MERCER
Management Consulting

South Carolina State Ports Authority Business Plan and Project Feasibility Study

April 1998

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In June 1997, the South Carolina State Ports Authority (SPA) engaged Mercer Management Consulting (Mercer) to assist it in updating its long-term business plan and assessing the need for developing a new container facility.

- The SPA has experienced significant growth in its container business
- The SPA has begun to experience congestion at its container terminals
- The lead time and complexity to expand existing or build new marine terminals is increasing rapidly
- The SPA recently completed a transition to a new leadership and organizational structure
- The SPA is currently undertaking several initiatives designed to improve service and operational efficiency

As a result of these factors, the SPA retained Mercer to assist in completing a comprehensive review of its future development plans

Mercer Management Consulting is a world leader among consulting firms.

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- Temple, Barker & Sloane (TBS)
- UBM Consulting Group (Germany)
- MID (France)
- Corporate Decisions, Inc. (CDI)

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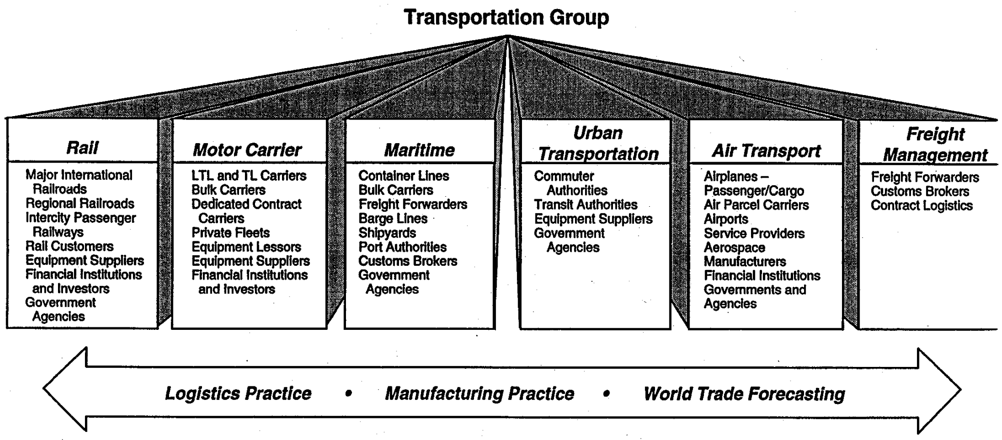
- Implementing successful change

to achieve profitable growth and increased business value

Mercer's Transportation Group combines top-tier general management consulting capability with the specialized expertise of one of the world's largest transportation consulting groups.



Mercer retained VZM/TranSystems, a leading port and intermodal rail terminal planning and design firm, to assist in conducting the study. VZM/TranSystems has been involved in addressing Port of Charleston marine terminal capacity and design issues for the past three years.

Capabilities	Transportation Experience	Resources	Recent Experience
• Planning • Operations analysis • Engineering with design • Architectural planning and design • Construction management	• Seaports • Railroads • Highways • Airports	• 400 professionals • 17 offices • Proprietary planning tools –Simulation –Terminal capacity models –Terminal planning models	• 60 maritime projects • 85 rail projects • 90 warehouse and distribution center projects • 200 transportation construction projects

Mercer and VZM/TranSystems have jointly conducted over 100 port strategic and master planning studies for U.S. port authorities.

Representative Studies	Representative Port Authority Clients
• Port strategic plans • Port master development plans • Marine and intermodal terminal feasibility studies • Port privatization studies	• Port of New York & New Jersey • Virginia Port Authority • Jacksonville Port Authority • Port of Port Everglades • Puerto Rico Ports Authority • Port of Tacoma

The project feasibility study had four objectives:

Project Objectives

1. Establish SPA's competitive and market positions
2. Review SPA's strategy for growing its general cargo businesses, i.e., containers and breakbulk
   - The focus of the project was the Charleston container business
3. Devise a long-term container capacity development program for the SPA
4. Conduct an economic impact survey to quantify the State of South Carolina's economic return on its investment in the SPA

The project included a comprehensive review of the SPA's performance, an evaluation of competitive opportunities and threats, and interviews with key customers.

- The study team comprised the SPA's senior management team and Mercer's project team
  - SPA's senior management team provided internal data, industry insights and contacts, and helped set project objectives
  - Mercer's study team structured and conducted the analyses, formulated recommendations and presented its findings and recommendations to SPA's Board of Directors and Senior Management Team
- The study encompassed six months
- The study included multiple working sessions during which the study team reviewed and discussed Mercer's interim findings and recommendations

This document summarizes the study's principal conclusions. The remainder of this final report document is organized into six chapters as follows:

Report Structure

- Overview of the South Carolina State Ports Authority
- Market assessment
- SPA's capacity needs and container terminal development strategy
- SPA's capital financing requirements
- SPA's economic impact on the State of South Carolina
- Conclusions and recommendations

Contents

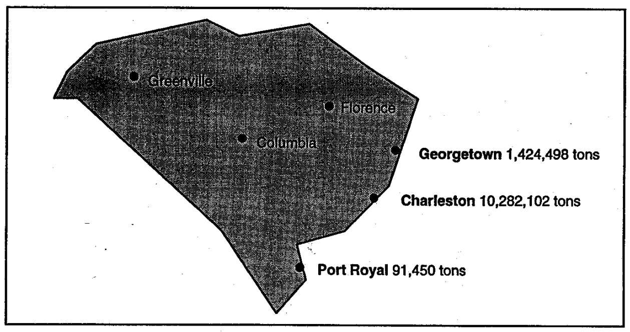
This chapter provides an overview of the SPA, its scope of operations, and historical performance.

- The objective of this chapter is to familiarize the reader with the SPA and its major activities
- It also establishes the baseline from which the SPA's future performance and terminal requirements are projected
- Finally, it quantifies the economic return to the State of South Carolina on its investment in and support of the SPA

The SPA is a corporate body of the State of South Carolina and is charged with the responsibility for promoting, developing, constructing, equipping, maintaining and operating the State's harbors and seaports. The SPA owns and operates the State's three major seaports:

- Charleston is the largest port and the SPA's gateway for international container traffic
- The Port of Georgetown is the SPA's dedicated breakbulk and bulk facility. Major commodities include steel, cement and forest products.
- Port Royal is the smallest SPA port (breakbulk cargo).

SPA Ports and Tonnages (FY 1997)

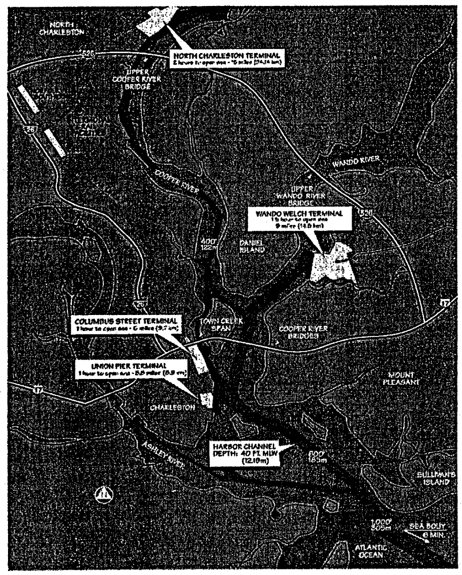


The focus of this study was the Port of Charleston and its container traffic.

The SPA is a financially self-sufficient agency governed by a nine-member board appointed by the Governor.

