



**PANAMA CANAL COMMISSION
COMISION DEL CANAL DE PANAMA**

***Development of a
Growth Strategy
Phase I***

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DEVELOPMENT OF PANAMA CANAL GROWTH STRATEGY

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GLOSSARY

AAPA	-	American Association of Port Authorities
ACP	-	Panama Canal Authority
APN	-	National Port Authority
ARI	-	Authority of the Interoceanic Region
COCATRAM	-	Organization of Central American Ports
COMAR	-	National Maritime Commission
FE	-	Far East
FTZ	-	Free Trade Zone
GOP	-	Government of Panama
GPS	-	Global Positioning System
IDAAN	-	National Institute of Water Supply and Sewers
INTEL	-	National Telecommunications Institute
IPAT	-	Panamanian Institute of Tourism
IRHE	-	Institute of Water Resources and Electric Power
PANYNJ	-	Port Authority of New York and New Jersey
PCC	-	Panama Canal Commission
USEC	-	United States East Coast
VTMS	-	Vessel Traffic Management System

Preface

This report has been prepared in accordance with the requirements of PCC Contract CRA-99273-JP-29 for conducting Phase I of a study to develop a growth strategy for the Panama Canal for the ten year period from 1998 to 2008. Under Phase I, the PCC requested the development of a well defined scope of work for Phase II, based on:

1. considering growth strategy concepts and their specific application to the Panama Canal, taking into account the current and future legal framework and the environment within which the Panama Canal will operate during the 10 year time frame of the growth strategy to be developed (1998-2008);
2. obtaining a clear understanding of the Canal's organization, operating procedures and capacity, financial structure, tolls and tariffs assessing procedures, and transition plans;
3. considering level of traffic of core business and changes or improvements that increase traffic volume and/or revenue;
4. developing a list of the most promising new business opportunities to be fully studied in phase II;
5. considering approach to evaluate tolls and tariff systems and procedures; and
6. defining parameters to be utilized in the development of growth strategy.

This report presents the proposed scope of work for Phase II and discusses the above considerations. It is divided in 5 sections as follows:

- I. Executive Summary which provides an overview of the report's major conclusions and recommendations for Phase II;
- II. A Profitable Growth Focus for the PCC, which describes growth strategy concepts as they apply to the Canal, as well as the legal and policy environment within which the Canal will be operating during the study period (item 1 above);
- III. Overview of the PCC Business (items 2 and 3 above);
- IV. New Business Opportunities, including the key considerations that should be used by the PCC in pursuing diversification and establishing an appropriate role for its involvement (item 4 above); and
- V. Scope of Work for Phase II, defining the parameters that are proposed to be used in developing the growth strategy, integrating both an approach to optimize the core business of Canal transits and an emphasis on business opportunities where the Canal has existing competencies that can be developed into competitive advantages (items 5 and 6 above).

This report was developed by a team led by Louis Berger International, Inc., in association with Telesis--a unit of Towers Perrin, and the Port Authority of New York and New Jersey (PANYNJ).

Panama Canal Growth Strategy - Highlights

- The passing of ownership from the United States to the Republic of Panama will fundamentally change the legal and political framework that has governed the Canal's operations for the last two decades. The central premises of this report are 1) that it will be critical in this new environment to manage the Canal as a successful business, and 2) that the best indicator of business success is achieving and maintaining profitable growth.

Growth Strategy Concepts

- The use of growth strategy concepts from two distinct frameworks--business and economic development--is proposed. The business strategy framework is based on the concept that the surest way for the PCC to achieve profitable growth is by taking advantage of its strategic competencies. Strategic competencies are human, physical and financial capabilities that allow the PCC to compete effectively in a given business. The PCC can leverage its competencies to grow both in existing businesses--for example, by increasing market share--and in new business ventures--for example, by applying its competencies in a new market.
- The economic development framework is based on the concept that the engine of economic development is traded sector businesses, i.e. those that bring in foreign exchange and/or those that are centered on international trade. The Canal has a critical role to play in Panama's economic development not just because of its prominence in the traded sector but because it can serve as a magnet for maritime business activity and as a rich source of national competencies that can support the formation of new businesses in a variety of industries. The business strategy framework and the economic development framework are highly compatible for the purposes of developing a Canal growth strategy.

Recommendations for Phase II

- A profitable growth strategy for the Panama Canal should include three basic elements:
 1. a customer-based core business strategy to **optimize the Canal's market position**,
 2. a new business strategy to **leverage the competencies of the Canal organization**, and
 3. a financial strategy to effectively **use the Canal's strong financial base**.
- These three basic elements must then be integrated into an overall business strategy, built on an appropriate institutional and legal framework consistent with the recommended profitable growth business strategy.

Market-based Core Business Strategy

- Optimizing the Canal's market position involves a clear understanding of the relationship between market demand, pricing, and capacity. The key is to understand the market, how it is changing, and how the Canal can help its customers become more competitive. The core

business strategy will then be based on market segmentation, initiatives to increase value and customer satisfaction, and innovative pricing strategies.

- Two major approaches to pricing Canal services, **cost-based and market-based**, will be considered. The **cost-based** approach will look at the cost to the PCC to provide its transit services to different types of customers. **Market-based** pricing reflects the value that customers gain from using the Canal. A "yield management" strategy reflecting this analysis and the best approach to grow the Canal's core business will then be developed.
- The Canal's strategy must also recognize that the Canal is operating at close to its operational capacity. The strategy should take into account options for capacity expansion and seek to influence vessel owners decisions.

Competence-led Business Diversification Strategy

- The PCC's new business strategy should focus on large and/or growing markets where the PCC has strategic competencies that can be developed into competitive advantages. Opportunities within these markets should be prioritized based on two major criteria: business potential and economic development impact. The most promising opportunities categorized according to the strength of the PCC's competencies and the PCC's possible role are shown in the chart in the next page.

