The Panama Canal Impact on the Liner Container Shipping Industry

El Impacto del Canal de Panamá en la Industria de Servicios de Líneas de Contenedores

The Louis Berger Group, Inc.

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FINAL REPORT

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EXECUTIVE SUMMARY

The Louis Berger Group has carried out a market analysis of the present and future demand for container vessel transit services provided by the Panama Canal. This study focuses on one of the most important segments of the shipping market that the Panama Canal serves and is one of six studies of individual market segments the ACP is undertaking to assess the potential overall demand for the Canal. The other five segments (dry bulks, liquid bulks, refrigerated cargo, vehicle carriers and cruise ships) are the subject of other studies. This approach recognizes the unique characteristics of the major market segments and the desirability of employing different analytical tools that best model the variables and decision-making processes that affect the use of the Canal. The results of all of the studies, as well as additional work on pricing and market strategies, will be integrated into an overall market demand study, anticipated to be finalized in mid-2004.

Among the different market segments, the liner container shipping segment appears to offer the greatest potential for future growth. Its significance goes beyond its contribution to Canal traffic in that it is the key driver of cargo movement at Panama's ports. The liner container shipping market is of strategic importance not only to the future of the Panama Canal, but also to the country's ports and its position as a regional hub.

This study of the demand for Liner Shipping Services through the Canal differs from prior studies in that it is not solely based on historical trends. The study forecasts result from a model based on an analysis of each market segment, the alternatives available to shippers, and various scenarios regarding changes in production, distribution, and logistics that affect the Canal markets. It should be noted, however, that the forecasts are made without any recognition of possible capacity constraints or pricing sensitivities, and should be considered as unfettered demand projections.

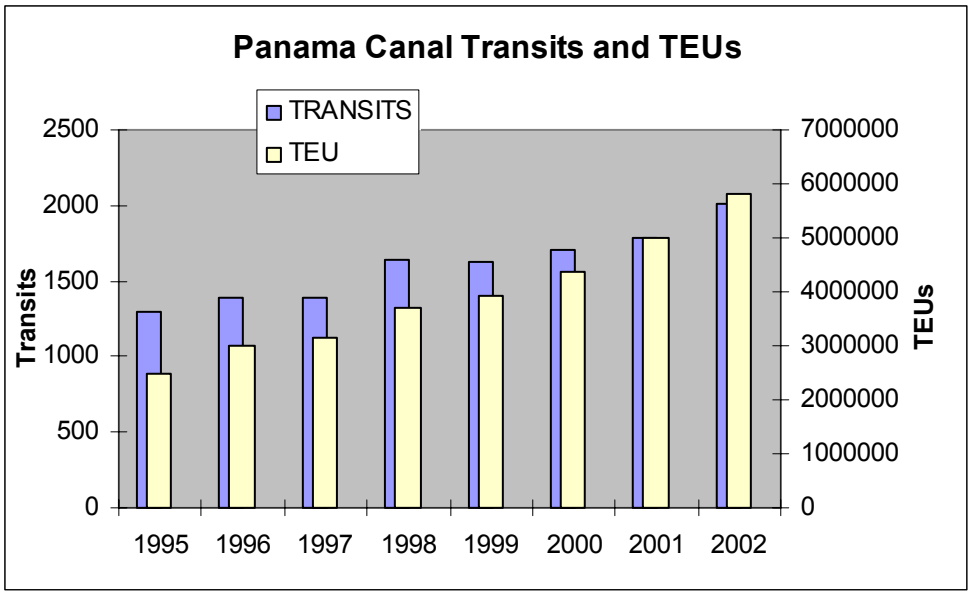
Market Analysis

Container traffic continues to grow as a component of the Panama Canal's business, both in terms of number of vessel transits and in the TEU capacity of the vessels using the Canal. Over the period from 1995 to 2002, ACP data indicates that the number of container vessel transits across the Panama Canal increased at an average annual growth rate of 6.4% while at the same time TEU capacity of these specialized vessels transiting the Canal grew by 12.9% (see Figure ES-1).[1] Consistent with worldwide trade