- The SPA is managed by a six-member senior management team
- The SPA employs 499 staff organized into 11 major departments
- During fiscal year 1997 (July 1-June 30), the SPA generated $71 million in revenues and $28 million in cash flow
- **100% of all cash flows are used to service the SPA's debt obligations and maintain, modernize and expand its marine terminal facilities**

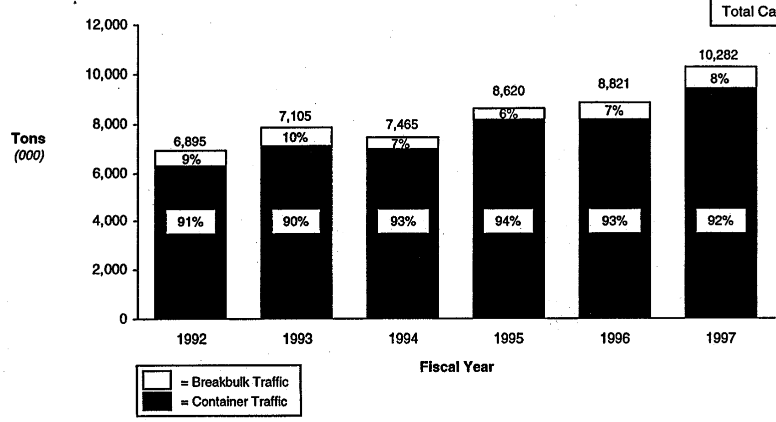
The Port of Charleston comprises three major container terminals and Union Pier – a multipurpose marine terminal.



During 1997, the SPA handled over 10 million tons of cargo at its Charleston marine terminals. Over 92% of this traffic (9.4 million tons) was containerized freight, while 8% (870,000 tons) was breakbulk freight.

- Historically, container traffic has represented between 90% and 94% of Charleston's general cargo business.
- Breakbulk has accounted for 6% to 10%

CAGRs[1]:	1992-1997
Container:	8.6%
Breakbulk:	5.8%
Total Cargo:	8.3%



[1]Compound Annual Growth Rates
Source: SPA; Mercer analysis.

The SPA currently serves 9 of the world's top 10 global container carriers calling Atlantic Coast ports at its Port of Charleston container facilities. Several of these carriers have multi-year[1] agreements with the SPA.

World's Top 10 Container Carriers*	SPA Customer	Comment
Evergreen	✓	Operates at North Charleston under a multi-year agreement
P&O/Nedlloyd	✓	Calls at Wando-Welch as part of the Grand Alliance
Sea-Land	✓	Operates at Wando-Welch under a multi-year agreement
Maersk	✓	Operates at Wando-Welch under a multi-year agreement
Hanjin/DSR-Senator		Savannah is its major South Atlantic port of call
COSCO	✓	Operates at Columbus Street under a multi-year agreement
NYK Line	✓	Calls at Wando-Welch as part of the Grand Alliance
Neptune Orient Line/APL	✓	Calls at Columbus Street as part of the Global Alliance
Mitsui OSK Lines	✓	Calls at Columbus Street as part of the Global Alliance
Mediterranean Shipping Company	✓	Calls at North Charleston

*Based on fleet capacity in service as of November 1996 as reported in *Containerisation International.*
[1]Three years or more.

The SPA is one of the few major U.S. public port authorities that is financially self-sufficient. Many of its competitors receive direct or indirect financial subsidies.

Historical Operating Results and Debt Service coverage for Fiscal Years Ending June 30

	1992	1993	1994	1995	1996	1997
Operating Revenues	46,414	45,335	45,584	55,278	62,254	71,024
Operating Expenses	40,392	41,740	43,558	49,668	55,971	57,968
Operating Earnings	6,022	3,595	2,026	5,610	6,283	13,056
Non-Operating Income (Expense), Net[1]	556	780	318	617	(2,755)	(2,112)
Reinvested Earnings	6,578	4,375	2,344	6,227	3,528	10,944
Adjustments						
Depreciation	11,636	11,639	11,742	12,234	14,671	15,086
Interest Expense[2]				1,109	4,731	4,559
Net Adjustment	11,636	11,639	11,742	13,343	19,402	19,645
Net Revenues Available for Debt Service	18,214	16,014	14,086	19,570	22,930	30,589
Principal and Interest on Outstanding Bonds						
82A & 89 bonds	1,173					
91 Bonds	2,697	5,165	5,167	5,164	5,166	5,164
94 Bonds			235	914	941	911
Total Annual Debt Service	3,870	5,165	5,402	6,078	6,107	6,075
X's Debt Service Coverage	4.71	3.10	2.61	3.22	3.75	5.04

Overview of Direct or Indirect Subsidies

Port Authority of New York/ New Jersey:	Maritime deficits cross-subsidized by other operating divisions
Maryland Port Administration:	Capital investment and debt service provided by the state
Virginia Port Authority:	Capital investment funded through the state's transportation trust fund
Georgia Ports Authority:	State issues GO bonds to fund capital development
Jacksonville Port Authority:	Receives a portion of the City's communications tax. Receives funding from the Florida Ports Council

[1] Includes interest expense.
[2] FY96: Excludes $424,583 capitalized interest; FY97: Excludes $502,714 capitalized interest.

SPA is a major contributor to the South Carolina economy, generating over 80,000 jobs and nearly $11 billion in sales revenue in fiscal year 1997.

Economic Impact Output Generated by the SPA's Port Facilities

	Jobs	Wages	Sales	Taxes
Fiscal Year 1997 Survey				
Direct	37,141	$1.5B	$6.5B	
Indirect	45,944	$1.1B	$4.2B	$314M
Total	**83,085**	**$2.6B**	**$10.7B**	
1994 Survey				
Total	**78,067**	**$2.1B**	**$8.9B**	$258M

Note: 1996 Survey incorporates FY1997 cargo tonnage and capital expenditures.

The SPA's Port of Charleston facilities, services and container line customers support many of South Carolina's largest industrial companies.

Company	Number of Plants	Number of Counties in Which the Company Operates	Total Employees
Westinghouse	3	3	11,861
Milliken	35	13	6,813
Nucor	4	4	1,208
Michelin	9	6	7,033
Union Camp	4	3	1,581
Bosch	6	4	4,401
Georgia-Pacific	14	8	1,715
Bayer	4	2	1,421
Westvaco	9	7	1,892
Bowater	2	2	1,130
Springs Industries	19	6	9,097
Fuji	7	2	1,074

Source: SPA.

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This chapter summarizes Mercer's review of the Port of Charleston's competitive and market positions and Mercer's baseline forecast of the Port of Charleston's container traffic.

- The objective of this chapter is to estimate the Port of Charleston's future, market-driven traffic potential
  - The "market-driven" traffic projections are based on Mercer's detailed assessment of the Port of Charleston's competitive position and customer base
  - The traffic projections are based on carrier/trade lane specific projections
  - The traffic projections are also based on the World Sea Trade Service (WSTS) forecasting model. WSTS is a computer-based, macroeconomic trade forecasting system jointly developed by DRI-McGraw/Hill and Mercer. WSTS projects future international waterborne trade for 40 commodity groups at the world, regional, trade route, country and coast levels of detail. The model combines the econometric modeling and forecasting capabilities of DRI with the international trade and transportation expertise of Mercer to produce consistent forecasts of international trade based on econometrically derived forecasts of countries' future economic performance
- The "market-driven" traffic projections drive both the need for additional container terminal capacity and the SPA's future financial performance

Charleston's competitive position within the Atlantic Coast container port industry will be driven by four sets of factors.

Vessel-Related Factors

Charleston's ability to efficiently accommodate the current and future Atlantic Coast container fleet:
- Vessel size
- Water depths
  - –Channels
  - –Berths
- Channel widths
- Distance to sea
- Congestion

Port-Related Factors

Charleston's ability to proactively provide cost competitive container capacity to current and potential customers:
- Berths
- Cranes
- Acreage

Inland-Related Factors

Charleston's ability to provide efficient access to major inland markets:
- Access to multiple railroads
- Competitive intermodal service frequency and transit times
- Competitive highway access and motor carrier services

Container Shipping Industry Trends

Trends in the liner shipping and industry that will affect Charleston's competitive positioning:
- Liner profitability
- Vessel economics
- Carrier concentration

Charleston's Competitive Position

Mercer conducted a detailed analysis of Charleston's competitive position in each of these areas.

