Cruise Market Assessment

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1. Introduction

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The Canada & New England cruise region has continued to evolve as cruise tourism has expanded. Thus, over the past several years there have been significant changes within the world and region that have affected the cruise market and will continue to do so into the mid-term. These include the implementation of the North American Emission Control Area, Canadian cabotage, Customs & Immigration policies, re-deployments of ships, US Congressional challenges to the tax standing and safety of the cruise line industry, and worldwide competitive initiatives have impacted the strategies of Ports and regional marketing assocaitions to attract and retain cruise passengers and lines worldwide.

Nova Scotia and the key ports of Halifax and Sydney provide for the majority of all cruise line traffic to the Province. Both ports have invested into infrastructure to support the cruise tourism industry and continue to assess the issues and opportunities associated with the industry to ensure the optimal use of the current and future facilities. Additionally, the public park services and private enterprise has developed venues, tour product and commercial options targeting the land-based and cruise line passenger in the region. Overall, cruise tourism in the summer months, and in partciular the peak fall season, has become an important economic generator for Nova Scotia and the Maritime Provinces of Canada.

Sydney is a secondary cruise destination in the Maritimes and provides a strategic port-of-call for the crusie line industry on a variety of itinerary patterns, particularly the 7-day and longer open jaw sailings that pass through the region from homeports in Quebec and the US. Holland America Line is the principal cruise line presently offering these sailings within the region from May throguh October. They are the primary customer for the Port of Sydney and provide more than half of the annual passenger traffic to the community and surrounds annually.

The Canada & New England region competes against other cruise regions in the world for cruise traffic. Examples include Bermuda, Alaska, Baltic and the Mediterranean. Thus, the region must continually re-brand and invigorate the products and services offered to the cruise tourism market to meet the needs and expectations of the visitor and cruise operator.

As a part of this process it is necessary to understand the issues and opportunities as context to the Port, City, Province and Region. The purpose of this report is to identify issues and opportunities that may impact meet future cruise demand for the region, and in particular Sydney, as well as identify service and infrastructure needs to meet passenger and vessel demand into the long-term.

Since 2000 the Port of Sydney has seen cruise passenger throughput grow at a 6.2% annual rate from some 13,000 to nearly 100,000 in 2013. However, more than 67% of the cruise traffic for the region and Sydney occurs in the months of September and October. Justifying infrastrcuture and product development for this short period is difficult and must be properly planned to create the best value proposition.

2. WORLDWIDE CRUISE INDUSTRY

Global overview

- The underlying growth trends for the general cruise industry as a whole are outlined below:
- The cruise industry is constrained by ships (supply), not passengers (demand);
- Cruise lines are expanding in several cruise regions to provide new products to their clientele and to establish new market bases;
- Repeat clientele are a major asset of the industry;
- There is a saturation of traditional ports and regions, which has allowed for the industry to branch out into new regions and ports, thus providing growth opportunities;
- Non-US passengers are taking more cruises, with the European market (particularly the UK and German) growing rapidly;
- The cruise industry is controlled by a handful of profitable operators that can modify their operations quickly to reflect changes to the economy and global geo-political issues in order to absorb cost or increase profitability; and,
- The industry has done a good job of shifting land based vacationers to cruise guests due to the all-inclusive value perception of the cruise product.

Other key issues that have and will affect the cruise industry over the mid-term will be the full implementation of Emission Control Areas (ECAs) throughout the Baltic, Northern Europe,the perimeter of North America with possible extension in the future to other regions such as the Mediterranean. The costs to the industry in terms of fuel, monitoring and on-board emission systems are still being contemplated. Recently both Carnival Corporation and Royal Caribbean Cruises, Ltd. proposed and have made deals with the US Environmental Protection Agency (EPA) that provide for some relief from the North American ECAs.

Cruise vessel trends and new-build program

Cruise operators have been highly successful in introducing new vessel inventory and developing on-board products that generate sustained interest in cruising. Cruise brands continually work to improve the quality and quantity of on-board experiences with more diverse food and beverage venues, entertainment and deck activities, meeting and conference facilities and recreation areas.

Among the largest of their efforts is the creation of larger and more lavish vessels furnished with veranda-style outside cabins, grand central atriums, health spas and other amenities found in the best land-based resorts. This trend became the norm in the mid-1990s and has continued as cruise brands introduce innovative products and services on the newest vessels to further differentiate themselves from the competition and generate renewed public interest in cruising. Consumers generally meet each new vessel launch with enthusiasm, and ultimately, increased passenger bookings.

To forecast future facility and service requirements driven by passenger throughput, it is important to take into account the trends in ship construction and deployment.

- In the past five years Royal Caribbean International delivered the first new-build of the next generation of cruise vessel – *Oasis of the Seas* followed by the *Allure of the Seas* in fall 2010, both with passenger loads exceeding 5,400. Norwegian Cruise Line delivered the 150,000-GT, 325-meter LOA *Norwegian Epic* capable of accommodating more than 4,200 passengers and crew in summer 2010. Additional vessels are now on order for both brands with capacities exceeding 4,000 passengers and more than 150,000 GT (RCI *Quantum of the Seas, Oasis 2 and 3,*as well as the *Norwegian Breakaway* and others).

- In December2013, there are 21 new cruise vessels on order with a total berth capacity of 61,139 and scheduled for delivery over the next four years (2014 through 2017). *For comparison purposes, in spring 2006, the forward cruise vessel order book contained 29 vessels with a berth capacity of approximately 85,000.*

For Sydney to remain competitive in the cruise marketplace into the future and be able to fully accommodate the future generation of larger cruise vessels, current and future berths, terminal facilities and upland support areas will need to accommodate these large cruise vessels. The review of future vessel deliveries, as shown in Table 1, remains the primary tool used to project future industry passenger growth.

Responding to cruise passenger demand, cruise operators continue to order new vessels, although at a more restrained pace than observed at the peak of vessel orders in the late 1990s through the mid-2000s. The last of the larger 120,000-GT plus vessels for delivery into the worldwide cruise fleet is far from over. More than 70% of the vessels delivered or on order since 2009 exceed the 120,000-GT mark with this number increasing annually.

Table 1: Cruise vessels on order worldwide, as of December 2013
Source: Cruise Community and B&A

Cruise Operator	Vessel Name	Gross Tonnage	Length Overall (M est.)	Lower Berth Capacity	Cost (US Millions)
2012					
AIDA Cruises	*AIDAmar*	71,000	253	2174	$565
Carnival Cruises	*Carnival Breeze*	130,000	306	3690	$738
Celebrity Cruises	*Celebrity Reflection*	122,000	315	2850	$798
Costa Cruises	*Costa Fascinosa*	114,200	293	3012	$726
MSC Cruises	*MSC Divina*	140,000	335	3502	$742
Disney Cruise Line	*Disney Fantasy*	124,000	339	2500	$899
Oceania Cruises	*Riviera*	65,000	248	1260	$530
2013					
AIDA Cruises(DEL.)	*AIDAstella*	71,300	253	2192	$417
NCL	*Nor. Breakaway*	143,500	324	4000	$840
Princess Cruises(DEL.)	*Royal Princess*	141,000	325	3600	$735
MSC Cruises	*MSC Preziosa*	140,000	335	3500	$742
Hapag-Lloyd	*Europa 2*	39,500	205	516	$360
Compagnie du Ponant	*Le Soleal*	10,700	142	264	$134
2014					
Princess Cruises	*Regal Princess*	141,000	325	3600	$735
NCL	*Norwegian Getaway*	143,500	324	4000	$840
Costa	*Costa Diadema*	132,500	306	3700	$788
TUI Cruises	*Mein Schiff 3*	97,000	295	2500	$515

RCI	*Quantum of the Seas*	167,000	350	4100	$1032
2015					
P&O Cruises	*unnamed*	141,000	325	3611	$804
AIDA Cruises	*AIDAprima*	125,000	306	3250	$650
RCI	*Anthem of the Seas*	167,000	350	4100	$1032
Viking Ocean Cruises	*Viking Star*	47,000	250	944	$308
Compagnie du Ponant	*unnamed*	10,700	142	264	$134
TUI Cruises	*Mein Schiff 4*	99,300	295	2,500	$515
NCL	*Norwegian Escape*	163,000	324	4,200	$916
2016					
AIDA Cruises	*unnamed*	125,000	306	3250	$650
Viking Ocean Cruises	*unnamed*	47,000	250	944	$308
Carnival Cruise Line	*Carnival Vista*	135,000	335	4,000	$708
RCI	*Oasis 3*	225,282	350	5,400	$1300
RCI	*Quantum 3*	167,800	350	4,180	$1032
HAL	*unnamed*	99,000	295	2,660	$518
Regent Seven Seas	*Seven Seas Explorer*	54,000	250	738	$450
Genting (Star Cruises)	*unnamed*	150,000	335	3,364	$960
2017					
NCL	*Norwegian Bliss*	163,000	324	4,200	$845

Additionally, the Length Overall of the new build vessels is also increasing as shown above. This impacts the berth infrastructure of ports.

Figure 1: Conventional cruise worldwide and regional expansion, 1995 - 2013

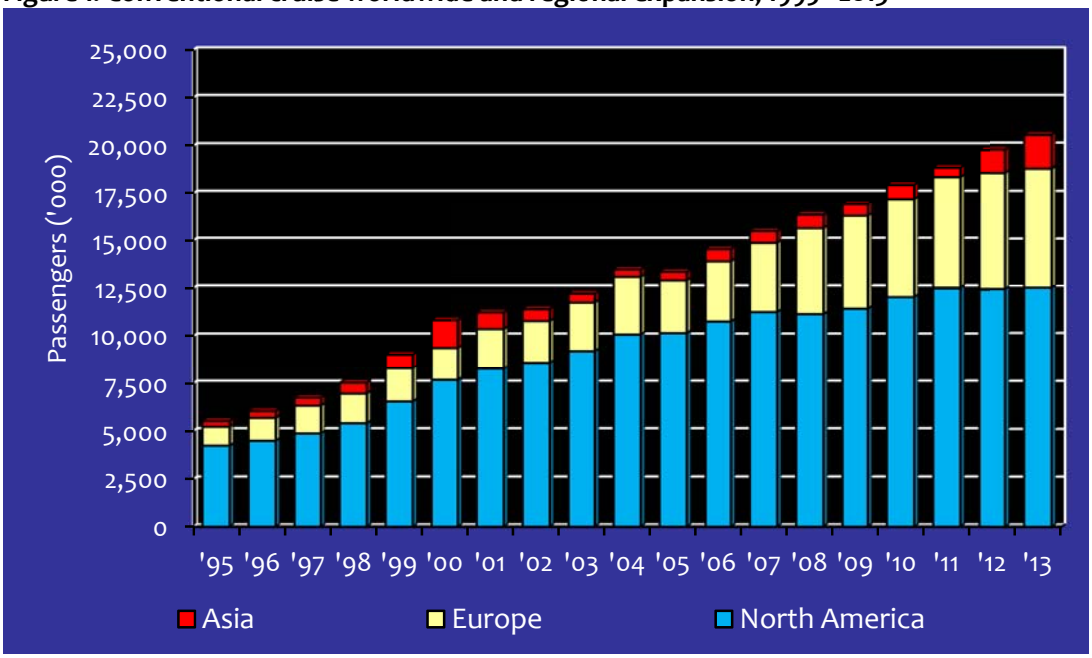


Figure 1 illustrates the growth of the cruise line industry from 1995 through 2013. As shown the North American market continues to be the main consumer generating market. However, there has been significant growth in the European market over the past ten years. Asia has maintained a

relatively flat growth over the period, but has an unexhausted growth potential due to the large population base with fast-growing income streams and the desire to travel abroad. This will be a large future growth consumer market for cruise.

Europe and North America have very similar population overlays and demographics which allow for an easy growth comparison. Additionally, dedicated cruise lines such as Pullmantur (RCCL Spanish brand), AIDA (Carnival Corp. German brand), TUI Cruises (RCCL German brand), Thomson Cruises (UK brand), Crosiers de France (RCCL French brand) and many other smaller lines specifically target national markets to further drive growth in the larger regional market.

As shown, in 2012 the Caribbean/Bahamas region was the number one cruise destination by way of passenger bed-days *(a formula based upon lower cabin berths x cruise length x sailings)* with the Mediterranean ranking second and Northern Europe third overall. The Alaska and Mexico West regions round out the top 5 destinations. However, Mexico West has lost significant capacity in the past two years and will drop lower with the outcome of a 2013 statistical analysis.

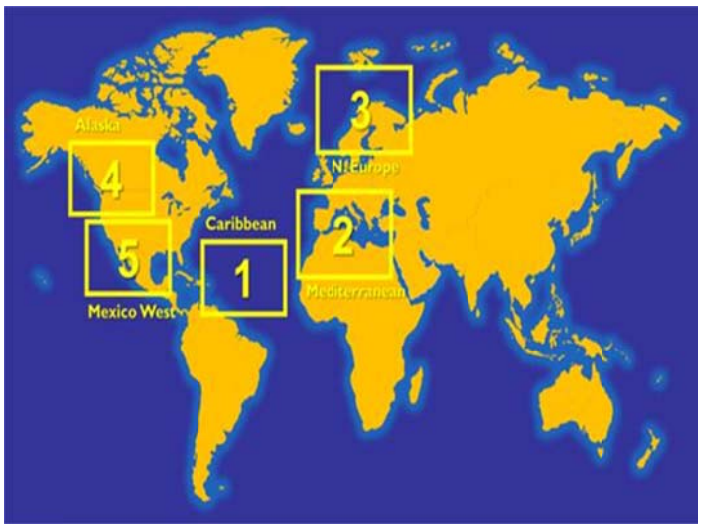
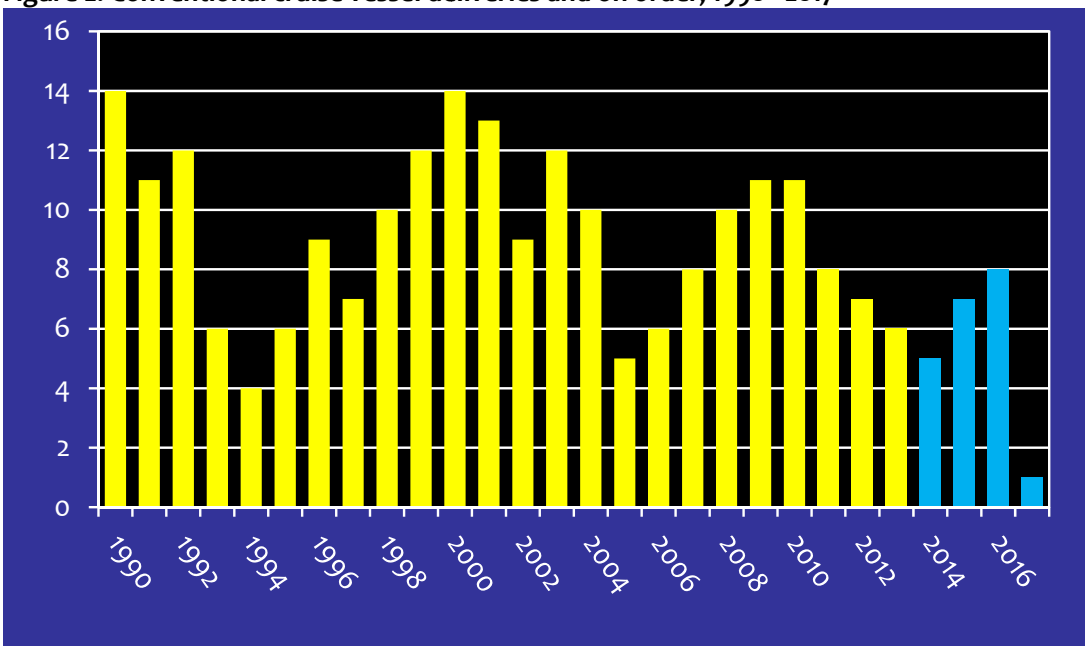


Figure 2 below shows the cruise vessel new build deliveries from 1990 through 2017. This supply propels the industry capacity forward. As noted there are established trends within the delivery pattern that coincide with the industry utilizing deliveries as a tool to adjust demand and pricing. They are also affected by exchange rates and slot availability in the limited number of yards that build these high quality vessels. There will be several more vessel orders placed for 2017 delivery.

Figure 2: Conventional cruise vessel deliveries and on order, 1990 - 2017



The potential development of shipyards with the technical capabilities to build and deliver cruise vessels in China and Asia would provide for added capacities in a relatively short timeframe once the industry accepts the standards of the vessels.

Figure 3 further defines the link between the numbers of cruise vessel new builds and the vessel passenger loads that have increased over the past 10 and next 3 years as shown. The capacities of vessels are increasing over this period, thus it does not take as many ships being built each year to move growth forward in the cruise industry.