[1] Historical cargo in TEU transiting the Canal is not available, but TEU capacity is used as an indicator of actual TEU transiting the Canal assuming TEU/vessel remain the same. We believe that the larger increase in transits and TEU since 1998 is the combination of several factors: introduction of new buildings made Panamax vessels available for all-water deployment; growth of alliances created incentives for all such groupings to have at least one all-water service, passage of the Ocean Shipping

trends, the liner container shipping segment is likely to experience continuing growth for the foreseeable future.[2]

Figure ES-1: Transits and TEU capacity growth (1995 – 2002)



The containerized cargo moving through the Canal does so primarily along 12 trade routes, with flows between Northeast Asia and the United States being by far the largest. Table ES-1 illustrates the 2001 composition of the container markets served by the Canal for each trade route. An origin and destination region is shown to indicate the dominant trade direction between the two regions (exports or imports). The relevant trade flows are based on data obtained from PIERS container worldwide trade flows and includes cargos that are shipped not only through the Canal route, but by alternative routes as well.

The total relevant trade in 2001 was approximately 5.2 million TEU, or slightly less than half of the total of 10.7 million TEU for the twelve segments. The relative competitiveness of the Canal for US shippers or consignees depends on the region within the US to which cargo is destined, or in the case of US exports, from which it originates. For the largest single segment, NE Asia – US, the Canal captured about 30% of trade to the East US region, only 3% to the Gulf region and none of the West region. Other trade flows, such as US East – Oceania, can be considered captive, with the Canal the only route used. The inverse is true on still other routes, with little or none

Reform Act (OSRA) served as a catalyst that allowed all-water pricing to be market-driven, and the increased number of distribution centers by large retailers in the USEC (e.g. Wal-Mart).

[2] Although some containerized cargo is carried on other vessel types, this analysis focuses only on that handled by the liner container vessels.

of the flow coming though the Canal. Overall, the Canal captured 36.5% of the total volume of relevant trade in 2001.

Table ES-1: Relevant Trade Flows and Canal Shares for 2001 ('000s TEU)

Trade Flow				2001 Trade Volume ('000s TEU)			Percent
No.	Origin	Destination	US Region	Total	Relevant	Canal Share	Share
US Based Trade Routes							
1	NE Asia	US	East	2.183	2.183	647	29,7%
			Gulf	807	807	24	3,0%
			West	2.942			
2	SE Asia	US	East	407	407	72	17,8%
			Gulf	151	151	0	0,0%
			West	528			
3	US	Oceania	East	134	134	134	100,0%
			West	36	36	0	0,0%
4	US	NC/EC SA	East	326			
			West	87	87	44	50.0%
5	WC SA	US	East	192	192	192	100,0%
			West	51	51	0	0,0%
6	Europe	US	East	1,790			
			West	476	476	476	100.0%
Non-US Based Trade Routes							
7	WC SA	Caribbean		6	6	6	100,0%
8	NE Asia	EC SA		144	144	0	0,0%
9	Europe	WC SA		169	169	169	100,0%
10	NC/EC SA	WC SA		94	94	47	50,0%
11	Asia	NC SA		42	42	42	100,0%
12	Asia	WC SA[3]		171	171	27	15,6%
Total				10.736	5.150	1.880	36,5%

Note: All figures are one-way, in the dominant direction.

Source: PIERS, ACP data, consultant analysis.
Legend: WC= West Coast; NC= North Coast; EC= East Coast; SA= South America

[3] Based on industry interviews and capacity deployed in the trade route, it is assumed that 30% of the trade from Asia to WCSA is transshipped in Panama. For the cargo transshipped in Panama, it is assumed that Balboa's share is 74% and Colon 26% (specifically in CCT, Evergreen Terminal). These shares are based on the capacity of feeders calling at Balboa and Colon terminals serving WCSA (Maersk and Evergreen feeder services). The cargo that is transshipped in Colon has to transit the Canal twice, once in the eastbound direction on the mainline vessel and then again westbound on the regional feeder. This results in 15.6% of total trade from Asia to WCSA transiting the Canal.