The SPA is well positioned as a major gateway for the global container lines and U.S. Atlantic Coast container traffic within the U.S. Atlantic Coast container port industry.

Factors	SPA Position	Comments
Economies of scale	Strong	• Large carriers, significant volumes and sustained growth provide scale economies at SPA's facilities
Vessel-related factors	Strong	• Easy access, short transit times, low congestion and planned harbor deepening make Charleston highly attractive to container lines
Port-related factors	Strong	• Efficient, highly productive terminals and strong, diversified customer base make Charleston highly competitive
Inland-related factors	Moderate	• Centrally located, satellite rail facilities and modest on-dock rail are strengths
Overall	Strong	• Charleston's current competitive position is sustainable over the next 2-3 years. Harbor deepening and significant expansion are critical to sustaining Charleston's long-term competitive positioning

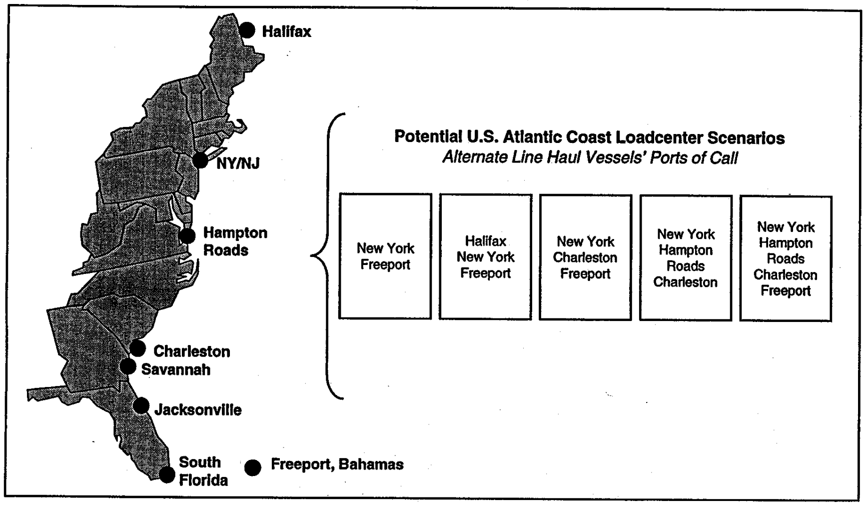
Three major container shipping industry trends will have a significant impact on Charleston's future competitive positioning.

Container carrier profitability is stagnant – declining	The increasing size and cost of larger, state-of-the-art containerships	Industry consolidation will continue
Overview Since the early 1990s, the container shipping industry has been plagued by poor financial returns • Operating margins of only 4 percent • ROI only averaged 7.5 percent • Revenue per slot has been declining steadily	Overview Development and construction costs of larger ships is growing • 3,000 TEU new building (late 1980s): $45M • 6,700 TEU (today): $120M • 8,000 TEU new building (projected): $150M Rising financial costs are requiring carriers to pay greater attention to asset utilization and the costs of serving multiple ports	Overview Pressure to reduce operating costs and rationalize assets has resulted in industry consolidation and a growing number of strategic alliances • Top 20 carriers and four major carrier alliances control nearly 75 percent of total industry capacity
Outlook • Potential for further shakeout and rationalization of port calls to reduce costs	Outlook • Larger containerships in the Atlantic Basin, but ultimate size (5,000 vs. 6,500+) is uncertain • More vessel sharing to maximize utilization and reduce costs	Outlook • Industry consolidation may accelerate • Mix of alliances versus mergers is unclear • There will be fewer carriers, likely calling at fewer ports

SPA's container line customers view industry consolidation and port rationalization as significant, on-going trends.

- Shippers' push to reduce supply-chain costs (e.g., faster transit times, greater service frequency, better systems, lower rates) will drive continued liner consolidation
  - Because they are easier to manage and set strategic direction, mergers are more likely than alliances. However, "marrying diverse cultures" is a major obstacle
    - Increased cooperation among alliances is also predicted, particularly the Grand and Global Alliances
    - Several carriers stated the belief that the industry is not even halfway through the rationalization process
- Vessel size will continue to increase, with economies of scale tapering off before the technological limitations of building larger ships
  - 45' of depth is generally viewed as sufficient by most carriers servicing the U.S. Atlantic coast
- Port rationalization is both probable and necessary; some predict within five years
  - Halifax and Freeport are seen as possible "winners" due to natural deep water
  - Carriers expect New York, as a "big consumption zone," to retain its major gateway status despite its harbor deepening issues
  - Charleston is seen by franchise customers as a possible "winner" primarily due to geographic location and solid service

Reduced profitability, increased capital costs, and pressure to reduce operating expense make it likely that a reduced number of global carriers/consortia will likely rationalize their ports of call and focus on a group of core ports to serve existing markets.

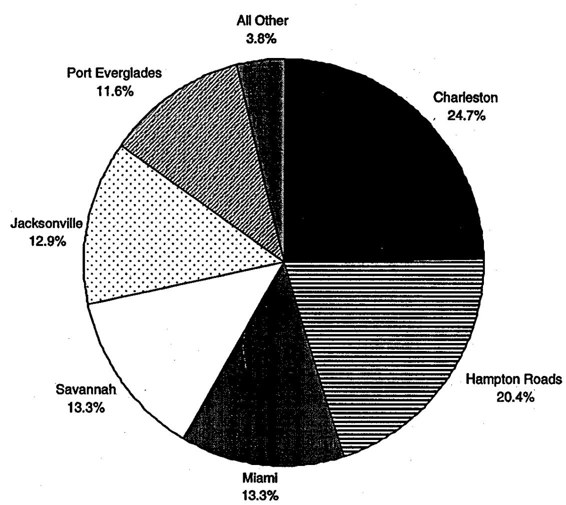


Charleston's management, operating and capital investment plans need to focus on providing the efficient, cost competitive port facilities that are critical to attracting and retaining the global carriers that will drive industry rationalizations

Charleston and Hampton Roads dominate the South Atlantic (Norfolk to Miami) container port industry.

- Charleston's container throughput has experienced substantial growth during the past ten years
- Charleston has developed a solid, diverse client base which includes nine of the top ten global carriers calling the Atlantic Coast today
  - Only Hanjin/DSR Senator is not calling today
- Charleston has a major share of container traffic on all of the major Atlantic Coast trade lanes
  - Market leader to/from northern Europe and SE Asia
  - Ranks second to/from northern Asia

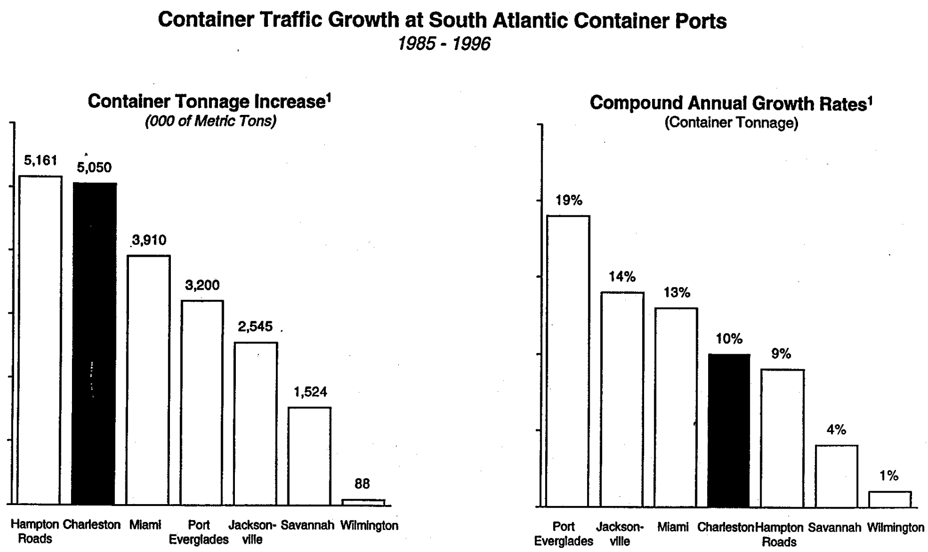
Charleston is a leading South Atlantic container gateway.