Figure 3: Conventional cruise vessel deliveries and on order, 2003 - 2016

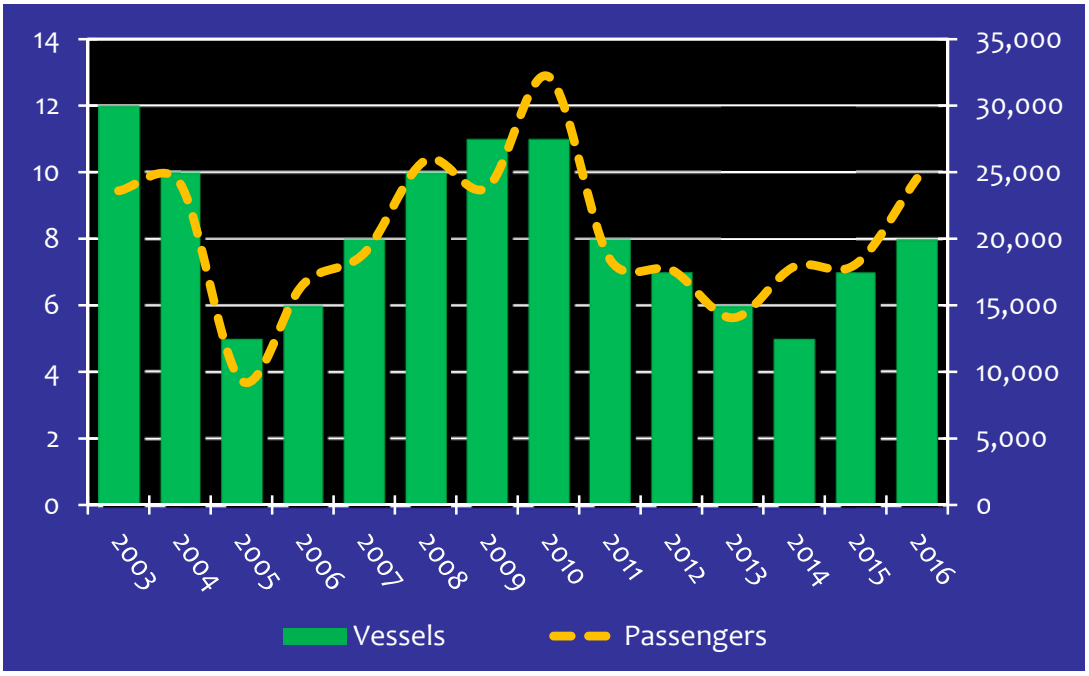
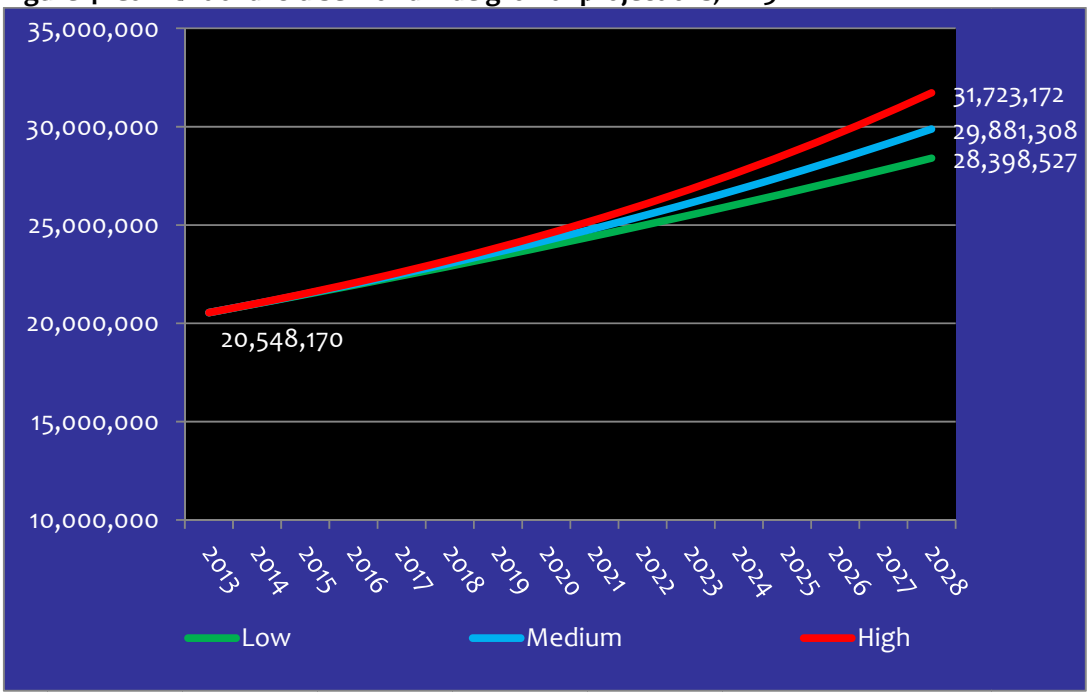


Figure 4: Conventional cruise worldwide growth projections, 2013 - 2028



Based upon the additional market supply and factoring a minimal withdrawal factor[1] of 10%, Figure 4 shows the potential worldwide passenger growth through 2028 estimated to be between 28.3 and 31.7-million passengers. This is a growth factor of approximately 2.5% to 3.6% per annum.

Cruise industry success factors

- The industry is constrained by ships (supply), not passengers (demand). The delivery of new large capacity vessels with an extended life cycle provides for a compelling growth strategy;

- There is a high level of repeat clientele demand due to satisfaction and the demand for new and different passenger experiences;

- The industry is rapidly expanding in several cruise regions worldwide due to passenger demand and the quest for increased revenue opportunities and lower costs;

- Major deployment factors include:

    - Passenger demand – cruise lines use survey tools, travel agent and passenger feedback as a key indicator for future deployment; and,

    - Yields – lines place vessels into itinerary patterns with high demand and lower operating costs to maximize passenger spending per day.

- There are opportunities for ports worldwide to become part of the cruise business. However, there is a cost in the development of infrastructure and support tourism businesses that must be addressed. Return on investment parameters and the ability of ports and cities to provide platforms for a variety of social and economic impacts to the community must be addressed as part of any development opportunity;

- Some cruise brands and consumers see a saturation of traditional ports and regions, which allows for new port opportunities on a worldwide basis. This is further exacerbated by the implementation of costly regulatory and operational costs in some regions;

- The industry is controlled by a handful of US based profitable cruise operators that has become a global industry with key players in Europe and Asia;

- Currency exchange rates play a major role in shipbuilding and deployment patterns that define the timing and deployment patterns of cruise brands;

- Weather patterns, consumer demand and cruise line operations have influenced deployments in many regions extending or moving seasonality into non-traditional time slots. This includes new cruise sailings that now include Christmas and holiday sailings in traditionally summer cruise regions, such as the Baltic, as well as year round cruises from New York that depart in the winter for the Bahamas and Caribbean; and,

- The industry has shown itself to be generally recession resistant by controlling and reducing costs, shifting capacity between longer and shorter cruises, developing vessels with more outside cabins, on-board amenities, re-fitting vessels for all year around cruising in specific regions and allowing for discounting on cabin fares to pick up the potential for on-board revenue spending in order to stay profitable.

[1] This is the amount of cruise vessels that leave the worldwide fleet each year due to being scrapped, sunk, sold or used in secondary markets.

European marketplace trends

A number of key mega-trends have emerged in the European marketplace over the past ten years propelling the growth of the market forward. They include the following:

- European and North American cruise operators have been concentrating on building their brand markets closer to home to allow easy access to their core consumer target demographic;

- Thus, it is reasonable to assume that once the "homeland" markets reach a level of capacity, cruise lines will be looking toward more emerging (and often distant) markets for new prospects and future growth on the fringes of the main cruising regions of Europe and North America. These may include Northern Europe, Africa, Black Sea, Middle East, South America and others;

- Cruise industry supply over the past four years has tightened as the lines have worked to maintain profitability in the current economic environment. However, once cruise lines begin to place new build orders for the outlying years of 2014 and beyond the capacity will likely come back and markets will generally have more appeal to the industry. This will likely be driven by deployments of newer vessels to the Asian cruise region with an eye to further developing the consumer market in that large and untapped region; and,

- Cruise line brands have done an excellent job in penetrating key consumer markets and laying a foundation for future cruise growth within the close European deployment ranges, as well as potential long-term fly-cruise growth outside of the traditional bedrock Mediterranean and Baltic deployment areas.

Cruise line business model

The industry is supply-led and has formulated a business model to take advantage of its mobility and size. The fundamentals of the cruise industry business model are outlined below:

- Control supply and demand through new-builds &vessel deployments;

- Develop cruise itineraries that are easy to create with high consumer demand, low expenses and profitable for the operator;

- Cabin ticket price is only a portion of the overall revenue possibilities. The lines have also been able to create revenue opportunities on-board & shore-side by developing the following:

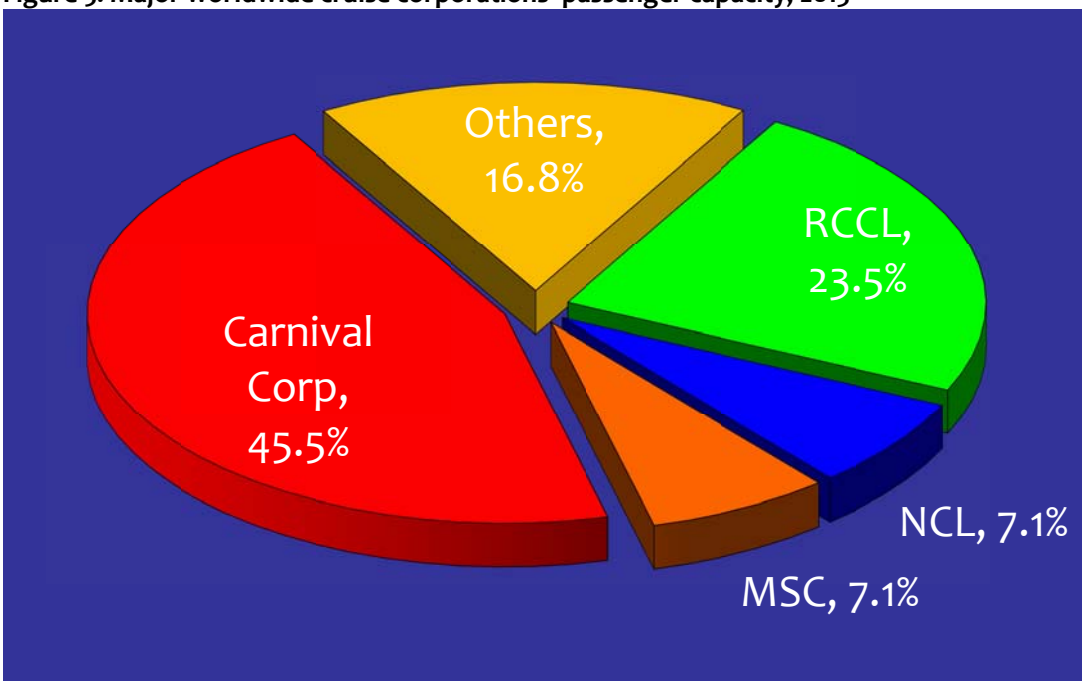
    - Varieties of shore excursions catering to many demographics;
    - Destination-oriented deployments;
    - On-board retail options;
    - Unique bar and casino revenue options; and,
    - On-board services such as spa, classes and lecture series, and unusual experiences.

- Control the expense side through balancing the cost of a deployment or destination against the value it produces (Available Passenger Cruise Day - APCD ratio).

There are four major cruise corporations that control the majority of the worldwide cruise capacity. Carnival Corporation is the largest with more than 10 cruise brands ranging from luxury

(Cunard and Seabourn) to mass market (Carnival Cruise Lines). RCCL is half the size of Carnival Corporation in terms of passenger capacity, followed by the fleets of MSC Cruises and Norwegian Cruise Line. See Figure 5below.

Figure 5: Major worldwide cruise corporations' passenger capacity, 2013



Key European cruise corporations, Distribution of Fleet

Although there are significant numbers of cruise vessels in Europe serving numerous consumer groups, there are five key brand operators with some 64 ships and a bed capacity of 126,703 that provides 86% of the European market bed capacity. These five brands (further broken down into 7 major cruise lines) are shown in Figure 6. The operators are as follows:

- Carnival Corporation (headquartered in North America) with 5 European brands serving consumer markets in Spain, U.K., Germany, France and Italy. They include:
  - Costa;
  - AIDA;
  - P&O Cruises;
  - Cunard Line; and,
  - Iberocruceros.

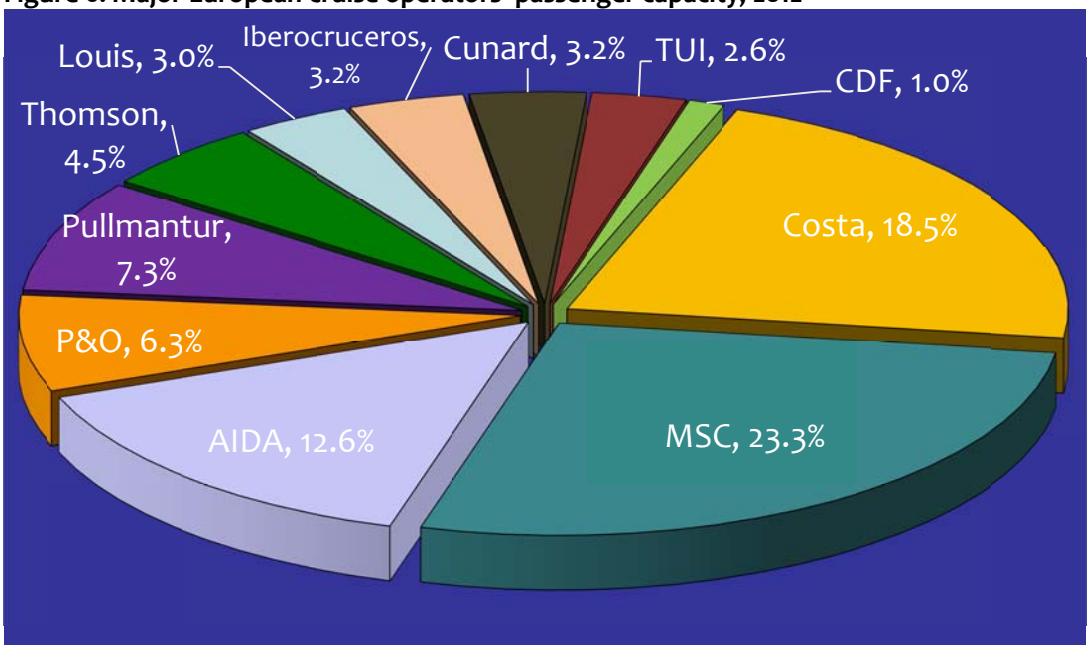
- RCCL (headquartered in North America) with three brands dedicated to the European marketplace (specifically the Spanish, German and French markets). RCCL utilizes its Royal Caribbean International brand to tap into the lucrative U.K. and Italian markets, amongst others. There European brands are as follows:
  - Pullmantur;
  - TUI; and,
  - CDF.

- MSC is a singular brand with many newer cruise vessels (12 total);

- Thomson is primarily a UK cruise provider tapping into a regional market (5 vessels); and,

- Louis Cruises is primarily a Greek Isles and Mediterranean deployed operator with a variety of older vessels (4 ships).

Figure 6: Major European cruise operators' passenger capacity, 2012



Destination challenges: Cruise line needs

Table 2 outlines a number of cruise line needs that in many cases become challenges for destinations on a regional or port basis. These are separated into four distinct areas. Each is important, but it is necessary to address each of these key components in order to meet the needs and expectations of the cruise industry over the long-term. Marketing and Sales is the key deployment driver based upon consumer awareness and demand. Marine operations also play a key role in ensuring the itinerary pattern routing and ports provide a safe and secure environment.

Table 2: Destination challenges: Cruise line needs

• Marketing and Sales	• Marine Operations
• Consumer awareness and education • Access to consumers – sales chains • Marketability for the consumer • Fit with cruise brand philosophies • Fit with consumer holiday patterns	• Marine navigation and access • Security • Berth, apron and terminal features • Ground transportation areas • Provisioning
• Landside – coach and guide needs • Airlift – capacity and cost • Lodging – capacity and cost • Consumer product satisfaction • Destination venue capacities	• Port charges • Labor, fuel and other operating costs • Regulatory and environmental issues • Maritime law • ECA and European Union Environ. laws
• Logistics, Air and Shore Excursions	• Finance and Legal

3. Sydney Cruise Sphere

Sydney's cruise sphere encompasses port-of-call operations within the Canada & New England region, transatlantic, world, small ship adventure and repositioning sailings from homeports in the northeast US, such as New York, as well as Montreal on open jaw sailings within the region. Regional cruises are typically 7-days plus itinerary patterns. While the North American consumer is the primary market driver, the region's historic charm and natural beauty is also attractive to European cruise operators looking to take advantage of the location and cultural ties associated with their passenger demographic. Figure 7 provides the historical reference for the primary North American cruise market growth that has propelled the industry forward to date and is the primary Sydney market base.

Figure 7: North American Cruise Market Growth, 2000 – 2013 est.

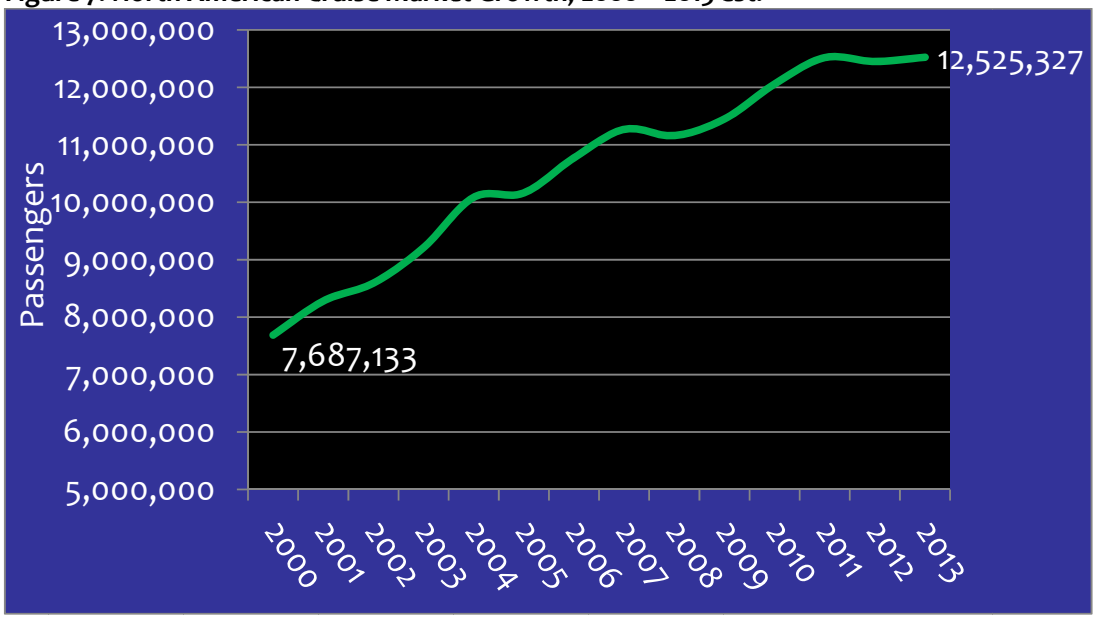
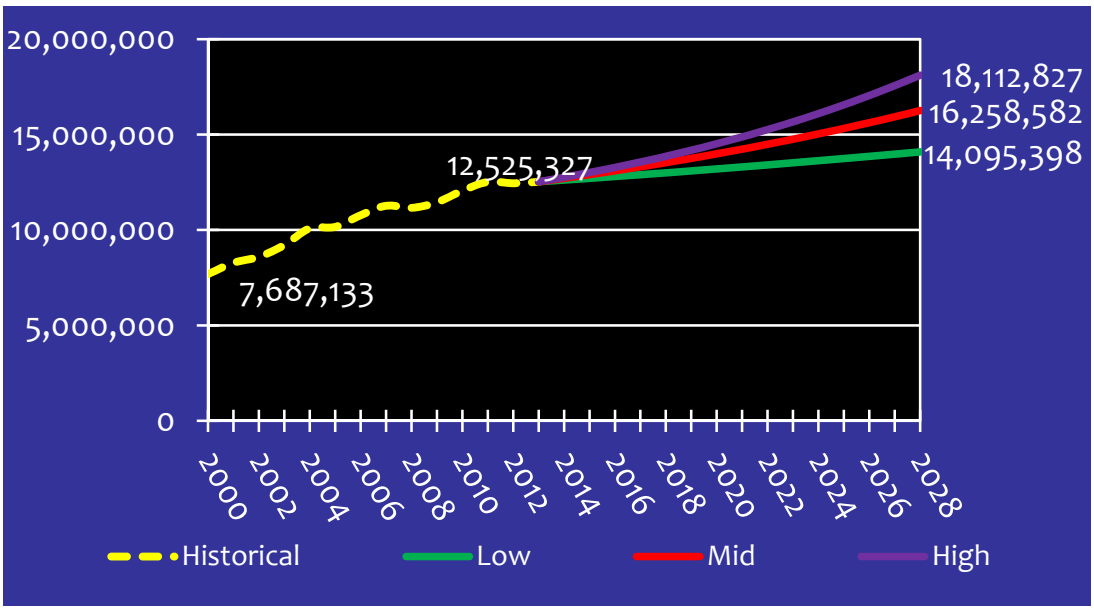


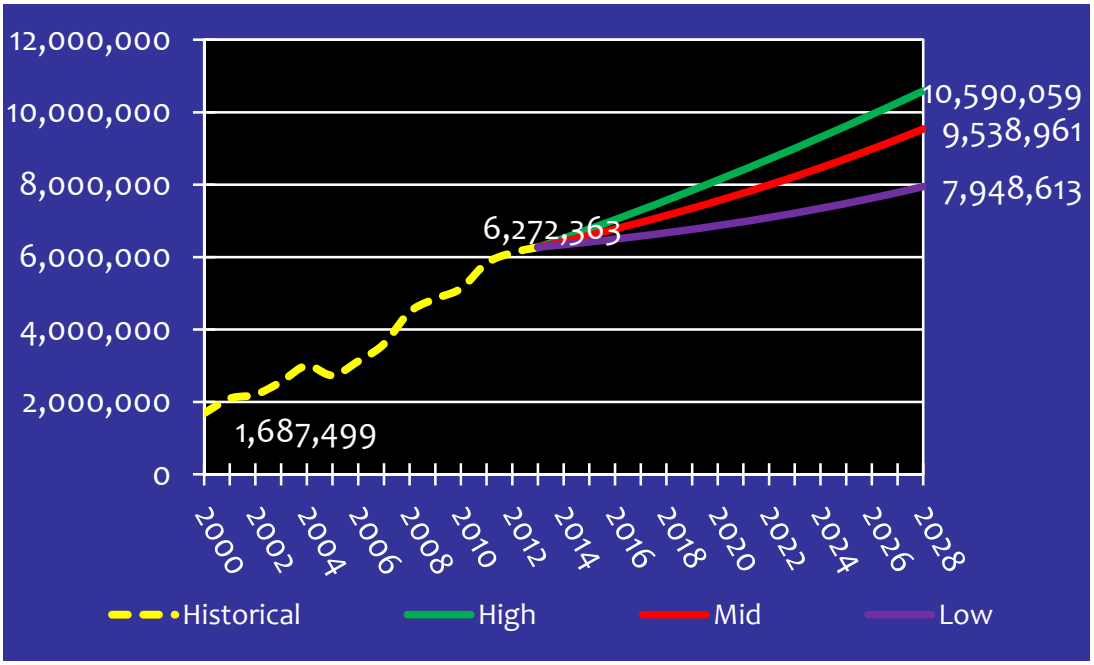
Figure 8: North American Cruise Market Growth Projection, 2000 - 2028



Based upon the new build delivery orders and those that are destined primarily for the North American market Figure 8 above provides a 15-year growth projection for the primary market. As shown, growth ranges from .78% to 2.8% per annum with a final range of between 14 and 18.1-million passengers in 2028.

