Port of Los Angeles

2006 Port of Los Angeles Cruise Study
Draft Executive Summary

July, 2006

Bermello Ajamil & Partners, Inc.

2006 Cruise Study on the Port of Los Angeles – Executive Summary

Prepared for the Port of Los Angeles

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Cruise Market Study Report Assignment

Bermello, Ajamil & Partners, Inc. (B&A) was engaged by the Port of Los Angeles (POLA) to prepare an analysis of cruise market trends and outline a cruise business plan strategy. The goal is to maximize the POLA's role as the leading West Coast cruise homeport and establish appropriate size and quantity of infrastructure to support cruise operations. Key components of the Cruise Market Study include:

- Assessments of worldwide and regional cruise industry trends and growth patterns; and
- Cruise passenger and vessel market projections specifically for the POLA over 5-year, 10-year and 15-year horizons to be used as a baseline for future planning efforts in conjunction with the berth demand analysis, financial and business plan.

The objective of the market study is to determine the potential for overall growth in terms of cruise passenger throughput, cruise vessel calls per annum, passenger volume per call and future vessel size. These components contribute the baseline to the latter parts of the project effort.

Critical Port of Los Angeles Market Study Findings

Critical findings of the Cruise Market Study are outlined below:

1. **Current POLA Cruise Terminal infrastructure, especially Terminal 91 / 92 is not adequate for current cruise line operations.** Due to space limitations this facility cannot support large ship cruise homeport operations. The design of the terminal building does not provide adequate space for a full homeport operation for ships of more than 2,000- to 2,800-passengers sailing on conventional cruises. Compiling this problem is the addition of a second ship along the same pier face. Overall, providing a remedy for the immediate needs of the cruise ships using this terminal/berth is essential. This conclusion is based on cruise line interviews and our professional assessment.

2. **Cruise vessel and passenger traffic to the region and POLA will continue its growth over the long-term.** Based on our projection scenarios we envision an approximate average annual growth of 4.17% over the 15-year study period. Cruise throughput would expand from 1,150,000-revenue passengers in 2006 to between 1,732,000 and 2,200,000 (rounded) passengers by 2020. Similarly, cruise vessel calls would climb from 258 to nearly 400 calls by 2020. Cruise vessel calls increase at a lower rate of 2.48% on average per annum due to the continued increased vessel size in the POLA cruise market.

3. **The average cruise ship passenger capacity will increase for the POLA over the study period impacting the requirements for cruise facilities inclusive of marine channels, piers, cruise terminals and upland support areas.** From 1999 - 2006 cruise ship passenger capacity has increased 25% from 1,683-passengers per ship to an estimated 2,234-passengers in 2006. In the next 2 – 5-years there will be much larger cruise ships deployed to the region and the POLA that need to be accommodated. They will reach capacities of more than 3,500 to 6,000-passengers in the long-term (10 – 15 years). ***Any new facilities should be designed to accommodate cruise ship maximums, not averages.*** Based on our projections we estimate the average cruise passenger capacity per ship to be 2,383 in 2010; 2,587 in 2015; and 2,810-passengers in

2020. POLA cruise facilities must have the capability of accommodating cruise vessels with a passenger complement upwards of 3,500-passengers per ship in the long-term (10 – 15-years).

4. **Our study indicates that within 3-years a *Voyager-class* cruise vessel will be deployed in the region with the POLA as the primary homeport if adequate facilities are available. Cruise ships will continue to increase in physical dimensions.** Vessel statistics for the *Voyager-class* include: Tons - 138,000; Length-1,020-feet; Height above water – 210-feet; Passenger capacity – 3,114 lower beds and 3,840-maximum passengers per cruise; and Crew – 1,080-persons. Royal Caribbean International's *Genesis project* scheduled for delivery in 2009 will accommodate more than 6,400-passengers and be more than 1,180-feet in length. While it is unlikely this ship will be deployed to the U.S. West Coast region in the mid-term, it is possible that a ship of this size will be deployed in the region within the next 10 – 15-years. In the short-term (2 – 3 years), with a 3,114-passenger lower-berth capacity the *Voyager-class* vessel should define the next generation of cruise infrastructure for the POLA. In addition, Disney Cruise Line has indicated that once their newbuild plans are underway they intend to enter the U.S. West Coast market. They prefer a designated cruise terminal facility for their operations. Thus, this will also impact the POLA infrastructure requirements in 3 – 5-years.

5. **A new cruise berth, terminal and upland support infrastructure to support large cruise ships is required at the POLA.** For the next generation of cruise ships using the POLA facilities it is essential to provide a shorter transit from open-ocean; broader channel to provide for safe maneuvering; and larger turning basin for ships of more than 1,100-feet and beam greater than 150-feet. The main channel is too long and narrow for ships of more than 1,000-feet to navigate on a regular basis. The current configuration of the turning basin coupled with the Vincent Thomas Bridge height restriction, *USS Lane Victory's* position and large container ships adjacent to the cruise terminal facilities do not allow for berthing at Terminal 93. As defined above Terminal 91 / 92 does not meet cruise line standards for homeport operations for these large ships. Thus, a cruise facility for larger ships at a location outside of the main channel would be preferred, such as Berths 45 – 47. This would assist the cruise ship in maneuvering, save time in berthing and provide an array of upland facilities to meet their operational requirements.

6. **Overall, most growth is envisioned to occur during the peak Mexican Riviera cruise months from November through March with little aggressive growth envisioned for the summer months.** This is primarily due to the competition from Alaska and other summer destinations whereby the revenues will continue to draw traffic out of the POLA cruise market catchments over the study period. All of the models envision some level of growth over the period with ranges from 150,000 to 200,000-revenue passengers in the peak months in 2010; 180,000 to 260,000-revenue passengers in the peak months in 2015; and a leveling off in 2020 at between 210,000 to 270,000-revenue passengers during the peak months. Monday/Friday has consistently been the busiest cruise days for the POLA, primarily due to the short cruise Baja Mexico traffic. Over the past two years this traffic has seen a slight decrease.
7. **POLA will have the cruise demand for 4 terminals/berths over the mid-term (3 – 5 years) and potentially a 5th berth in the outer planning horizon if the cruise projection models reach the higher levels of passenger throughput.** Thus, the 4th berth will be needed after 2010 to meet the needs of the POLA's cruise

growth. If a 4th berth is not put into place for the POLA this would cap cruise growth to approximately 1.8 Million annual revenue passengers. Within a few years all three US West Coast Southern California homeports will be at full capacity. One of the major keys to growth for the region and ports along the US West Coast is who has the capacity to expand cruise facilities. Thus, the POLA has an opportunity to capture any new additional deployments with new cruise terminals/berths in place.

8. **A rate structure range from $7.00 to $9.00 per passenger would provide the POLA with a competitive cruise passenger tariff.** The goal of the tariff structure for a port should be to attract, cultivate and maintain cruise ship traffic to the port and community, while also being able to develop those areas of importance in the port area and providing for local infrastructure use. Providing for additional dollars as part of a revised tariff structure would increase overall Port revenues and allow the POLA to actively pursue cruise infrastructure development with a larger fund.

9. **Higher immediate tariffs do not translate into a proportionate amount of additional capital program. Thus there is a limit as to the amount that can be feasibly gained from the operation. All of the capital will also not be available immediately, but will have to be phased into the program to coincide with passenger volumes.** Based on the mid-growth projection POLA could support the following general ranges of investments:

   - **Run 1** - $273 million (no increase)
   - **Run 2** – $394 million ($7 pax fee);
   - **Run 3** – $425 million ($8 pax fee); or
   - **Run 4** - $490 million ($10 pax fee).

   This of course assumes that all of the funds are reinvested in facilities and that POLA will not have any profit on the operations over the immediate term. **Without long term contracts POLA will be absorbing the risk of long term investments.**

10. **The current operational cost structure of POLA is one if not the lowest in the country.** The current system allows the separation of stevedoring from terminal operations which allows competition and maximizes profits. Additional net revenues will come from modest tariff increases, new revenue sources and less long-term maintenance.

11. **POLA should continue to work with the current operational scheme.** Consider one of the financial analysis runs as the best for POLA and use it to base a capital program on for development.

    - Look for opportunities for additional revenue sources;
    - Identify financing schemes accessing public tax exempt capital; and
    - Private development opportunities should be carved out and separated.

12. **POLA needs to determine its capital needs.** POLA should develop a plan of finance to establish the following:

- Financing capacity;
- Flow of funds; and
- Funding gaps (if any).

13. **POLA should match the capital and revenues. POLA should also determine the need for underlying cruise line guarantees or determine if the existing contracts are sufficient.** If guarantees will be needed, establish a detailed strategy.

Port of Los Angeles Cruise Overview

The Port of Los Angeles is one of the leading cruise homeports along the West Coast of the United States with more than 250-cruise calls and 1.1-million passengers scheduled for 2006. The POLA's total cruise passenger throughput increased by 13.7% between 1999 and 2006. Cruise activity, however, peaked at 1,164,126 throughput passengers in 2001 and then declined to 806,000-passengers in 2003. Primarily this decline resulted from the departure of Carnival cruise operations to the Port of Long Beach. Despite this setback the POLA has continued to increase overall capacity with limited increases in actual cruise vessel calls. The POLA cruise levels should see continued improvement over the next 5 to 15-years.