Annualized FY 1997
36,130,979 Tons

Source: PIERS (July '96-May '97 data annualized); Mercer analysis.

Charleston's container traffic has seen steady growth since 1985.



Source: Port authorities annual reports; AAPA; Mercer analysis.
[1]Mixture of fiscal and calendar years.

Charleston is the leading South Atlantic gateway for container traffic with Northern Europe and SE Asia-Indian Subcontinent. It has the largest share of the total market, for the Northern Europe market (second largest route) and SE Asia-Indian Subcontinent (one of the fastest growing routes).

South Atlantic Container Port Market Shares – Tonnage Basis
July 1996 - June 1997

Port	Overall Share of South Atlantic Container Traffic	Latin America (32% Total Traffic)	Northern Europe (22%)	Northern Asia (16%)	Med.-Mid East (13%)	Puerto Rico (8%)	SE Asia-Indian Subcontinent (7%)	Other (3%)
Charleston	$\boxed{24.7\%}$	9.7%	$\boxed{38.3\%}$	32.4%	25.9%	0.0%	$\boxed{52.9\%}$	$\boxed{39.5\%}$
Hampton Roads	20.4%	9.4%	34.0%	16.1%	$\boxed{35.5\%}$	0.0%	27.5%	33.0%
Savannah	13.3%	6.6%	8.1%	$\boxed{35.2\%}$	21.7%	0.0%	9.6%	15.2%
Miami	13.3%	28.7%	3.8%	9.7%	10.4%	0.0%	6.9%	2.4%
Jacksonville	12.9%	14.2%	2.7%	0.0%	0.6%	$\boxed{94.7\%}$	0.0%	6.5%
Port Everglades	11.6%	$\boxed{30.1\%}$	5.2%	0.1%	3.8%	5.3%	0.5%	1.5%
Wilmington, NC	2.1%	0.1%	2.6%	6.6%	2.1%	0.0%	2.5%	1.8%
Richmond, VA	1.2%	0.1%	5.3%	0.0%	0.1%	0.0%	0.0%	0.1%
Fernandina Beach	0.3%	1.1%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

Source: PIERS (July '96-May '97 data); Mercer analysis.
Note: Other includes Africa, Australia/New Zealand, Other Regions and Canada.

SPA's major customers report that Charleston is one of their leading U.S. ports.

- Carriers report a high level of satisfaction with the Port and generally feel that service levels have improved during the last year
  - "Day to day operations have improved dramatically due to the greater involvement of more customer focused individuals"
- Productivity is Charleston's greatest strength, an attribute cited by virtually all interviewees.
  - "Productivity is the best in the U.S."
  - "Shipping lines are just beginning to catch on to how much money there is in productivity"
  - Geographic location relative to other South Atlantic ports, deep water (going to 45'), and cooperative working environment (port-carriers-ILA) are also frequently cited as strengths
- Charleston is viewed as a highly cost competitive port
  - "My second lowest cost port after . . . "
  - "Charleston is very reasonably priced"
  - Carriers view Charleston's cost as one of the port's attractive features

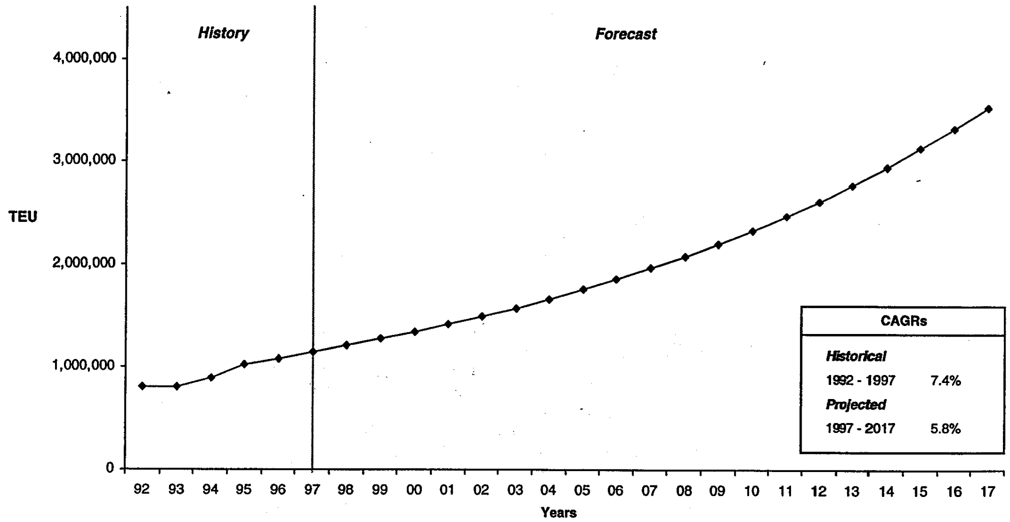
Charleston's market strengths provide South Carolina and South Atlantic businesses with competitive service and rates to/from major world markets.

- Nine of the top ten global carriers serving the U.S. Atlantic Coast call Charleston. This carrier base includes both conference and independent carriers which provide South Carolina businesses with a wide range of choices
- Charleston's carriers provide competitive service frequencies to/from most of the world's leading markets
- The rapid growth in Charleston's container volumes provides economies of scale to both the SPA and its carrier customers. These scale economies are reflected in competitive costs for Charleston's carriers, efficient operations for the SPA, and competitive transport services for South Carolina and South Atlantic businesses

Mercer prepared a detailed forecast of Charleston's container and breakbulk traffic in order to evaluate Charleston's future container facility requirements.

Container Forecast
Scope • Existing customers only • Individual forecasts by carrier/trade route, direction; aggregated to terminal and portwide projections • Forecast horizon: 1997-2017 Methodology • Detailed analysis of individual carriers' services, deployments and volumes • Projections based on World Sea Trade Service (WSTS) forecasts • Projections are unconstrained, i.e., they exclude consideration of current marine terminal capacity Output • Annual container TEU and tonnage projections for the period 1998-2017

The port of Charleston's container traffic is projected to increase at an annual compound rate of growth of 5.8% and exceed 3.5 million TEUs by 2017.



- The growth potential of SPA's current container line customer base is substantial
  - This reflects the fact that Charleston serves a majority of the world's global carriers
  - SPA's global customers serve most of the major U.S. Atlantic trade routes
  - The outlook for U.S. container trade over the next 20 years is for sustained growth
- Under Mercer's forecast, SPA's Charleston container volumes are projected to more than triple during the next 20 years
- The SPA faces major challenges in accommodating the future growth requirements of its customers

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This chapter quantifies the container terminal capacity the SPA requires to meet the future needs of its current customers and summarizes the SPA's strategy for developing this capacity.