Figure 9 outlines the potential European cruise market growth over the same period. As shown, growth ranges from 1.7% to 4.2% per annum with a final range of between 7.9 and 10.5-million passengers in 2028. The European consumer market will spread further out as consumers demand additional iterinary options outside of the current arena inclusive of the Canada & New England region.

Figure 9: European Cruise Market Growth Projection, 2000 - 2028



Canada & New England Growth Factors

- **Seasonal market with fall peaking (Sept. & Oct.).** This is likely to continue into the long-term and must be the focus of the region to meet the needs of the lines during this key period. Moving forward, there is the possibility to move sailings into the summer months as new products and demand rise.

- **Limited NA primary brands – HAL May – Oct. (3 ships).** The *Veendam* and *Maasdam* sail within the region on 38 sailings beginning in May each year. These vessel are each more than 20-years old and likely will be in need of replacement within the next 5-years moving capacities from 1,266 currently per sailing to a minimum of 2,050 with the next generation of HAL vessel. Hard and soft infrastructure must be developed to meet these future demands. Additionally, new vessels could also move deeper back into the summer months for deployment. However, significant work needs to be done in terms of marketing to create additional consumer demand and product development to allow for increased revenue opportunities for the lines during the summer months.

- **Impacted by ECA, cabotage, competition from Alaska, Baltic, Bermuda, etc.** The emission control area provides for a challenge in terms of fuel cost and consumption for cruise lines which increases the overall cost of operations for the region. While the region is the

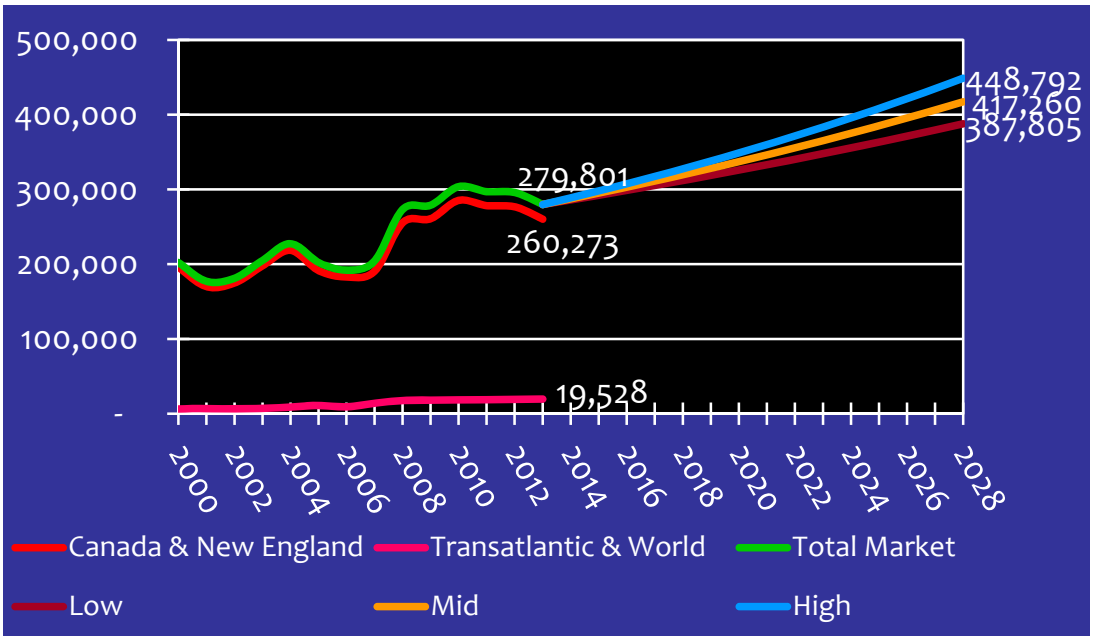
leading September / October destination for the North American market, it does have substantial competition in the peak summer months from Alaska, Baltic and Bermuda, as well as others such as the Mediterranean for cruise traffic.

- **Need for increased consumer demand.** To generate growth the region needs to further push consumers to demand cruise lines to deploy ships so they can sail to the ports within the Maritime Provinces. This is a key to long-term growth and regional success.

- **Limited Marquee Destinations.** Within the region there are only three primary destinations with high consumer marquee value for the cruise line industry for the ports-of-call visited outside of New York and Boston. They include Quebec City, Halifax and Bar Harbor. Sydney is a secondary destination within the region along with the Ports of Saint John and Charlottetown. The continued development of these and other destinations within the region is essential for long-term growth and sustainability.

Based upon the potential growth opportunities for the itinerary patterns sailings within the region, Figure 10 outlines the projections for Canada & New England through 2028. As shown, growth is anticipated between 2.5% and 4.0% per annum over the period. This includes the addition of European and Asian consumers into the future.

Figure 10: Canada & New England Regional Growth Projections, 2000 - 2028



Cruise itineraries are the backbone of the cruise line industry. As such cruise lines are focused on cruise itineraries that are:

- Easy to sell to cruise consumers (marquee destination with demand).
- Profitable (per diem vs. cost of operations).
- Upsell to cruise consumers (provide for strong shoreside revenue opportunities).

The above is accomplished through the following:

- Using cruise vessels with a broad appeal to targeted consumer demographic and financial thresholds.

- Dependent on cruise line brand and in many cases individual vessels in a fleet.
- Creation of cruise itineraries that fit within consumer vacation patterns of 4-day, 5-day and 7-day patterns.
- Deployment of cruise vessels close to base cruise consumer groups.
- Mix of North American, European and other consumer groups to fill capacity.

Sydney as a Destination

Sydney is a good secondary port for cruise tourism as illustrated below:

- **Secondary regional destination**
  - There is a single berth, which limits large vessels due to tendering issues.
  - The port provides an excellent reception facility / GTA for passengers.
  - While there is direct access to the downtown core, there is limited activity.

- **Good shore excursion offering**
  - Primary tourism highlights are outside of Sydney in Cape Breton and Baddeck.
  - The Fortress Louisbourg is an excellent tourism draw and provides for great interactive programs for visitors. However, there is an early wind-down to some of the key activities during the peak cruise tourism season.
  - There are limited historical, natural and retail options within Sydney for shore excursion activities.
  - There are also limited independent activities which impact the visitor experience.

- **Limited speed & distance geographic location**
  - Sydney fits the 7- and 10-day plus cruise patterns within the region, but is too far north to be included in the shorter 4- and 5-day patterns from New York.

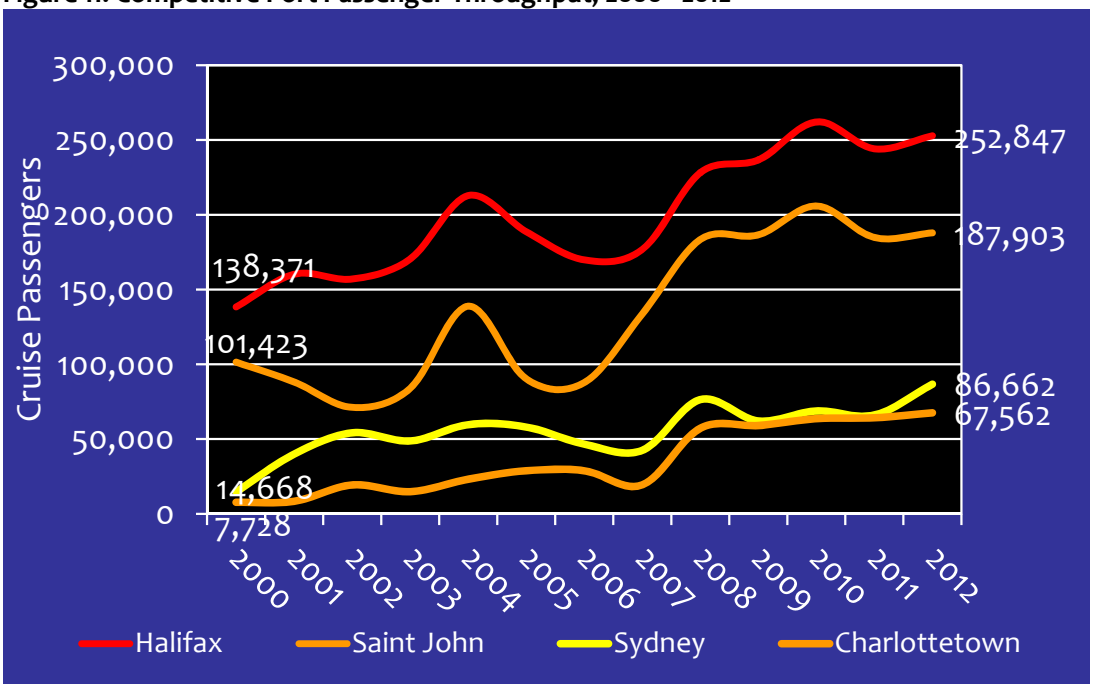
Regional Competitor Ports

For Sydney, Charlottetown is the primary competitor for cruise traffic as they offer good infrastructure, new and upcoming tour products and a good downtown experience. Charlottetown competes for the port-of-call 7-day plus sailings.

Secondary is the overall Quebec region primarily due to increases in ports and infrastructure, with both Quebec City and Montreal developing new homeports. However, it is also harder for them to pull ship deployments to this region at present due to airlift and consumer travel preferences. This region (Quebec) is also a strong ally in terms of continued development of Canada & New England.

Figure 11 provides an overview and comparison of the regional traffic passenger throughput for the key Maritime ports of call. As shown, Halifax and Saint John have the most passenger throughput, while Sydney and Charlottetown compete for the secondary traffic, which to a great degree (more than 58%) is driven by the summer Holland America Line (HAL) vessel deployments.

Figure 11: Competitive Port Passenger Throughput, 2000 - 2012



Issues and Opportunities

Table 4 provides a view of the key issues and opportunities facing the Canada & New England region over the mid- to long-term. Key amongst them is the fall peaking congestion issues. All of the issues and opportunities outlined below must be addressed by the region collectively to ensure future success.

Table 3: Issues and Opportunities for the Canada & New England Region

Strengths	Weaknesses
• Historical Atlantic Canada cruise offerings • Value and fit with a variety of cruise brand philosophies • Berth infrastructure - Halifax and Saint John • Canadian port options using US homeports	• Regional airlift from US and Europe • Limited marquee ports • Regional peaking (Coach & venue issues) • ECA and regulatory issues
• Growth of European cruise brands • ACCA reach (NWCCA) • New US East Coast homeport deployments • Newbuilds in the small ship adventure market • Development of local destinations for small and large vessels (mainly Quebec)	• Port congestion on peak days (seasonal) • Fuel costs long-term (air and vessel needs) • Infrastructure to support growth • Outside pulling of consumer demand
Opportunities	Threats

4. Sydney

As a secondary port, Sydney hosts a variety of cruise vessels including all of the major contemporary North American cruise brands and a variety of European, premium and niche cruise lines. For the 2013 cruise season there were 12 brands and 15 cruise ships calling at the Port of Sydney. Overall there were 69 cruise calls with 99,372- passengers. See Figure 12 for passenger throughput figures. Based upon the passenger load overall the average number of passengers per call averaged 1,440. For 2014, the estimated throughput based upon lower passenger berths is 108,504. This is a 6.2% per annum growth.

Figure 12: Sydney cruise passenger throughput, 2003 – 2014 est.

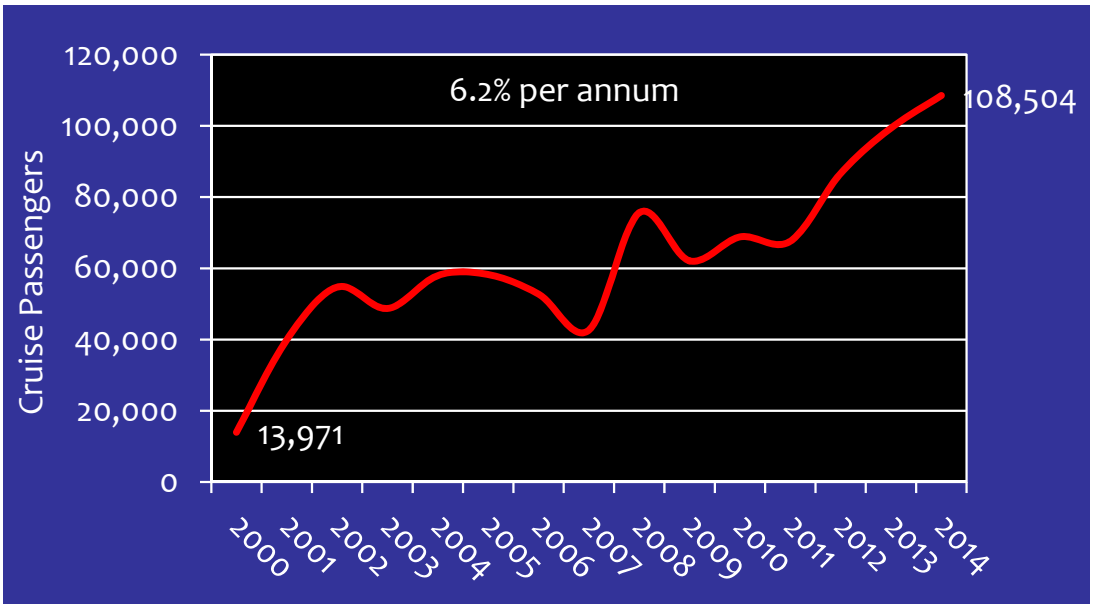


Figure 13 shows the corresponding cruise calls. As shown, the number of cruise calls has grown from 17 in 2000 to an estimated 80 calls in 2014.

Figure 13: Sydney cruise calls, 2003 – 2014 est.

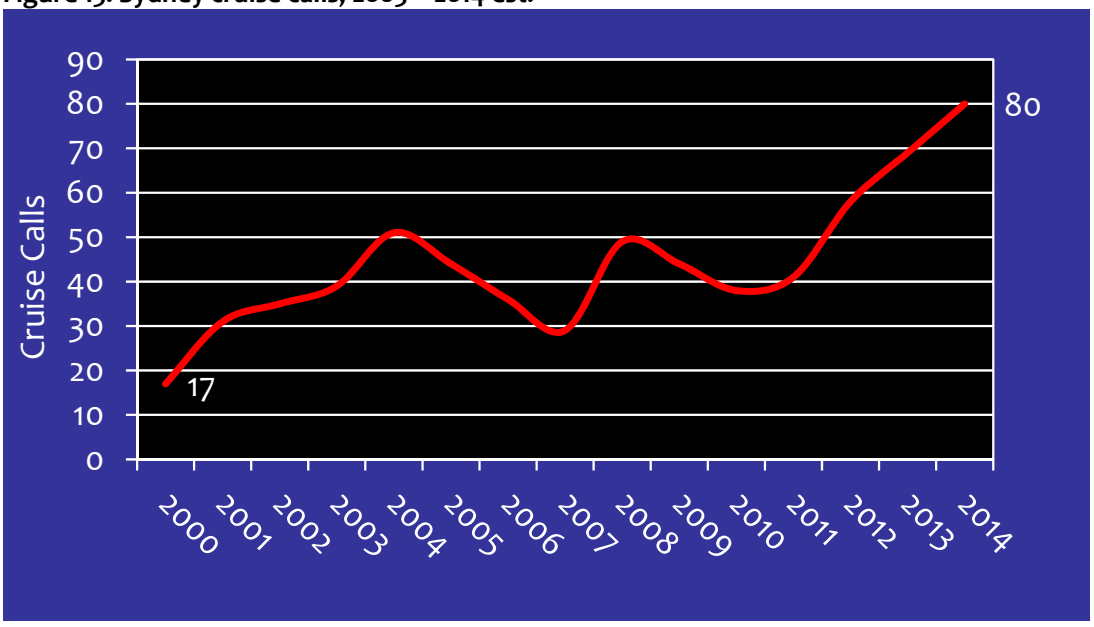
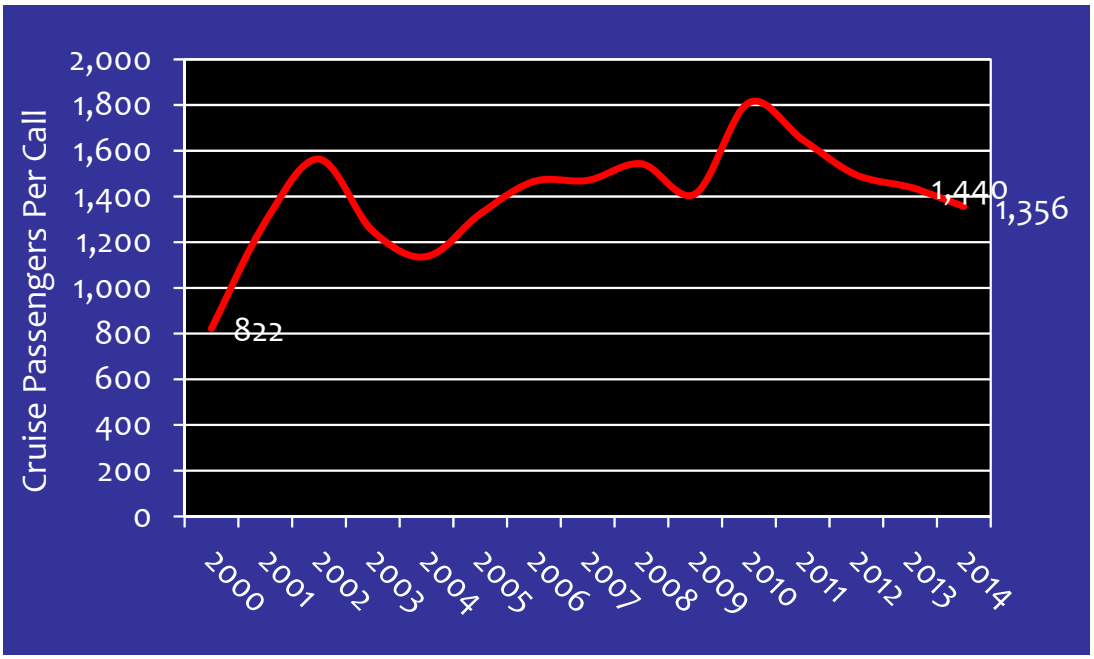