Financial Strategy

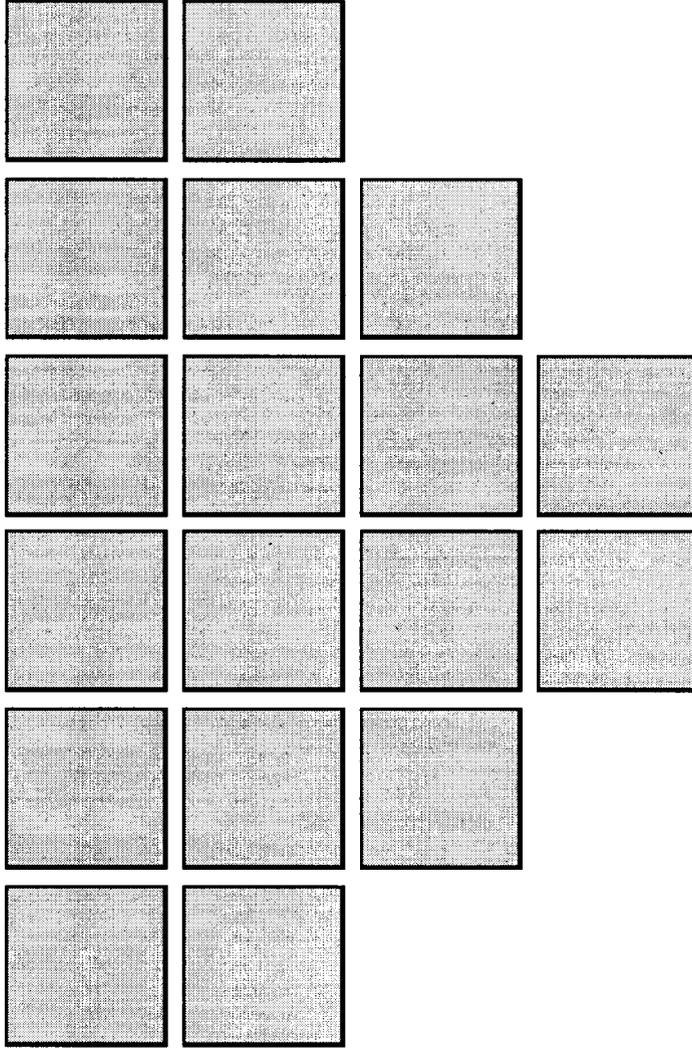
- To fulfill the PCC's promise as a successful business enterprise focused on profitable growth, the ability to manage cash flow and investment should be considered. A growth-oriented financial strategy should cover the following aspects:
 1. Profit-making requirements, restrictions, and reporting.
 2. Use of debt financing and other instruments to raise capital.
 3. Cash and asset management.
- A risk analysis and the potential for private investor or international financing should also be considered. A financial plan and a 5-year business plan for the Canal should then be developed.

Institutional Issues

- The PCC's ultimate success will be enhanced by a strong sense of its mission both as a key national asset and as a vital link in international trade. The PCC should work to develop an institutional framework within the Panamanian public sector that draws on best practices from leading quasi-public organizations with both profit-making and economic development goals, such as the Port Authority of New York and New Jersey.

Business Diversification Strategy

Categories	Business Opportunities	Canal Role
Businesses where the Canal has unique competencies	<ul style="list-style-type: none"> ■ Vessel and heavy equipment repair and fabrication ■ Maritime and industrial training ■ Dredging services ■ Maritime services 	PCC could pursue on its own
Businesses where the Canal has some competencies and experience	<ul style="list-style-type: none"> ■ Electric power generation ■ Potable water supply ■ Marine statistics publishing and information services ■ Telecommunications and the Teleport concept 	Candidates for public-private ventures
Other businesses	<ul style="list-style-type: none"> ■ National Maritime Strategy related businesses ■ Tourism related businesses ■ Colon airport development ■ Real Estate and other development in the Canal area 	Require further definition of PCC role versus GOP Agencies



Executive Summary

Executive Summary

The Panama Canal is at a moment of unprecedented opportunity and challenge. The passing of ownership from the United States to the Republic of Panama will fundamentally change the legal and political framework that has governed the Canal's operation for the last two decades. The Republic of Panama will gain new prominence in the world maritime community as it takes on full responsibility for the Canal's management. It is critical both for the Panamanian nation and for international commerce that the country succeed in this expanded role.

The central premises of this report are 1) that it will be critical in this new environment to manage the Canal as a successful business, and 2) that the best indicator of business success is achieving and maintaining profitable growth. Managing the Canal as a business will provide focus and discipline. This is the key to ensure that the Canal remains the largest economic asset for the Republic of Panama, while taking on a new role as the centerpiece of the nation's strategy to encourage private sector investment and activity.

Successful businesses are managed with one overriding objective: profitable growth. The Canal is well positioned to take on the challenge of profitable growth, with a one-of-a-kind core business asset; long-standing relationships with a large number of important customers; a variety of skills and facilities that are unique in Panama and Central America; and a sizable revenue base. Most important of all, the Canal has a large, capable and dedicated work force that has a deep tradition of accomplishment and professionalism.

This Phase I report lays a foundation for a growth-oriented business strategy for the Canal. The strategy is oriented first towards the long-term success of the Canal as a business entity. Focusing the Canal's unique human, physical, and financial resources on the goal of profitable growth will in turn enhance the Canal's strengths as an economic development asset. Panama has a unique opportunity to become the "Singapore of the Americas," building on the Canal's success and its strategic geographic position. The report has four objectives:

- To present growth strategy concepts and their applicability to the Panama Canal;
- To identify the Canal's most promising opportunities for profitable growth;
- To offer a process for choosing the best of these opportunities and developing a strategy around them; and
- Most critically, to frame a vision of the Canal's potential as a growing, successful business enterprise as well as an engine of economic development.

Growth Strategy Concepts

The use of growth strategy concepts from two distinct frameworks--business and economic development--is proposed. The business strategy and the economic development frameworks are highly compatible for the purposes of developing a Canal growth strategy.

Business Strategy Concepts

Figure 1 highlights business growth strategy concepts applicable to the Canal. The business strategy framework is based on the concept that the surest way for the PCC to achieve profitable growth is by taking advantage of its strategic competencies. Strategic competencies are human, physical and financial capabilities that allow the PCC to compete effectively in a given business. The PCC can leverage its competencies to grow both in existing businesses -- for example, by increasing market share and through "yield management"--and in new business ventures--for example, by applying its competencies in a new market.

The approaches to grow the Canal's core business can be combined into a customer-based marketing strategy, based on differentiated service features that create more value for certain customers. In considering new business areas, a competence-led business diversification strategy is proposed.