Of these 12 routes presently served by the Canal, 6 are US based and the remaining 6 are Latin American based. The US trades account for almost 95% in the total relevant trade flows. Asia – US flows alone, the first two relevant flows (NE and SE Asia to the US East and Gulf regions), account for over two thirds of the total relevant market. That same Asia-US cargo comprises approximately 40% of the total Canal volume. Conversely, while the total Europe trade flows with the US and West Coast of South America are a relatively small share of the total relevant market -- just over 12% combined -- they account for over a third of the total Canal volume. Other notable shares of Canal traffic are US – Oceania at 7.1% and WC South America – US at 10.2%.

Competitor Routes

The alternative routes that are deemed competitive to the Canal vary by trade flow. The Canal's competitiveness is directly related to savings in cost and/or time offered by a route and the steamship line operating strategies for the various trade flows.

The major alternative route options that shippers have for their cargo movements instead of using the Panama Canal for their container shipping traffic can be classified as follows:

- All-Water Routes (AW) that do not include the Panama Canal
    - via the Suez Canal
    - around Cape Horn
    - around the Cape of Good Hope
- Intermodal Routes (IM)
    - From Asia to the West Coast of the US connecting to the US Rail System

Clearly, the most important competitor to the Canal is the US intermodal system. The vast majority of the traffic moving through the intermodal system tends to be higher-value, time-sensitive traffic. Lower-value, less time-sensitive traffic continues to move in all-water service across the Panama Canal. The choice between the intermodal system and all-water service continues to be customer-specific and/or shipment-specific.

Main Drivers of Panama Canal Traffic Growth

The Panama Canal demand is mainly derived from economic activity. As the world's economy grows, the trends affecting manufacturing and distribution, and the shifts in location of economic activity are the main determinants of demand. The main drivers of future Panama Canal traffic are therefore:

1. Economic and trade growth, trends toward globalization and shifts of manufacturing to the lowest-cost locations around the world far away from the consuming areas of the world;

2. Shipper logistics requirements for this trade; and

3. Steamship lines' strategies to serve the shippers and improve their profitability.

The market share of the Panama Canal (defined as the cargo handled out of the total trade and related vessel transits) have been analyzed under many scenarios that reflect the various factors that influence these key demand drivers. The scenarios have been combined into alternative futures that reflect the uncertainty as to future economic growth, trade, shipper logistics, as well as shipping industry technology and infrastructure

Scenarios

Scenarios covering three sets of factors were considered:

1) Economic and Trade Growth[4]

   Essentially, the key factors that affect trade flows (e.g., income growth) are assumed across a range as follows:

   1. Worst Case – slowest economic growth and trade assumptions;
   2. Best Case – fastest growth assumptions; and
   3. Base Case – reflecting moderate growth assumptions.

2) Shipper Logistics and Operations

   The alternative futures for shipper logistics and operations consider three basic drivers of demand for those US trades in which there is significant competition between the all-water route and the intermodal route:

   a. Cargo Type and Value
   b. Types of Shippers and their Supply Chains (including sourcing, the roles of retailers and manufacturers, distribution centers networks and logistics, and order cycle time and reliability)
   c. Quality of Service Offered on Alternative Routes (including US port development and efficiency)

   A total of 3 alternative futures have been defined as follows:

[4] Economic and Trade Growth Scenarios were provided by PIERS and verified with other sources such as Global Insight.

1. Increased Intermodal Competition (Pessimistic) future in which improved performance of the services in the competing intermodal route would attract cargo away from the all-water route, the mix of cargo favors speed over cost and shippers focus on reducing order cycle times.