Although not a part of the study overall, the fundamentals of Los Angeles' cruise tourism offer and infrastructure remain strong. Los Angeles' strengths continue to include: Access to regional consumers; high quality tourism infrastructure and tourist offer; deepwater marine access; and, the length of available cruise berths at the existing Port Cruise Facilities. The POLA has some room for improvement, especially in its cruise terminal facility offerings. Areas for focus include: The structural capability of Terminal 91 to receive the very largest cruise vessels in operation; availability of additional berthing areas at the existing Port Cruise Facilities on peak days of operation and into the future; and, ingress/egress issues impacting cruise operations.

For the 2006 cruise period reviewed we counted 28 separate cruise vessels from 15 cruise brands with a total of approximately 1,150,000-revenue passengers on 258 sailings. Royal Caribbean Cruises, Ltd. remained the primary operator from the Port of Los Angeles, responsible for over 64% of all cruise passenger throughputs (730,866-revenue passengers on 154-sailings). Vessels operated under several brands controlled by Carnival Corporation were the second largest POLA cruise market participants in terms of total passengers carried with approximately 274,000-revenue passengers on 61 sailings for 24% of total passengers. NCL is third with 9.8% and 112,000-revenue passengers on 24 sailings. The remaining 18 cruises are on 8 brands with approximately 24,000-revenue passengers.

Cruise sailings from the POLA follow typical weekend North American vacation patterns. In 2006, Friday and Monday departures have approximately 26% of departures occurring on each of these days due to the dominance of the Mexican Baja sailings. Saturday and Sunday departures are at 21% and 18% respectively. Weekdays average approximately 3% overall. Future berth demand will likely continue to occur on the peak days as indicated.

Operational Assessment for the Port of Los Angeles

The weaknesses identified in this study will likely impair POLA's potential for cruise growth over the next 2 to 10-years. If facilities are in place that can accommodate large cruise ships, then the POLA should be able to meet its 10 to 15-year growth potential. Issues that

must be identified and resolved now in order for the POLA to continue as the leading homeport on the U.S. West Coast include:

- Adequate terminal size to accommodate today's large 3,500+ passenger ships and tomorrow's 5,000+ passenger ships;
- Convenient non-congested roadway access to the cruise port terminal;
- Parking and support facilities; and
- Identification of potential new berths to accommodate the next generation of cruise ship.

Unless suitable additional berth capacity and expansion/modification of existing facilities (Terminal 91/92) are put into place, the undersized and structurally inadequate nature of the existing Port Cruise Facilities could result in significant loss of future POLA and regional cruise revenues. The overall stature of Los Angeles as a leading regional destination for cruise homeport activities could be questioned. The SWOT Analysis below defines the main issues related to cruise growth for the POLA.

Table ES1: SWOT Summary for the Port of Los Angeles

Source: B&A, 2006

STRENGTHS – Internal Analysis	***WEAKNESSES – Internal Analysis***
1) Present marine access and conditions. 2) Ability to berth multiple cruise ships. 3) Location of the Port. 4) Cruise port operations. 5) Historical cruise value. 6) West Coast Regional sector access.	1) Terminal 91/92 homeport accommodations (space accommodations). 2) Future marine access and conditions. 3) Roadway access. 4) Passenger and cruise line satisfaction. 5) Green policy. 6) Alternative Maritime Power (AMP) 7) Future facilities costs.
OPPORTUNITIES – External Analysis	***THREATS – External Analysis***
1) POLA's marquee value as a homeport. 2) Geographic location in U.S. West Coast Region. 3) Mild winter months that is good for cruising. 4) Supply of provisions and services. 5) Local and regional attractions and venues. 6) Airlift and hotel accommodations.	1) New cruise projects at competitive homeports. 2) Mexican ports cruise berth and tourism infrastructure constraints. 3) Cruise per diems vs. competitive cruise sectors. 4) PSA – foreign-flagged cruise vessel regulations. 5) Cruise line trends towards larger ships with present facilities. 6) Movement of *Monarch of the Seas* to alternative sector or port.

Cruise lines expressed optimism for the U.S. West Coast region over the next 5- to 15-year period, with several important lines—Princess Cruises, Disney Cruise Line, NCL and RCCL—actively reviewing their future role in the region. Overall, most cruise line stakeholders were highly supportive of cruise development options that contemplated development of new facilities within the POLA.

California and Port of Los Angeles Cruise Market Impacts

Over the past two decades, the cruise industry has emerged as a major participant in the worldwide travel and leisure business. Continued expansion of the industry will further opportunities for established and emerging cruise destinations to welcome operations, and consequentially, accrue fiscal and social benefits associated with this dynamic business.

According to the Cruise Lines International Association's (CLIA) spring 2005 Overview the cruise industry contributed more than $30-Billion to the U.S. economy in 2004. Business Research and Economic Advisors (BREA) found that the cruise industry supported nearly 316,000-jobs nationwide and paid more than $12.4-Billion in wages and salaries in 2004. Also in 2004 Cruise lines, passengers and crew were responsible for approximately $14.7-Billion in direct economic impacts supporting more than 135,000-jobs. More than 75% of the cruise industries global economic impacts are expenditures made with U.S.-based businesses and suppliers.

The State of California ranked 2nd in economic impacts at $1.5-Billion with just over 10% of the direct economic expenditures from the cruise industry. The BREA California study concluded that the cruise industry generated 44,667-jobs and wages totaled $1.9-Billion.

California is one of the most active cruise passenger source markets in the world. CLIA has estimated in 2004 that more than 1,185,000-passengers (11.33% of the total North American Market) were generated from the State of California, second only to Florida in this regard. This is likely to increase in 2005 to over 1,400,000-passengers. The four major ports of California accounted for more than 1-milllion passenger embarkations in 2004, almost 14% of U.S. totals.

Projection of Cruise Growth Opportunities for the Port of Los Angeles

Cruise forecasts over the period from 2006 through 2020 were prepared for the POLA based on a variety of factors inclusive of worldwide cruise market trends, regional cruise sector trends, POLA sector capture rates, cruise line interviews and other factors. These are moderately conservative growth projections for the POLA.

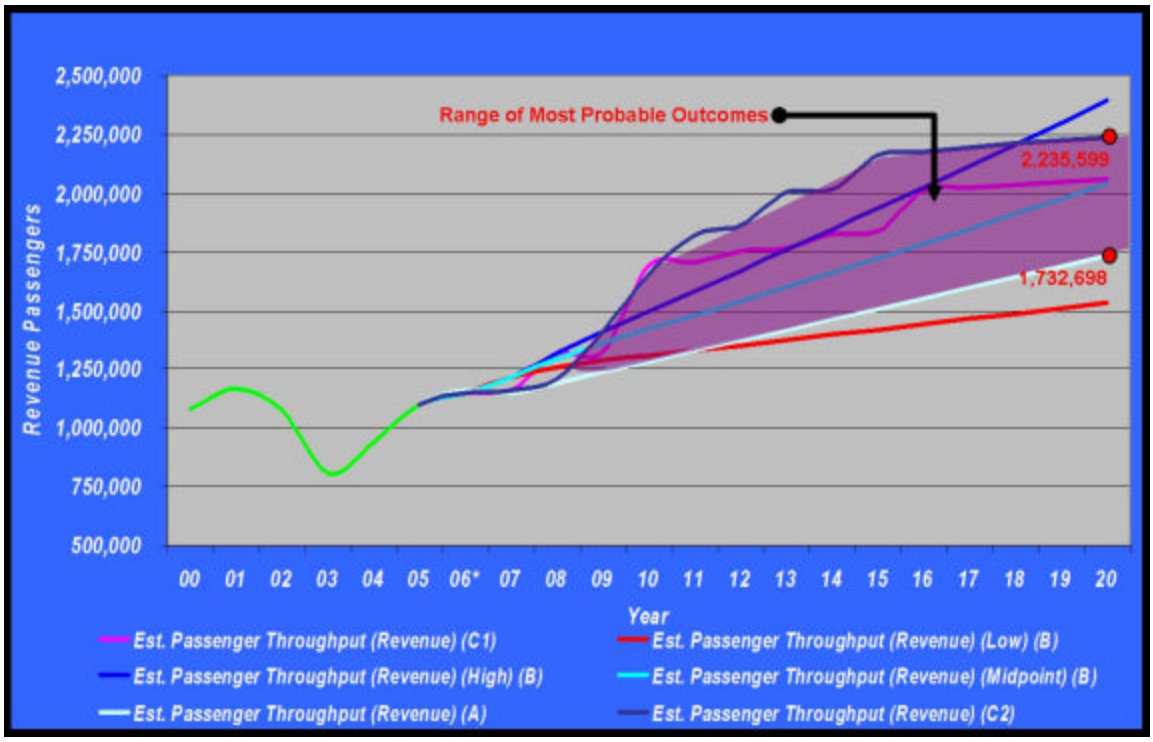
- ***Three projection approaches in the aggregate suggest significant growth is clearly feasible for the POLA given the proper commitment of resources and continued favorable market conditions.*** While several projection scenarios point to even higher growth, the anticipated range is expected to fall between 1,732,698 and 2,235,599 conventional cruise revenue throughput passengers by 2020. More aggressive projection scenarios suggest that 2.45 million revenue passengers by 2020 may be possible. Vessel calls are expected to increase from 258 in 2006 to nearly 360 calls by 2020.