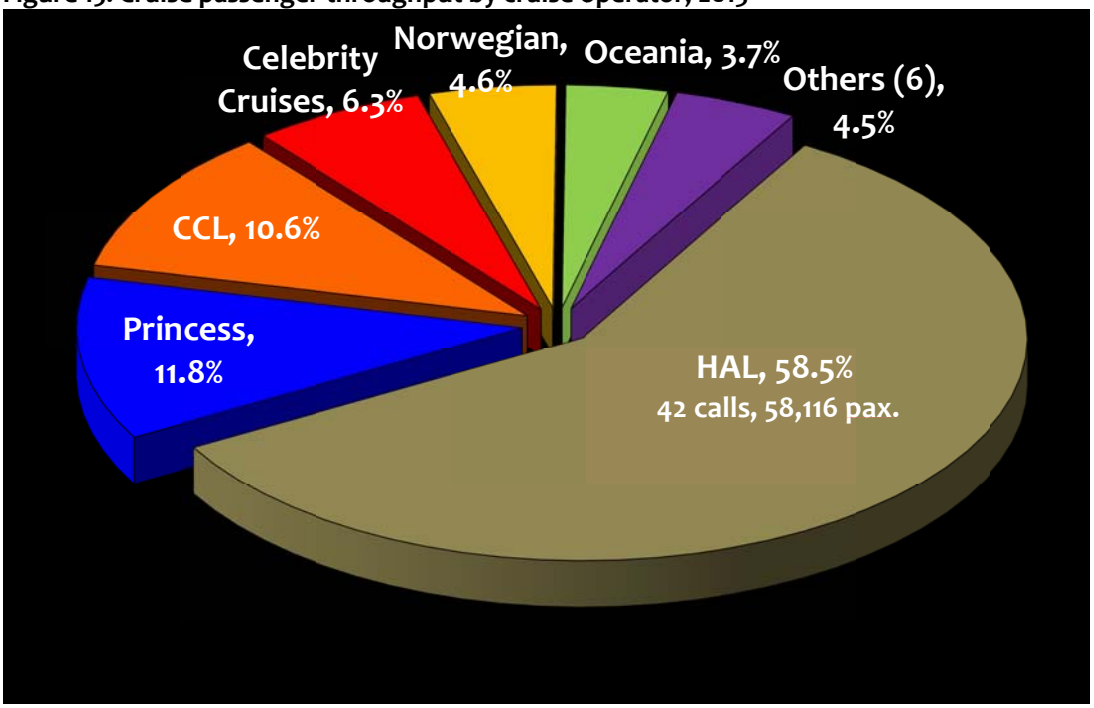
Figure 14shows the passenger capacity per vessel sailing to Sydney. The average per sailings has grown from 822 to 1,440 in 2013, with an estimated capacity per vessel for 2014 at 1,356.

Figure 14: Sydney passengers per cruise call, 2003 – 2014 est.



As shown in Figure 15 there is a tight contribution of major brands that provide a high volume of traffic to Sydney. Three brands (Carnival Cruises Line – 10.6%; HAL – 58.5%; and, Princess – 11.8%) provide more than 80% of the port's total passenger throughput.

Figure 15: Cruise passenger throughput by cruise operator, 2013



In the long-term establishing a diverse range of brands and volumes provides a stable cruise business environment, while continuing to grow all of these primary market brands. Sydney has an opportunity to host several other brands if there is a second peak day berth available for port of call operations. These include RCI, Disney Cruise Line, MSC, AIDA and other European brands.

SWOT assessment

A Strengths, Weaknesses, Opportunities and Threats (SWOT) assessment was conducted as part of this study. Feedback from key cruise lines (marketing and deployment personnel) was included. Feedback from these cruise line decision-makers is considered confidential for all studies. The SWOT assessment is gleaned from this commentary and our observations as part of this study process.

It should be noted that while marketing to and working with the cruise line industry decision-makers is an important and necessary component it is also necessary to a great degree to utilize the same basic tourism information channels for land-based tourism efforts to identify and communicate to the consumer the positive elements of the Port and community of Sydney and the surrounding Cape Breton area as a destination. This will bode well for the current consumer market and can assist in laying the foundation for mid- to long-term deployments. Cruise line deployment is affected by numerous factors, but consumer demand for a destination is the number one key to realizing cruise tourism expansion.

Strategic assets

Whether homeport or port-of-call, successful cruise destinations have two basic features in common:

- **"Supply Side" Characteristics:** Those items that attract and retain cruise lines and passengers to a destination. That is regional and/or international appeal as a travel/leisure destination and the cruise tourism infrastructure needed to support vessel operations.

- **"Demand Side" Characteristics:** This is a market basis or strategic fit within a greater cruise ship deployment. As outstanding a destination may be in terms of cruise tourism offerings and facilities, it must fit within a greater deployment, operational and regulatory scheme to be a viable option.

Table 5 SWOT assessment provides a look at the issues and opportunities faced by Sydney as the cruise industry looks to the region and Sydney contemplates the continued development of cruise infrastructure to support the growth potential. The issues change over time and in some cases overlap into different categories. However, each can be reviewed and approaches assembled to address each as part of a joint marketing, infrastructure and operations strategy.

For this exercise we have divided the strengths and weaknesses into categories. Based upon our experience in assembling these assessments the information shown may be factual based upon past and present experience or in some cases can be perceptions based upon second party input or lack of definitive information. Brand and marquee value are strong components and the main drivers of deployment that must be key to future development of Sydney. Providing for cruise facilities that can service the large cruise vessels and passenger capacity ranges is a possible need for Sydney to support long-term growth.

Cruise line feedback is found in the following commentary and is the primary basis for the SWOT assessment.

- Essential "port" for our very successful Canada New England program
    - due to location and lack of other options for larger ships in the region
- Sydney meets our passenger expectations
    - Sydney is a bit less liked "than Halifax". However there is nothing significant to point at
- Current deployment levels will remain similar over next few years
- We are reluctant to having to pay for larger berths for our much larger competitors
- In Sydney there is not much downtown (scores a 45 – not good)
    - No city tours
    - Nothing to do
- If there are 2 or 3 buses in port then there limited coaches
    - Must have a guarantee on coaches
- Need to deliver Fortress Louisbourg
    - Closing in early season after Thanksgiving

- CNE open jaw deployments doing very well
- The main issue in Sydney is a single berth
    - We have had numerous conflicts which require us to tender
    - We have had poor guest experiences when tendering
- One big advantage and disadvantage is Sydney's location
    - A bit too far north for the 7-night and shorter NYC or Boston patterns
    - For long Canada programs it is right on the way
    - Makes berth conflicts challenging to fix as we can swap the order or increase our fuel costs significantly
- We would not have plans to visit Sydney
    - Sydney is generally located too far to the North to make it a viable option for 7 day Canada/New England itineraries from New York
- We do not see a need for port infrastructure expansion to accommodate our ships/deployments over the next several years

- Sydney's weaknesses would be awareness and the popularity of Ports in the surrounding area
- If we have to share with larger ships, it might put a strain on the infrastructure and affect delivery of the tours and the port
- Sydney is well located for NYC to Montreal sailings
- Port is rated very well by our passengers
- Suitable berth is not always available due to congestion
- Sydney fits well in an itinerary but suffers from competition from Charlottetown, widely considered a better port of call
    - Sydney also suffers with a negative image within our company
- Sydney provides mixed results
    - both financially and guest appreciation

- Sydney has less name appeal and is thus considered weaker
- Our experience in Sydney has been mixed due to anchoring and a poor shore excursion offering
- At this time no expansion would be needed in Sydney
    - Interest and deployment of cruise ships to the region has increased dramatically over the past years
    - Whether or not this regional cruise growth will continue is a point of debate
    - Much depends on ECA impact as well as how far yields will drop due to dilution
- We will not include Sydney in our CNE deployment

- We have one call in Sydney in 2014 with four big ships which means we will be impacted with our call

- As a small ship operator, I would prefer to see less ships in the region
    - I hate it when we have to share a port with four other ships
    - If you build more ports, it just impacts our calls
    - We don't like the crowds
- I view Sydney as more mass market in nature
- Quebec City and Boston receive the highest satisfaction of the ports we go to
- Sydney fits into our fall foliage cruises as a sampling of another Canadian province

Table 4: Sydney strengths, weaknesses, opportunities and threats

Strengths	Weaknesses
• Current strength of schedule - HAL • Berth infrastructure/reception facility/GTA • Regional collaboration / partnerships ACCA • Location / Proximity for 7-day plus sailings from and to Boston / New York / Quebec	• Regional peaking (Coach/venue/guide issues) • Lack of coaches in peak season and days • Single berth for large vessels • ECA issues (fuel cost/deployment) • Federal & Provincial regulations
Opportunities	**Threats**
• Growth of European cruise brands • Growth of small ship market in region • Continued development of CNE • Development of Sydney downtown core • New tour options and venues in Sydney and surrounding area • Shore power option (limited in scope)	• Port congestion on peak days (seasonal) • Ground transportation (peaking) • Poor performance due to city/coach/venue/tour options • Lack of second berth (force large ships to bypass due to tendering) • National park issues affecting openings / staffing

Sydney must work to ensure that the infrastructure development is used to its full potential by also focusing on the brand recognition of the destination, and upland shore excursion, venue and related tourism development. Each of the projection models developed in Section 5 requires work to build the market and cruise line calls. At the same time, competing ports will also be working to build their brands and infrastructure to support growth.

The keys to long-term growth are the development of tourism products and services that daw the consumer to the destination of Sydney inclusive of the downtown area and surrounds; the develoopment of a second berth to accommodate large multiple vessels; and, most importantly solve the issues related to lack of coaches in peak season, venue crowding and late seasoning delivery.

Table 5 illustrates the commentary and ratings provided by the cruise lines as part of the outreach effort for this project. Based upon the scoring below there are a number of key issues that must be addressed primarily related to the upland tourism elements of the Sydney product delivery. Issues related to marketing and brand will increase as the destination evolves and new tourism products are developed to meet the needs and expectations of the cruise passenger and operator.

Table 5: Sydney key cruise line ratings by category

CATEGORY	1 WEAK	2 FAIR	3 STRONG
Geographic Location of Destination:		2.4	
Consumer Appeal/Brand Recognition:		2	
Marketing Value:	1.8		
Brand Fit as a Destination:		2	
Operational Fit in Regional Itinerary Patterns:		2.5	
Marine Operational Elements (Berth/Anchorage)		2.4	
Landside Operational Elements (shore tours):		2	
Berth Availability:		2	
Cruise Port Charges:	1.7		
Cruise Port Fee Structure:	1.7		
Tourism Venues:	1.5		
Independent Activities:	1.5		
Ground Transportation Area:	1.75		
Access to Sites:	1.75		

Emission Control Area

The International Maritime Organization (IMO) officially designated waters in North American and Europe as Emission Control Areas.

The agreements were struck by the IMO and incorporated into European and U.S. and Canadian law. The Baltic Sea became the first fully implemented SOx Emission Control Area (SECA) in August 2006. One year later, in August 2007 the North Sea and English Channel became the second SECA.

In March 2010 IMO's Marine Environmental Protection Committee adopted a proposal from the USA and Canada for an ECA extending 200 nautical miles from both east and west coasts and around the islands of Hawaii.

The ECA is not only for SOx emissions, but also particulate matter and NOx. It is fully implemented since August 2012. In September 2010 another US proposal for an ECA around Puerto Rico and the US Virgin islands was discussed at the IMO and will enter into force in 2014.

Further ECAs seem likely to be proposed for Norway, Japan and the Mediterranean.

When the revised MARPOL Annex VI entered into force in July 2010 it included a change to the name and definition of an emission control area from SECA to ECA – an area where special mandatory measures are required to control NOx, or SOx and particulate matter (PM), or all three types of emissions from ships. In addition to the North Sea and Baltic ECAS, European regulation requires, with some exceptions, ships in an EU member state port, at berth or at anchor to use 0.1%

sulphur fuel. Currently passenger vessels must also use a 1.5% sulphur fuel during regular service between member state ports and in EU waters.

In 2015 a fuel sulphur standard of 0.1% fuel sulphur (1,000 ppm) is expected to reduce PM and SOx emissions by more than 85%. This fuel standard is expected to be met through fuel switching. In most cases, ships have the capability to store two or more fuels. To meet the 1,000 ppm fuel sulphur requirement, some vessels may need to be modified for additional distillate fuel storage capacity.

As an alternative to using lower sulphur fuel, ship operators may choose to equip their vessels with exhaust gas cleaning devices ("scrubbers"). Vessels are required to burn LS 380 (1%) beginning in 2012 and MGO (0.5%) by 2015 within ECA.

Outside of ECAS, the current global limit of 4.5% sulphur-in-fuel will be reduced to 3.5% in 2012, then 0.5% in 2020 or 2025 depending on a review in 2018 to determine the availability of fuel to enable implementation of this standard. It is currently estimated that the USD cost is between $9 and $21 per passenger per day for fuel

Based upon cruise line feedback and our assessment for the Canada & New England cruise region there will be the following impacts due to ECAS:

- Cruise lines may opt to remove one or more ports out of given itineraries and shorten the time spent on port in order to reduce the speed of sailing and fuel consumption;

- It will likely impact those coastal ports that are deep within the ECA zones, limiting the number of overall sailings; and,

- It may also drive some new itinerary developments with selections of cruises outside of the ECA when sailing from and to key regions.

However, until the scope of the cost of fuel, compliance and the availability of fuel is fully know the implications will not be fully understood. Carnival Corporation and Royal Caribbean Cruises, Ltd. have reached agreements with the US EPA that allows them to operate efficiently in the regions impacted while still meeting the spirit of the agreement.

Itinerary planning

Cruise lines are focused on cruise itineraries that are easy to assemble and return a high profit. These are typically based upon consumer demand. This strategy is accomplished by using cruise vessels with broad appeal to targeted consumer demographics based upon key financial thresholds that are dependent on cruise line brand and individual vessels.

The creation of cruise itineraries that fit within consumer vacation patterns (mini-breaks and week-long cruises) is essential in defining the product and offering it to the many consumer markets worldwide. Finally, a trend started after Sept. 11th has been the deployment of cruise vessels closer to base cruise consumer groups allowing the passenger to forego air travel. This model works well in North America to bring the vessels close to the brands key demographic consumer regions.

Cruise lines mix homeports and a majority of ports-of-call that are known commodities to consumers in order to market a region and cruise successfully. What ports qualify as "marquee" or "new" is to a great degree dependent upon the cruise brand and their targeted consumer group. For instance, a Holland America Line passenger may know many more ports worldwide and sailed more often that a first time Carnival Cruise Line passenger. Thus, sailings to the same region would

likely be made up of slightly different cruise destinations to meet the demands of each consumer group.

Cruise itinerary composition is an exercise in balance. Ports visited ideally need to offer a balance of shopping, natural, cultural and historical attractions coupled with periods at sea and at ports-of-call. Itinerary planning begins from 18 months to three years before the cruise when "straw itineraries" are developed by the marketing department as placeholders for the cruise brand vessels. Placing the right cruise vessel in the right itinerary is a key to the overall success of a cruise line. Not all cruise homeports or ports-of-call fit every cruise line brand's philosophy – they cannot be everything to all lines. The mid-term itinerary planning will continue to be driven by profitability and net yields. Lines will limit time in ports and yet expect to create value experiences.

Cruise lines prefer to utilize ports where they can control the costs and product offerings, such as their private island destinations by example. Additionally, strategic ports where they may have crafted an agreement that saves them on the cost of operations and / or improves passenger satisfaction are also ports where they tend to frequent. However, in both cases the passenger demand for these ports is a key and cannot be overlooked. Moving forward there will be more pressure on regions and ports to keep expenses low and regulatory issues in check while providing for increased popular revenue opportunities for the cruise lines.

5. PROJECTIONS

These projections are used as the baseline to determine Sydney's future cruise passenger throughput. The cruise projections assess the current industry trends impacting future cruise passenger and vessel throughput over a15-year planning period (2013– 2028). This assessment of one of the primary revenue drivers for Sydney identifies global and regional market trends that impact potential levels of traffic.

As it relates to cruise traffic, the projections are based upon an examination of Sydney's existing position in world and regional cruise deployments, levels and types of cruise operations, and overall traffic patterns based on the most probable range of passenger (first) and vessel (second) throughput. The assessment includes the growth analysis of the regional future trends for the Canada & New England region and other deployments that may impact Sydney.

It is difficult to project the cruise lines' growth for a region or Port over the mid-term (3 to 5 years) as for the most part lines themselves rarely know their deployment outside of this time period due to outside forces and market trends. To project out over a 15 year period is especially difficult and filled with numerous assumptions. However, this exercise does provide a perspective of the potential market over the period should all of the fundamentals be maintained in the industry and region over the period.