2. Resurgence of All-Water Route (Optimistic) future in which the performance and quality of the all-water services improve relative to the competing intermodal route, the mix of cargo shipped is on the margin more sensitive to cost than to time and large sophisticated retailers that can manage longer order times are increasingly important.

3. Competitive Balance Status Quo (Moderate) future in which improvements in the performance and quality of the all-water route are comparable to those for the competing intermodal route, the mix of cargo and its average value remains relatively unchanged, while shippers improve the quality of their distribution networks to take advantage of modern supply chain management techniques to improve order times gradually.

3) Shipping Technology (including vessel size)

Two scenarios are considered for the future size of the vessels (measured in TEU) based on the assumption of **slow** and **accelerated** change in the introduction of Post-Panamax vessels on the Panama Canal services.

For captive trade flows, shippers have no reasonable choice, so the forecast is only based on economic trade/growth and shipping technology scenarios.

A final scenario has been considered to analyze what might happen if there were no expansion of the Canal. The Base Case economic scenario is combined with the Pessimistic operating scenario and a No Deployment of Post-Panamax vessel scenario to model this situation. The analysis conducted under this study does not consider capacity constraints, which would be a key factor in any No-Expansion analysis. Therefore, the analysis of this scenario is limited to consequences of the inability to accommodate the Post-Panamax fleet.

Forecasting Approach

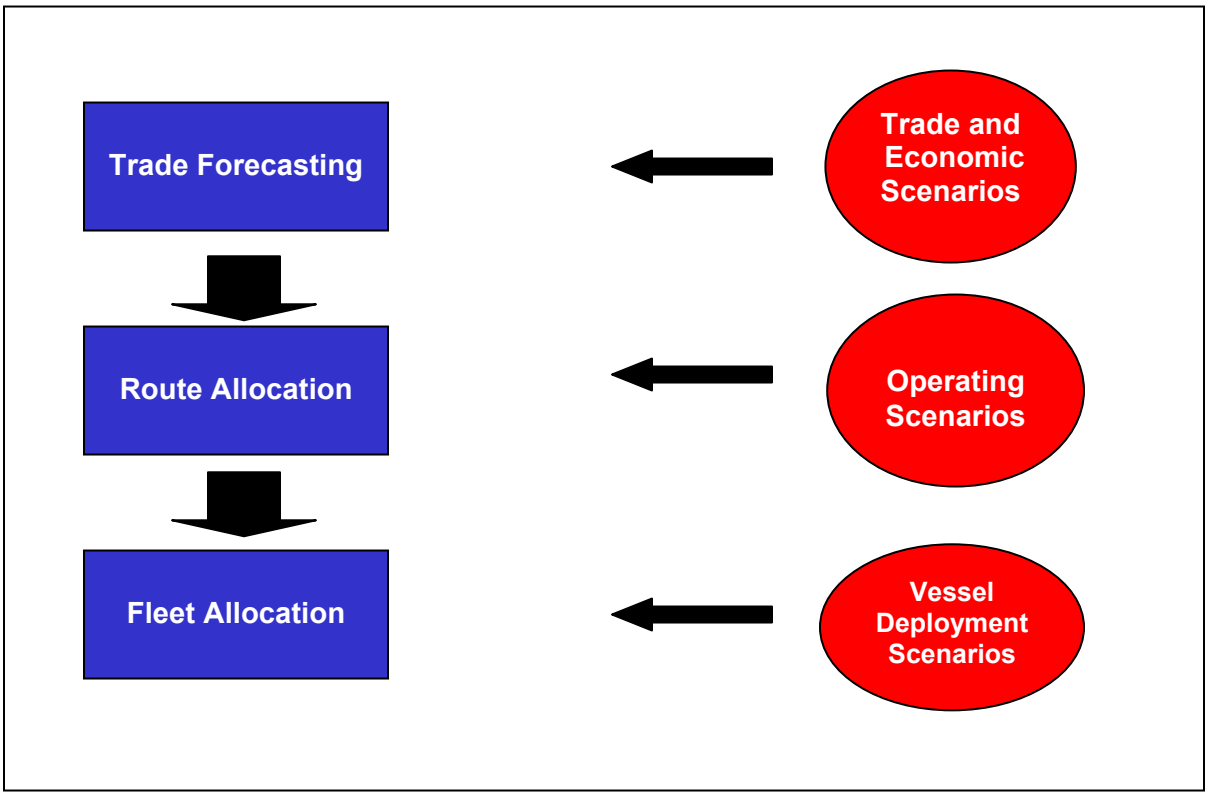
A three-stage approach to forecasting the future container shipping traffic through the Panama Canal was employed. This approach is characterized in the graphic in Figure ES-2.