Economic Development Concepts

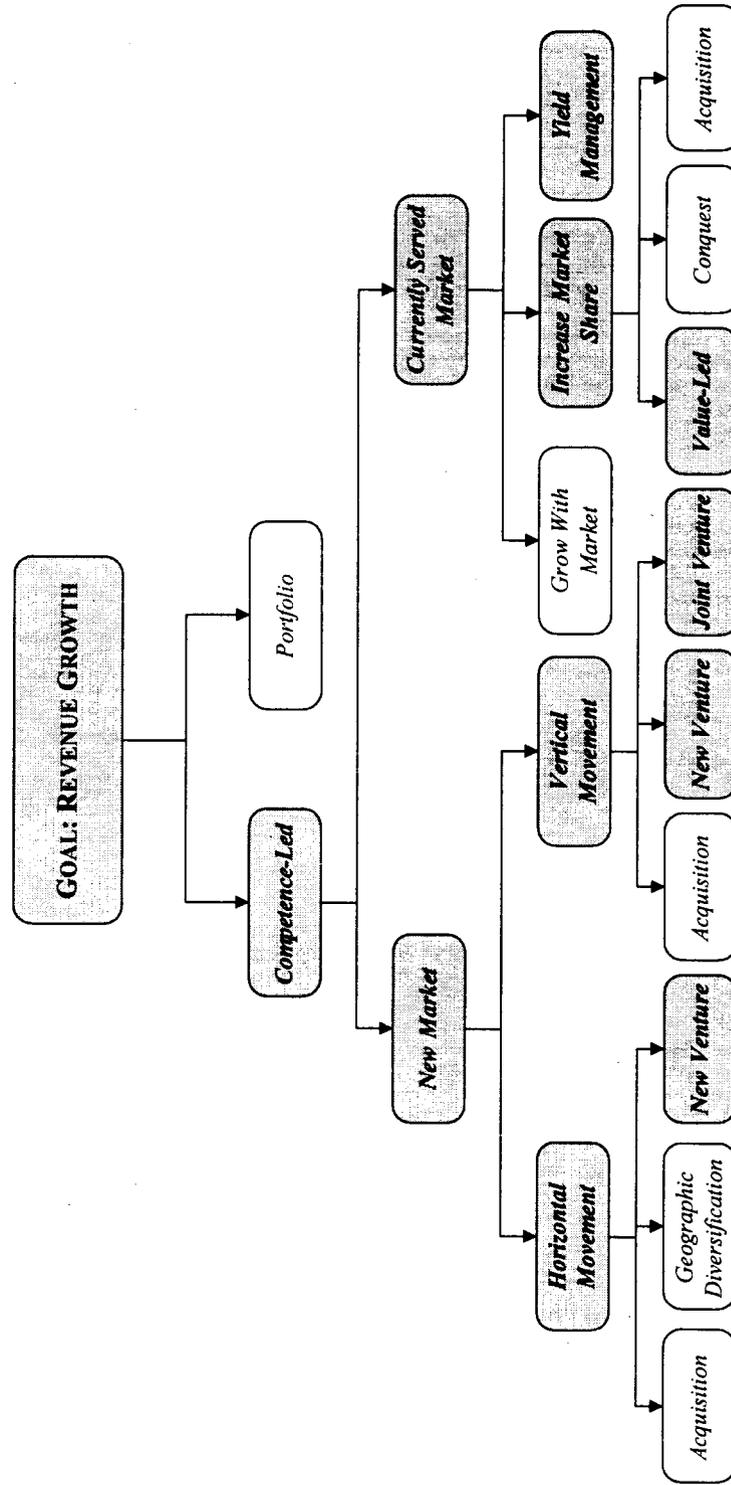
The economic development framework is based on the concept that the engine of economic development is traded sector businesses, i.e. those that bring in foreign exchange and/or those that are centered on international trade. The Canal has a critical role to play in Panama's economic development not just because of its prominence in the traded sector but because it can serve as a magnet for maritime business activity and as a rich source of national competencies that can support the formation of new businesses in a variety of industries.

A fundamental economic development challenge is deepening and extending national competencies. Just as is the case at the business level, national competencies can reside in people, in physical factors (infrastructure, for example), and in financial factors (the cost of capital, for example). Business activities that add to national competencies tend to have an important economic development effect.

The Canal is one of Panama's largest employers, a significant source of foreign exchange, and an important contributor to the country's treasury. While this makes the Canal a significant economic resource, its potential as an engine of economic development is even greater. This potential should be pursued by emphasizing the Canal's role in traded businesses. The traded sector is the major conduit through which wealth enters the economy. Every traded sector job that the Canal can create will add to national employment.

The Canal can then be the centerpiece for an economic cluster centered on international trade. An economic cluster is a geographic concentration of businesses in a particular industry. Panama's national maritime strategy is intended to promote the growth of a maritime transportation cluster.

FIGURE 1
GROWTH STRATEGY CONCEPTS
APPLICABLE TO PANAMA CANAL



Recommendations for Phase II

Taking into consideration the applicability of growth strategy concepts to the current situation of the Panama Canal, a profitable growth strategy for the Panama Canal must include three basic elements:

- a market-based core business strategy to optimize the Canal's market position,
- a new business strategy to leverage the competencies of the Canal organization, and
- a financial strategy to effectively use the Canal's strong financial base.

These three basic elements must then be integrated into an overall business strategy. The process to develop an integrated business strategy will also have to consider appropriate institutional relationships and a legal framework consistent with the recommended strategy. Figure 2 illustrates the proposed approach to be used in the strategy development effort leading to an overall integrated growth strategy for the Panama Canal.