- ***Present upland use scenarios suggest that the current Terminal 91 / 92 facility is not capable of handling the short-term growth, and clearly is not performing for existing cruise traffic.*** The Berth Demand Assessment will indicate the requirements for future infrastructure based on projected cruise growth for the POLA.

- ***Cruise growth for the POLA is reliant upon many factors:*** Success in expanding infrastructure; Marketing to cruise operators for homeport and port-of-call operations; Continued vitality of North American consumer markets for cruising as a travel and

leisure holiday option; Future size of Carnival Corporation and RCCL's presence in the region; and the ability of the region to remain safe and stable for cruise vessel deployment.

Figure ES1: Range of Most Probable Cruise Passenger Throughput to POLA, 2006 to 2020
Source: B&A, 2006



U.S. West Coast Cruise Region

While facing challenges over the past five years, the U.S. West Coast region continues to reflect a long-term positive growth trend with improved prospects for 2005 observed for all of the region's primary sectors—Mexican Riviera, Mexican Baja, Panama Canal, Hawaii and Alaska. The 5- to 10-year term prospects are positive. In 2006, 1,201-itineraries with a lower-berth capacity of 2,516,577-passengers spread across 10 cruise sectors were identified as compared to 2004 with 1,950,000-passengers on 975 sailings in the region.[1]

Over the next 2- to 5-years growth prospects in the region are likely strongest for the Mexican Riviera and Hawaii sectors. While providing indirect impacts, Alaska will also grow significantly over the 5- to 15-year term provided homeport berths are available in the key ports of Seattle and Vancouver. The Panama Canal sector will see some growth over same period mainly due to the movement of vessels to and from the region on a seasonal basis.

Continued growth in the Mexican Riviera and Mexican Baja sectors is also predicated on the requirements for additional downstream port-of-call berths to provide for increased numbers of vessels in ports on a daily basis. Puerto Vallarta and Cabo San Lucas are constrained at present. There are few alternatives within the typical 8-day cruise patterns to support growth in the mid-term. West Coast homeports inclusive of the POLA, Long Beach and Port of San Diego must also develop cruise facilities inclusive of berths, terminals, Ground

[1] 2005 CLIA statistics have not been generated to date. Once completed, we will revise for 2005.

Transportation Areas, passenger parking and other upland infrastructure to support the next generation of cruise vessels to be introduced into the region (*Voyager-class*) in the next 2- to 5-years and provide for long-term planning in anticipation of 5,000-passenger vessels in the next 5- to 10-years.

Increased collaboration among destinations is required to continue its solid growth trend. Improvements in port capabilities and cruise tourism infrastructure will undoubtedly make the region more appealing overall for operators, and thus, should work to expand market opportunities for all regional destinations.

The POLA and Port of Vancouver clearly dominate the West Coast cruise region. However, significant impacts to the POLA cruise operations have been made by the movement of the Carnival Cruise Line's vessels to the Port of Long Beach.[2] The Port of San Diego, Seattle and San Francisco have all increased their respective passenger volumes over the past four years as the cruise lines have moved to diversify their product offerings.

Table ES2: Cruise Traffic at Principal West Coast Base Ports, 2002 and 2006

Source: B&A, 2006

Homeport	2002		2006		% in Passenger Levels
	Cruises	Passengers	Cruises	Passengers†	
Port of Los Angeles	257	1,075,102	258	1,150,548	+3.7%
Port of Long Beach	0	0	157	793,640	+793%
Port of San Diego	117	310,000	162	538,489	+42%
Port of San Francisco	52	83,538	78	256,606	+167%
Port of Ensenada, MX	164	319,019	154	369,181	+13.5%
Port of Seattle	79	250,000	200	757,088	+302%
Port of Vancouver, BC	342	1,130,000	351	1,322,706	+14.6%
Total	***1,011***	***3,167,659***	***1,360***	***5,188,258***	***+38.9%***

Projected Growth in the U.S. West Coast Region

Historical capacity placement data indicates some minor regional fluctuations on a year to year basis with 10 – 15-year trends suggesting a range from stability to solid growth.

Table ES3: Projection Scenarios of Potential Passenger Levels in the U.S West Coast Market, 2010, 2015 and 2020 (Revenue Passengers)

Source: B&A, 2006

[2] The Port of Long Beach Cruise Facility is a Carnival Corporation project and operation. The facility can handle one ship per day. While open to all of the corporate brands, the facility mainly caters to the Carnival Cruise Line brand only.

Scenario	2010	2015	2020
Average length of a Cruise set at 6.9 Days (North American Average)			
Scenario 1 (Low – 2.1% growth per annum)	2,180,068	2,361,744	2,552,687
Scenario 1 (Mid – 4.2% growth per annum)	2,694,182	3,252,185	3,838,652
Scenario 2 (High – 5.4% growth per annum)	3,208,295	4,142,626	5,124,618

POLA's strengths in terms of strategic fit are to serve as a homeport for the Mexican Riviera, Panama Canal, Mexican Baja, World, South Pacific and Charter sectors. As a port-of-call, World Cruise and Charter operations may have a strong appeal given present deployment philosophies. POLA is considered a poor port-of-call for most sectors. This is primarily due to the strength of the POLA as a homeport which overrides the option as a port-of-call in most cases. Los Angeles has a strong strategic position in the region with overwhelming tourism infrastructure, market demographics and marquee value.

There are several cruise sectors within the region that have direct impacts on the POLA. Each of the target markets identified above affords the Port of Los Angeles varying degrees of potential cruise line port-of-call and homeport operations. POLA's strategic position in each market was assessed either as being strong (↑), fair (■), or weak (↓) in Table ES4.

Table ES4: Fit of the Port of Los Angeles in Identified Target Markets (Summary)

Source: B&A, 2006

Target Market	POLA as a Port-of-Call	POLA as a Homeport
Alaska	↓	↓ (complementary)
Hawaii	↓	■ / ↑
Mexican Riviera	↓	↑
Repositioning	■	■ / ↑
Panama Canal	↓	↑
Mexican Baja	↓	↑
World Cruises	■ / ↑	↑
South Pacific (Repositioning)	↓	↑
Pacific Northwest	↓	↓ (complementary)
Charters	↑	↑
Key: strong (↑), fair (■), or weak (↓).		

Global Cruise Industry

The cruise industry has emerged as one of the fastest growing and popular segments of the worldwide travel and leisure industry. With many of the fundamentals that contributed to the success of the industry still in place, cruise passenger volumes are expected to continue their positive growth trend. Projection of the worldwide industry suggests passenger carrying levels could expand from the present 13.4 million to between 19.3 and 30.1 million by 2020.

Continued strong passenger growth is incumbent upon between 40 and 120 additional new vessels being placed into operation over the next 15 years, a trend that will create demand for a number of present homeport and port-of-call facilities to expand—especially those found within the industry's most popular and profitable regions—and over the next 10 to 15-years, encourage expansion into new market regions.

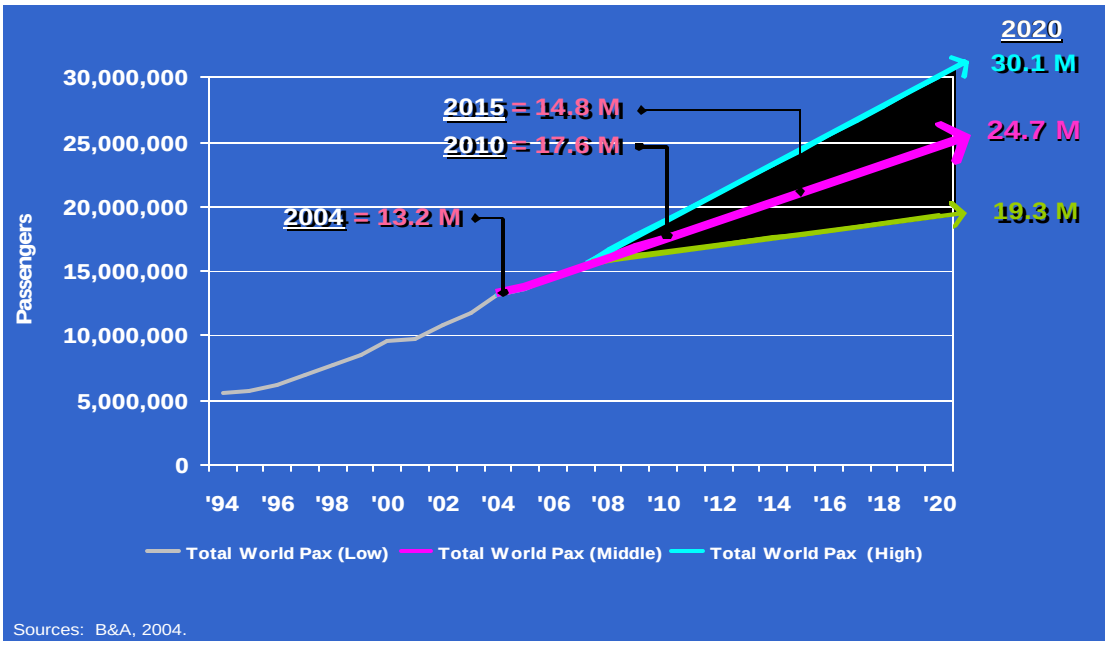
Three major cruise operators dominate the cruise industry worldwide—Carnival Corporation, RCCL and Star/NCL Cruises. These cruise consortiums have widespread influence on cruise marketing, operations and deployment trends worldwide.