- The objective of this chapter is to summarize the SPA's container terminal development strategy for meeting the future, market-driven needs of its customers
- It begins with a comparison of the maximum practical capacity of the SPA's existing container terminal asset base to the future requirements of SPA's existing customers
- It next addresses the methodology and range of options that were evaluated in preparing the SPA's long-term capacity development strategy
- It concludes with a summary of the SPA's container terminal development strategy

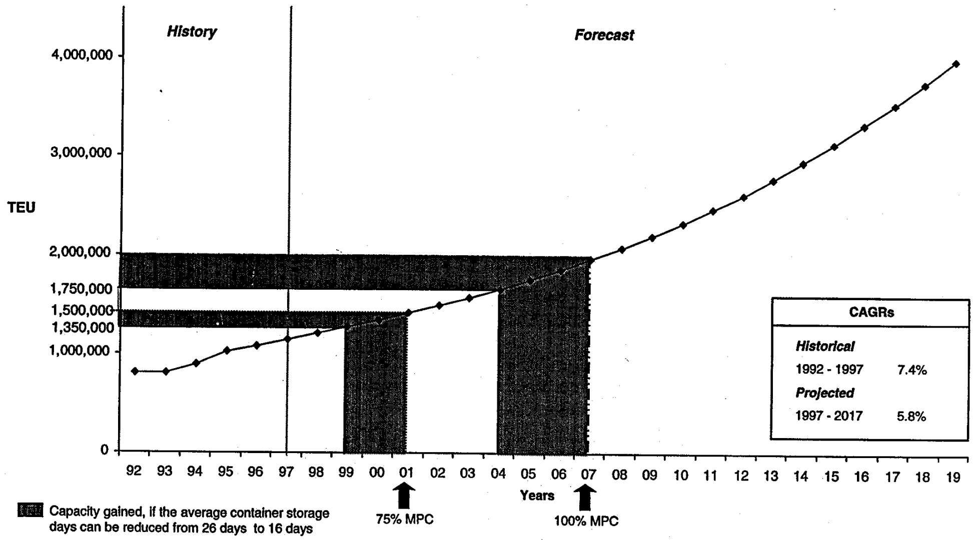
Mercer conducted a detailed review of the SPA's marine terminal operations in order to quantify the maximum practical capacity (MPC) of the SPA's facilities, evaluate opportunities for enhancing the terminals' efficiency and MPC and quantifying the SPA's future capacity requirements.

Operations Analysis Objectives	Key Steps	Task Outputs
• Quantify maximum practical container terminal capacity • Identify productivity improvement opportunities • Identify capacity enhancement opportunities • Identify potential cost savings opportunities	A) Collect terminal/customer specific operating and cost data B) Review terminal operating practices C) Interview key operating people – SPA – Stevedores – Customers D) Quantify current maximum practical capacities (MPCs) E) Identify and evaluate preliminary improvement options – Layouts – Handling technologies – Operating practices	A) Task report summarizing: – Recommended operating improvements – Cost/benefit assessment – Preliminary strategy for future terminal operation and development

Mercer, in conjunction with VZM/TranSystems, used a detailed terminal capacity model to quantify the Port of Charleston's MPC for its container terminals. The MPC of a terminal is a terminal's sustainable throughput at the high-end of a realistic operating scenario.

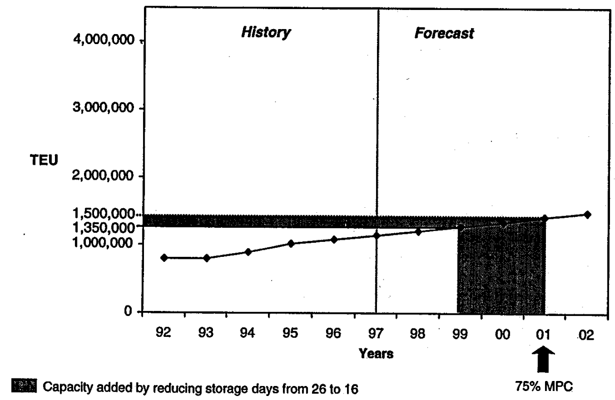
- The VZM/TranSystems model has been successfully used in over 200 port and marine terminal capacity analyses.
- The model outputs are based on existing conditions for infrastructure, equipment, and operations based on data supplied by the client and input to the model.
- The MPC estimates are based on actual terminal practices including productivity of wharf cranes, crane maintenance, shift changes, hours of terminal operation (vessel stevedoring, yard and gates), and work practices.

Under the Mercer base case forecast (5.8% CAGR), the SPA's container traffic growth will exceed 100% of the SPA's maximum practical container terminal capacity between 2004 and 2007. However, the SPA's container terminals will begin to experience significant congestion in the 1999 - 2001 timeframe unless capacity is increased.



Given both the increasing lead time required to add new marine terminal capacity and the congestion that occurs as terminals approach capacity, Mercer-VZM/TranSystems recommend ports initiate capacity expansion efforts when actual throughputs reach 75 percent of MPC on a sustained basis.

SPA Container Throughput Will Reach 75% of MPC in the 1999-2001 Timeframe



- The 1999-2001 timeframe is driven by the average number of days containers are stored on the container terminals
- If SPA can successfully work with its customers to reduce average storage days from 26 to 16 days, 75% of MPC will not be reached until 2001
- The SPA is already aggressively pursuing this initiative

Based on the needs of SPA's container customers, the SPA needs to continue its capacity expansion efforts.

Several of the SPA's best customers will experience the largest capacity shortfalls over the next 3-5 years. The Port needs to add capacity to protect these customers, thereby sustaining its own strategic positioning.

- The SPA's future capacity shortfalls are particularly acute since the SPA's most important customers are most affected by the shortfalls
- The SPA's highest volume customers, most of whom will also be the fastest growing customers, will experience the greatest shortfall of container terminal capacity
- Many of the highest volume customers also generate the most revenue
- These same customers are the carriers that will drive rationalization in the container shipping and North American port industries during the next five to seven years

Note: Projections apply port-wide container operating margins to Mercer traffic forecasts.
Growth in other parts of the business is based on SPA performance or projections.

The Study Team used a comprehensive approach to evaluating alternative container terminal development strategies. This approach is based on five key principals.

1) **Market-driven:** the strategy must respond to the priority needs of SPA's existing customers while maintaining sufficient flexibility to adapt, in the long term, to changes in the container shipping industry

2) **Practical:** the preferred strategy should seek to maximize capacity of the existing asset base while minimizing capital investment requirements and adverse environmental effects, consistent with meeting the needs of the SPA's existing customers

3) **Maximize operational efficiency:** prior to undertaking capital investment, the SPA should maximize the operational efficiency and MPC of its existing asset base. If these initiatives fail to provide sufficient terminal capacity, then;

4) **The SPA should first focus on incremental capital investment to expand the MPC of its existing asset base.** If these initiatives fail to provide sufficient terminal capacity, then;

5) **As the final step,** the SPA should focus on the development of a new container terminal

The Study Team identified and evaluated over 15 basic development options, each of which included a number of permutations.

- The study team evaluated five site options
  - Existing facilities only
  - Daniel Island only
  - Daniel Island and improvements to existing facilities
  - Navy base only
  - Navy base and improvements to existing facilities
- For each site option, the Study Team evaluated management, operating and equipment options for expanding capacity

The Study Team's long-term container terminal development strategy combines improvements to the existing terminals and development of the first phase of Daniel Island.

- This strategy best meets the Study Team's market criteria

Market Criteria	Development Strategy Attributes
Meet current customers' needs	• Target prioritized capacity enhancements at most vulnerable accounts – Safeguard existing client base • "Dual strategy" will appeal to both large and common users – Common users will benefit from enhancements to their existing facilities – Large users will have the option to move to potentially dedicated Daniel Island facilities
Time to market	• Capacity enhancements to existing terminals can start immediately – Enhance Charleston capacity to meet customers' short-term needs • Phase I Daniel Island developed in response to customers' evolving needs and market conditions
Attract new customers	• Provides the opportunity to offer global carriers large, "build to suit" facilities
Strategic (competitive) positioning	• Provides capacity in the short-term to counter competitors' offering • Sustains and enhances Charleston's positioning as a major gateway post 2000 when major carrier and port rationalizations could occur • Responds to the growing preference of global carriers for dedicated facilities compromising one or more post-Panamax berths and 100+ acres • Provides the opportunity to maximize long-term (50+ years) economies of scale and efficiency through consolidation of all container terminal operations in the long-term – Provides ability to accommodate and consolidate alternative cargo uses at Columbus Street and North Charleston – Provides the potential to realize substantial economies of scale, maximize operating efficiency and reduce costs by consolidating a majority of all container operations at a single, integrated complex

Optimizing capacity at the SPA's existing facilities is critical to retaining major customers.

