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Enhancing SSA's Organizational Effectiveness

THE WOODS HOLE, MARTHA'S VINEYARD, AND
NANTUCKET STEAMSHIP AUTHORITY

May 11, 1994

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Enhancing SSA's Organizational Effectiveness – Phase 1: Diagnostic

THE WOODS HOLE, MARTHA'S VINEYARD, AND
NANTUCKET STEAMSHIP AUTHORITY

Discussion with the Board of Governors, Finance Advisory
Board, and Senior Management

May 5, 1994

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In enhancing SSA's organizational performance, a project lasting 3 phases began in January 1994. To date, activities have focused on identifying issues that need to be addressed to assure SSA's ongoing success.

PROJECT OVERVIEW



Completed by

March 9

May 5

TBD

Activities/
end products

- Interview board members, functional managers, and line personnel
- Review SSA's economics
- Synthesize findings and identify key issues facing SSA
- Conduct management workshops to identify solutions
- Review alternative approaches and evaluate options
- Develop blueprint implementation plan
- Roll out new structures/approaches
- Train/select staff in new roles, responsibilities

The objectives for today are to review these issues and discuss their implications for SSA.

TODAY'S OBJECTIVES

1. Review findings from organizational diagnostic
2. Discuss implications for SSA and agree on next steps.

Overall, SSA appears to be functioning quite well with strong operating and financial performance. However, there are several issues which are impeding even more effective performance today and which could jeopardize SSA's success in the future.

SUMMARY OF INITIAL FINDINGS

1. Overall, SSA runs a very effective service to the Islands and the Cape.
 - Superb on-time performance, safety, and convenience.
 - Excellent financial performance:
 - No operating income deficits since 1982 despite significant increases in volume and complexity of operations
 - Much stronger performance than many comparable ferries.
 - Committed, energetic management team in place
2. However, some organizational issues have emerged where SSA could improve its overall performance in the short term and ensure economic flexibility going forward.

Based on work to date, five such issues have arisen.

SUMMARY OF FINDINGS FROM ORGANIZATIONAL DIAGNOSTIC

1. Board roles and responsibilities not clearly defined, leading to lack of direction-setting and inefficient oversight
2. Management organization somewhat complex, with ill-defined roles and responsibilities
3. Budget process ineffective as management tool due to lack of accountability and involvement of line personnel
4. Large-scale projects currently not managed effectively, resulting in budget overruns, delays in project completion, and potentially lower quality of ongoing maintenance efforts
5. Operating expenses rising faster than inflation in many areas; with rising debt service, increases imply that SSA may have trouble avoiding operating deficits without revenue increases and/or cost reduction.

Board Roles and Responsibilities Not Clear

First, the role of the Board of Governors has not been explicitly defined, impairing its effectiveness. Coupled with demands of different constituents, this leads to operational problems within SSA.

BOARD OF GOVERNORS' ROLE NOT CLEARLY DEFINED, LEADING TO OPERATIONAL PROBLEMS

PRELIMINARY

- **Lack of focused oversight hinders effective guidance and decision-making**
 - Board spends disproportionate amount of time in meetings on small, relatively minor issues (e.g., acquisition of crane) sometimes at expense of larger projects (e.g., Hyannis terminal)
 - Mission/expectations of organization not clearly communicated or understood, making targeted oversight and guidance on direction difficult (e.g., should organization focus on reducing cost or adding service via new vessels)
- **Demands of different constituencies sometimes lead Board to provide inconsistent direction, leading to confusion among managers and inefficient operations**
 - Agendas of four communities serviced often conflict; difficult for Board to balance competing objectives (e.g., traffic problem on mainland vs. need for more tourism revenue)
 - Alignment of Board members with different constituencies can lead to advocacy role that sometimes impedes effective leadership (e.g., reversal of approvals after pressure from local constituents)
- **Board at times overly involved in managing organization on daily basis**
 - Members often call managers directly with "special projects" that conflict with day-to-day business
 - Board approves many decision that could be left to General Manager (e.g., purchase of truck/other minor capital projects)
 - Such frequent involvement may lead to withholding of information by managers to minimize Board interaction; such withholding has caused oversight problems in past (e.g., Sankaty cost overruns) and is frustrating to the Board

Source: Interviews

The mission of the Finance Advisory Board (FAB) is similarly unclear, leading to confusion over its role in SSA's governance.