Inclusive of all cruise operators, the Caribbean remains the principal location for cruise capacity placement, followed by the Mediterranean, Northern Europe and Alaska. The cruise industry's success is primarily a result of the following:

- Creation of products that convert land-based resort guests into cruise passengers; and
- Introduce new vessels and onboard products generating sustained interest in cruising.

Figure ES2: Projected North American and Worldwide Passenger Levels, 2004 – 2020

Source: B&A, 2006



As of February 2006, 27 new cruise vessels with a total berth capacity of 78,159 are scheduled for delivery over the next four years. For comparison purposes, in December 2002 the forward cruise vessel order book also contained 26 vessels with a berth capacity of 56,428. This is an increase of 28% in terms of berth capacity over a 4-year timeframe, with each new vessel currently on order carrying an additional 725 berths. In February 2006 Royal Caribbean International announced an order for the next generation of cruise ship – Project Genesis for delivery in fall 2009. It is approximately 43% larger than their current ship on order – *Freedom of the Seas* at 220,000-GT.

In looking forward each of the cruise industry fundamentals responsible for its dramatic rise over the past two decades are expected to remain in place and continue to propel the industry forward in terms of passenger and financial expansion over the long-term. Over the last 2 quarters of 2005 significant new-build orders have been placed that have substantially increased the positive worldwide outlook for additional cruise berth capacity. Ports must increase their cruise infrastructure and tourism support products to meet the demands of the next generation of larger vessels currently on order.

Barring some unpredictable event which again affects the market, is for a continued gradual revival in new building through 2006 and beyond. Worldwide passenger carryings are expected to grow from 13.2 million to between 19.3 million (low) and 30.1 million (high) by 2020.

Cruise Vessel Evolution

The evolution of the cruise ship has been one of the principal mechanisms propelling industry growth. It has also required that cruise destinations—both the maritime port facilities handling homeport and port-of-call operations as well as the destinations themselves—***evolve to meet the challenges presented by these ships if they wish to participate in the large-scale segment of the cruise industry.***

Table ES5: Sample of Large Cruise Ship Types

Source: B&A, 2006

Type	First Post - Panamax	Today's Post - Panamax	Tomorrow's Largest
Name	*Grand Princess*	*Freedom of the Seas*	*Genesis Project*
Operator	Princess Cruises	RCI	RCI
Group	Carnival	RCCL	RCCL
Built	1998	2006	2009
Pax (LBs)	2,600	3,634	5,400
Pax (Max)	3,000	4,200	6,400
GT	108,000	160,000	220,000
LOA (ft)	950	1,112	1,181
Beam (ft)	118	150	154
Draft (ft)	27	28	30
Air Draft (ft)	200	210	213

For the Port of Los Angeles, the net result of the cruise vessel development trends is that current and future facilities will need to be able to accommodate these large cruise ships for the POLA to remain competitive in the marketplace and be able to fully accommodate the future generation cruise vessels service requirements.

Future cruise ships will likely continue the trend began in the past decade of incorporating environmentally friendly systems into the design of their ships. Some examples of improvements in the past include:

- Changes in vessel engines that have significantly reduced emissions (e.g., gas turbines);

- Wastewater handling systems allowing ships to hold and treat their wastewater in more environmentally friendly ways; and,

- Garbage handling improvements that minimize impacts to the environment.

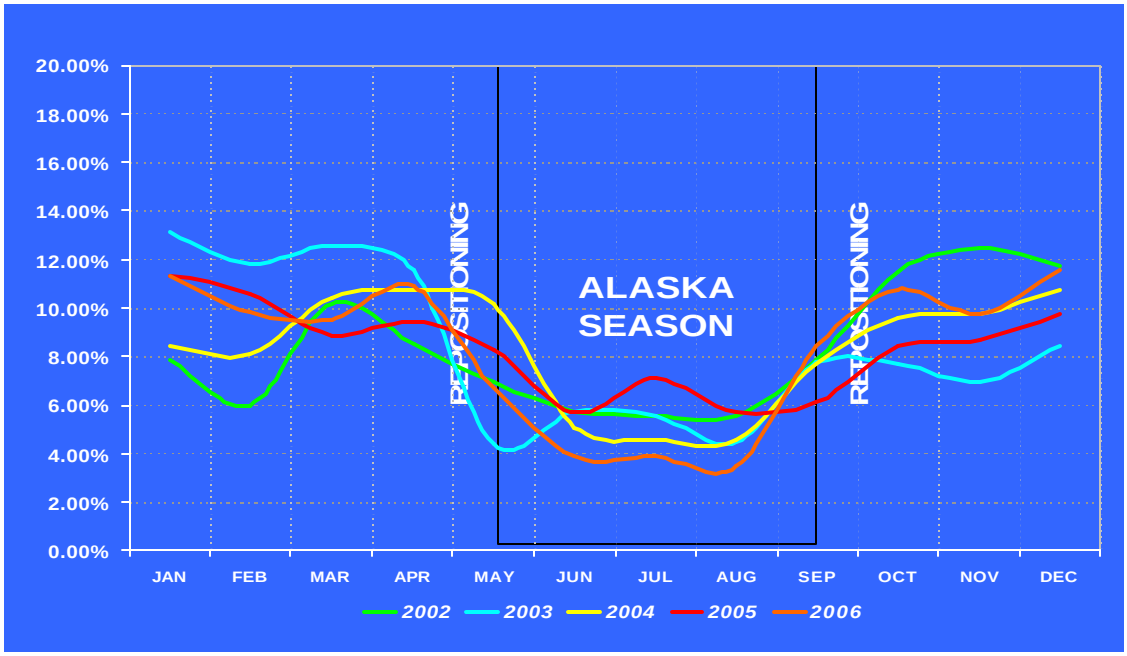
As technological changes in the environmental systems continue their advance, cruise vessel design will continue to incorporate these "green" technologies. Some lines have already adapted a no-discharge policy. The trend will continue into the future. Alternative Maritime Power (AMP), while challenging due to the deployment of cruise vessels worldwide is likely to become a much broader topic as air emissions for all marine vessel types are studied.

Facilities Berth Demand - Monthly Traffic Analysis and Seasonality

Part of the process in accurately identifying long-term berth demand is to develop an understanding of the traffic patterns to the port or facilities in question. In the case of the POLA there is a well defined monthly traffic pattern that emerges through analyzing the historical traffic data. Figure ES3 provides a snapshot of POLA's cruise traffic patterns.