Projections anticipate that the cruise industry will continue to follow fundamental positive trends. Our projection methods and various assumptions incorporate our best interpretation of demand and supply conditions in the marketplace. Projections are un-constrained in nature and do not take into account the potential berth capacity, utilization or other limiting factors of Sydney, feeder homeports in the Northeast or downstream ports. There are several factors that have been considered in contemplating the projections. The projection models used include:

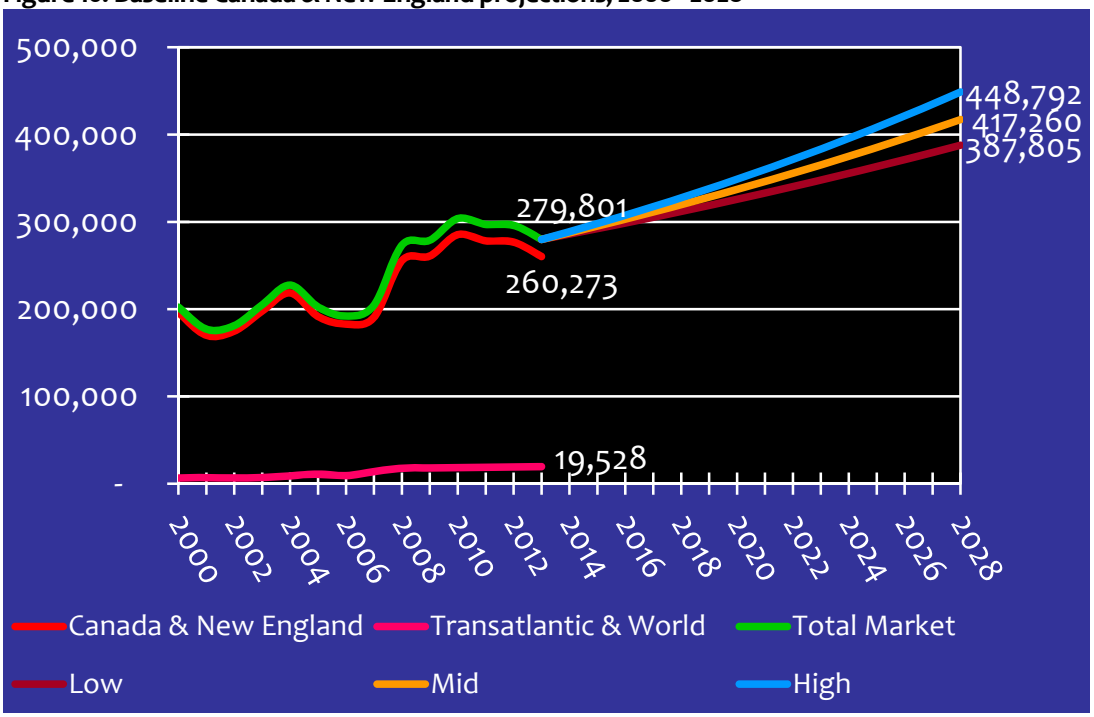
- Trend regression that is a basic test and is based upon past success;
- Market capture based upon past achievements in gaining market share in the primary markets of the region that impact Sydney. This is a direct competitive look at the market; and,
- Scenarios based on cruise line trends and opportunities. These are the keys for Sydney in assembling scenarios that are actionable due to the opportunities associated with additional traffic growth in the short- to mid-term.

Our methodology, shown in the adjacent figure, is as follows:

- Understanding of Global forecasts;
- Market capture of North America (primarily for Sydney);
- Market share of key market deployments; and,
    - Canada & New England, transatlantic, world, etc.
- Market share to Sydney;
    - Port-of-call options; and,
    - Expansion or contraction due to ECAS and global position.

Figure 16 shows the projected growth of the Canada & New England cruise market deployments. We have used the past trends of the region to estimate future capture levels for based on cruise offerings which make up the identified key patterns feeding cruise passengers to the region and potentially to Sydney into the future. We have estimated a capture rate of the overall North American market cruise passengers based upon historical analysis and our future assumptions for growth based upon the worldwide growth projections and impacts of ECAS and other competitive regions. European cruise lines are also a small part of the overall formula.

Figure 16: Baseline Canada & New England projections, 2000 - 2028

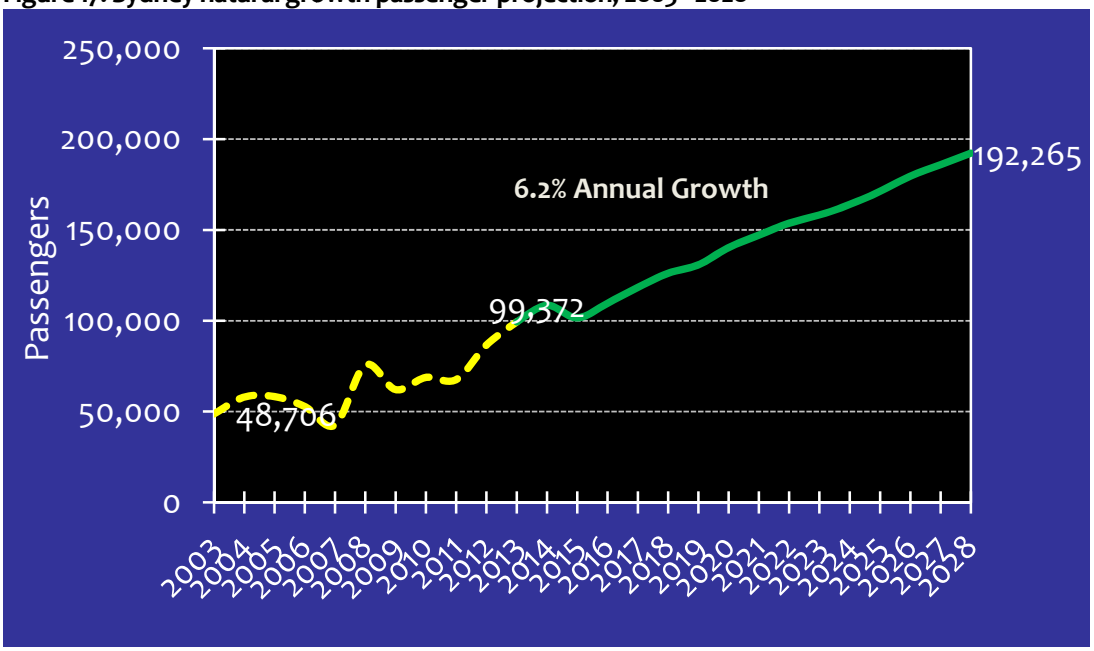


Our assumptions are that the region will maintain a stable base for cruise operations with fluctuations due to the implementation of policies related to ECAs. These projections were developed irrespective of facility use. Projections were done for a 15-year term for the baseline.

Projection approach 1 – Natural Growth (Trend Regression)

Figure 17 is a trend progression model based on historical events to project future throughput. This model is basic and used as a guideline. The annual growth is 6.2% with approximately 192,000 passengers in 2028 on 105cruise calls.

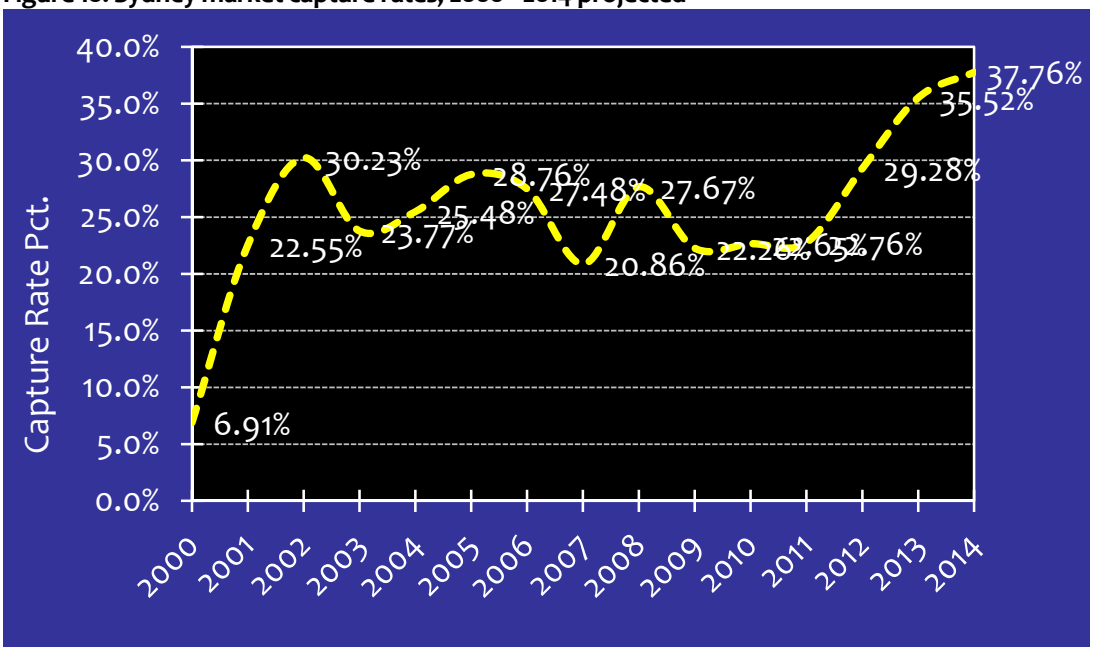
Figure 17: Sydney natural growth passenger projection, 2003 - 2028



Projection approach 2 – Market Capture

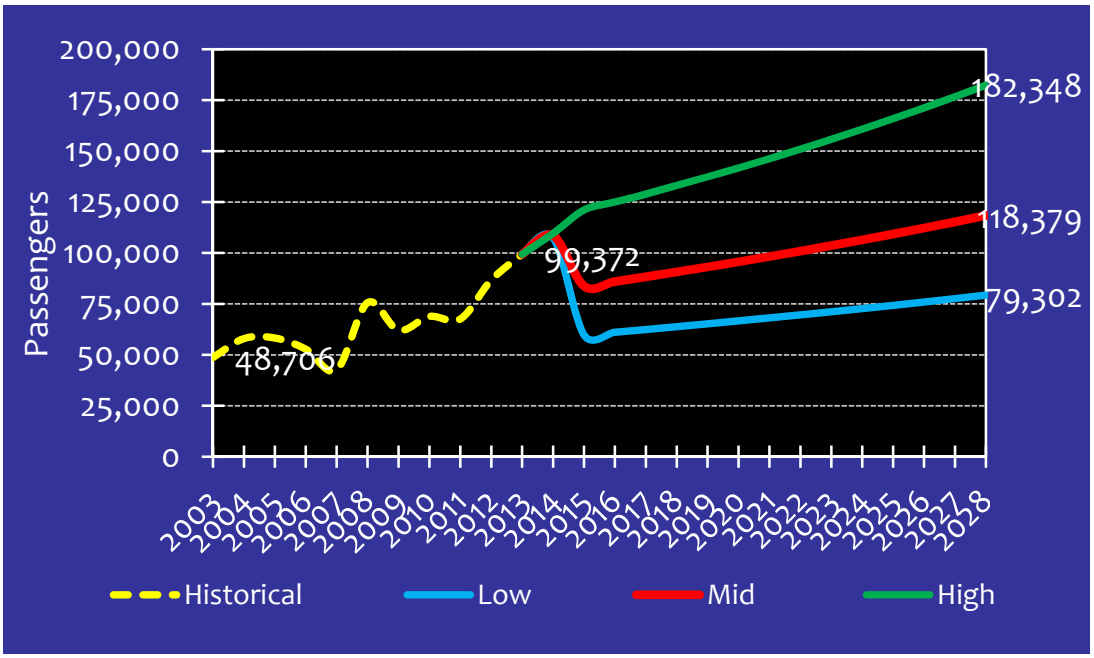
The market capture approach is based upon Sydney's past track record for capturing a percentage of all passengers in the region on a multitude of itinerary patterns. An assumption is then made as to the future ability to capture a percentage of the overall market over the 15-year projection period. Sydney's historical cruise passenger capture rate from 2009 to 2014 projected is 28.37% of the overall market. Into the long-term we have projected a capture range of between 20.45% and 40.63%. See Figure 18.

Figure 18: Sydney market capture rates, 2000– 2014 projected



Based upon the market capture model Figure 19 shows the growth in 2028 to be from 79,000 to 182,000cruise passengers on 43 to 100 cruise calls.

Figure 19: Sydney market capture passenger projection, 2003 - 2028



Projection approach 3 – Vessel deployment scenarios

Under this approach, based upon past trends of the cruise industry, marketplace assumptions have been made as to the deployment of cruise vessels to and from Sydney as a secondary port-of-call destination into the long-term. This approach requires additional work on the part of Sydney and regional partners to entice cruise deployments and provide the platform necessary for the lines to be successful such as infrastructure, cost and operational stability, tourism attraction growth, etc.

In this industry, success breeds success. Thus, as one cruise line brand is successful with a cruise product in the region another will then look to also come into the marketplace and set up its product for their target consumer market. Two scenarios were assembled illustrating levels of deployment to Sydney based upon current and projected contractual levels, the development of new markets, North American and European deployment trends, ECA impacts, and the draw of new markets cruise vessels into the long-term.

We have established the ship size and range of vessel calls for each scenario based upon our interpretation of the potential growth of the region, seasonality, type of vessels that will be likely deployed to the region and Sydney; and, historical context as it relates to the types of itineraries in the region based upon speed & distance issues.

Scenario targets include primarily North American and European brands. There are additional opportunities for Sydney to get cruise traffic from repositioning, world and small ship adventure sailings, etc. Introduction of vessels in the short-term is based upon current schedules. Mid- to long-term forecasts are based upon success and continued positive trends inclusive of per diem and revenue generation from sailings in the region. The deployment scenarios are outlined below:

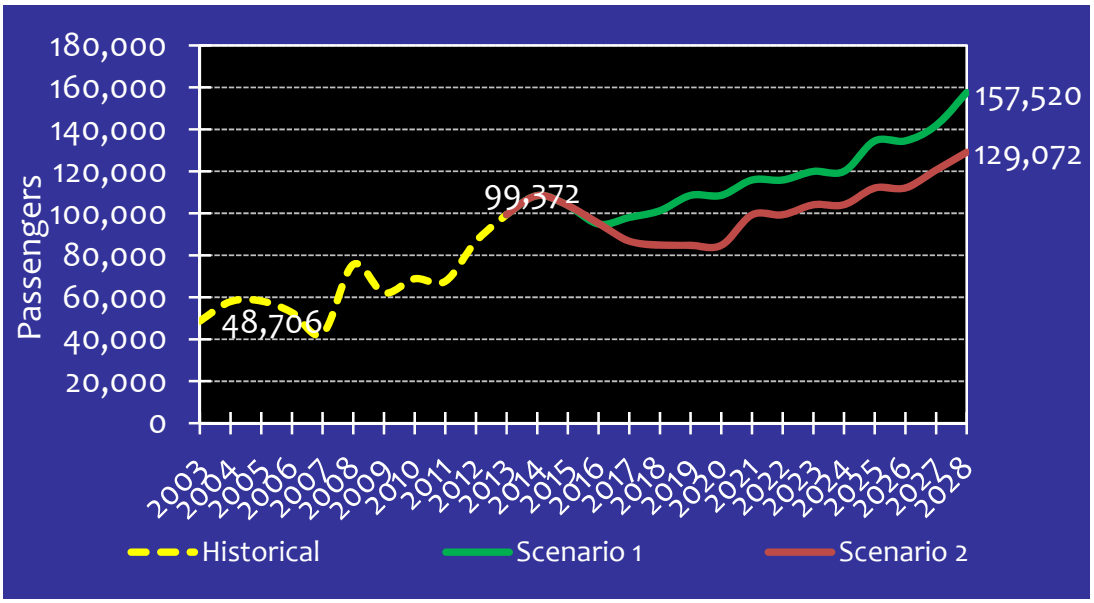
#1 Large ship / European growth dominant

#2 ECA triggers vessel redeployment / HAL revision

- CARNIVAL PRIDE - POC[2] Seasonal - 2,124 (12)
- CARNIVAL DREAM - POC Seasonal - 3,652 (12)
- RCI FREEDOM OF THE SEAS - POC Seasonal - 3,634 (8)
- RCI OASIS OF THE SEAS - POC Seasonal - 5,200 (8)
- NCL NORW. EPIC - POC Seasonal - 4,200 (8)
- NCL NORW. GEM - POC Summer Seasonal - 2,394 (16)
- DISNEY DREAM - POC Seasonal - 4,000 (6)
- MSC - POC Seasonal - 2,500 (6)
- HAL - Maasdam (1,266) - drop 23
- HAL -Veendam (1,266) - drop 19
- HAL - Eurodam (2,050) - Add 15
- HAL - Eurodam (2,050) - Add 15

Under these scenarios the projection model for cruise passenger throughput rises to between 129,000 and 157,000 passengers by 2028 (15 year projection window). The passenger per call capacity ranges between 1,537 and 1,750 under these scenarios to the 2028 window. It would be anticipated that vessel size would continue to increase into the long-term. See Figure 20 for the overall growth based upon the above scenarios. Growth per annum ranges from 1.99% to 3.90% under these scenarios through 2028.

Figure 20: Sydney deployment scenarios passenger projection, 2003 – 2028



The number of calls are 90 (scenario 1) and 84 (scenario 2). The total number of calls is based upon the passenger projection divided by the projected number of passengers per vessel. In our projections we always estimate the total number of passengers first, followed by the vessel capacity for the port, and then that drives the number of calls.

Figure 21 provides a look at the most likely projection range considering all of the models. As shown the range is from 126,000 to 157,000 passengers in 2028. The most likely composite model generates 137,756 passengers on 75 cruise calls with a capacity of 1,830 passengers per call. This is a conservative growth rate of 2.58%.

[2] POC refers to Port of Call.

Figure 21: Sydney's most likely cruise passenger projection, 2003 - 2028

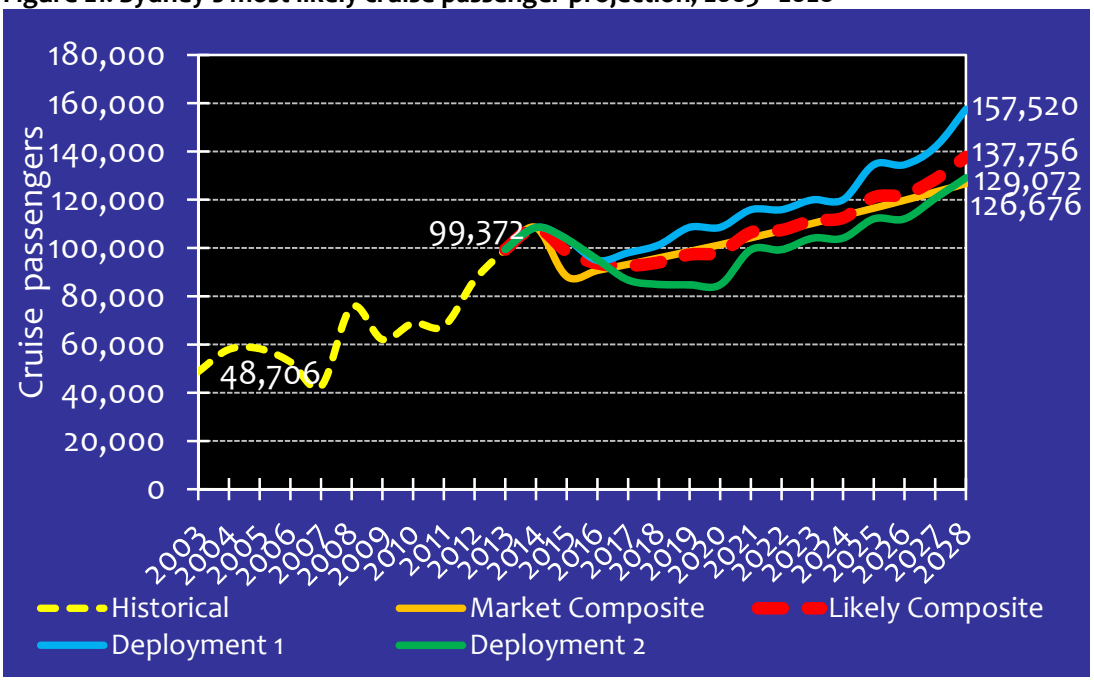
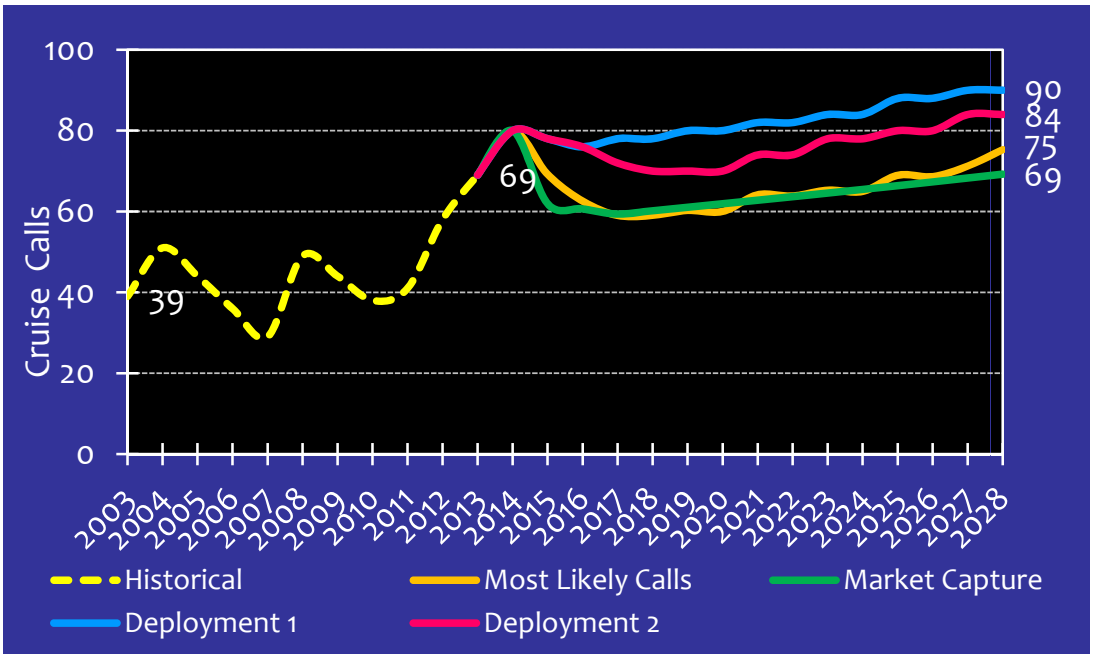


Figure 22shows the range and most likely number of cruise calls based upon the passenger capacity per call projection. As shown the cruise calls will grow from 69 to 90 by 2028.