In the first stage, a Trade Forecasting Model based on PIERS and Journal of Commerce data was used to estimate the total potential demand for the Panama Canal by relevant trade route through the year 2025. As indicated in the graphic, this model is influenced by trade and economic scenarios that produce a range of outcomes that have been reduced to three discrete views of the future: Worst Case, Base Case and

Best Case, reflecting future economic and trade growth. For US trade, the forecasting statistical model applied is country-specific, specifying US imports as a function of aggregated income, import price indices and exchange rates. The analysis of the non-US trades is based on similar statistical models, adjusted to reflect trade-specific assumptions.

In the second stage of the modeling approach, for the divertible trades, the potential demand for the Canal is input into a series of integrated Route Allocation Models. Different modeling approaches have been developed to capture the distinct competitive dynamics that characterize the various relevant trade flows. All modeling is based on determining a market share of the trade flow allocated to, and thus captured by, the Panama Canal in competition with the alternative route choices. As shown in the graphic, route allocation is influenced by operating scenarios, which combine the range of critical factors that affect route choice decisions. For captive trade routes, the Panama Canal is assigned all the projected trade for that trade flow.

Figure ES-2: Modeling Framework



For this second stage, the route allocation, or econometric, model considers the following variables.

- Time differential between AW and IM routes.
- Cost differential between AW and IM routes.
- Share of distribution center (DC) space in the Eastern US.
- Value of cargo transported.
- Cargo type.

The data for the development of the route allocation model comes from a series of interviews of shippers, shipping lines and other industry representatives conducted during the course of the study.

Finally, the share of the total container shipping traffic, measured in TEU, is input into a Fleet Allocation Model to arrive at forecasts of vessel crossings through the Panama Canal. This is influenced by the future vessel deployment scenarios.

Forecast Results

Forecasts of future demand for the Panama Canal by liner container shipping services have been developed based on the market analysis, extensive interviews with key industry stakeholders and rigorous modeling for several future scenarios as described above – **assuming no capacity constraints**. The results are container, vessel and revenue forecasts under scenarios that consider a wide range of economic growth, operating and vessel deployment scenarios.

The forecasts of Panama Canal container and vessel traffic as well as toll revenues are presented in Table ES-2 by 5 year increments up to 2025 assuming the present toll structure for Canal transits. Total Canal traffic and revenues for the liner market segment is projected to grow as follows:

- **TEU** are estimated to increase by at least 250% (over 4% annually) under the pessimistic scenarios. Traffic in TEU is expected to increase from 3.7 million TEU in the year 2001 to between 10.0 million and 22.4 million TEU by 2025. Under the optimistic scenarios, traffic is projected to grow by over 7% annually to a level over 6 times greater than present traffic levels.

- **Vessel crossings** are estimated to increase at a lower rate – at least by 37% - increasing from 1970 vessel crossings in the year 2001 to between 2,712 and 5,824 vessel transits by the year 2025.

- **Toll revenues** in this period are projected to at least triple from $142 million in 2001 to approximately $433 annually by the year 2025, with the most optimistic revenues reaching close to $1 billion.