FINANCIAL ADVISORY BOARD ROLE SIMILARLY UNCLEAR

- **FAB mission unclear and ill-defined, leading to inconsistent role**
 - FAB at times plays role of financial oversight agent (e.g., final approval of capital projects) and at other times policy advisor (e.g., counselor for Board members on decisions such as staffing)
 - Advice and counsel of FAB valued to help guide Board thinking; however, lack of vote limits FAB ability to enact and affect policy (e.g., cost guidelines)
- **FAB does not currently play as much of a "financial watchdog" role as it potentially could**
 - Stated FAB purpose to provide independent oversight on financial matters
 - However, only element FAB controls is advertising budget; other duties are to recommend passing capital projects on to Board
 - "If the FAB is really supposed to be a watchdog, let's give them some more teeth."

Source: Interviews

Part of the explanation for these problems may be due to different interpretations of SSA's mission (e.g., servicing Islanders versus generating tourism) which are then reflected in variations in the Board's agenda and direction-setting.

SOME OF THESE PROBLEMS IN THE BOARD'S ROLE MAY BE CAUSED BY CONFUSION OVER SSA'S MISSION

Conflicting Interpretations

"Our job is to service the Islanders."

vs.

"We need to provide service to the general public."

"Our job is to provide necessities to the islands, nothing more."

vs.

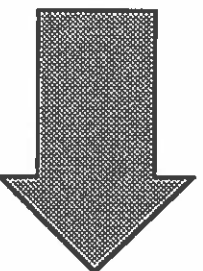
"We have a duty to boost tourism to add revenue to the local community."

"Our costs have to be as low as possible to avoid a deficit and reduce the payments by the Islanders."

vs.

"Providing service and necessities means that we have to add costs. Our prices have to increase some to cover this."

SSA Mission:
...to provide adequate transportation of persons and necessities of life for the islands of Martha's Vineyard and Nantucket."



Variations in Board agenda and direction provided to management

SSA's Organization Overly Complex

Second, SSA faces several organizational challenges. In particular, the General Manager's difficulty in balancing multiple requirements and the lack of cross-functional integration are straining the organization and causing poor morale among line personnel.