Market-based Core Business Strategy

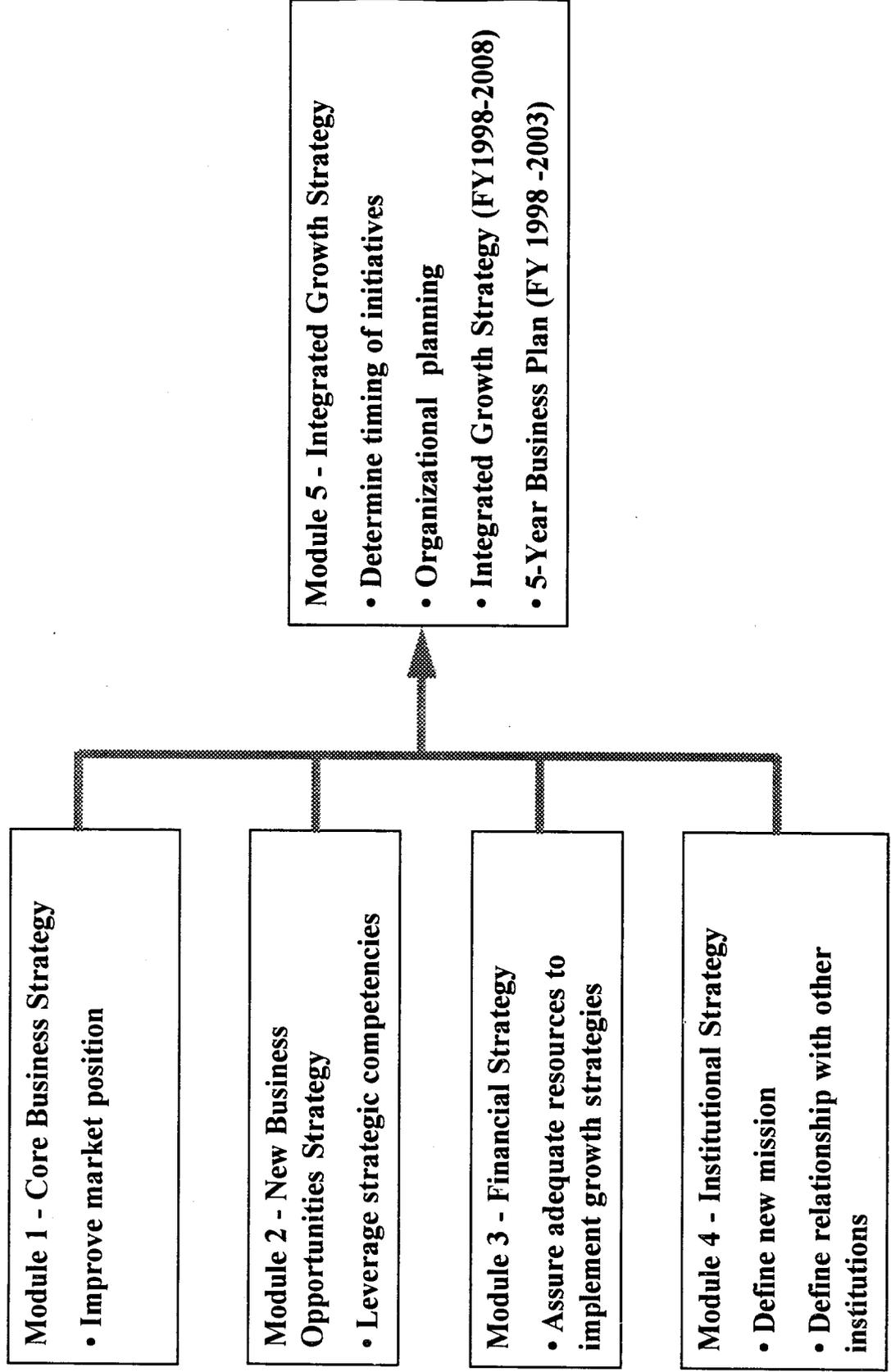
The Canal is a unique international maritime resource. Its core business generates over \$500 million in annual revenues and serves a broad client base including some of the largest maritime companies in the world. The Canal handles approximately 14% of total US international trade. It also serves a large share of the total trade of several other countries in the hemisphere.

Optimizing the Canal's market position involves a clear understanding of the relationship between market demand, pricing, and capacity. The key is to understand the market, how it is changing, and how the Canal can help its customers become more competitive. The core business strategy will then be based on market segmentation, initiatives to increase value and customer satisfaction, and innovative pricing strategies. This approach will emphasize key customer concerns such as Canal Waters Time, its predictability, and pricing.

For example, in the container market, the influence of the 5 vessel-owner alliances is increasing, and they are estimated to represent 80% of Canal transits on the US East Coast to Far East trade route, the largest volume (about 40%) container market among those that use the Canal. The proposed market-based approach to developing a Canal strategy will consider key customer concerns for this market segment.

Profitable, sustainable growth should not necessarily be equated with an increase in total number of transits. The appropriate strategy may mean growth in some market segments to achieve revenue targets, while recognizing that other market segments do not offer opportunities for growth. To this end, we propose looking at two major approaches to pricing Canal services, **cost-based and market-based**.

Figure 2
Approach to Phase II of the Growth Strategy



The **cost-based** approach will look at the cost to the Canal to provide its transit services. The major factors that affect vessel transit costs are the size of the vessel, its maneuverability, and its total transit time. These factors in turn affect the total Canal Waters Time and the resources that the Canal organization must use. The Canal should at least recover the cost for the services it provides plus a reasonable profit, whenever market forces permit it.

Market-based pricing reflects the value that customers gain from using the Canal. The major factors that affect what the market is willing to pay are:

1. the time and cost that it takes to use the Canal route compared with alternative routes;
2. the value of the cargo, its perishable nature or timeliness demanded by shippers, and
3. the cost of alternative supply sources and/or products.

A "yield management" pricing strategy reflecting this analysis will be developed, looking at the three major sources of revenues associated with the Canal's core business: tolls, advance booking fees, and other navigation services. Total price to transit the Canal should be considered from the customer's perspective (e.g. per ton, per TEU, or per passenger).

Customers are interested in being able to transit the Canal at a reasonable price within the 24 hours Canal Waters Time goal. Delays mean increased vessel operating costs to users of up to \$40,000 per day per vessel. In some market segments, delays also affect labor and other costs at scheduled port calls and delivery commitments to customers. These other costs can add up to a substantially higher financial impact than vessel operating costs. The value of schedule predictability is already reflected in the booking fee that vessel owners are willing to pay to have assurances of their transit schedule. Therefore, the cost of delays should also be considered in evaluating the Canal's pricing system based on the various factors important to customers. Subsequently, this analysis will be used to formulate the best approach to grow the Canal's core business and optimize the Canal's revenue potential.

The core business strategy must also recognize that the Canal is operating at close to its operational capacity of 38-39 transits per day (assuming today's vessel mix). As such, there is no excess capacity to plan for an increased level of vessel transits. Two major factors will adversely affect operating capacity in the near term: the increasing number of Panamax size vessels using the Canal and the need for periodic lane closings for lock maintenance. As the number of larger Panamax-size vessels using the Canal increases as a percentage of total transits, operating capacity is reduced. In addition, the Canal is over 80 years old and its facilities require significant ongoing investment to assure uninterrupted traffic. Periodic lane closings for maintenance already result in backlogs that take days to clear.

When completed, the Gaillard Cut widening and other planned improvements will increase capacity by 10-15%. Modernization and automation may be able to achieve additional small capacity increments. Longer-term, a major capacity addition will require over \$10 billion, a significant financial commitment. The Canal historically has been able to fund its own capital requirements and to generate a comfortable surplus (annual payments to Panama). However, the Canal cannot assume either the undying loyalty of its customer base or that its future operating costs and investment needs can be covered by raising tolls.

Accordingly, we recommend that the core business strategy include initiatives to make the Canal relevant to the industry's future. Vessel owners make decisions on their orders based on many factors. Long-term plans for the Panama Canal is one of these key factors. On some container trade routes, there are already 38 post-Panamax vessels in operation and 54 on order. The steamship lines are not only ordering post-Panamax vessels for their routes bypassing the Canal, but full Panamax vessels for their routes that transit the Canal. The Canal's core business strategy should seek to influence vessel owners decisions, and thereby, optimize its long-term market position.