Table ES-2: Panama Canal Traffic under Alternative Trade Growth, Operating and Vessel Deployment Scenarios – 2001-2025

Operating Scenario	Economic Scenario	Vessel Allocation		2001	2005	2010	2015	2020	2025
Pessimistic	Base	Slow Deployment Post Panamax	TEU	3,711,241	4,981,209	6,788,553	8,498,170	10,207,787	11,917,405
			Transits	1,970	2,407	2,878	2,900	3,118	3,209
			Toll	$142,755,226	$214,844,583	$290,133,236	$363,365,629	$438,538,662	$514,254,196
		Rapid Deployment Post Panamax	TEU	3,711,241	4,981,209	6,788,553	8,498,170	10,207,787	11,917,405
			Transits	1,970	2,407	2,878	2,497	2,875	3,209
			Toll	$142,755,226	$214,844,583	$290,133,236	$364,713,181	$439,318,143	$514,254,196
	Worse	Slow Deployment Post Panamax	TEU	3,711,241	4,716,264	6,082,032	7,399,138	8,716,243	10,033,349
			Transits	1,970	2,281	2,579	2,525	2,668	2,712
			Toll	$142,755,226	$203,435,933	$259,909,818	$316,387,143	$374,647,516	$433,137,586
		Rapid Deployment Post Panamax	TEU	3,711,241	4,716,264	6,082,032	7,399,138	8,716,243	10,033,349
			Transits	1,970	2,281	2,579	2,176	2,461	2,712
			Toll	$142,755,226	$203,435,933	$259,909,818	$317,493,532	$375,132,627	$433,137,586
	Best	Slow Deployment Post Panamax	TEU	3,711,241	5,658,908	8,595,750	11,309,367	14,022,983	16,736,599
			Transits	1,970	2,746	3,667	3,865	4,291	4,520
			Toll	$142,755,226	$244,055,080	$367,473,218	$483,483,071	$602,082,922	$722,102,431
		Rapid Deployment Post Panamax	TEU	3,711,241	5,658,908	8,595,750	11,309,367	14,022,983	16,736,599
			Transits	1,970	2,746	3,667	3,330	3,960	4,520
			Toll	$142,755,226	$244,055,080	$367,473,218	$485,210,076	$603,397,811	$722,102,431
Moderate	Base	Slow Deployment Post Panamax	TEU	3,711,241	5,387,864	7,872,965	10,185,033	12,497,102	14,809,170
			Transits	1,970	2,577	3,290	3,456	3,760	3,875
			Toll	$142,755,226	$232,236,153	$335,972,715	$435,132,235	$536,756,429	$639,187,104
		Rapid Deployment Post Panamax	TEU	3,711,241	5,387,864	7,872,965	10,185,033	12,497,102	14,809,170
			Transits	1,970	2,577	3,290	2,938	3,436	3,875
			Toll	$142,755,226	$232,236,153	$335,972,715	$436,822,262	$537,433,862	$639,187,104
	Worse	Slow Deployment Post Panamax	TEU	3,711,241	5,055,233	6,985,949	8,805,231	10,624,513	12,443,795
			Transits	1,970	2,423	2,923	2,989	3,201	3,266
			Toll	$142,755,226	$217,994,403	$298,157,983	$376,223,499	$456,257,186	$537,120,926
		Rapid Deployment Post Panamax	TEU	3,711,241	5,055,233	6,985,949	8,805,231	10,624,513	12,443,795
			Transits	1,970	2,423	2,923	2,542	2,929	3,266
			Toll	$142,755,226	$217,994,403	$298,157,983	$377,360,958	$456,969,596	$537,120,926
	Best	Slow Deployment Post Panamax	TEU	3,711,241	6,255,081	10,185,545	13,782,381	17,379,216	20,976,052
			Transits	1,970	2,995	4,270	4,682	5,231	5,494
			Toll	$142,755,226	$269,556,254	$434,592,139	$588,919,588	$746,024,858	$904,851,502
		Rapid Deployment Post Panamax	TEU	3,711,241	6,255,081	10,185,545	13,782,381	17,379,216	20,976,052
			Transits	1,970	2,995	4,270	4,682	5,231	5,494
			Toll	$142,755,226	$269,556,254	$434,592,139	$588,919,588	$746,024,858	$904,851,502
Optimistic	Base	Slow Deployment Post Panamax	TEU	3,711,241	5,525,152	8,239,066	10,754,524	13,269,982	15,785,440
			Transits	1,970	2,635	3,429	3,643	3,976	4,100
			Toll	$142,755,226	$238,180,328	$351,463,838	$459,216,407	$569,756,207	$681,404,025
		Rapid Deployment Post Panamax	TEU	3,711,241	5,525,152	8,239,066	10,754,524	13,269,982	15,785,440
			Transits	1,970	2,635	3,429	3,086	3,628	4,100
			Toll	$142,755,226	$238,180,328	$351,463,838	$461,056,389	$570,933,814	$681,404,025
	Worse	Slow Deployment Post Panamax	TEU	3,711,241	5,169,670	7,291,114	9,279,933	11,268,751	13,257,570
			Transits	1,970	2,470	3,039	3,146	3,383	3,453
			Toll	$142,755,226	$222,789,634	$311,083,603	$396,504,707	$484,060,097	$572,178,668
		Rapid Deployment Post Panamax	TEU	3,711,241	5,169,670	7,291,114	9,279,933	11,268,751	13,257,570
			Transits	1,970	2,470	3,039	2,667	3,089	3,453
			Toll	$142,755,226	$222,789,634	$311,083,603	$397,735,442	$484,910,184	$572,178,668
	Best	Slow Deployment Post Panamax	TEU	3,711,241	6,456,351	10,722,265	14,617,278	18,512,292	22,407,305
			Transits	1,970	3,079	4,474	4,956	5,548	5,824
			Toll	$142,755,226	$278,197,810	$457,298,502	$624,251,188	$794,573,191	$966,761,905
		Rapid Deployment Post Panamax	TEU	3,711,241	6,456,351	10,722,265	14,617,278	18,512,292	22,407,305
			Transits	1,970	3,079	4,474	4,193	5,064	5,824
			Toll	$142,755,226	$278,197,810	$457,298,502	$626,328,061	$796,334,837	$966,761,905
No Canal Expansion	Base	No Deployment Post Panamax	TEU	3,711,241	4,981,209	6,788,553	8,498,170	10,207,787	11,917,405
			Transits	1,970	2,407	2,878	3,719	4,478	5,237
			Toll	$142,755,226	$214,844,583	$290,133,236	$363,258,927	$436,254,812	$509,230,539