- Meeting the expanding capacity needs of large, fast growing customers is vital to safeguarding the SPA's current client base.
- Maintaining the current customer base is critical to the SPA's future:
  - Sustaining its strategic positioning as a major gateway port
  - Maximizing its ability to finance modernization and expansion of its existing asset base, and ...
  - Reducing SPA's total financing requirement for new terminal development
- Maintaining the current customer base is also critical to preserving the SPA's annual economic return ($11 billion in sales) to the South Carolina economy

Optimizing current capacity is also fiscally prudent and ensures that the SPA and State are getting the maximum return on their existing assets.

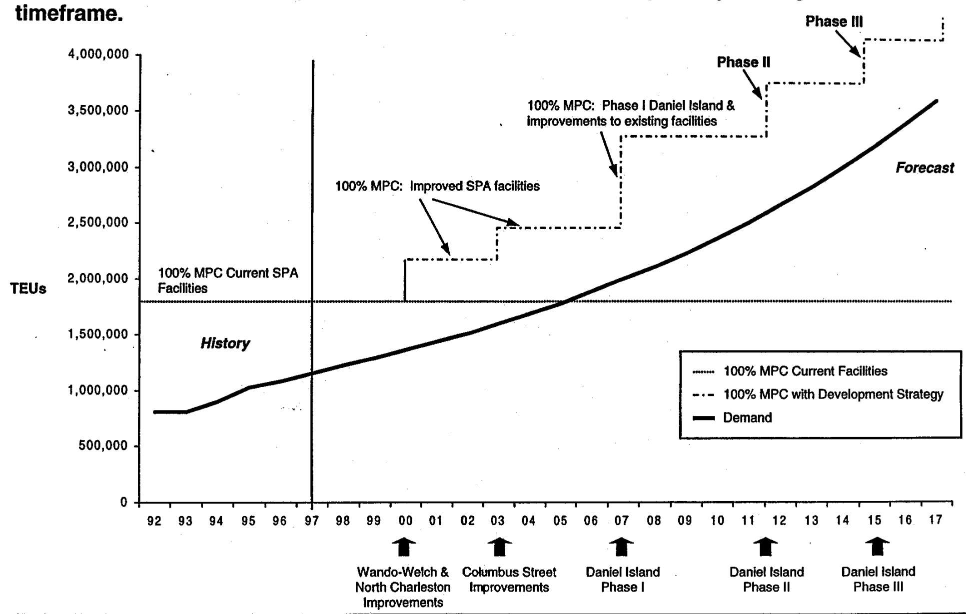
The development strategy for SPA's existing asset base is designed to maximize capacity by:

1. Improving operational efficiencies
   - Reducing container storage times
   - Improving traffic circulation
   - Refining pricing strategies to encourage improved asset utilization
2. Investing in equipment to improve operational efficiency and asset utilization
   - Container gantry cranes to maximize berth productivity
   - Rubber-tire gantry cranes (RTGs) to maximize terminal storage capacity
3. Expanding container storage acreage
   - Segregating breakbulk operations
   - Demolishing/relocating buildings

The Study Team has targeted the Wando River side of Daniel Island for the first module of a Daniel Island container terminal complex.

- The Wando River side provides the greatest capability and flexibility to accommodate the full range of container vessel sizes likely to call the Atlantic Coast in the long-term
- The first module of development includes:
  - Berths: 3,000 lineal feet
  - Backlands: 200 acres
  - Cranes: 6 beyond post Panamax container cranes
  - Container handling equipment: 18 RTGs
  - Intermodal rail yard and handling equipment
- The first module of development includes the site preparation necessary to support subsequent phases of expansion

The SPA's container terminal strategy will both provide for the future needs of its current customers and enhance its position as a major Atlantic Coast gateway, through a 2010-2015 timeframe.



Contents

This chapter presents the reasons why the SPA will require the State of South Carolina's financial support in order to successfully implement its container terminal development strategy.

- The objective of this chapter is to explain why the State of South Carolina's financial support is critical to successfully implementing the SPA's container terminal development strategy.
- The chapter begins with a general description of the anticipated projects to be undertaken and the phasing of these projects.
- It next presents an assessment of the SPA's potential and the private sector's potential to finance the development strategy.
- It concludes with why the State's financial support is critical.

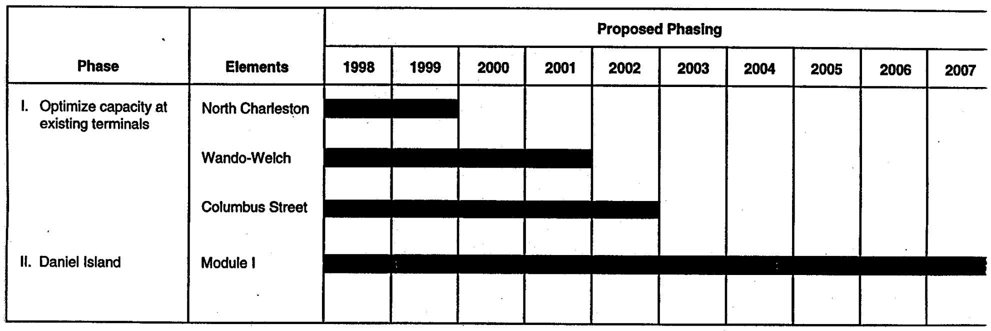
Mercer, in conjunction with SPA's senior management team, is still in the process of finalizing the specifications and sequencing of each element of the container terminal development strategy. Consequently, the absolute level of required financial support is not yet known.

The SPA's container terminal development strategy emphasizes improving operational efficiency and utilization at existing facilities first, then developing Daniel Island (multiple modules) to meet customers' evolving needs into the 21st century.

	Phase I: Optimize Capacity at Existing Terminals	**Phase II: Daniel Island Module I**
Time frame	1998-2002	1998-2007
Objectives	• Maximize efficiency and capacity at existing terminals	• Develop first module, build-to-suit, beyond post-Panamax, terminal complex • Provide for the future growth of the port and its customers
Key elements	• Information systems • Efficiency improvements: – Terminal layouts – Traffic circulation – Use segregation • Equipment additions • Selected modernization and expansion	• Three berths • 200 acre container yard • Intermodal rail terminal • Information systems

Each element of the program can be phased to flexibly adapt to customers' evolving needs.

The SPA's container terminal investment strategy comprises two parallel phases which will be implemented over the next 10 years. This proposed schedule is being designed so that it can be altered or accelerated to respond to customers' specific needs.



Daniel Island (first module) includes substantial investment in the base infrastructure required to support the development of marine terminals over the next 50+ years. This substantial investment must be made in order to develop the container terminal (first module) and rail facilities.

- Permitting and mitigation costs for any new capital development project are significant and increasing each year.
- Land acquisition costs for land side access are significant.
- Utility and site preparation costs are substantial.

The Study Team's first step in evaluating financing options for the container terminal development strategy was to conduct a detailed analysis of the SPA's ability to fund the project. As part of this analysis, the Study Team also evaluated the SPA's ability to continue to meet all current and planned financial obligations.

Key Assumptions	Scenario 1 SPA Financial Capacity with Container Development Strategy Implemented	Scenario 2 SPA Financial Capacity without Container Development Strategy
Capacity	• Expanded per the capital investment program	• Capped at capacity of expanded terminals, i.e. no Daniel Island
Volume	• Per Mercer forecast	• Per Mercer forecast until 90% of MPC is reached
Rates	• Little or no growth due to competitive pressures during next 5 years	• Little or no growth due to competitive pressures during next 5 years
Costs	• Short-term: escalate faster than CPI to reflect increased operating costs • Long-term @ CPI	• Short-term: escalate faster than CPI to reflect increased operating costs • Long-term @ CPI

While the SPA will generate sufficient cash flows to meet all of its current and planned obligations, the SPA's cash flows will not be sufficient to fund its container terminal development strategy.