Figure ES3: POLA Monthly Passenger Traffic, 2002 - 2006

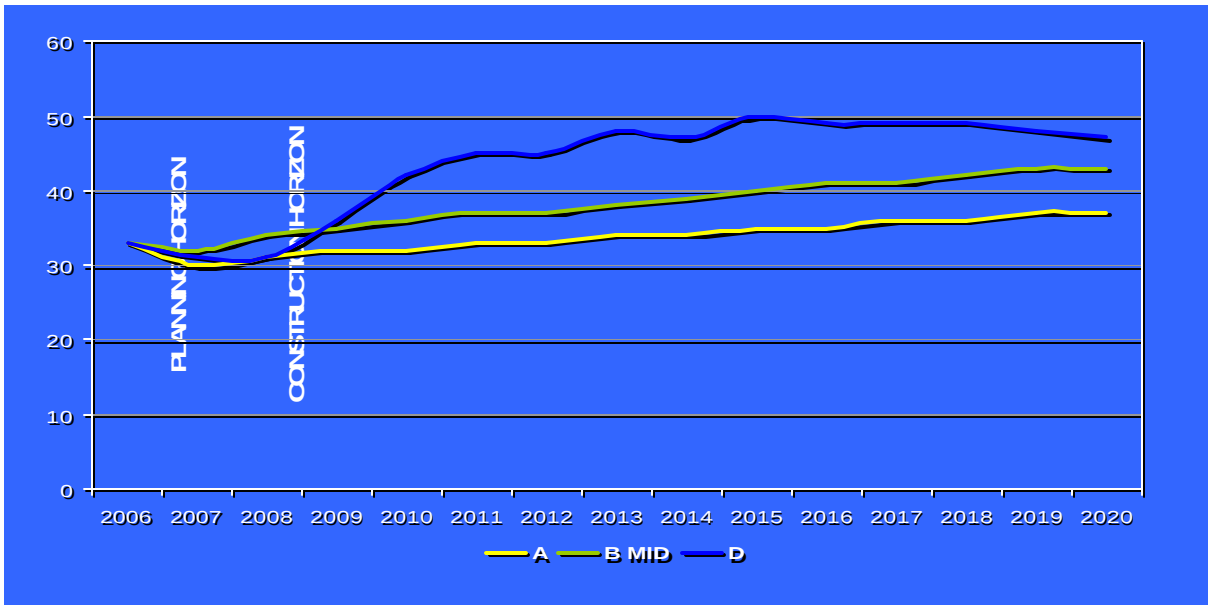
Source: B&A, 2006



Overall, most growth is envisioned to occur during the peak Mexican Riviera cruise months from November through March with little aggressive growth envisioned for the summer months. Figure ES4 illustrates the peak month cruise traffic in terms of vessel calls. Under the medium and high projection scenarios 35 to 40 peak month calls are envisioned as early as 2009 / 2010.

Figure ES4: POLA Peak Month Cruise Ship Calls, 2006 - 2020

Source: B&A, 2006

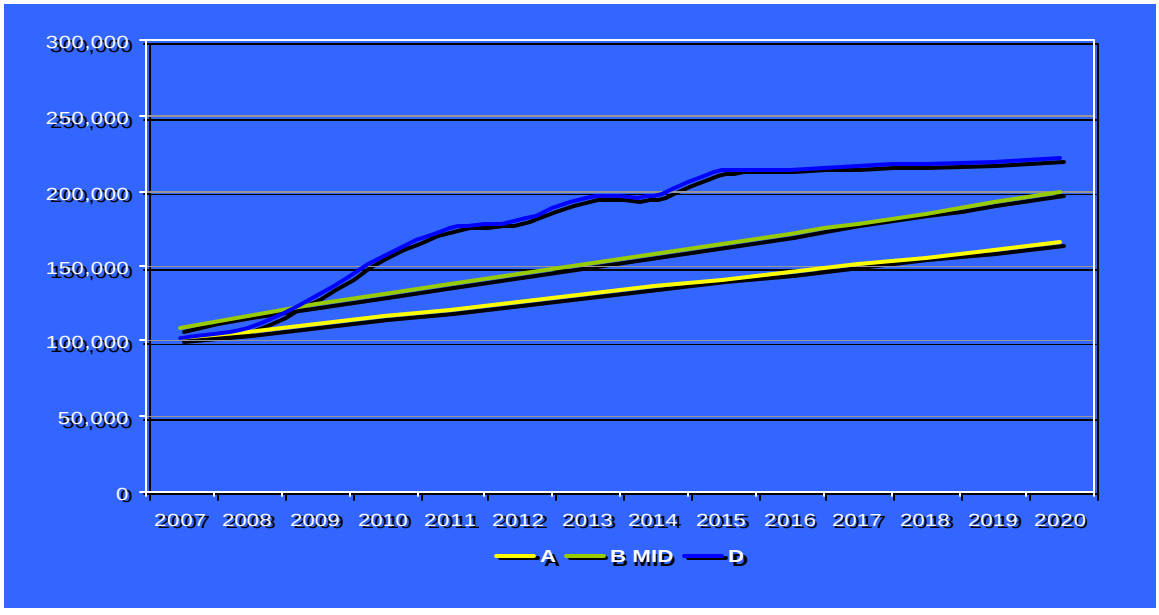


Daily Traffic Analysis and Peaking Periods

Monday/Friday has consistently been the busiest cruise days for the POLA, primarily due to the short cruise Baja Mexico traffic. Over the past two years this traffic has seen a slight decrease. Over the 2002 – 2005 years the Sunday traffic has dropped consistently, but in 2006 a marked increase has occurred primarily due to the addition of Princess Cruises Mexican Riviera ships into this slot. Saturday has also seen a good increase in traffic over the past two years. Due to vacation travel patterns of the North American consumer, preferring weekend travel, it is unlikely that the POLA can grow the weekday calls significantly over time unless consumer vacation patterns change substantially over time.

Figure ES5: POLA peak month passengers (non Monday/Friday), 2006 - 2020

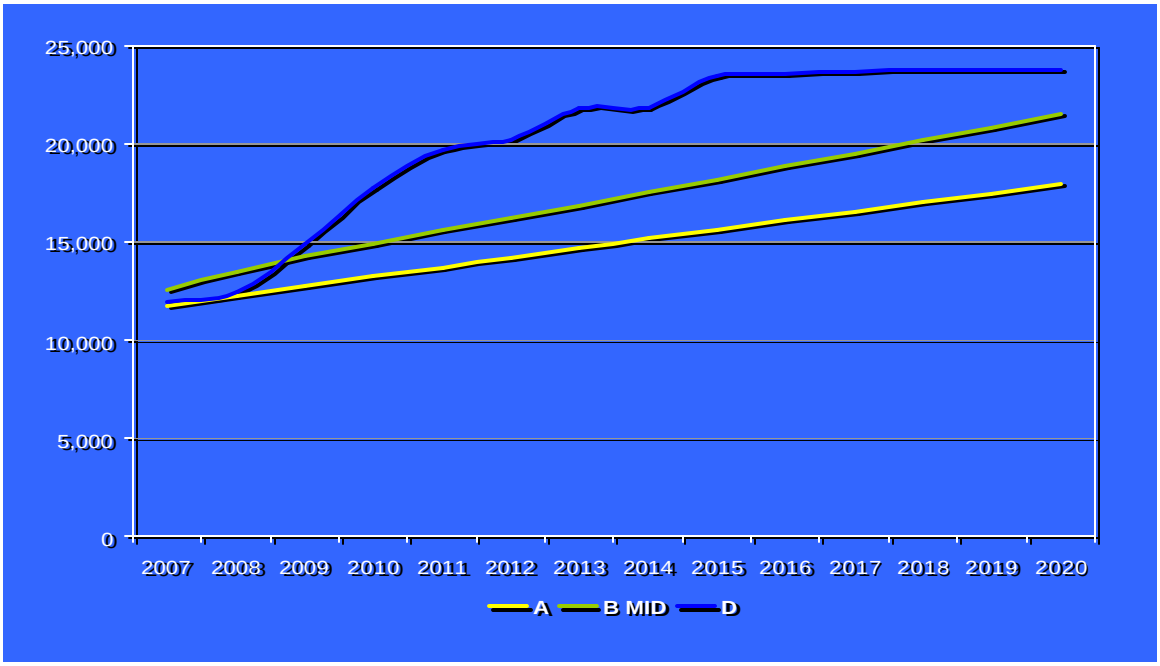
Source: B&A, 2006



Figures ES5 and ES6 provide an illustration of peak month and day passenger throughput for the POLA over the projection period. Non Monday/Friday traffic will grow from approximately 100,000-revenue passenger per month in 2007 to between 160,000- and 220,000-revenue passengers per month in 2020. Peak day passengers will be between 18,000- and 24,000-revenue passengers.