Cost Competitive Analysis

For each of the 12 relevant trade flows, a comparison was made of the Panama Canal route to an alternative intermodal and/or all-water route. This analysis provides an estimate of the cost difference between the alternative routes (i.e. the cost savings that results from using the Canal route instead of the next-best alternative), which can be viewed as the perceived *economic value* of the Canal to a given user. Major findings are:

- The trade flows that compete with the US intermodal system, NE Asia-USEC and Europe-USWC, account for over 60% of total current Canal traffic and are expected to grow to over 65% by 2025. These market segments (particularly the NE Asia – USEC trade flows) are the most intensely competitive and the actions taken by the ACP to improve its price-service offering will be important in determining the share of the market it captures and the revenues it generates. Consequently, special attention should be focused on these market segments.

- The trade flows that compete with the all-water alternative routes are generally captive to the Canal route and at current toll levels bring substantial benefits to the Canal's users. If the ACP were to consider a tolls policy based on price differentiation, there is significant opportunity for raising tolls for these trades to increase revenues.

- This analysis supports the findings in previous studies and through Canal experience that demand for the Canal is highly inelastic to toll increases in the short term yet, the impacts of such increases on traffic will vary by route. This inelasticity is a function of the inherent cost advantages that the Canal route offers to certain shippers in certain trades. While there clearly are opportunities to raise revenues by increasing tolls, this should be based on further consideration of the implications on various trade flows, as longer term it can lead to a loss of traffic and market share. Any revised pricing strategy should be based on commercial considerations as well as conformance with the Canal Treaty. The ACP should explore pricing changes and toll strategies in conjunction with a broader marketing strategy that builds around alliances and close coordination with partners in the US ports and large shippers and steamship lines that should commit to the growth of the Panama Canal route and the utilization of Post-Panamax size vessels on that route.