Competence-led Business Diversification Strategy

The second element of a profitable growth strategy for the Canal is to exploit the extraordinary new business opportunities for leveraging the organization's competencies, i.e.

- a capable, dedicated, well trained work force, with a variety of skills unique in Panama and Central America;
- specialized facilities and equipment, some with surplus capacity;
- long-standing relationships with maritime industry customers; and
- a large revenue base with a potential to generate stable cash flows.

There is a large universe of opportunities that can be explored to supplement growth in the Canal's core business. Our Phase I analysis considered a large universe of business opportunities and categorized them based on four major factors:

- relationship to the Canal's existing business (e.g. the Canal's unique competencies and/or its business experience);
- market attractiveness;
- economic development impact; and
- the Canal's role (whether the Canal should explore the opportunity unilaterally, in conjunction with other Panamanian public sector agencies, and/or as a private-public venture).

Clearly, the list of opportunities will be refined (e.g. to spell out market focus) as the process evolves and other opportunities could be added.

Most Promising New Business Opportunities

We recommend that the PCC's new business strategy should first focus on large and/or growing markets where the PCC has strategic competencies that can be developed into competitive advantages. Opportunities within these markets should be prioritized based on two major criteria: business potential (i.e. profitability and investment payback) and economic development impact.

Figure 3 presents the most promising opportunities categorized according to the strength of the PCC's competencies and the PCC's possible role:

- Business where Canal has **unique** competencies
- Businesses where the Canal has **some** competencies and experience that are candidates for public-private ventures
- Other businesses where the Canal's competencies make it an appropriate player, but that require further definition of possible PCC role versus GOP agencies.

It is understood that it may not be possible to implement many of these commercial ventures without considering the legal and institutional context. To explore institutional and legal issues, an institutional module for Phase II is recommended. Figure 4 outlines the New Business Opportunity Evaluation Process proposed for Phase II.

Businesses where the Canal has unique competencies

This category includes those businesses where the Canal's human, physical, and financial competencies are so unique and so intrinsically related to its core business that they can and should be explored for early implementation. These businesses require unique skills, physical assets (equipment and facilities), or financial capacity that only the Canal has in Panama. If analysis concludes that they can generate profitable growth and that they would not adversely impact core business performance, the Canal should pursue them. The following, in priority order, are the most promising new business opportunities in this category:

- Vessel, heavy machine and engine repair, and equipment/part fabrication
- Maritime and industrial training
- Dredging services
- Maritime services (such as pilotage and tug services)

Vessel and heavy equipment repair and fabrication

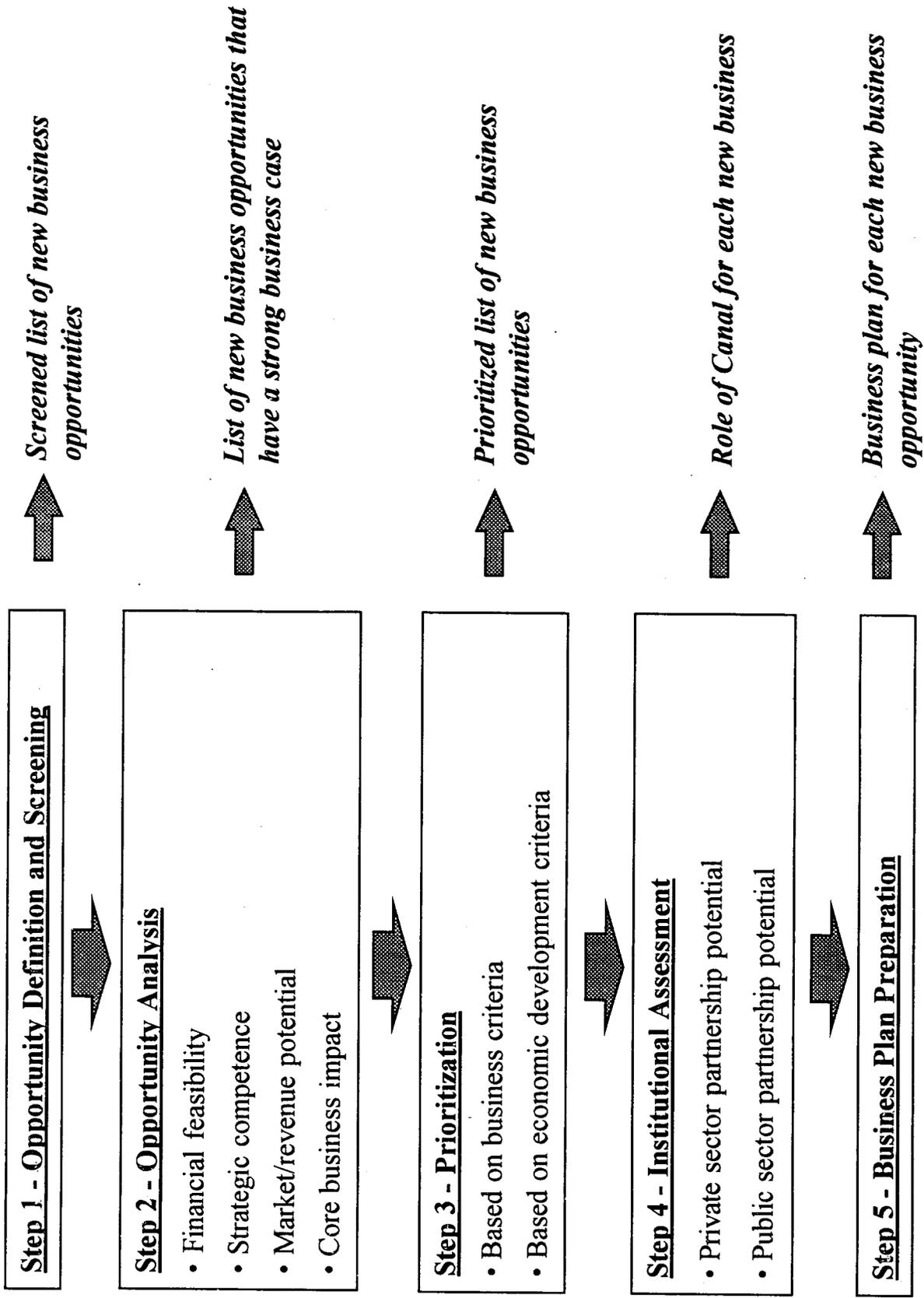
These functions are carried out by the Industrial Division in Mt. Hope and a small repair facility at Miraflores. Most of these services are unique in Panama and are directly related to the Canal's core business. The potential market includes: expanded Canal needs, such as rehabilitating and perhaps building locomotives; vessels transiting the Canal; private and public marine terminals; and heavy