Figure ES6: POLA peak day passengers, 2006 - 2020

Source: B&A, 2006

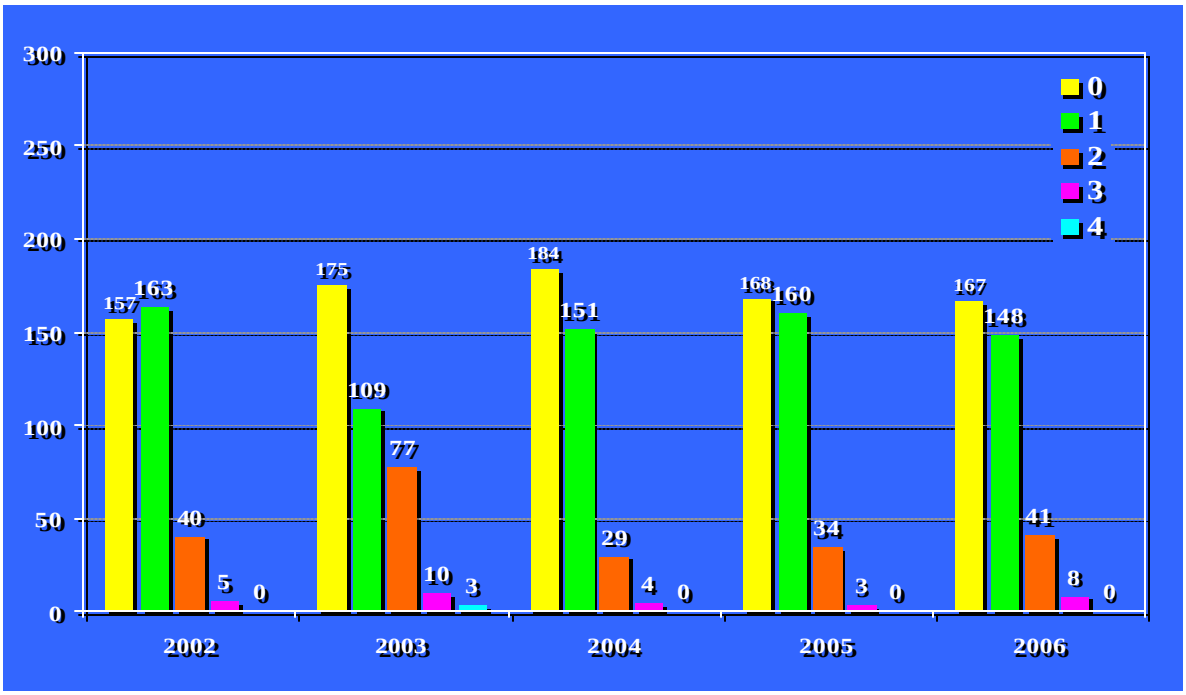


Facility Demand Assessment

Translating cruise passenger traffic into berth or facility demand over the projection period is an essential element in the overall planning for the POLA. This process looks to provide the facility berth need over time and more specifically to focus on the timing of the facilities needed by the POLA to accommodate the future traffic to the port. Figure ES7 provides an overview of cruise calls per day per annum from 2002 through 2006. Overall there are no ships in port for approximately 166-days per year which has been consistent overall. Taking into consideration the anomalies of 2003, the average number of days in a year with 1 ship in port is 155.5. There are 41 days with 2 cruise ships calling and another 8 days that POLA has 3 ships calling in port in 2006.

Figure ES7: POLA Cruise Calls Per Day, 2002 - 2006

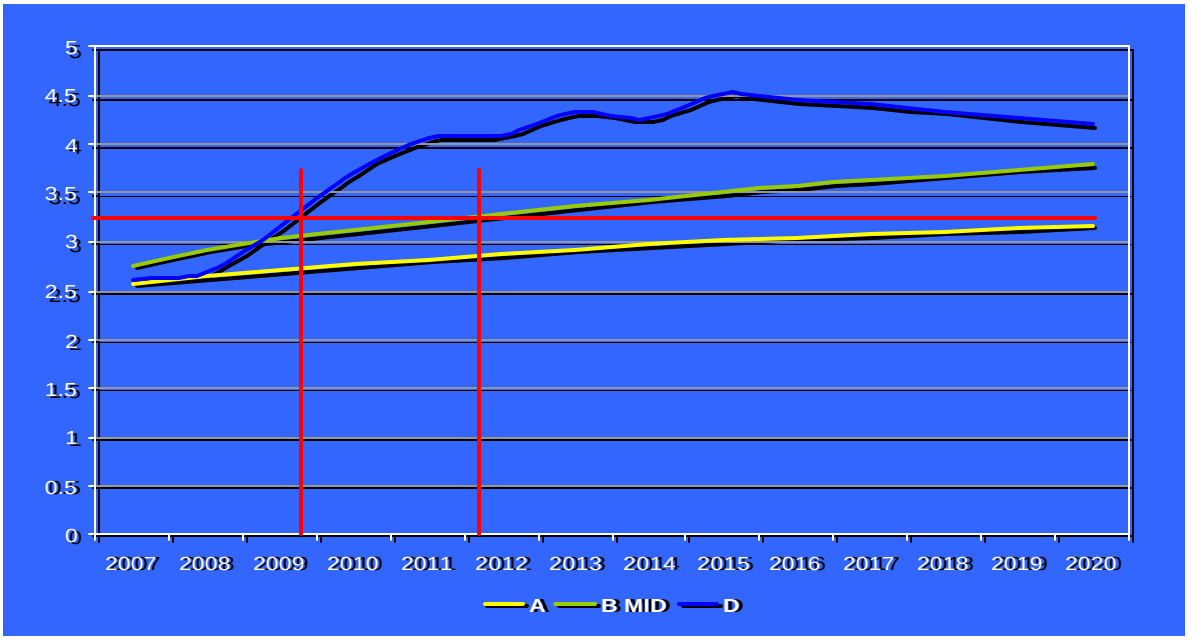
Source: B&A, 2006



Over the projection period we envision that the peak month berth demand with 3 berths required will in 2009 under the high scenario and 2012 in the mid-range projection. This is shown in Figure ES8 below. Under the low projection scenario POLA would not require additional berths through the period. However, this low range is unlikely based on our research and interviews conducted with the cruise line industry and other sources.

Figure ES8: POLA peak month berth demand, 2007 - 2020

Source: B&A, 2006



Based on the Facilities Demand Analysis the following conclusions have been formulated:

- POLA will have the cruise demand for 4 terminals/berths over the mid-term (3 – 5 years) and potentially a 5th berth in the outer planning horizon if the cruise projection models reach the higher levels of passenger throughput;
- Thus, the 4th berth will be needed after 2010 to meet the needs of the POLA's cruise growth. If a 4th berth is not put into place for the POLA this would cap cruise growth to approximately 1.8 Million annual revenue passengers; and
- Within a few years all three US West Coast Southern California homeports will be at full capacity.

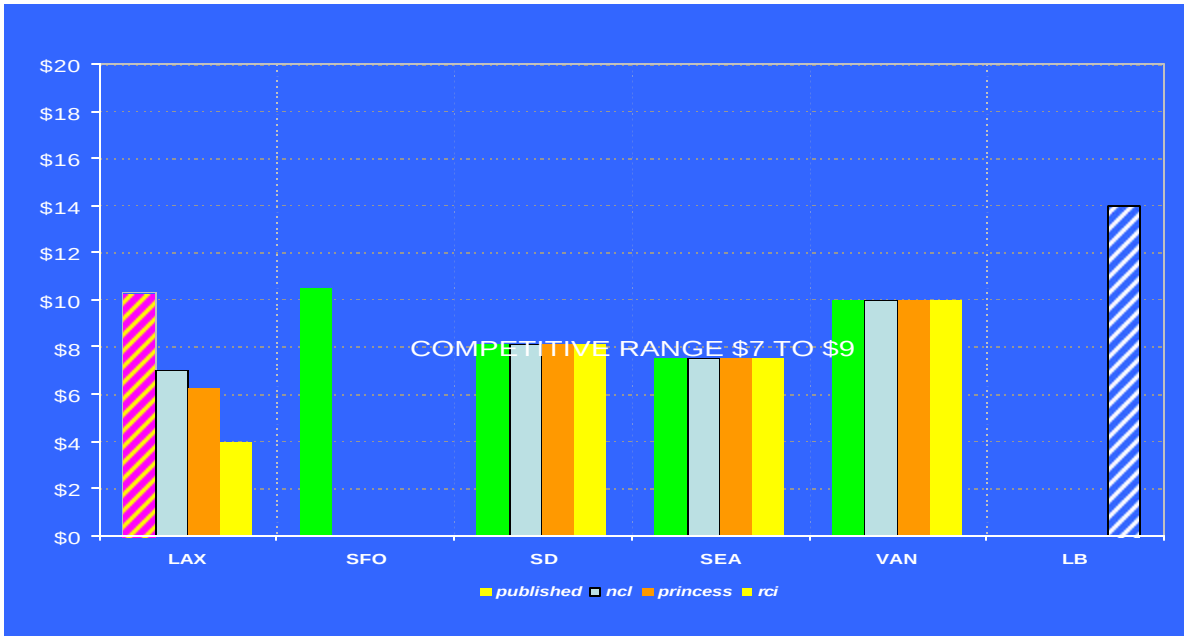
One of the major keys to growth for the region and ports along the US West Coast is who has the capacity to expand cruise facilities. Thus, the POLA has an opportunity to capture any new additional deployments with new cruise terminals/berths in place.

Financial Model

Based on our analysis of the ports within POLA's competitive sphere along the US West Coast Region it is envisioned that a rate structure range from $7.00 to $9.00 per passenger would provide the POLA with a competitive cruise passenger tariff. Figure ES9 illustrates this point. The main competition for the POLA is the Port of San Diego from a homeport perspective. Their current rate is at $8.10 per passenger.

