in which it is registered.

71. In the United States, enforcing vessel safety standards is the responsibility of the USCG. As a condition of permitting the vessels to take on passengers at United States ports, the USCG requires ships to meet the International Convention for the Safety of Life at Sea (SOLAS). To ensure compliance with SOLAS, the Coast Guard examines the ship when it first goes into service at a United States port, with quarterly checks thereafter. The examinations emphasize structural fire safety and proper lifesaving equipment.

72. The USCG is also responsible for enforcing the IMO's Measures to Prevent Unlawful Acts Against Passengers and Crews on Board Ships, adopted in 1986. The regulations outline specific procedures that cruise ships, ports and flag States must follow in regard to security. The IMO measures require ship operators to restrict access to authorized personnel and monitor the flow of materials brought on board a ship in port.

73. Further, on October 16, 1996, the United States Coast Guard implemented an Interim Final Rule on Security for Passenger Vessels and Passenger Terminals that adopted the IMO measures. The rule set three levels of security – low, medium and high – based on the nature of the threat received, and requires vessel and port terminal operators to adjust security procedures accordingly.

74. Each year, the cruise lines submit a comprehensive security plan to the USCG for each vessel and port terminal. The plan details the security procedures for screening passengers, baggage and ship supplies, as well as limiting access to the vessel and terminal facility.

75. The USCG is also entrusted with protecting the marine environment, notably enforcing regulations regarding ocean dumping from vessels. The regulations make it illegal to dump plastic refuse and garbage mixed with plastic into any waters, and restrict dumping of non-plastic trash and other forms of garbage. Foreign-flagged vessels are subject to these regulations while operating in United States waters out to, and including, the Exclusive Economic Zone (200 miles offshore).

Centers for Disease Control and Prevention (CDC) — Department of Health and Human Resources

76. Oversight of sanitary conditions on passenger vessels is the responsibility of the CDC, a division of the United States Public Health Service. The CDC conducts both scheduled and surprise inspections of passenger vessels in United States ports. The inspections focus on proper sanitation for drinking water, food storage, food preparation and handling, and general cleanliness.

Immigration and Naturalization Service (INS) and Federal Bureau of Investigation (FBI) — Department of Justice

77. The INS conducts immigration inspections of travelers entering the United States at officially designated ports of entry, such as the Port of Miami. The FBI is concerned with threats to the security of the country (e.g. terrorism).

Customs Service — Department of Treasury

78. The United States Customs Service is the leading border agency at ports of entry for cruise ships arriving from foreign destinations. The official services performed by United States Customs include:

- a) Entry and clearance of vessels;
- b) Process and facilitate the flow of passengers and luggage through the terminal and on to ground and air transportation;
- c) Supervise the loading and off-loading of ships stores;
- d) Enforce the regulations pertaining to the importation of merchandise.

Animal and Plant Health Inspection Service (APHIS), Plant Protection and Quarantine (PPQ) — Department of Agriculture

79. APHIS and PPQ are responsible for monitoring the handling of regulated garbage in accordance with regulations. They are also charged with enforcing USDA regulations concerning limits on items brought into the country from overseas by cruise passengers. Prohibited items can contain foreign animal and plant pests and diseases that could seriously damage crops, livestock, pets, and environment. Items not allowed entry are meats, fruits, vegetables, plants, animals, and plant and animal products. Accordingly, APHIS and PPQ officers inspect passenger baggage for agricultural products.

Chapter Four

Ports and the future of the cruise industry

80. The worldwide cruise industry relies heavily on the North American market (United States and Canada), which has been growing steadily for many years. The most recent expansionist phase of the North American cruise industry began in 1997, when it added a net of eight new ships with an aggregate capacity of 8,047 lower berths — a 7.4 per cent increase in berth capacity. Between 1997 and 1999, the industry added 18 more ships and more than 29,800 lower berths — an increase of 13.7 per cent in the number of ships and 25.2 per cent in the number of lower berths. As these percentages indicate, the industry is not only expanding its fleet, but also doing so with larger vessels.

81. For 1999, it was estimated that cruise ships homeporting in Florida had a combined annual capacity of 21 million bed days,⁷ or 67 per cent of the total United States capacity — the largest in the world. The Port of Miami had the largest share (39.03 per cent) of this total, with other State ports following: Canaveral (35.08 per cent), Everglades (15.31 per cent), Tampa (5.23 per cent), Palm Beach (4.46 per cent), and Manatee (0.89 per cent).

82. The number of ships homeporting in Florida is expected to continue to increase into 2005. The following table indicates that planned additions to the North American fleet call for 76,935 lower berths, corresponding to a net addition of 47 vessels. This represents a 52 per cent increase in lower berths and a 31 per cent increase in the number of ships.