Figure 3

Competence-led Business Diversification Strategy

Categories	Business Opportunities	Canal Role
Businesses where the Canal has unique competencies	<ul style="list-style-type: none"> ■ Vessel and heavy equipment repair and fabrication ■ Maritime and industrial training ■ Dredging services ■ Maritime services 	PCC could pursue on its own.
Businesses where the Canal has some competencies and experience	<ul style="list-style-type: none"> ■ Electric power generation ■ Potable water supply ■ Marine statistics publishing and information services ■ Telecommunications and the Teleport concept 	Candidates for public-private ventures.
Other businesses	<ul style="list-style-type: none"> ■ National Maritime Strategy-related businesses ■ Tourism-related businesses ■ Colon airport development ■ Real estate and other development in the Canal area 	Requires further definition of PCC role versus GOP Agencies.

Figure 4
Phase II New Business Opportunity Evaluation Process



construction companies. Business areas that could be explored include equipment and part fabrication, vessel repairs, heavy machine repair, and even small vessel construction, such as barges. Currently, these facilities are not fully utilized. There is a large pool of unskilled workers in Colon that could be a source for additional labor after adequate training. There is no similar competitor nearby with the nearest facilities being in Curacao, South America and the US Gulf Coast.

Maritime and industrial training

The Canal has a training program that is unique in Panama, including industrial, maritime, and commercial training. Possible maritime training services that could be a profitable business opportunity include seamanship and tugboat operations, pilot training, marine fire fighting, hazardous materials handling, etc. Potential clients include private and public ports in Panama, vessel crews, and other port and maritime organizations from Latin America. The American Association of Port Authorities (AAPA) has established a training program for Latin American ports headquartered in Chile. Possibly, Panama could establish a branch of the AAPA program centered on the Canal's unique facilities (e.g. marine simulator) and location (serving Mexico, Central America and the Caribbean area). Another potential public customer is the organization of Central American Ports (COCATRAM). Industrial training services can be also offered to private clients within Panama and other countries. Training activities have the potential for revenue generation and will assure that the unique facilities and personnel skills available are better utilized, thus lowering costs to the Canal users.

Dredging services

The dredging market is an area of high competence for the Canal given its skilled work force and equipment (2 dredges, scows, pipelines, etc.) handling both maintenance and new work. The scope of the Canal-operated dredging services are unique in Panama and nearby countries. In the near term, the plant and personnel are fully committed to channel maintenance activities and the Gaillard Cut project. Acquisition of a new dredge is under consideration as part of the accelerated schedule for the Gaillard Cut project. An additional crew will also be needed to fully utilize the equipment. Eventually, these resources could provide an additional source of revenue. Potential clients include Panama private and public ports, private construction companies and developers. Possibly, at certain times, plant and personnel could undertake dredging projects in nearby countries, while always maintaining required equipment for Canal maintenance and emergencies in the Canal area. The market for dredging services is large, but it is very competitive. The potential impact on the core business also needs to be carefully assessed.

Maritime services

Some maritime services provided by the Canal present opportunities for increased revenue generation. Although the Canal is not in all cases the only service provider in Panama, the scope of

its capabilities is the largest in the region. The opportunity in this area lies primarily in supplementing private services and achieving better utilization of the Canal's resources, without impacting the core business. Pilotage services are already provided by the Canal to the vessels' calling ports in the Canal area. This service could be expanded to nearby private ports and possibly other ports in Panama. Similarly, the Canal has the largest tug boat fleet in the area. Both pilotage and tug services are critical to the Canal's core business. These business opportunities also should be pursued only as incremental revenue generators to lower costs to core business customers and if they do not affect service level of Canal transits.

Businesses where the Canal has some competencies and experience

A second group of opportunities includes businesses where the Canal has some competencies and/or experience, but risk level and other reasons indicate that joint public-private partnerships or joint ventures should be explored. Some of these businesses should also be considered for early implementation, if analysis concludes they meet minimum profitability criteria; they would not adversely impact core operations; and if appropriate, a joint venture or similar agreement can be worked out. The following business opportunities in priority order should undergo financial and economic impact evaluation in Phase II:

- Electric power generation
- Potable water supply
- Telecommunications and the Teleport concept
- Maritime statistics publishing and information services

Electric power generation

The Canal has significant experience and competence in power generation. The PCC originally entered the power generation business given its physical control of lake level regulation and its own power operating requirements. Besides its hydroelectric generation, the Canal has thermal facilities which are an important backup to guarantee uninterrupted service and reliability for its core business. At certain times, the Panama electric utility, IRHE, buys all available power from the PCC.

PCC power production costs are currently competitive in the Panamanian context of high power rates. Panamanian electrical demand is expected to grow at 5.5% annually. The power sector in Panama is being restructured, with up to 45 percent of power generation capacity to be allocated to private operators. Transmission will remain IRHE's responsibility, and distribution will be operated privately. The restructuring of the power sector provides an opportunity for the Canal to set up a joint venture with a private firm to supply thermal power on a long-term basis. At least one private firm is known to have expressed interest in a joint venture with the Canal to construct a higher capacity thermal plant at Miraflores. Competitively priced power in the international context is one of the key requirements for economic development, as it can help attract industrial development to

the reverted areas. In this way, lower power costs would also contribute to Panama's national economic development strategy.

Potable water supply

The Canal organization has been a major source of the municipal potable water supply in the area. Today, the Canal is the only source of potable water on the Atlantic side, including the Colon area. Eighty seven percent of the output from the Canal's Mt. Hope facility is sold to IDAAN, the responsible Panamanian agency. On the Pacific side, the Canal is also a significant source of potable water, selling 80% of its output to IDAAN. The diversion of water from Madden and Gatun lakes to serve municipal water supply has no significant impact on Canal transit capacity or service level. The Canal has the competencies to continue to serve water supply needs and to increase its capacity. Atlantic side capacity will need to be expanded to serve projected growth from the development of reverted areas. The Canal can provide this additional capacity with relatively little investment, possibly less than \$10 million. There is no other logical cost-competitive source. It would be appropriate for the Canal to propose to serve this need either unilaterally or as a joint venture.

Telecommunications and the Teleport concept

The Canal has some competence and experience in telecommunications. It maintains a sophisticated telecommunications system for its own needs, including fiber optics transmission systems, microwave and satellite services, switching systems, narrow band radio systems, and a video-conferencing system. However, telecommunications technology is rapidly evolving and Panama is pursuing privatization of the nation's telephone utility, INTEL, with two firms already prequalified.