Marketing Strategy

The Canal's marketing strategy to attract expanded all-water services should involve the following program elements:

- **Data gathering and market understanding** - Follow up on the insights gained through the interviews conducted as part of this study to gather

information on actual traffic routings, changing shipper requirements and industry trends so as to gain a better understanding of the Canal's increasingly important role in the supply chain that manufacturers and retailers use to move their products;

- **Maximize existing capacity utilization and orchestrate successful transition to Post-Panamax operations** - Work with the steamship line industry to consider how to best use the Canal's limited capacity and further improve the reliability of all-water services until the time that the expansion is completed, and how to assure a successful transition to Post-Panamax vessels from the present Panamax vessel fleet;

- **Promote increased use of Asia – US East Coast all-water services** - Jointly with steamship lines and ports, promote the increased use of all-water services and the Canal route;

- **Monitor competitor initiatives** – Consider appropriate market response to any competitive threats and use the Canal's market position and Panama's strategic location at the crossroads of major trade routes to further increase the Canal's market share of divertible cargo;

- **Consider innovative and commercially sound pricing strategies.** New pricing strategies should include volume discounts, special promotional periods for new services, incentives for bundled rates that result in increased traffic and/or use of Panama ports, and other incentives aimed at attracting increased Canal traffic and increased transshipment in Panama; and

- **Forging alliances with selected key industry partners** – As part of its marketing strategy to assure success of the Canal expansion, the Canal should seek partnerships with selected steamship lines and ports, including:

  i. partnerships with steamship lines and/or alliances that commit to long term Canal services
  ii. alliances with a limited number of US East Coast ports to present a coordinated and attractive "product" to compete with the intermodal system, including coordinating plans for Canal improvements with port improvements that will be necessary to accommodate the Post-Panamax vessels that are increasingly being used in the east-west trades worldwide. The main candidate port for such a port-canal alliance is New York, followed by Norfolk and Savannah.
  iii. agreements with all Panamanian ports that commit to having adequate infrastructure ready by the time of the opening of the Canal expansion to handle the largest vessels that will be able to use the expanded Canal.

Conclusions

The ACP should concentrate its efforts on competing most effectively against the US intermodal system for the Asia – US trades. This effort should include:

- Forging alliances with US East Coast ports to present a coordinated and attractive "product" to compete with the intermodal system, including coordinating plans for Canal improvements with port improvements that will be necessary to accommodate the Post-Panamax vessels that are increasingly being used in the east-west trades worldwide; and

- Continue working closely with shippers, shipping lines and the shipbuilding industry to understand changing shipper logistics and other customer requirements, and assure that the Canal "product" is properly positioned in the competitive market place.

The unfettered demand for the Canal by the liner container shipping market that has been analyzed in this study should be studied in greater depth in conjunction with consideration of capacity constraints, demand for other market segments, alternative pricing strategies and the costs and schedule associated with the Canal expansion program. This will be necessary to develop a unified strategy for undertaking the expansion program and marketing the Canal throughout and beyond this period of transition.

A comprehensive communications program is already underway and should be implemented in close coordination with the Canal's marketing strategy to inform users and industry groups regarding the plans and proposed policies for the future expansion of the Canal and to assure positive reception by the market. The cost and schedule of the expansion, the toll implications of the programmed investments, and the improved capability, service level and reliability of the expanded Canal will be of particular interest to the Canal's users and other stakeholders (steamship lines, shippers, ports, railroads), lending institutions and governments of countries with strategic interest in the Canal, such as the US, China and Latin American countries that rely on the Canal for significant shares of their foreign trade.