83. As indicated in the following table, megaships — those with 2,000 or more lower berths — will account for 56 per cent of the increased capacity. Three cruise lines homeported in Miami — Carnival, Norwegian and Royal Caribbean — will add only megaships. With a projected 52 per cent increase in the Florida capacity by 2005, it is expected that Florida passenger embarkations will increase by 48 per cent. The slower growth in passengers, when compared to the growth in lower berths, is the result of a

⁷ This is another capacity measure used in the cruise industry that multiplies the available lower berths by 350 days. It is generally assumed that two weeks per year are necessary for maintenance and refurbishment of each cruise ship.

slight increase in the average length of a cruise and a decline in the capacity utilization rate.

Table 2

Planned additions to Lower Berth Capacity
North America Passenger Cruise Industry 2000 — 2005

Cruise Line	Lower berth capacity added in each range				Total
	< 500	500 — 999	1000 — 1999	> 2000	
Carnival*				12,438	12,438
Celebrity			7,800		7,800
Holland America			6,416		6,416
Norwegian*				6,000	6,000
Princess			5,840	7,800	13,650
Royal Caribbean*				14,508	14,508
Other	2,723	6,188	7,920	2,112	18,943
Total	2,723	6,188	27,986	42,858	79,755
Net withdrawals					2,820
Net Additions					76,935

* Homeported in Miami

84. Without a doubt, the cruise industry remains the fastest-growing segment of the international travel and leisure sector. According to industry market studies, approximately 90 per cent of the United States population has never taken a cruise vacation. Based on this estimate, there is a vast untapped market in the United States alone. Considering the increasing popularity of cruise vacations, it appears that the future of the cruise industry is bright indeed, particularly in this region of the world.

85. Moreover, in 2000, the Caribbean — comprised of Caribbean islands and the Bahamas — again dominated the cruise destinations market with 45.9 per cent of vessel deployment. Other leading markets were Europe — 18.7 per cent (N. Europe — 7.0 per cent, Mediterranean — 11.7 per cent), Alaska — 7.8 per cent, West Mexico — 5.0 per cent, Trans-Canal — 4.8 per cent.

86. The geographic location of the Port of Miami has a formidable advantage for the dominant destinations in the Caribbean and Bahamas, as well as for those developing in Mexico, Central America, Panama Canal and South America. As the cruise industry continues its incredible expansionary phase, the port will go on developing and enhancing its facilities in

anticipation of the needs of tomorrow, thus ensuring the continued distinction as Cruise Capital of the World.

An opportunity for ports: adding new destinations

87. The opening of new Caribbean destinations to consolidate the leadership of the region in the cruise markets, as well as the opening of destinations in other regions, requires a careful consideration of the factors reviewed in chapters 2 and 3.

88. The Caribbean⁸ research suggests that those factors can be grouped into two, namely: (i) port-related attributes; and (ii) island-related attributes. The former includes vessel accessibility to the port, berth availability, berthing facilities, passenger reception facilities, good official services and vessel security. The latter comprises water sports, cultural diversity, friendliness of locals, political stability, tourist safety, etc.

89. A cursory review of tourist brochures⁹ shows that cruise trades are spreading to other regions. Thus, other ports could seize opportunities opened to them in “short” and “long” cruises.

Teamwork needed

90. The importance of location is indisputable, but is not the sole determining factor for a successful base-port operation. Support facilities and infrastructure, such as airlift and lodging capacity, efficient ground transportation and telecommunications, experienced manpower, properly staffed and trained regulatory agencies and security bodies, as well as the enthusiastic backing of the general public are equally important.

91. The success of a seaport is dependent on many players and close partnerships. For example, it takes a community-wide effort involving, among others, airport management, county and city officials, organized labour, hotel associations, convention and visitors bureau, private enterprise and chambers of commerce to come together with a vision of what is needed and to carry the plan through.

⁸ Strategies for Global and Regional Ports – The case of Caribbean Container and Cruise Ports by Dr. G. De Monie et al. Kluwer Academic Publishers. 1998. Dordrech, the Netherlands.

⁹ A 12-day cruise covering the West Mediterranean, Morocco and the Madeira and Canary islands; a 15-day cruise around the Baltic Sea; a 26-day cruise covering the West Coast of South America, Panama Canal, Caribbean coast of Central America and Yucatan Peninsula; and a 27-day cruise covering Australia, New Zealand and the Antarctic.

92. In 1999, the Port of Miami and the cruise industry rallied the entire community to successfully fend off an attempt to impose a \$4 tax per person per day on every cruise passenger sailing from the seaport. The purpose of the tax was to fund a new baseball stadium. Because the head tax was to be charged only to Port of Miami passengers, the cruise lines would have had to absorb it to remain competitive. The eventual result would have been the lines moving to another port, either in Florida or offshore. In either case, the effect would have been devastating to the community's economy. Among the losers would have been the port, the cruise lines, the airport, local hotels, restaurants and entertainment centres, retail stores, rental car companies, and would result in the loss of thousands of jobs and millions of dollars in wages.

93. In large measure based on the ability to recognize a common threat, and the disposition to work together and present a united front, the measure was successfully defeated when the State governor, after hearing the community's concerns, withdrew his support from the bill — effectively killing it.