Private sector interests in Panama have also been pursuing the concept of a Teleport. Teleports are integrated facilities that give their users fast, convenient access to advanced communications. This concept was originated by the Port Authority of New York and New Jersey (PANYNJ) in the early 1980's. Teleports cut communications costs to and increase flexibility for information-intensive industries, such as finance, broadcasting, shipping, and publishing. Two of these, finance and shipping, are important sectors of Panama's economy. The PANYNJ Teleport was developed as a joint effort with several private firms. The Teleport has been a profitable venture for the PANYNJ, generating \$13.8 million in revenues in 1995. The Panama Canal could pursue the development of a Teleport in Panama with an interested private sector group, offering its competencies and resources. A Teleport would help position Panama as Latin America's international trade, distribution and shipping center, complementing the Canal, the Colon Free Zone, and the private sector finance and shipping businesses. The substantial risks involved because of rapidly changing technology and the appropriate role of the Canal vis-a-vis multinational firms specializing in this business will need to be evaluated.

Maritime statistics publishing and information services

The Canal has one of the largest vessel information data banks in the world, possibly second only to Lloyd's of London. It adds over 1,000 records per month and has around 30,000 ships with trailing data for every Canal transit. Private firms have expressed interest in getting access to this data for their own use or to sell the information to others. One firm is known to have offered to develop software and pay for the data. The Canal should explore this business opportunity which may not be a large revenue generator, but could assume some of the cost of maintaining the Canal's own data bank.

Other businesses

A third group of opportunities include those businesses where the Canal's competencies make it an appropriate player, but further definition of possible PCC role versus GOP agencies is necessary. The Canal may be in the best position to pursue some business on behalf of the Government of Panama in support of the National Maritime Strategy, tourism plans, and/or other development plans in the Canal area. Depending on the business opportunity, the Canal may be the most appropriate agency to take the lead or could play a supporting role, so its financial resources or organizational capabilities can be best used to support Panama's development objectives. Many of these business opportunities should also be explored as joint-ventures with the private sector, ARI, or other Panamanian government agencies. These opportunities should be explored in Phase II based on further definition of the role of the new Canal organization vis-a-vis other Panamanian government agencies.

National Maritime Strategy-related businesses

Panama's National Maritime Commission has developed proposed a National Maritime Strategy. A list of potential opportunities as part of the National Maritime Strategy is included in the report. The Canal, either because of its maritime industry client base, its financial resources, or other reasons may be in the best position to take the lead in pursuing some of these businesses. One of the suggestions on the list, transshipment using the railroad as an intermodal cargo link between both sides of the Canal, has implications on the future use of the Canal and as such should be considered with input from the Canal.

Several of the other services and activities on the list have already been considered based on the Canal's unique competencies, and are being recommended as high priority business areas for the Canal. Others will be discussed later as related high priority opportunities for analysis, subject to further definition of the Canal's role. The list of business opportunities related to the Maritime Strategy that the Canal should consider under Phase II should be developed based on discussions with the appropriate government of Panama agencies.

Tourism-related businesses

The Canal is the largest tourism attraction in Panama. A Canal role in tourism related businesses may be appropriate in or near the Canal area (the "pink zone"), if the Canal can add to the business potential by making available its organizational expertise and financial resources.

There are some obvious near term tourism related opportunities that can be pursued by the Canal, such as developing a Visitors Center, with a souvenir shop, restaurant, auditorium, museum, and other exhibits and tourist services. A concessionaire could build and operate this facility and possibly also operate tours of the Canal, with a percentage of the gross or other similar arrangement contributing revenues to the Canal. Besides a Visitor's Center, the Canal can generate revenues from tourism by offering land-based tours, Canal tours on a vessel (possibly limited to evening hours once a week so as not to overly impact capacity), ecotourism tours of Gatun Lake, etc. IPAT, the Panamanian tourism agency has identified several other tourism development opportunities in the Canal area, including developing an ecotourist area near Gamboa and Summit, cruise passenger terminals, observation towers, tours of the railroad and other attractions, etc. Most of these should be privately developed and operated, but in those cases involving development in the pink zone, the Canal should be able to generate revenues. In any case, the Canal should be involved in defining the scope of these businesses to protect its core business.

Colon airport development

Located near the Canal's Atlantic entrance, the Colon Free Trade Zone (FTZ) is the largest such facility in the hemisphere. Recently, the Colon FTZ has been losing business. With the agreement to create a large free trade area in the Western Hemisphere, and as duties are reduced through the creation of several multinational economic blocs in the Americas, companies are using Colon less to reduce or delay duty costs and more as a distribution center. The lack of air service is being cited as a factor making Colon less attractive than other regional distribution centers. Air cargo facilities in the Colon area would improve the competitiveness of the Free Trade Zone as the largest Latin American regional distribution center.

Air passenger service might also provide a stimulus for cruise passenger terminal development, resort hotels, and export businesses in Colon and the nearby reverted areas, and could be a useful component of a tourism strategy.

Although airport development and air cargo services are not immediately related to Canal operations, they may play integral roles in establishing Panama as a major distribution center in the Americas, which in today's world means both maritime and air cargo services. Singapore and Dubai are examples of the few international air-sea transshipment centers in the world. Only Seattle, Miami, and a few other airport-port combinations in the American continent are competing for air-sea cargo. Panama is already a maritime cargo transshipment center. It has an excellent geographic position

to become an air cargo hub and a sea-air transshipment point for the continent. The role of the Canal should be seriously considered as air cargo represents a growth business opportunity serving international trade.

Real estate and other development in the Canal area

Real estate and other development in the reverted areas is the responsibility of ARI. Other Panama government agencies have responsibility for other development efforts in the Canal area. There are many opportunities, where use of the Canal resources and competencies may help increase the potential return and the success of the business. For example, new bridges across the Canal may open opportunities for development on the western side of the Canal. Business opportunities where the Canal has competencies should be explored to determine if they meet profitability criteria and if so, determine an appropriate role for the Canal. A related matter to real estate development in the Canal area is the need for PCC involvement in its watershed development activities to protect the Canal's future.

Financial Strategy

The Canal has a sizable revenue base with a great potential to generate stable cash flows. Today's financial policy is based on break even operations rather than the recommended profitable growth strategy. The financial management policies of the Canal organization will need to be examined to consider appropriate financial mechanisms under such a profitable growth strategy. Policy issues should be identified and studied, drawing from experiences of the PANYNJ, the Suez Canal and other relevant agencies. To fulfill the Canal's promise as a successful business enterprise focused on profitable growth, the ability to reinvest its profits needs to be considered. The experience of the PANYNJ which issues bonds backed solely by its own revenues is particularly relevant to the Canal (see below).