Future Revenues		**Future Operating Expenses**		**Future Depreciation**		**Current & Planned Investment and Financial Obligations**		**Minimal Future Surplus Cash Flows**
• Growth will be primarily driven by volume • Per unit rates will remain at or near today's levels due to competitive pressures	−	• Will increase at inflation • Productivity gains will partially offset higher operating costs	+	• Will increase as new facilities and improvements are completed	−	• Current 5 year $167 million capital investment program • Planned $45 million bond issue	=	• The SPA will continue to fulfill its obligations • The SPA will continue to maintain its coverage ratios • The SPA will have no surplus cash flow to fund its container terminal development program

The Study Team consulted and explored a wide range of financing sources and specialists as the second step in evaluating alternative financing strategies for the recommended capital development program.

Potential Funding Sources	Financial Specialists Consulted	Interviewed Maritime Industry Companies
• SPA funding: Future cash flows and the debt capacity they generate • Traditional funding sources, including revenue bonds and general obligation bonds • Public-private joint ventures: SPA customers; terminal operating companies • Non-traditional port funding sources such as commercial paper • State funding: General obligation bonds, grants, State Infrastructure Bank	• Artemis Capital: A public finance group (former Goldman division) • Chase Manhattan Bank's Infrastructure Group • Lehman Brothers • The SPA's bond counsel	• SPA container line customers • Independent terminal operators – P&O Ports – Stevedoring Services of America

While most of the financing and investor organizations interviewed by Mercer believe the Daniel Island (first module) container terminal facility may be a potentially attractive investment opportunity, none of the companies believe it will be feasible to attract private capital to fund the significant infrastructure costs.

- The Daniel Island project must compete for private funding with the full range of investment opportunities available to private investors
- Return on investment will be the primary criteria by which private funds are allocated
- The financial return on the Daniel Island basic infrastructure will be insufficient to compete for private funds
- Therefore, private financing of a major component (base infrastructure) of the project is not an option
- Private financing for the marine terminal component is uncertain and will be a function of conditions in the international container shipping and North American port industries and the North American financial markets at the time of construction (circa 2003-2005)
  - In addition, the costs (financial and strategic) associated with private financing may render this option impractical

Consequently, the State of South Carolina's financial support is critical to enabling the SPA to successfully implement its container terminal development strategy.

- Basic infrastructure development costs are significant
- These significant investments need to be made well in advance of the realization of associated revenues
  - As much as four to five years
- The availability and costs of private financing of marine terminal facilities is uncertain
- The SPA will not be able to generate the cash flows required to finance its container terminal development strategy
- Therefore the SPA will need the State to fund its container terminal development strategy if it is to successfully implement the strategy in time to meet its customers need

While the cost of increasing Charleston's capacity is significant, the associated economic return to the South Carolina economy is substantial (see Chapter VI).

Contents

This chapter presents and discusses the economic return to the State of South Carolina (the State) from the SPA's port operations.

- The objectives of this chapter are threefold:
    1. To quantify the future economic return available to the State from supporting the SPA to successfully implement its container terminal development strategy
    2. To quantify the potential reduction in the State's economic return if the SPA cannot implement its container terminal development strategy; and,
    3. To provide a factual basis upon which the State can make an informed decision regarding whether to support the SPA in implementing its container terminal development strategy.

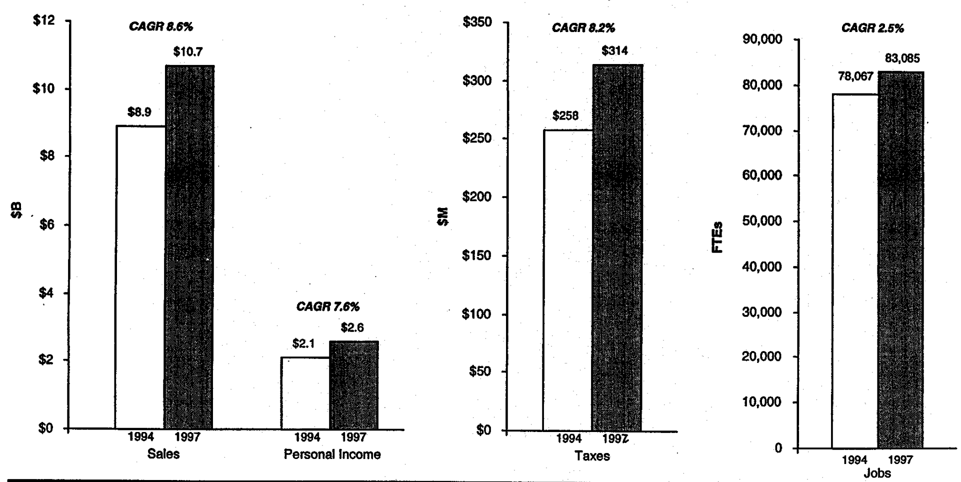
International trade through the SPA's marine terminal facilities generates several forms of economic return to the State, its businesses and citizens.

- Direct impacts are created by the businesses that support port activities or use ocean transportation services via the SPA's port facilities.
  - Port industry (service providers at the SPA's port facilities, e.g., ocean carriers, stevedores)
  - Port users (companies importing and/or exporting via the SPA's port facilities)
  - Port-related capital expenditures (marine terminal facilities, equipment, dredging, etc.)
- Indirect and induced impacts result from the purchases of goods and services by port industry and user businesses
  - Each dollar expended by port industry and user businesses stimulates further spending throughout the state economy resulting in a "multiplier" effect
- Mercer tailored its existing economic impact model to the State in order to quantify the SPA's economic return to the state's economy
  - Mercer originally developed its economic model for use by the US Department of Transportation
  - It has been used by a wide range of ports to quantify their economic return to their host economy

SPA-generated sales revenue, personal income, and tax impacts have grown over 7% annually since FY1994.

- Jobs have grown at a more moderate 2.1 percent
  - Slower growth in jobs is the result of productivity and operating efficiency gains resulting from technological innovation and new capital investment

Measures of Economic Activity



Daniel Island (first module) includes substantial investment in the base infrastructure required to support the development of marine terminals over the next 50+ years. This substantial investment must be made in order to develop the container terminal (first module) and rail facilities.

- Permitting and mitigation costs for any new capital development project are significant and increasing each year.
- Land acquisition costs for land side access are significant.
- Utility and site preparation costs are substantial.

...and companies.

Company	Location	Businesses
Michelin	9 SC plants	Tire manufacturing
Clark Schwebel	Andersen, SC	Fiberglass and industrial fabric manufacturing
Steel Hiddle Mfg.	Westminster, SC	Weaving machine accessories and flat wire product manufacturing
International Knife and Saw, Inc.	Florence, SC	Woodworking knife and saw manufacturing
Georgetown Steel Corp.	Georgetown, SC	Wire rod manufacturing
Waccamaw Corp.	Myrtle Beach, SC	Distribution center for retail products
Milliken	35 SC plants	Textile manufacturing
Georgia Pacific	14 SC plants	Paper products
Springs Industries	19 SC plants	Textile manufacturing

The SPA will provide the State with a substantial return on the marine terminal capacity created to serve SPA customers and South Carolina businesses.

Total Economic Return to the State of South Carolina from all SPA Facilities and Activities

$259 Billion in Sales Revenues		$63 Billion in Wages		$7.7 Billion in Taxes		
• International trade moving via SPA's marine terminal facilities will generate $259 billion in sales revenues for South Carolina businesses during the next 20 years	+	• International trade moving via SPA's marine terminal facilities will generate $63 billion in wages to the citizens of South Carolina	+	• International trade moving via SPA's marine terminal facilities will generate $7.7 billion in taxes for the State and local governments	=	SPA's 20 year economic return to the State of South Carolina

The successful implementation of SPA's strategy will also generate and sustain on average 92,000 full time jobs during the next 20 years.