Figure 22: Sydney's cruise calls projection range, 2003 - 2028



Projection conclusions

- There is no standard composite scenario for Sydney. Growth will occur in a non-linear fashion as vessels are deployed to the peak weekend days (homeports) and new facilities are brought on line to support growth.

- Growth is likely to be generated by a combination of new and upgrade deployments and a strong port of call traffic pattern.

- Cruise infrastructure, both within the port (marine berths, reception facilities, gangways, GTAs and access points) as well as transportation hubs and tourism infrastructure must keep pace with the growth to be successful.

6. BERTH DEMAND

Based upon the projections in Section 5 berth demand scenarios were established for the Port of Sydney. These take into consideration seasonal and daily peaking. Demand is very specific for each port and driven by seasonality and peaking patterns.

Adding a new berth should not be triggered by a single event as a port cannot build for a single peak day or week. The recommendation is to have a berth development plan worked out ahead of time so execution can occur within one cruise season when time dictates the need for a new or extended berth.

As shown in Figure 23 peaking for the region occurs primarily in the months of September and October with some 67% of the overall passenger traffic occurring within this 9 week period. Pushing this back into the summer season wold be desirable. However, it is likely to continue to peak during this period due to passenger demand. New traffic may be generated in the summer months or some peak traffic moved to accommodate new tourism products in the region into the long-term.

Figure 23: Regional peaking of passenger traffic

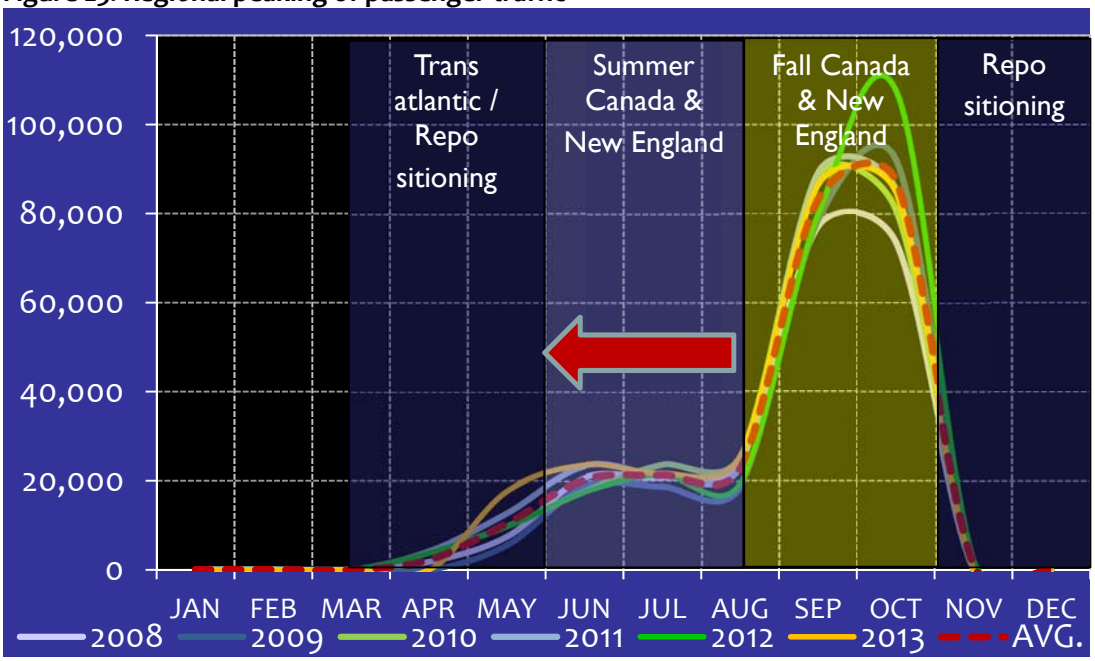


Figure 24 shows the passenger peaking for the past 6 years and the average for the weekdays. As shown, Tuesday and Wednesday are the peak traffic days due to the itinerary configuration for weekend homeporting and the geographic location of Sydney.

Figure 24: Sydney daily passenger traffic

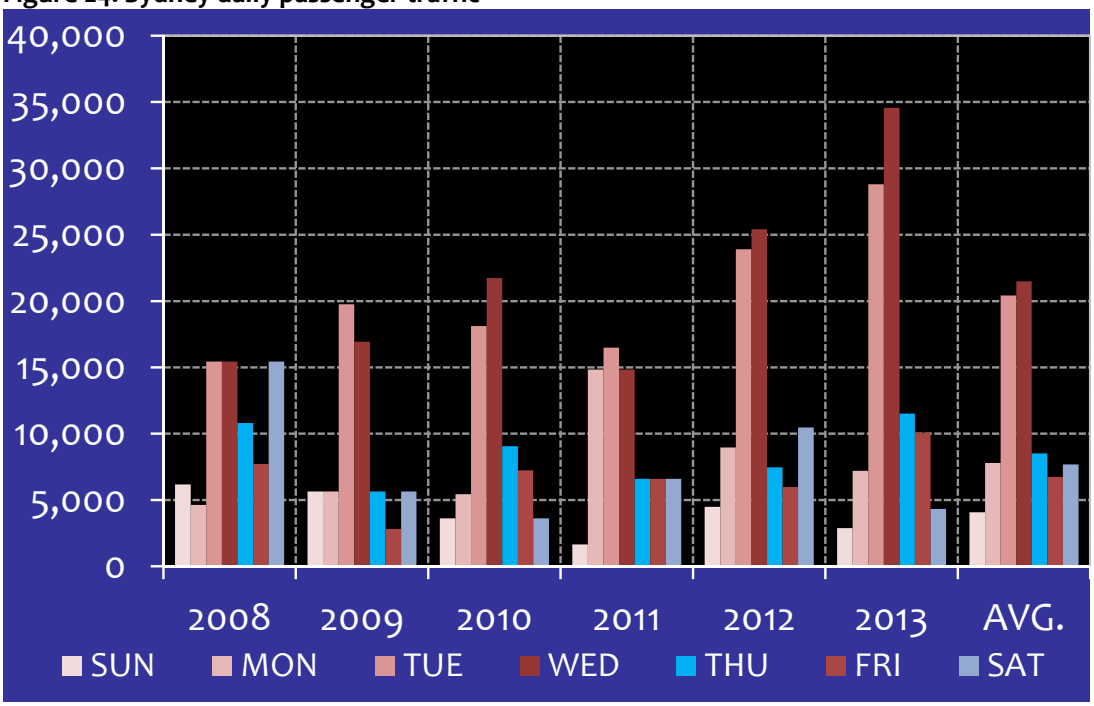


Figure 25 shows the daily passenger demand for 2012 – 2014.

Figure 25: Sydney peaking of daily passenger traffic, 2012 - 2014

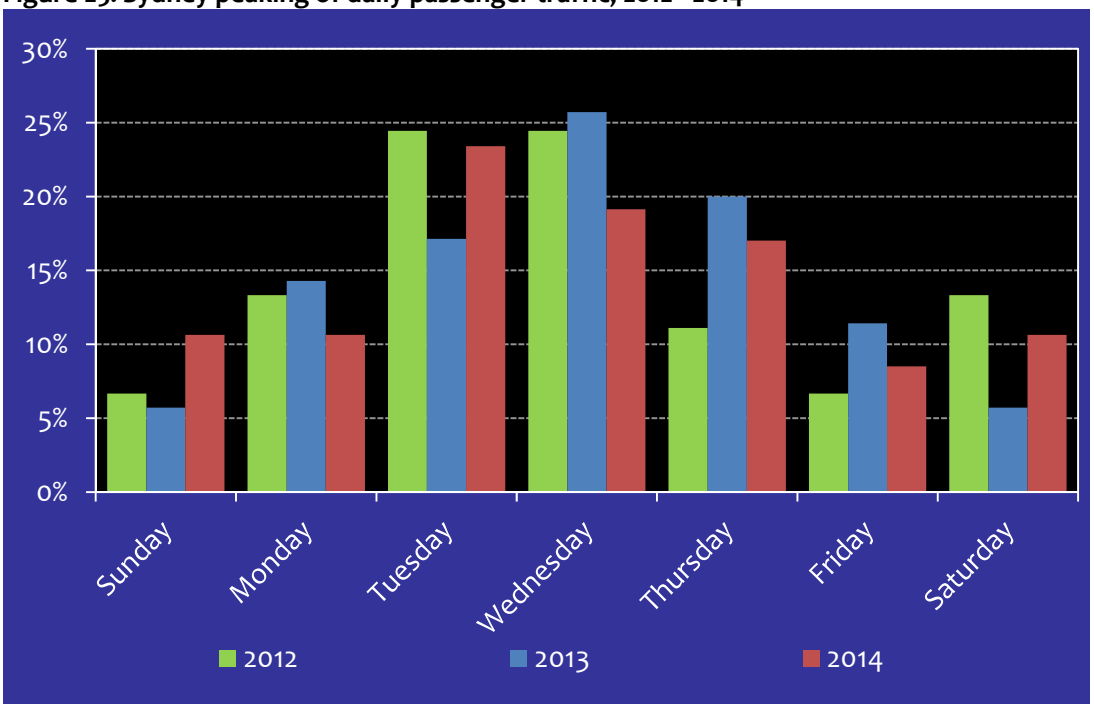


Figure 26 shows the berth needs for the three years during the peak period illustrating the need for 2 berths during the peak weekdays in peak season.

Figure 26: Sydney vessels per day in peaking period (Sept. / Oct.), 2012 - 2014

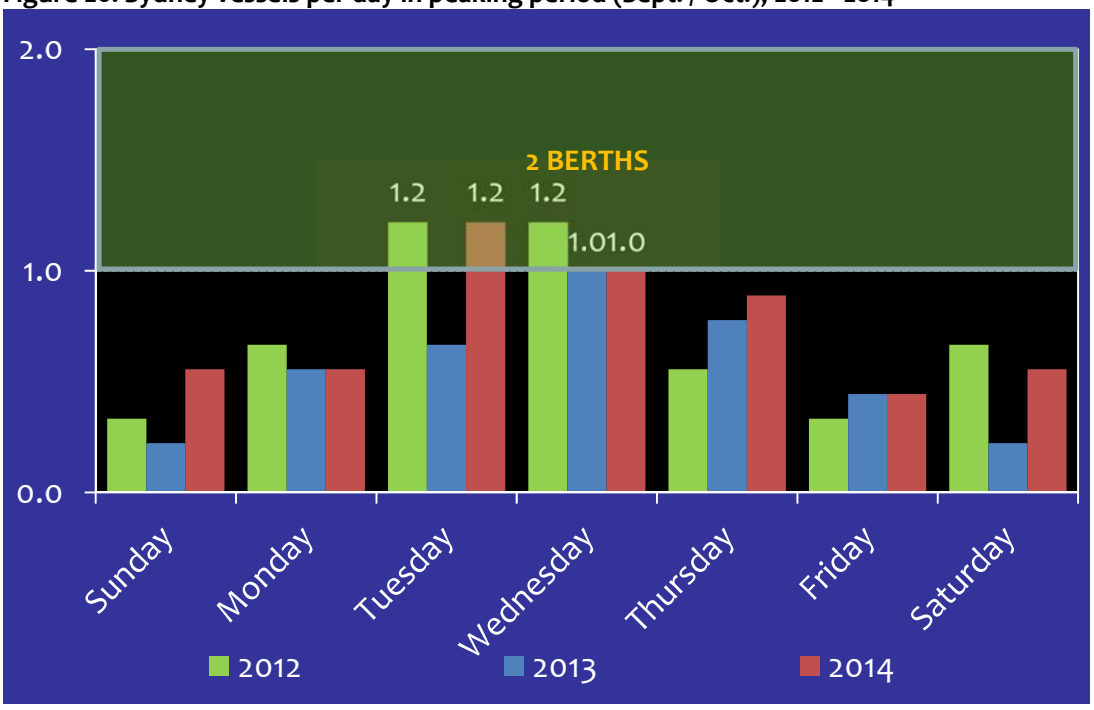


Figure 27 shows the number of multiple vessel calls days for Sydney for the periods shown during the peak season.

Figure 27: Sydney berth day needs in peaking period (Sept. / Oct.), 2012 - 2014

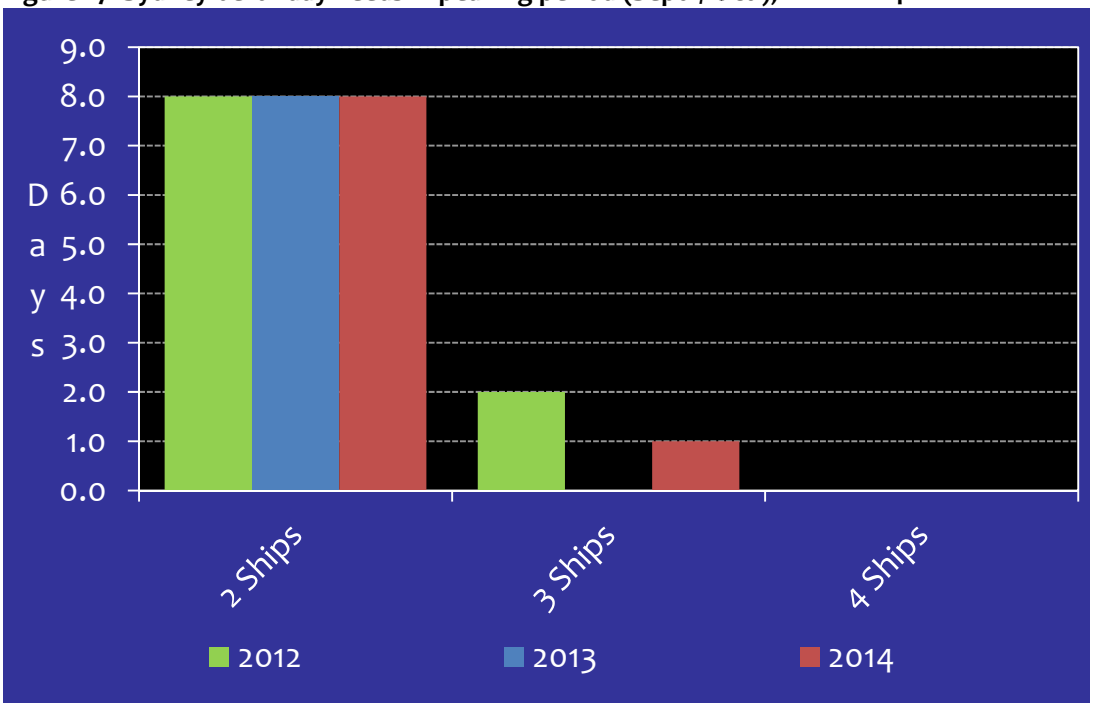
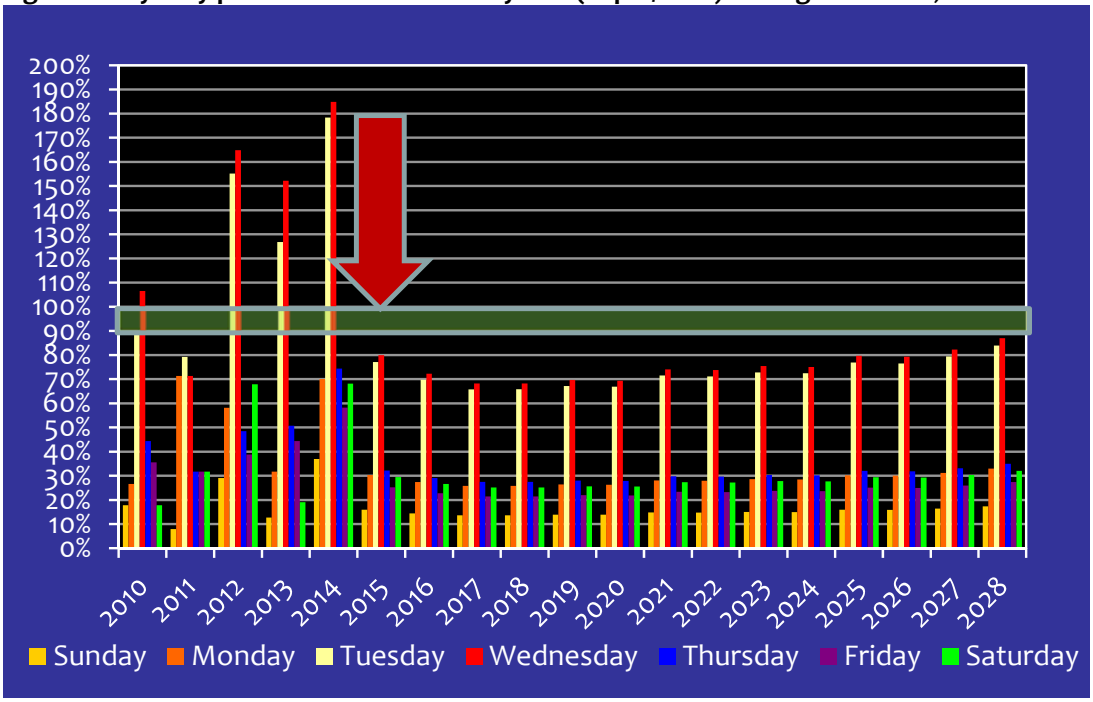


Figure 28 illustrates the need for a 2nd berth in Sydney from 2015 due to the peak demand of more than 100%.