94. Another example of teamwork is the cargo and cruise industries coming together to assist on issues that affect the port. One such issue is improving the flow of traffic entering and leaving the port and relieving congestion on city streets. For this project, termed the Access Roads Project, the cargo and cruise lines, the airport, chambers of commerce, and municipalities all work together to achieve the desired goal.

95. A third example is the lighting of the MacArthur Causeway Bridge in 2000. This bridge over Biscayne Bay connects mainland Miami with Miami Beach through Watson Island. The high-level bridge, which opened to traffic in 1997, has excellent exposure from the south, notably the cruise terminals and the new American Airlines Arena. Following the positive response from the community to the lighting of the bridge connecting the seaport to the mainland, the Florida Department of Transportation and Miami-Dade County jointly sponsored the lighting of the MacArthur Causeway Bridge. The cost for design and construction was approximately \$1.5 million. A committee made up of public, private and community partners selected the lighting schemes and colors. The lighting on the MacArthur Causeway Bridge has become a bright and beautiful landmark of the city.

96. The underlying message behind the three examples cited above is a simple, but important one: One port, one community.

Reference Sources

- Caribbean Tourism Organization
- Enterprise Florida
- Florida State Government
- Florida-Caribbean Cruise Association (FCCA), “Contribution of the North American Cruise Industry to the Florida Economy in 1999” – *(Draft Report)*
- Greater Miami Convention and Visitors Bureau
- Immigration and Naturalization Services (INS)
- International Council of Cruise Lines (ICCL)
- Miami-Dade County Government
- United States Census Bureau
- United States Coast Guard (USCG)
- United States Customs Service
- United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service (APHIS), and Plant Protection & Quarantine (PPQ)

ANNEX 1: Vessels' Characteristics

<i>Vessel</i>	<i>grt</i>	<i>Length in metres</i>	<i>Lower Berths</i>
Carnival Triumph	102,000	272	2,758
Carnival Victory	102,000	272	2,758
Ecstasy	70,367	261	2,052
Fascination	70,367	261	2,052
Imagination	70,367	261	2,052
Paradise	70,367	261	2,052
Norwegian Majesty	40,876	207	1,462
Norwegian Sea	42,000	214	1,518
Norwegian Sky	77,104	260	2,002
Norwegian Sun	77,000	260	2,000
Norwegian Wind	50,760	230	1,748
S/S Norway	76,049	321	2,032
Explorer of the Seas	142,000	311	3,100
Grandeur of the Seas	74,140	279	1,950
Majesty of the Seas	73,941	268	2,350
Splendour of the Seas	69,130	264	1,800
Vision of the Seas	78,491	279	2,000
Voyager of the Seas	142,000	311	3,100

Annex 2: Quay / Berth Locations and Dimensions

Berth/Locations	Length		Apron Width	MLW Depth Alongside	
	Feet	Metres	Feet (Metres)	Feet	Metres
Passenger Terminal 7 (Ro/Ro)	750	229	150 (45.7)	32	9.75
Passenger Terminal 1-5 and 10 (Bays 1-25)	3,220	982	40 (12.20)	36	11.00
Bays 25-38 (Passenger/Cargo)	1,600	488	70 (21.30)	36	11.00
Passenger Terminals 8-9 (Bays 38-45)	1,680	512	70	36	11.00
Bays 45-55	1,200	366	180 (54.9)	36	11.00
Bay 55 W, Ro/Ro - Lo/Lo	900	274	180	36	11.00
Bay 59W, Ro/Ro - Lo/Lo	550	168	180	32	9.75
Bay 65W, Ro/Ro - Lo/Lo	690	210	180	32	9.75
Gantry Crane Berths 99 - 115	2,000	610	180	42	12.80
Gantry Crane Berths 115- 127	1,400	427	180	40	12.20
Gantry Crane Berths 127 - 131	450	137	180	36	11.00
Gantry Crane Berths 131 - 140	1,125	343	180	28	8.50
Bays 144- 148	600	183	80 (24.40)	25	7.60
Bay 154, Ro/Ro - Lo/Lo	670	204	80	25	7.60
Bay 155, Ro/Ro - Lo/Lo	550	168	80	25	7.60
Bays 161- 171 (171 Ro/Ro - Lo/Lo)	1,250	381	80	31	9.50
Bays 165 - 177 (171&172 Ro/Ro - Lo/Lo)	1,450	442	80	25	7.60
Bays 183 -187	450	137	80	25	7.60
Passenger Terminal 12 (Bays 187-195)	1,000	305	100(30.40)	28	8.50

Notes:

1. Ships' berths are noted with bay numbers that begin at the northwest corner of the island. Bay numbers increase in a clockwise direction around the port in increments of approximately 120 feet per bay.
2. Bulkheads are concrete-capped, steel sheet pile with 7.5 feet minimum height above MLW. Apron areas are asphalt paving over compact fill or reinforced concrete decking on piling.