Recommendations will be made to the Canal Board on a financial strategy consistent with the growth strategy concepts and new business development initiatives, covering the following aspects:

- Profit-making requirements, restrictions and reporting requirements.
- Requirements and restrictions on the use of debt financing and other instruments to raise capital.
- Cash and asset management.

Based on the analysis of each of the new business opportunities that is being considered for implementation during the period of the growth strategy, the necessary financial resources will be estimated, including investment requirements, working capital requirements, and cash flow projections. A risk analysis will also be provided as well as an evaluation of potential for obtaining financing from private investors, international export financing agencies, or multilateral lending organizations. A financial plan will also be developed, identifying sources of funds required for

investments and projected cash flows from each business segment. The financial plan will be used as a key input to the development of a 5-year business plan for the Canal. An integrated strategy focused on the Canal's core business and priority business opportunities will then be developed, considering needed financial and management resources.

The Port Authority of New York and New Jersey - A Relevant Example

The Canal's most promising business initiatives, together with the core business, should be eventually integrated into a portfolio of related profitable international trade businesses that support economic development in Panama, utilize the Canal's financial base to encourage private sector investment, and fulfill the Canal's promise as the premier public sector entrepreneurial organization in Panama. The Port Authority of New York and New Jersey (PANYNJ) is an example of a profitable organization, with a diverse revenue base and a long-successful history of pursuing profitable business opportunities to support the economic development strategies of the New York metropolitan area.

The Port Authority of New York and New Jersey (PANYNJ) has evolved over a period of over 70 years from an organization primarily focused on the operation of tunnel and bridge facilities in the New York metropolitan area to one that has diversified into other businesses that include maritime ports, airports, real estate development, export services and telecommunications services, among others. The PANYNJ generates over \$2 billion in annual revenues from its diverse business areas. One of the organization's core businesses - maritime facilities - contributes \$97.5 million annually, or just under 5%.

The overall PANYNJ operation has consistently produced income that has enabled it to continue to fund its operations and invest in new business opportunities. The organization has also been instrumental in encouraging private investment and economic development in the region it serves. Its financial structure is a relevant example of the potential for the Canal's financial base to generate other revenues and economic development in Panama. The PANYNJ has the ability to raise debt to fund operations and investment in new businesses, with the major limitation not set in law but in bonding agreements. The bond agreements established a requirement that debt coverage ratio (net revenues to meet debt service requirements) remain above 1.3. In addition, a General Reserve Fund has been set up if revenues are not sufficient to pay debt service.

Legal and financial issues in Panama will have to be explored in Phase II. PANYNJ debt is not backed by the full faith and credit of the government, but only by the revenues it generates. The use of long-term debt instruments--principal payments extend out beyond 2030--has enabled the PANYNJ to expand into new business areas that require substantial initial capital investments, for which long-term debt financing is generally the most efficient mechanism.

Institutional Issues

The PCC's ultimate success will be enhanced by a strong sense of its mission both as a key national asset and as a vital link in international trade. The PCC should work to develop an institutional framework within the Panamanian public sector that draws on best practices from leading quasi-public organizations with both profit-making and economic development goals, such as the Port Authority of New York and New Jersey.

A strategy for the Canal that is focused on profitable growth requires a vision of the institutional role of the organization that recognizes its unique potential as the most capable, professionally-run agency, with a large revenue generating capability, and the ability to get things done. The PANYNJ is a good example of such a vision. It has evolved as a well-run organization that changed its focus over time to add a broader multimodal transportation perspective and an economic development goal. The focus on profitability and financial self-sufficiency has remained, but the diversity of its businesses has grown. The PANYNJ is recognized by the city and its states as the best agency to pursue regional transportation and trade oriented revenue-generating businesses and economic development programs where government needs to serve as a catalyst to build private sector interest. The Government of Panama needs to provide a legal and institutional framework for the Canal organization after the year 2000 that allows a similar environment to evolve in the PCC.

It is also recognized that a Canal growth strategy for the 10 year period from 1998 to 2008 involves the last two years of US government management and the first eight years under Panamanian control. As such, any early actions and planning to pursue the strategy will require a consensus among the board members representing both countries, top management, as well as other groups in Panama who have an interest in the eventual role of the Canal. The US and the international community should be supportive of Panama's efforts to build a strong, financially independent, business-oriented and professionally-run Panama Canal organization.

Phase II proposes an institutional module in order to further define an appropriate legal and institutional framework while the Canal's organic law is finalized. This legal framework should enable the Canal organization to execute the recommended vision of the organization as a profitable growth-focused public sector enterprise.

Conclusion

The recommended growth strategy for the Canal presents a unique opportunity to increase the Canal's financial and economic development value to Panama. Profitable growth is the key to defining a new role of the Canal to support Panama's economic development objectives. This recommendation is consistent with the view of the Canal as an economic development magnet attracting all types of maritime sector activities and increasing Panama's role as an international maritime and trade center. Together with the Colon Free Trade Zone, which is the largest in the

hemisphere, the Panama Vessel Registry, the largest in the world, and other trade sector businesses, the Canal can help fulfill this vision. Working with ARI, the Canal can also become a partner in meeting development objectives in the reverted areas.

A country's business sector is the engine of its economy. Economic development is created by the success of the individual businesses that make up an economy. While business must be in the lead, the role of government in economic development is no less important. It is government's job to create the conditions that will allow businesses to take advantage of the country's strengths and assets as they seek competitive advantage in their respective markets. Government has responsibility for anticipating the forces of economic change and working with business to harness those forces for long-term economic success. The Canal should be at the forefront of Panama's economic development efforts. Its core business and any new businesses that it pursues will create national wealth that will result in benefits to the entire nation.

Panama can choose to establish the Canal as a break even organization that continues to be solely focused in Canal transits, as required under the existing treaty and laws. Panama argued for imposing those restrictions while the PCC was a US government agency. After December 31, 1999, that reason no longer will remain. The challenge in developing a growth strategy is to recognize that the new Canal organization should have the flexibility to fulfill multiple roles, as a:

- self-financing profitable public sector enterprise
- world maritime resource
- generator of revenues for the Panamanian treasury, and
- development engine for the Panamanian economy.

The Canal organization can then stimulate the creation of national wealth by focusing on the profitability of its core business and other competence-based new business opportunities. By leveraging the Canal's competencies, the growth strategy can create a new focus on profitable growth, and at the same time give the Canal organization an appropriate expanded role within the framework of Panama's national economic development and maritime strategy.