Figure ES9: Passenger Fees Competitive Sphere (actual rates), 2006

Source: B&A, 2006

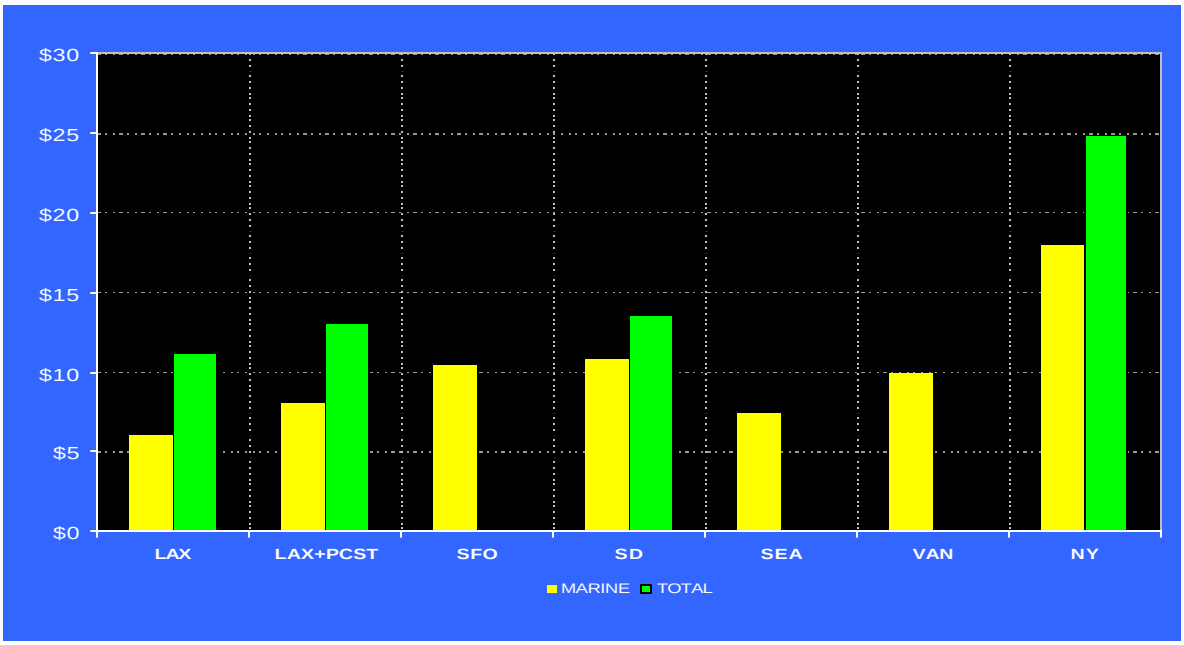


Based on our analysis the POLA (without the PCST) is at $6.11 for marine revenues per passenger and a total $11.20 with all services and costs associated with each homeport call. With the PCST's additional revenues the marine portion is $8.04 and the total revenues per passenger are at $13.10. As a comparison, the Port of San Diego is at $10.80 per passenger for

marine revenues and $13.53 for total revenues per passenger for 2006. This is a difference of more $2.76 per passenger (marine) and $.43 more total. This would be somewhat different if the Port of San Diego did not run its own terminal operations.

Figure ES10: Total Revenues Per Passenger, 2006

Source: B&A, 2006



The goal of the tariff structure for a port should be to attract, cultivate and maintain cruise ship traffic to the port and community, while also being able to develop those areas of importance in the port area and providing for local infrastructure use. Beyond cruise port charges, cruise lines look to other ways operational costs can be reduced as part of a cruise port-of-call and homeport deployment. Savings can be achieved from lower costs associated with labor required to work the ship while in port (stevedores, line handlers, security, and other positions), and better prices associated with the availability of certain provisions.

Providing for additional dollars as part of a revised tariff structure would increase overall Port revenues and allow the POLA to actively pursue cruise infrastructure development with a larger fund. This approach is not without difficulties in terms of appraising the cruise lines of a rate increase. However, if explained in terms of facilities enhancements this would likely be easier for the cruise lines to understand.

Cruise Tariff Economics

As part of this work several tariff scenarios (or runs) were made to determine the potential of each to generate funds that can be used to fund a capital program. This chapter outlines potential tariff scenarios for the POLA. Two primary scenarios were run as part of the study. Subsequently two additional scenarios were also studied. The first two scenarios fell between the competitive tariffs conclusions described above.

- **Run 1 –** No rate increase throughout the period;
- **Run 2 –** Passenger fee: Equalize all contracts to the level of NCL in 2010 + 3% escalator; and 2011 - $7.21 passenger fee. Dockage: 1% escalator starting 2010; PCST: 2% escalator: and Costs: 2% escalator starting now.

Under Run 1 terminal operating expenses climb from $2.07 Million in 2006 to approximately $2.55 Million in 2020. Run 2 provides for an expense increase from $2.20 Million in 2006 to $3.97 Million in 2020. These costs compare very favorably to industry comparables. The terminal is operated extremely efficient, allowing POLA to capture the majority of revenues as excess capital.

POLA net marine revenues in 2020 are $13.68 Million under Run 1 and $23.11 Million under Run 2. See Figure ES11.

The total parking revenues also compared favorably against those calculated by an independent study commissioned by POLA. Under both Run 1 and 2 parking revenues continue to escalate throughout the study period from approximately $6.0 Million in 2006 to $14 Million (Run 2) and $10 Million (Run 1). Adding the marine and parking yields the total net revenues associated with cruise operations as shown in Figure ES12 for the period ending in 2020 are $21.54 Million under Run 1 and $33.99 Million under Run 2.

Figure ES11: POLA Net Marine Revenues, 2006 - 2020

Source: B&A, 2006

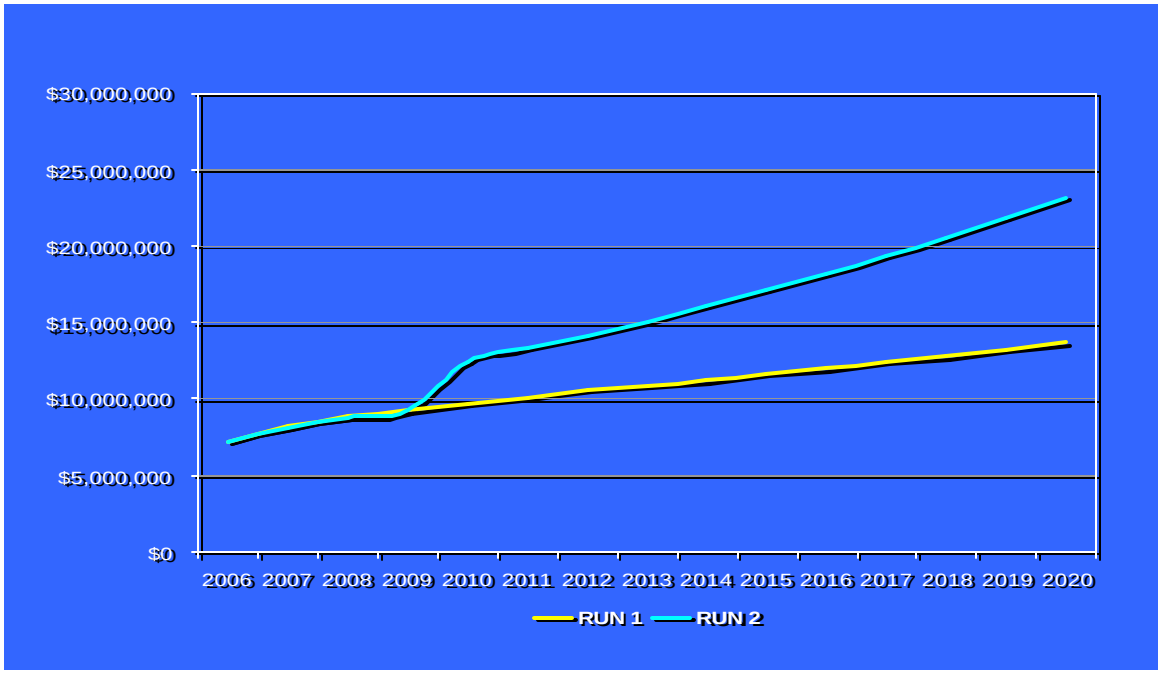
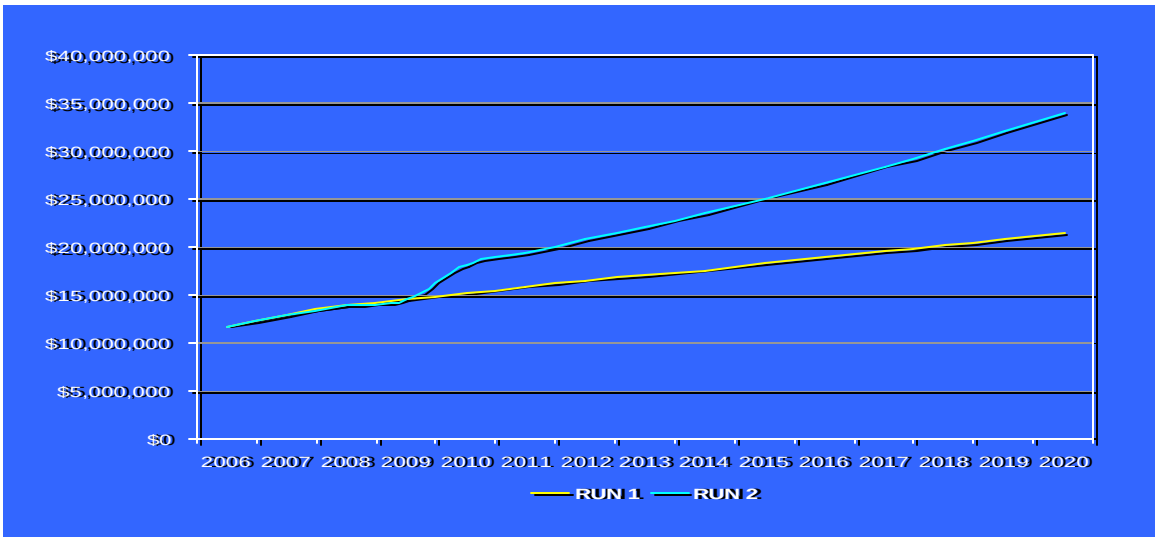


Figure ES12: POLA Total Net Revenues, 2006 - 2020

Source: B&A, 2006



Based on the Runs presented and studied the following conclusions were surmised:

- The current approximately $11 million in net revenues could grow to $21 million under the no tariff increase scenario by 2020; and
- Under the Run 2 scenario these revenues could increase to approximately $35 million for the POLA.