Should the SPA be unable to implement its container terminal development strategy, the SPA, the State and the State's businesses will lose.

SPA Losses	State of South Carolina Losses	South Carolina Business Losses
• Strategic – Inability to sustain market leadership position – Potential for relegation to a secondary port-of-call or feeder port – Loss of global carrier customers • Tactical and economic – Reduced carriers, geographic coverage and service frequency – Throughput capped at MPC of existing facilities, i.e., 2.0 million TEUs – Long-term erosion of economies of scale	• Revenues to state businesses • Wages to State citizens • Taxes to State and local governments • Jobs • Loss of additional economic development opportunities due to less attractive international business climate	• Higher transport costs to ship via other ports • Reduction in competitive access to international markets • Lost sales

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The SPA has established itself as a leading Atlantic Coast container gateway.

- The SPA is the second largest Atlantic Coast container port after New York based on Journal of Commerce PIERS data
- The SPA's customers include 9 of the top 10 global carriers that call the US Atlantic Coast
- The SPA's growth in container traffic has exceeded that for the Atlantic Coast as a whole during the past ten years
- The SPA has been financially self-sufficient in fulfilling its mission to construct, operate, maintain and promote its marine terminal facilities

The SPA has also provided a substantial economic return to the State of South Carolina. In FY1997 alone, international trade moving via the SPA's port facilities generated:

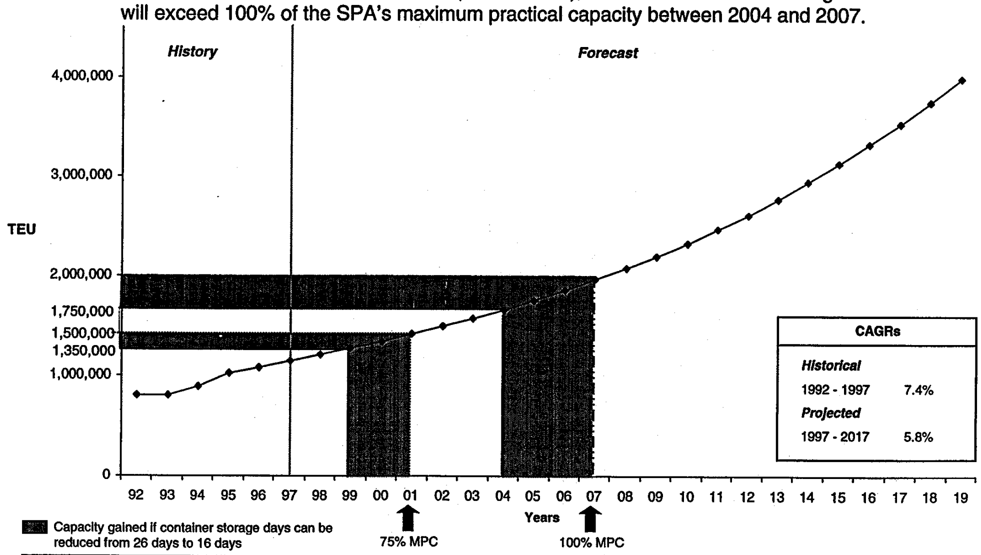
- 83,000 jobs for South Carolina citizens
- $10.7 billion in sales revenues for South Carolina businesses
- $2.6 billion in wages for South Carolina citizens
- $314 million in taxes to the State and local governments

The SPA is well positioned as a major gateway for global container lines and container traffic within the U.S. Atlantic port industry.

Competitive Factors	SPA Position	Comments
Economies of scale	Strong	• Large carriers, significant volumes and strong growth have provided scale economies at SPA's facilities
Vessel-related factors	Strong	• Easy access, short transit times, low congestion and planned harbor deepening make Charleston highly attractive to container lines
Port-related factors	Strong	• Efficient, highly productive terminals and strong, diversified customer base make Charleston highly competitive
Inland-related factors	Moderate	• Centrally located, satellite rail facilities and modest on-dock rail facilities are advantages
Overall	Strong	• Charleston's current competitive position is sustainable over next 3-5 years. Harbor deepening and significant expansion are critical to sustaining Charleston's long-term competitive positioning

The growth potential of the SPA's current container customers is significant, provided the SPA can develop the container facilities and supporting infrastructure necessary to accommodate its customers' future growth.

- Under the Mercer base case forecast (5.8% CAGR), the SPA's container traffic growth will exceed 100% of the SPA's maximum practical capacity between 2004 and 2007.



The SPA is in the process of finalizing the details of a comprehensive container terminal development strategy that will permit the SPA to meet the future needs of its current customers, maximize the utilization of its existing asset base, and position the SPA as a major Atlantic Coast container gateway for the 21st century.

- The SPA's container terminal development strategy comprises two phases which together will meet the needs of current and potential customers into the 21st century
- Phase I will focus on maximizing the practical capacity and utilization of its current asset base by first focusing on improvements to its terminal management systems and operations and then focusing on modernization and expansion of the facilities
- Phase II will involve constructing the first module of a container terminal complex on Daniel Island. This complex will provide the SPA with an expansion capability to meet the growth requirements of its customers into the 21st century, thereby sustaining and enhancing the SPA's position as a major Atlantic Coast container gateway

The SPA requires State assistance to finance its container terminal development strategy.

- The SPA's financial obligations and five year capital plan will consume most of the SPA's future cash flows
- The Study Team's analyses have concluded that the SPA will be unable to attract private financing to fund its container terminal development strategy
  - Private investors will not fund the substantial, upfront infrastructure costs required to support marine terminal construction
  - The long lead time, together with both intense competition for private financing and the rapidly changing structure of the international container shipping industry, pose significant barriers to attracting private financing for the marine terminal costs
  - The costs (financial and strategic) of private financing may render this option impractical
- Therefore, the State of South Carolina represents the only practical source to complete the funding of the SPA's container terminal development strategy

The SPA will provide the State with a substantial return on the marine terminal capacity created to serve SPA customers and South Carolina businesses.

Total Economic Return to the State of South Carolina from all SPA Facilities and Activities

$259 Billion in Sales Revenues		$63 Billion in Wages		$7.7 Billion in Taxes		
• International trade moving via SPA's marine terminal facilities will generate $259 billion in sales revenues for South Carolina businesses during the next 20 years	+	• International trade moving via SPA's marine terminal facilities will generate $63 billion in wages to the citizens of South Carolina	+	• International trade moving via SPA's marine terminal facilities will generate $7.7 billion in taxes for the State and local governments	=	SPA's 20 year economic return to the State of South Carolina

The successful implementation of SPA's strategy will also generate and sustain on average 92,000 full time jobs during the next 20 years.

The State of South Carolina, by providing the financial and political support necessary for the SPA to successfully implement its container terminal development strategy, will insure the growth and competitive positioning of South Carolina businesses and the SPA's customers in the 21st century.

The SPA's competitive position as a major Atlantic Coast Gateway will be sustained and enhanced, which will ...	... Increase the global competitiveness of South Carolina businesses, which in turn will ...	... Create substantial economic returns to the State of South Carolina and its citizens
• The SPA will be able to retain its strong base of global carriers • The SPA will be able to provide the facilities its carrier customers need to survive and expand their services, which will in turn . . . • Expand access to worldwide, reliable, cost competitive container shipping services via the Port of Charleston	• South Carolina businesses will be provided with competitive access to international markets – World class transport services from global carriers – Worldwide service coverage • The economy of South Carolina will both grow and diversify as international trade increases • Attract new business investment in South Carolina	• International trade via the SPA's marine terminals will sustain an average 92,000 jobs over the next 20 years • International trade via the SPA's marine terminals will generate $63 billion in wages to South Carolina citizens over the next 20 years • International trade via the SPA's marine terminals will generate $7.7 billion in State and local taxes which in turn can be leveraged to – Attract additional economic development and associated returns to the State

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