Figure 28: Sydney peak seasonal most likely use (Sept. / Oct.) adding a 2nd berth, 2010 - 2028



Demand conclusions

- The Peaking issue exacerbates berth utilization for Sydney in the September and October deployment period. Peak days are Tuesday &Wednesday (primary).

- It is difficult to trigger new berth requirement for single event. Thus, if there are opportunities to move to off peak days, such as a Thursday or Monday, they could be further explored. However, this is likely a scenario that can be studied by looking at the current itinerary patterns offered by the cruise lines in the region and establishing their current speed & distance patterns.

- It will be very difficult to push peaking period off the fall foliage season due to passenger demand and competition elsewhere during the summer months such as Alaska, Bermuda and the Baltic.

- Demand also drives capacity requirements upland (pax cap.), thus creating a need for a larger GTA, reception area, more tours, venues, coaches, etc. to support the demand.

- The length overall (LOA) and Gross tonnage (GT) of newer vessels impacts berth infrastructure in terms of fend, bollard and gangway configurations. Longer berths into the long-term will need to be able to accommodate vessels of at least 330 meters.

- Is Sydney best placed as a small to mid-size vessel in the mid- to long-term? No new berth would limit growth potential in terms of large vessels (thus passenger throughput). There would be lower economic impacts to the community, but lower overall costs as well. There is less of an upfront cost for new facilities (berth) and investment in uplands such as venues, coaches, retail and other soft infrastructure.

- This is likely a policy decision for the Port and community in terms of developing a second berth by looking at small vs. large vessels; Investments; Returns; and, economic Impact.

7. Future Vessels

Cruise vessels continue to evolve in size, passenger capacity, amenities, etc. as the industry continues to mature and competes worldwide. Providing for new and exciting cruise vessels has helped to propel the industry forward. In practical terms the understanding of the types of vessels Sydney serves is important to maintain and develop the required infrastructure to support future operations. In this regard, the design vessels of the future provide for the following elements:

- Navigation – channel width, length and draft
- Berth requirements – for apron width in terms of homeport and fender & mooring structures to accommodate the GT of the vessel
- Gangways – Quantity and capacity
- Terminal / reception space allocation to meet the demands of the passenger capacity
- Ground Transportation Area - Coach, taxi, private vehicle and mini-bus quantities, as well as parking spaces

Future vessel sizes are driven by the need to optimize capacity providing for more space to increase revenue options and spread the cost structure over a greater area in terms of passenger load. Thus, this larger vessel format provides for more passenger amenities and better sales yields through the use of outside cabins on the larger perimeter hulls with more balconies. There are also grander atriums for better space allocation allowing for better flow and logistics related to the distribution of passengers, boarding and disembarking. The economics of the vessels are also better in terms of crew to passenger ratios and power / fuel consumption.

Figure 29 provides an overview of the continued increase of passenger capacity for new build vessels in the world's fleet. The average capacity continues to grow as new ships are delivered. In addition, based upon the Canada & New England region and value of Sydney it is anticipated that the port will continue to see large vessels calling in port over the mid- to long-term if they can be accommodated by berths and upland needs, such as coaches and venues.

Figure 29: Average passengers per ship by year of construction, 1999 - 2016

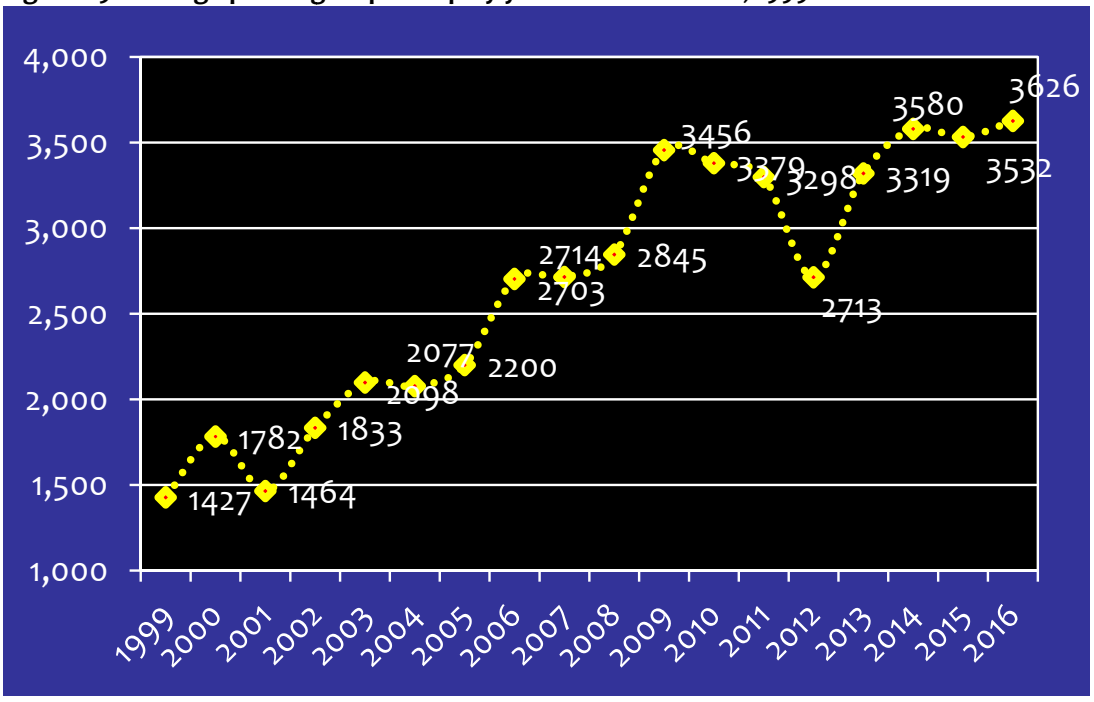


Figure 30 illustrates the projected number of passengers per ship in the fleet through 2040.

Figure 30: Projected percentage of passengers per ship, 2012 - 2040

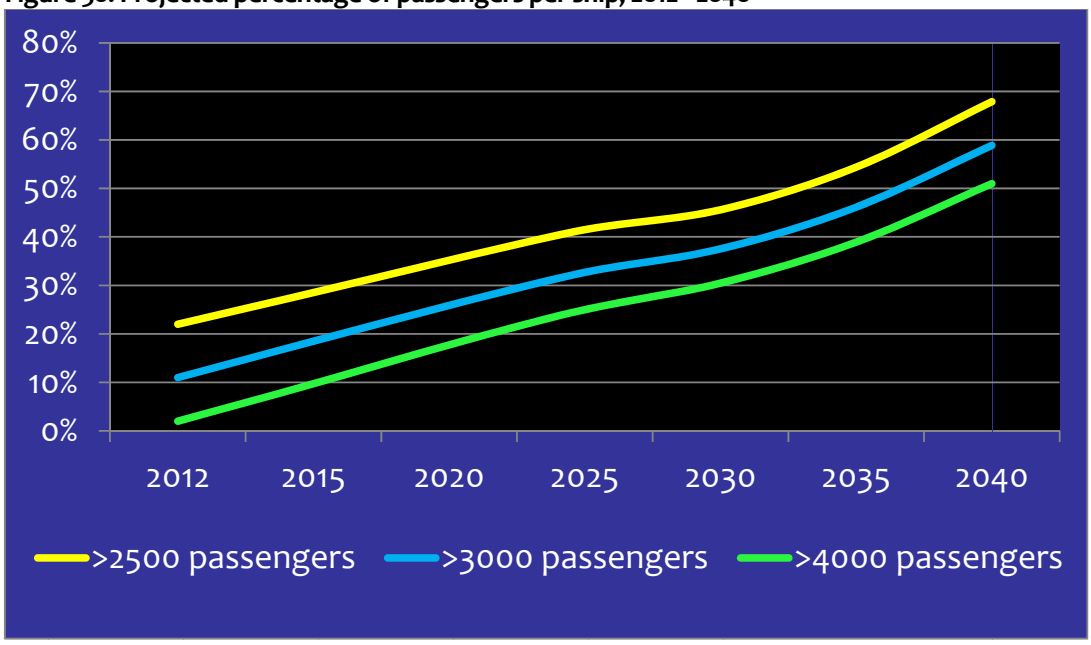
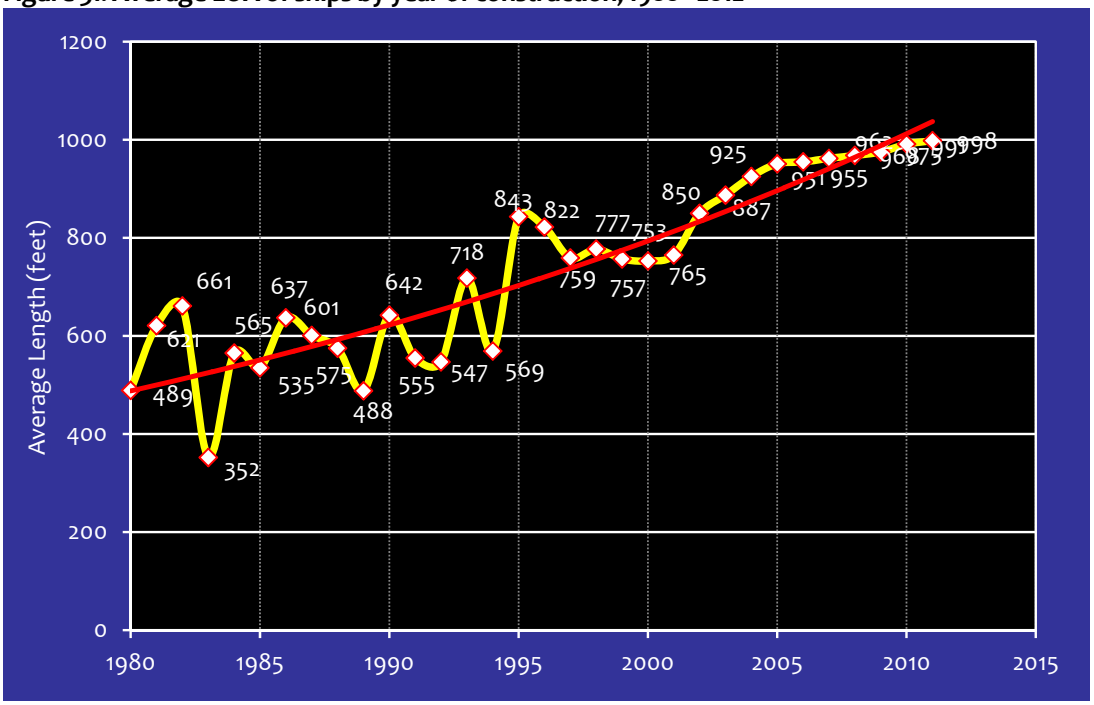


Figure 31 shows the length of vessels in feet by year of construction hovering at more than 1,000 feet.

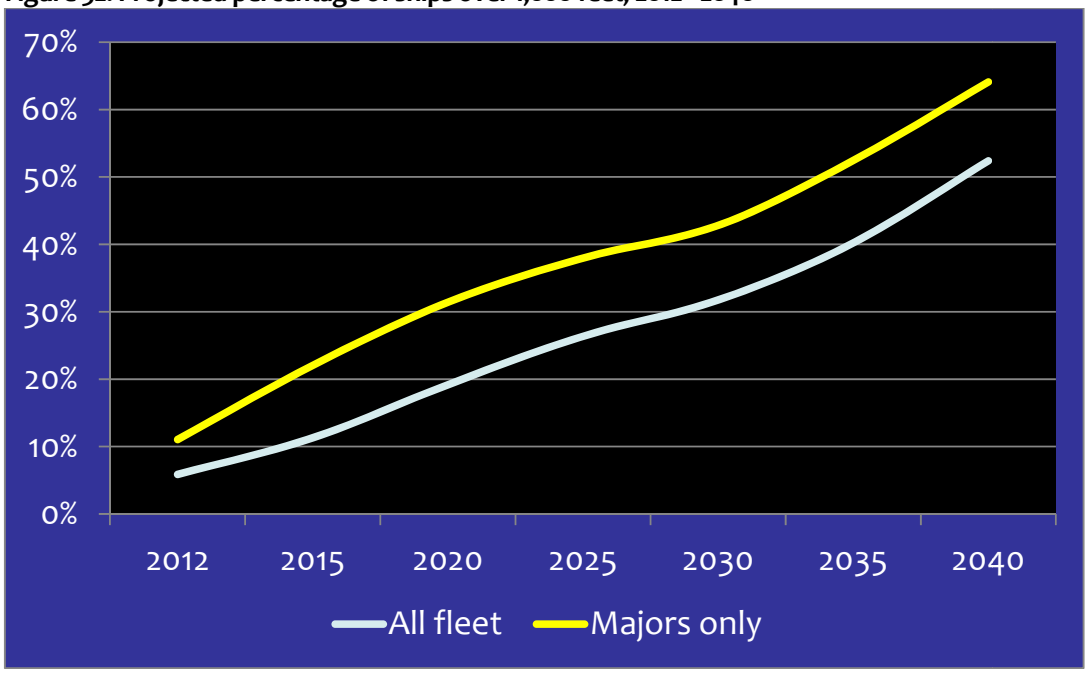
Figure 31: Average LOA of ships by year of construction, 1980 - 2012



The lengths and beams of cruise vessels are also increasing over time to accommodate the increased passenger capacity, cabin configuration and on-board revenue source accommodations.[3]

Looking over the long-term in Figure 32 it is assumed that of the total worldwide fleet more than 50% of all cruise vessels will be greater than 1,000 feet in length in 2040.

Figure 32: Projected percentage of ships over 1,000 feet, 2012 - 2040



Design Vessel

Multiple brands and vessel types servicing several different itineraries are within Sydney's potential market sphere. They include the North American market, which typically offers newer larger vessels, fewer calls, and greater passenger capacity, LOAs and beam. These have typically been the newer vessels in the worldwide fleet. Mid-size vessels are also a potential opportunity, as well as smaller coastal adventure vessels calling in Sydney.

In order for the region and Sydney to thrive in the cruise tourism market, does the Port need to accommodate large cruise vessels?:

- As older smaller vessels are phased out;
- As the demand for the regional market place offering increases;

- Ability to accommodate ships of:
- more than 100,000-GT
- >1,000 ft. plus LOA (preferably up to and including 330 meters)

- Key factor in the ability to serve as a potential regional market in the mid- to long-term

[3] On-board Revenue Source Accommodations are spaces built into the vessels whereby revenues can be generated inclusive of bars, casino, retail outlets, spa facilities, specialty restaurants, etc. Larger vessels have more spaces for these types of revenue producing amenities.

Table 6 provides an outline of the vessels that will need to be accommodated in Sydney into the future.

Table 6: Design vessel template

Type	Design Vessel 1 (Small Ship)	Design Vessel 2 (Panamax)	Design Vessel 3 (post-Panamax)	Design Vessel 4 (super post-Panamax)
Passengers	100 to 1,500	2,000 to 2,600	2,600 to 4,000	4,000 to 5,400 +
Crew	50 - 500	850	1,200	+1,200
GRT / Displacement Tons	Up to 35,000 / + 15,000	Up to 100,000 / + 50,000	+ 100,000 / + 50,000	+ 150,000 / + 70,000
LOA (ft)	200 - 750	900 - 985	985 – 1,100	1,100 +
Beam (ft)	85	118	Over 118 (gen.130 - 165)	150 +
Draft (ft)	15 - 24	28 - 36	28 - 36	28 - 36
Air Draft (ft)	Less than 130	Less than 178	178 to 208 +	208 +

Conclusions

- As a secondary port does Sydney need to accommodate multiple vessel brands & types? Is there an option within the area to separate small & large vessels, thus making for a unique experience for each?

- Long-term any decision will likely affect deployment of larger or smaller vessels to Sydney.

- Cruise operators are split on the need for new infrastructure based upon their vessel size needs. Small to mid-size vessel lines do not want to pay for new infrastructure, compete or put up with the issues involved with large vessels in port with them. Large vessel operators need the infrastructure, but do not want to pay for it.

- There is a practical need for a second berth to accommodate large ships. If not, these will go away due to tendering issues, etc. However, the uplands also need to be coordinated to be able to accommodate multiple larger ships in port on any given day.

8. FUTURE DEVELOPMENT NEEDS AND CONCLUSIONS

Whether homeport or port-of-call, successful cruise destinations have two basic features in common:

- **"Supply Side" Characteristics:** Those items that attract and retain cruise lines and passengers to a destination; and,

    - Regional and/or international appeal as a travel/leisure destination. Sydney and surrounds is a secondary cruise destination within the regional market and must rely on the primary draw of Canada & New England, as well as its own unique tourism offerings to sustain and grow cruise tourism.

    - Cruise tourism infrastructure needed to support vessel operations. It is not only about the port's berth and supporting reception facilities and ground transportation areas that are critical to the success of the destination such as Sydney, but more importantly is the delivery of a quality unique tourism product for those persons on tour and independent passengers alike.

- **"Demand Side" Characteristics:** A market basis or strategic fit within a greater cruise ship deployment.

    - As outstanding a destination is in terms of cruise tourism offerings and facilities, it must fit within a greater deployment, operational and regulatory scheme to be a viable option. This item is an issue that Sydney cannot do much about due to its geographic position. However, Sydney can ensure it is used fully in all itinerary patterns passing by the port through the development of both the hard and soft infrastructure necessary to support the cruise tourism marketplace.

As part of this assignment we were not specifically required to undertake a complete examination and survey of the tourism venues, services, retail, cultural and commercial enterprises that are offered within Sydney and surrounds. Most of the information gathered for this cruise market assessment was based upon direct feedback from the cruise line decision-makers. As the Port, Community and surrounds moves forward it will be important to quantify and qualify the tourism elements on offer and the potential opportunities moving forward. Through this process there have been some specific issues and opportunities identified. However, into the long-term there are likely new attractions and existing services that could be enhanced to meet the future needs and expectations of the cruise and land-based visitor.

The mission of Sydney as a destination in terms of meeting the demands of the visitor is as follows:

- Provide an outstanding guest experience. It is central to the success of cruising on board and shore side. Sydney must meet the expectations of the operator and passenger.

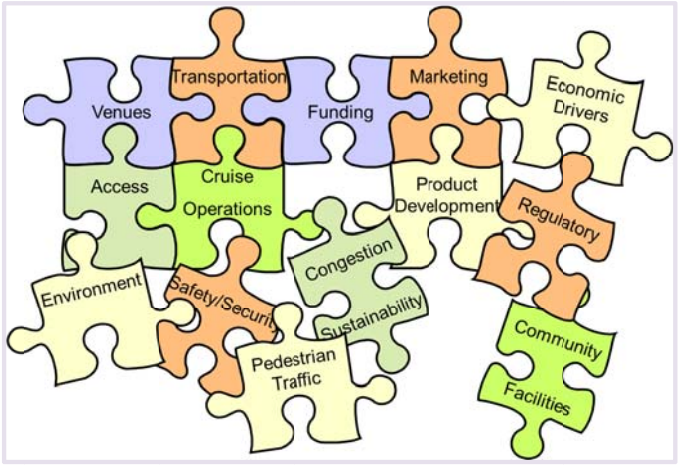
- Cruise lines are challenged to keep the cruise experience exceptional. This means continuing to enhance and build upon the desires of the cruise passenger. Sydney can also contribute to this success through the continued enhancement of existing products and services, and the development of new products, venues and experiences that meet the evolving visitor demographics and attitudes.