Capital Program Analysis

Based on the net revenue analysis, the potential capital program that such a cash flow stream could support was calculated. This was based on utilizing a project financing scheme using tax exempt bonds as follows:

- 6% interest; 30 years maturity; and a 1.25 coverage obtained.

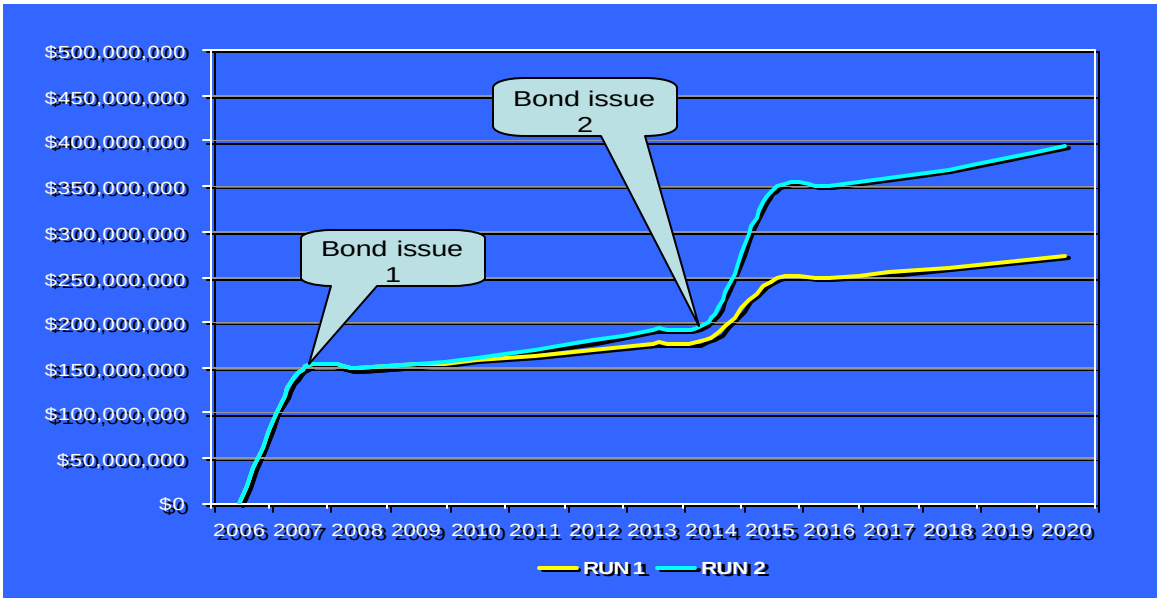
In addition, the following stipulations would also apply:

- Two bond issues would be done in 2007 and 2015; Plus cash accumulations; Have not built in issuance costs, reserves; and No debt structuring.

The results of this analysis are shown in Figure ES13.

Figure ES13: POLA Potential Revenue Based Capital Program, 2006 - 2020

Source: B&A, 2006



Under Run 1, the first bond is issued in 2007 for a total revenue based program at $145.09 Million, expanding to $245.51 Million in 2015 with a second bond issue and then climbing to $273.42 Million. Run 2 provides for $144.61 Million when the first bond is issued, $344.05 Million in 2015 with a second bond issue and then climbing in 2020 to $394.98 Million.

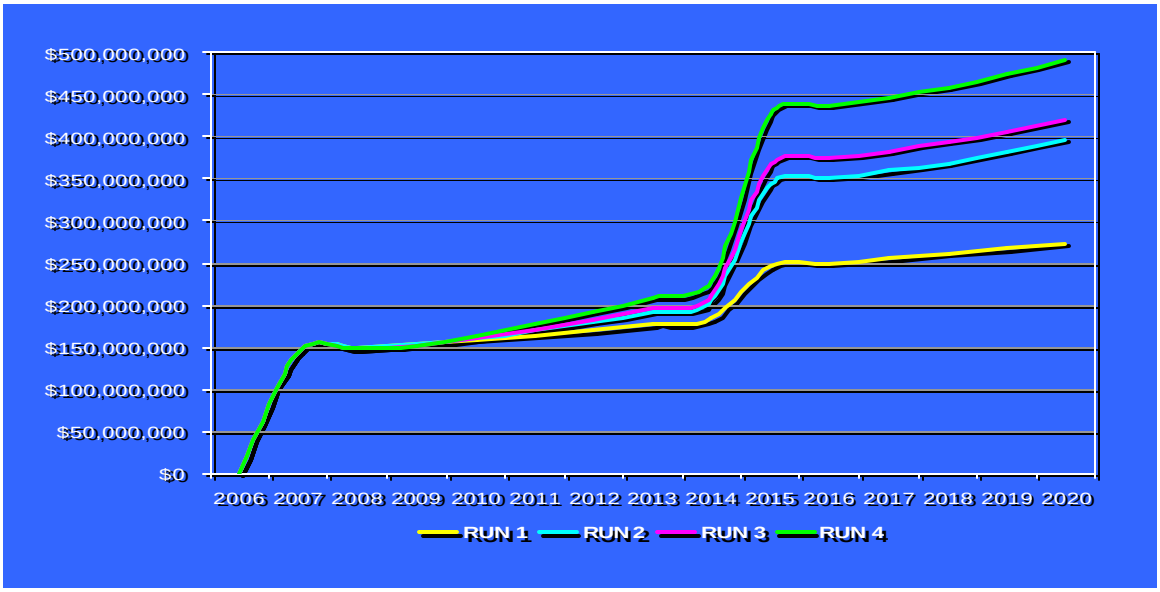
Two additional tariff runs were completed to test the flexibility to raise additional capital if higher tariffs were imposed. These runs had the following factors:

- **Run 3 -** $8.00 passenger fee in 2010; 3% escalator; Dockage escalates at 2% starting 2010; and 3% cost escalation for all expenses and PCST revenues.
- **Run 4 -** $10.00 passenger fee in 2010; and All other factors as per Run 3.

POLA net revenues over the study period show marked increases under Runs 2 through 4, mainly due in part to the escalation factors provided. Run 1 shows a steady increase in net revenues over the time period. In 2020, Runs 2 through 4 ranges from approximately $34 Million (Run 2), $36 Million (Run 3) to $41.7 Million (Run 4). Run 1 grows from $11.6 Million in 2006 to $21.5 Million in 2020. Under Figure ES14 the capital programs illustrated show growth for all Runs.

Figure ES14: POLA Potential Revenue Based Capital Program, 2006 - 2020

Source: B&A, 2006



Based on the mid-growth projection and other assumptions described within this study, POLA could support the following general ranges of investments based on the cash flow produced by each RUN:

- **Run 1** - $273 million (no increase)
- **Run 2** – $394 million ($7 pax fee);
- **Run 3** – $425 million ($8 pax fee); or
- **Run 4** - $490 million ($10 pax fee).

This of course assumes that all of the funds are reinvested in facilities and that POLA will not have any profit on the operations over the immediate term.

In order to determine the best financial strategy, there are a number of policy questions which POLA must address:

- Is the project to be financially self-sufficient?;
- When - from day 1?;
- Is there an expectation of a Return on Investment (ROI)?;
- Is there an investment strategy based on economic impact to the community?; and
- Is there potential gap financing or funding?

These should all be part of a thoughtful discussion that balances the positive impact of cruise and the need to make intelligent investment decisions. The most typical method used by other ports is the issuance of bonds either wholly or partly supported by the project revenues. This will need to be carefully studied as part of a commercial strategy to determine the level of guarantees required.

Terminal Operating Models

There are three basic models in use today in the United States:

1. **Port Operated Model**: Most east coast cruise terminals are directly operated by the Port themselves;

2. **Privatization of the operations to a Terminal Operator Model**: This is currently how POLA is conducting business and how other west coast ports operate; and

3. **Mixed Model**: Where the different components of terminal operations are privatized separately. These include Parking; Housekeeping; Maintenance; and Security.

The POLA terminal is the cheapest of all to operate.

Figure ES15: Operational Costs ($ per passenger) by Selected Ports

Source: B&A, 2006