- Must deliver a variety of products & services. To accomplish an experiential visit for a cruise passenger there must be a variety of tourism experiences that meet the demographics based upon age, income, nationality, level of activity, etc.

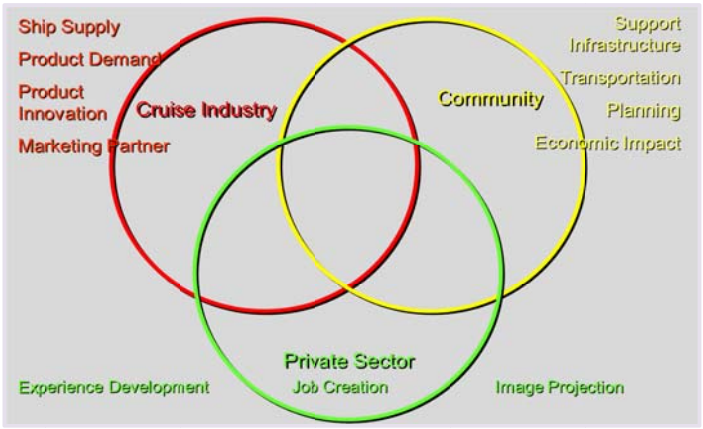
- Must deliver a destination within a short period – There is no second chance! All of the products currently offered or being developed in Sydney must recognize that the cruise passenger has a limited window to experience the community and surrounds. There is no second chance due to weather, poor transportation, or other negative.

- A negative experience can tarnish a passenger's entire cruise vacation. Sydney is only as great as the sum of all of the parts. In this case, this refers to the totality of the experience during the visit in Sydney, the entirety of the cruise vacation in the region, including their experiences in all of the other ports, as well as the on-board experience. They all must be woven together to provide for a unique and memorable holiday.

Comprehensive Cruise Planning



For Sydney to be successful there must be participation by the public and private sector in identifying, assembling and addressing the issues and opportunities necessary to meet the future challenges of the cruise tourism industry. Typically, we envision the public sector concentrating on the development of the hard infrastructure, such as berths, boardwalks, ground transportation elements, etc., while the private sector focuses on the development of the key tourism products and services to meet the evolving needs of the cruise passenger and land based tourist. It will be important for the private sector to be involved in the process of tourism development due to the speed of implementation and the thought process that can be brought to the details of the operation. Additionally, for Cape Breton developing products that can meet the demands of the cruise and land-based tourism sector provides for a broader market to rely on throughout the year.



The Port of Sydney, City and community leaders, Chamber, Provincial and Federal entities must all embrace and guide change for cruise tourism to be successful in the long-term for Sydney and the region as a whole. There were a number of key elements identified that must be addressed to meet the long-term growth goals of Sydney. These are described within the context of this report

above, as well as in more detail below. Additionally, the Sydney and regional cruise tourism stakeholders should be actively involved with the cruise line decision-makers throughout the development process to ensure that any new infrastructure or products is meeting the requirements of the user and their clientele – the cruise passenger.

In the short-term the local Sydney stakeholders must determine what kind of destination Sydney is and should be into the future. Will the destination cater to large or small cruise vessels or all of the above? If large ships are a part of this mix, then based upon our assessment a second large ship berth is needed in the short-term to meet the mid- to long-term cruise passenger throughput anticipated. Without a second berth, large vessels will likely bypass Sydney in favour of a destination where they can berth. However, this is not the only issue related to large ships that Sydney must recognize and solve to be successful.

The soft support infrastructure must also meet cruise passenger needs. This requires a focus on tourism development issues for the community and surrounds. There is certainly an issue with coach availability during the peak seasonality requiring some type of modification to the traditional product delivery approach for Sydney tours and the region. Creating options where coaches are not required or other vehicle types can be used for cruise and land-based visitors must be explored to meet the short-term challenges.

Additionally, tourism venue development / expansion within Sydney and the immediate surrounds that would alleviate some of the coach requirements would also allow for long-term success. There are already a number of key venues, such as Fortress Louisbourg that are critical to the success of tourism in general in the region. Developing products for the peak fall cruise tourism season is critical.

There needs to be local and regional initiatives to support growth established. As noted above, whether a second berth is built or not, there are critical tourism issues to focus on into the immediate future including the complete delivery of Fortress Louisbourg into the fall cruise tourism season; the impact of the Emission Control Area on itinerary planning as it relates to Sydney and the effect on speed & distance itinerary decisions; the implementation of Shore Power; cabotage as it is related to small ship cruising within the Maritimes; and, the coach availability issues during peak season and to what degree the Nova Scotia Utility Review Board is affecting the ability of private coach operators to provide the necessary capacity required for cruise tourism to be successful in the Province and region.

Conclusions

- **Second Berth.** Based upon the cruise market assessment and berth demand analysis there is a need for a new berth from 2015 to accommodate large cruise ships of some 330-meters. These ships will be more likely deployed to the region due to ECA and economies of scale in the mid- to long-term. Additionally, the life cycle of vessels (20/25 years) drives deployment (HAL – 20 plus). The current HAL vessels deployed to the region were built in the early 1990's. Additionally, feedback from cruise lines indicates that traffic will be lost in Sydney if tendering is required into the future. However, a second berth would likely increased the likelihood of large ship vessel traffic in the peak season, but must be coupled with the required upland accommodations to support and delivery a quality tourism product. On its own, this is not the only solution for Sydney. It is then likely that Sydney may lose out on a limited number of small to mid-size vessels that may choose to call elsewhere when faced with the prospect of calling in Sydney with two large cruise vessels.

  A second berth is a significant investment. The cruise industry has no desire to pay for this through additional fees. However, it would likely generate additional port revenues and

economic impacts to the community by allowing for additional cruise traffic to utilize the port over the life span of the pier facility. It also should be confirmed that the existing berth will also accommodate large cruise vessels into the future. The Port should contemplate additional uses for a new pier facility to allow for a broader payback application. Uses may include bulk and specialty cargo, mega-yacht, naval or coast guard use and other uses that may be local in nature.

- **Ground transportation.** There is a logistical coach issue that affects all of the Maritime regional cruise ports to varying degrees during the peak cruise season (peak port-of-call days) in the months of September and October. Due to the number of larger cruise vessels berthing simultaneously on given weekdays delivering a greater number of cruise passengers to the ports there is a lack of large coaches within the region. They must be distributed based upon demand. However, in some cases there is a lack of required capacity to offer the amounts of seats requested by the cruise lines while in port. This is exacerbated by moving coaches from their hubs in Halifax and Moncton to outlying ports in Sydney and Charlottetown to meet the cruise vessel demands. Operator costs increases due to the drive distance and the use of the coaches for half day vs. full day tours (if this occurs).

  Additionally, the coach industry in Nova Scotia is regulated. This is the only Maritime Province where this occurs. Thus, operators must apply for coach licenses through the Nova Scotia Utility Review Board. This is an issue that can affect coach transportation within all of the Maritime Provinces. Thus, the Port of Sydney should strive to work with the regulating body to find compromising and viable solutions.

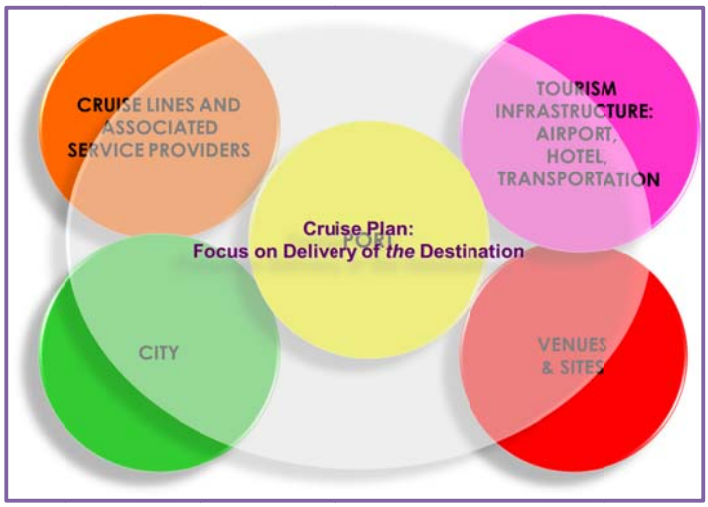
  However, the addition of more and larger coaches is not the long-term solution for the region to meet the demands of cruise tourism over the long-term in a cost effective manner. Thus, there must be a concerted effort to develop tour products that do not require long-haul coaches, and instead can utilize alternative transportation sources such as Segway, bicycles, small shuttles, specialty vehicles, etc., as well as local area walking tours and hop on / hop off buses. This will alleviate the need for more coaches into the future and develop products that meet the needs of a broader consumer demographic. This will also provide for a more experiential visit for cruise and land-based guests in Sydney and the surrounds.

  The private sector should be encouraged to develop these new products and services throughout the region and within Sydney. Public sector assistance through the establishment of the necessary infrastructure such as boardwalks, sidewalks, shuttle systems, etc. would provide additional impetus.

- **Sydney and surrounds venues.** Based upon input from the local stakeholders, cruise operators and regional tour operators there are already several key tourism venues within Cape Breton that can attract and retain cruise tourism including Fortress Louisbourg, Bell Museum, Cabot Trail and the Miners Museum. New and many existing products, venues and services featuring the culture and history of Cape Breton could complement and expand upon the overall offerings of the Sydney area and region. First, each of the venues should be deliverable in the peak fall season. Louisburg is a tremendous asset for Sydney and could be a great attraction into and through October. Additional existing venues such as the Highland Village, The Gaelic College, the Heritage Park and the Goat Island Tour should be highly considered as excursion offerings to enhance the variety of product to the mix. These could be incorporated as separate features or part of an overall offering. Allowing the cruise lines to mix product to meet their passenger demographic would allow them success in meeting their financial and service related goals.

Sydney itself must also be addressed. Allowing for the development of interactive experiences in the downtown core that can become part of a tour package or be experienced by independent passengers wandering the downtown area would provide for a successful Sydney product. There must be life brought to the downtown area. This may mean introducing active entertainers, retail components outside of the cruise reception facility and the use of the venues within the downtown core that can be modified to meet the needs of the cruise lines. No matter, the local stakeholders must work together to achieve success. Further study in this area could assist greatly in determining the best development path for Sydney.

Sydney needs to become more of an experience. Benchmarking other similar destinations that have been successful in developing tourism cores and products that meet the demands of the cruise passenger would be a good starting point. There are plenty of product options in the region that could be developed for cruise tourism and also be used for land-based visitors. The addition of a second berth and the uplands development must be in conjunction with each other. Developing the berth alone will not solve the current issues and provide for long-term success.



Cruise tourism planning for a community and surrounds such as Sydney must be a comprehensive effort involving all of the key stakeholders and users involved in the planning and delivery of the tourism product. Each of the parts must fit together to provide for an outstanding visitor experience and provide for the highest quality local return on investment and economic impact to the community. Sydney, as a community must plan into the future by targeting the soft and hard infrastructure essentials in a coordinated manner. This means a complete inventory of the products, services attributes of the community and surrounds, feedback from the users and visitors, a critical assessment of the potential opportunities and challenges associated with tourism growth and a champion to move this effort through to its conclusion. All of this takes time and effort, but will provide a long-term return for the community.

ANNEX A. TERMINOLOGY USED IN THIS STUDY

Several definitions, cruise industry terms and acronyms used throughout this report may not be familiar to the reader. We define several of these terms in the following section.[4]

1) **Adequacy.** Sufficient to satisfy a requirement or meet a need. Barely satisfactory or sufficient.[5]

2) **Air Draft.** The maximum height of a vessel above the waterline.

3) **Apron.** Area immediately adjacent to the vessel berth where vessels' lines, provisioning, gangway and other operations occur.

4) **APCD (Available Passenger Cruise Days).** This is the formula cruise lines typically utilize to assess and compare cruise itineraries from a financial perspective.

5) **Anchorage.** Location where a vessel may anchor. In destinations where docks are not present to accommodate vessel operations, anchorages are used and passengers are shuttled to/from the cruise vessel to a landside location using a small boat (tender). Anchorages are generally only used in ports-of-call.

6) **Beam.** The width of the cruise vessel at its widest part. *Panamax Vessels* refer to vessels with beams than can transit the Panama Canal (beam is equal to 36m or less). *Post-Panamax Vessels* and *Super-post Panamax* have beams that exceed the width of the Panama Canal, or greater than 36m.

7) **Bed (berth)-nights.** A typical cruise industry form of capacity measurement representing the number of lower berths (a bed on a cruise vessel, with the aggregate total generally determining the vessel's normal passenger capacity) times nights of operation in a region.

8) **Berth.** (1) A bed, generally attached to the deck and/or bulkhead onboard a vessel. (2) An anchorage or dock space for a vessel in port.

9) **Bunkers.** Marine fuel used for propulsion.

10) **Cabotage Laws** (also referred to as *coastwise cruise vessel laws*). Relates to the ability of foreign-flagged vessels to transport goods and passengers between domestic ports. Cabotage Laws are often put into place to protect domestic cruise vessel industries.

11) **Conventional cruises (homeport cruises with destination and port-of-call cruises).** Leisure oriented voyages on deep-water, ocean-going cruise vessels of two-or-more nights often to a variety of destinations. Conventional cruises are offered either by regional or international operators marketing to a variety of consumer sectors and nationalities.

12) **Cruises-to-Nowhere (homeport cruises without destination).** Generally geared toward a local consumer market (within a one-hour drive) with the mainstay of the cruise experience is focused around on-board gaming, food and entertainment.

[4] Bermello, Ajamil & Partners, Inc. 2013, and Israel, Giora and Laurence Miller, Dictionary of the Cruise Industry, Seatrade Cruise Academy, 1999.
[5] The American Heritage Dictionary of the English Language, Fourth Edition by Houghton Mifflin Company, 2000.

13) **Deadweight Tonnage**. Refers to the actual weight of cargo, fuel and stores required to bring the vessel down to her load-line marks.

14) **Displacement Tonnage.** The amount of water displaced by the vessel or the actual weight of the vessel. (This measure is not often used to describe cruise vessels, but it is meaningful in describing military vessels and the structural capacity of port and terminal facilities. It is typically applied to a vessel in normal operating state i.e. with fuel and stores on board).

15) **Dockage.** Fees levied by a port or destination for the right to dock a vessel.

16) **Draft.** The depth of water required by a vessel to float; the measurement in metres of the extent to which the vessel projects below the surface of the water.

17) **ECAs.** Emission Control Areas established through treaties provides for a decreased NoX and SoX emissions in select zones such as the Baltic, Europe and North America.

18) **Ferry.** Term usually applied to a vessel transporting passengers and vehicles from point to point. The key difference between these operations and conventional cruises is that ferry operations have as their primary business focus offering transportation services, not a travel and leisure experience.

19) **Gross Tonnage (GT).** A measure of a vessel's enclosed volume. This term has emerged as the standard measure of communicating a vessel's size. A *Mega-vessel* generally refers to a vessel of 70,000 GT or larger.

20) **Ground Transportation Area (GTA).** Zone in which vehicles, including buses, taxis and private cars are organized and accessed as part of cruise terminal/destination embarkation and disembarkation activities.

21) **Homeport** (also referred to as *baseport*, *port of embarkation*, *turnaround port*). A marine facility and destination city that serves as the base of operations from which the cruise begins and/or terminates.

22) **Itinerary.** Ports visited on a given cruise. Two itinerary types are generally observed. *Open-jaw (OJ) itineraries* refer to those deployments where the cruise begins at one homeport and end at another. *Round Trip* or *Closed-jaw itineraries*—the more common type observed—begins and end from the same homeport.

23) **Length Overall (LOA).** Total length of a cruise vessel, including any incidental structure that may extend this dimension.

24) **Lower Berth Capacity.** The number of beds of standard height on a cruise vessel. The number of lower berths determines the vessel's normal passenger capacity. *Maximum Passenger Capacity* refers to the total number of passengers that can be accommodated on the cruise vessel in lower berths and other flexible berths (also referred to as *upper berths).*

25) **Mixed-Use Facility.** Refers to facility or complex with more than one type of real estate or operational use. Mixed-use facilities are generally: (1) Contiguous in nature; (2) Developed within a broader master plan constructed at one time or in phases; and, (3) Provide for a symbiotic vessel to occur among all uses such that the sum of the mixed-use facility from a real estate or operational perspective is greater than its parts.

Mixed-use maritime facilities often include cruise, ferry, marina, commercial, residential, recreational and other upland transportation facilities.

26) **Need.** A condition or situation in which something is required or wanted. Necessity; obligation. To be necessary.[6]

27) **Panamax vessel.** Size standard that equals the largest vessel dimension capable of transiting the Panama Canal. Generally based on the beam of the vessel. Vessels classified as Panamax are of the maximum dimensions that will fit through the locks of the Panama Canal, each of which is 304-m long by 33.5-m wide and 25.9-m deep. Thus a Panamax vessel will usually have dimension of close to 965 ft long (294m), 106 ft wide (32.3m) and a draft of not more than 39.5 ft (12.04m). See Beam.

28) **Passenger Services Act (PSA).** Under the Passenger Vessel Services Act of 1886 (46 USC §289), foreign-flagged vessels cannot transport passengers directly between U.S. ports.

29) **Passenger Tax** (also referred to as a *head tax*). Port charge assessed against each passenger aboard the vessel. Generally the principal income stream to ports and destinations for accommodating cruise activities.

30) **POC or Port-of-call** (also referred to as a *way-port*). One of several destinations visited as part of the cruise itinerary. The focus of the port-of-call is on tourism activities adjacent to the cruise arrival area and the transportation of passengers to regional points of interest.

31) **Post-Panamax vessel.** Size standard that exceeds the largest vessel dimension capable of transiting the Panama Canal. Generally based on the beam and length of the vessel. These vessels have dimensions that are wider than longer than Panama Canal locks – such as a beam of 36-m. and length of 311-metres. See Beam.

32) **Revenue Passenger.** This generally refers to a homeport passenger or in some very limited cases port-of-call passengers (Vancouver where all passengers are charged for on/off the vessel), whereby passenger counts reflects the Port's passenger wharfage or Tariff rate charging policy. For homeport calls the actual number of passengers is doubled to show that the cruise operator is charged by the port for the passenger boarding and disembarking the vessel at a set fee.

33) **Super-Post Panamax vessel.** Generally refers to the largest cruise vessels in existence today. This is also a general term for the largest cargo vessels in existence today. These vessels are defined not only by their dimensions, but also their carrying capacity of more than 3,000 + passengers and GT approaching and exceeding 150,000.

34) **Terminal.** Building where cruise passengers embark and/or disembark in a homeport destination.

35) **Throughput Passenger** (also referred to as a *revenue passenger*). Total number of passengers arriving and/or processed at a cruise homeport and port-of-call.

36) **Transit Passengers.** By literal definition, the status of cruise passengers at a port-of-call.

[6] The American Heritage Dictionary of the English Language, Fourth Edition by Houghton Mifflin Company, 2000.