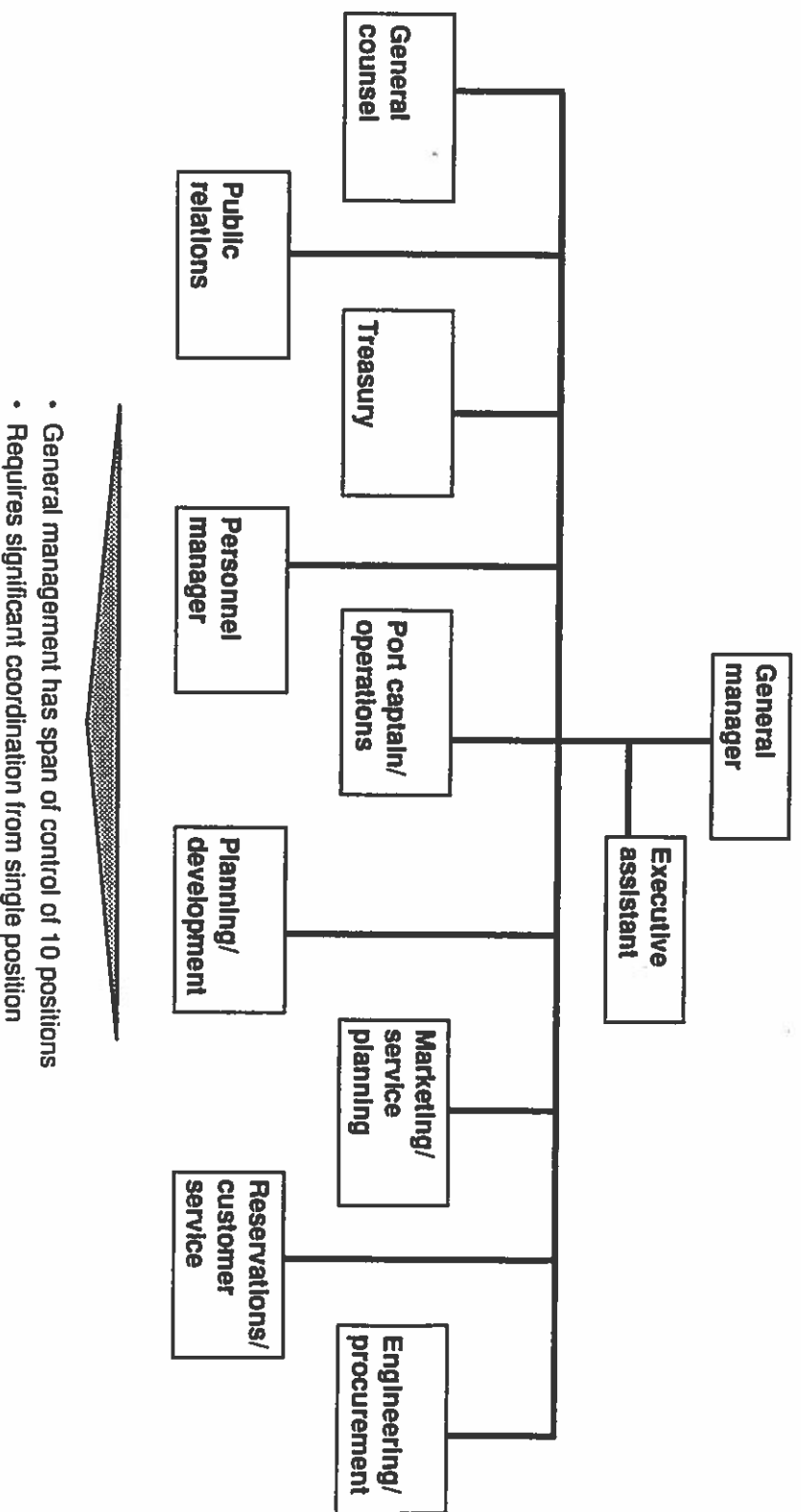
SSA MANAGEMENT ORGANIZATION FACES SIGNIFICANT ISSUES

PRELIMINARY

- **General Manager has difficulty balancing multiple requirements, leading to lack of clear direction in organization**
 - Meeting the needs of Board, employees, union, and media requires a reactive approach to managing, which can undermine clear direction
 - Large span of control limits General Manager's ability to manage all operations equally and coordinate functional activities
 - Confusion over mission statement also forces General Manager to make ad hoc operating tradeoffs (e.g., invest in marketing to boost tourist revenue vs. keep costs low)
- **Functional nature of organization reduces integration among some areas and hinders the organization's effectiveness**
 - Link between Maintenance and engineering is strained, resulting in inefficient repair process
 - Responsibilities between some functional areas not well-coordinated, (e.g., three managers from different groups routinely communicate with the media)
- **Other employees feel disconnected from upper management, leading to low morale and performance risk**
 - Morale low due to perceived lack of communication
 - "Management does not communicate to us at all. Everything is a surprise."
 - "Our input is rarely solicited; when it is, it isn't acted upon."
 - Some managers perceived as being uninvolved in day-to-day operations
 - "Management leaves on holidays when we are the most busy."
 - "You rarely see some managers on the boats."

SSA's organizational structure is complex, with 10 different functions reporting directly to the General Manager. This requires significant coordination by the General Manager.

SSA HAS A COMPLEX ORGANIZATION WITH MANY FUNCTIONS REPORTING TO A SINGLE MANAGER



Source: Interviews; SSA organization chart

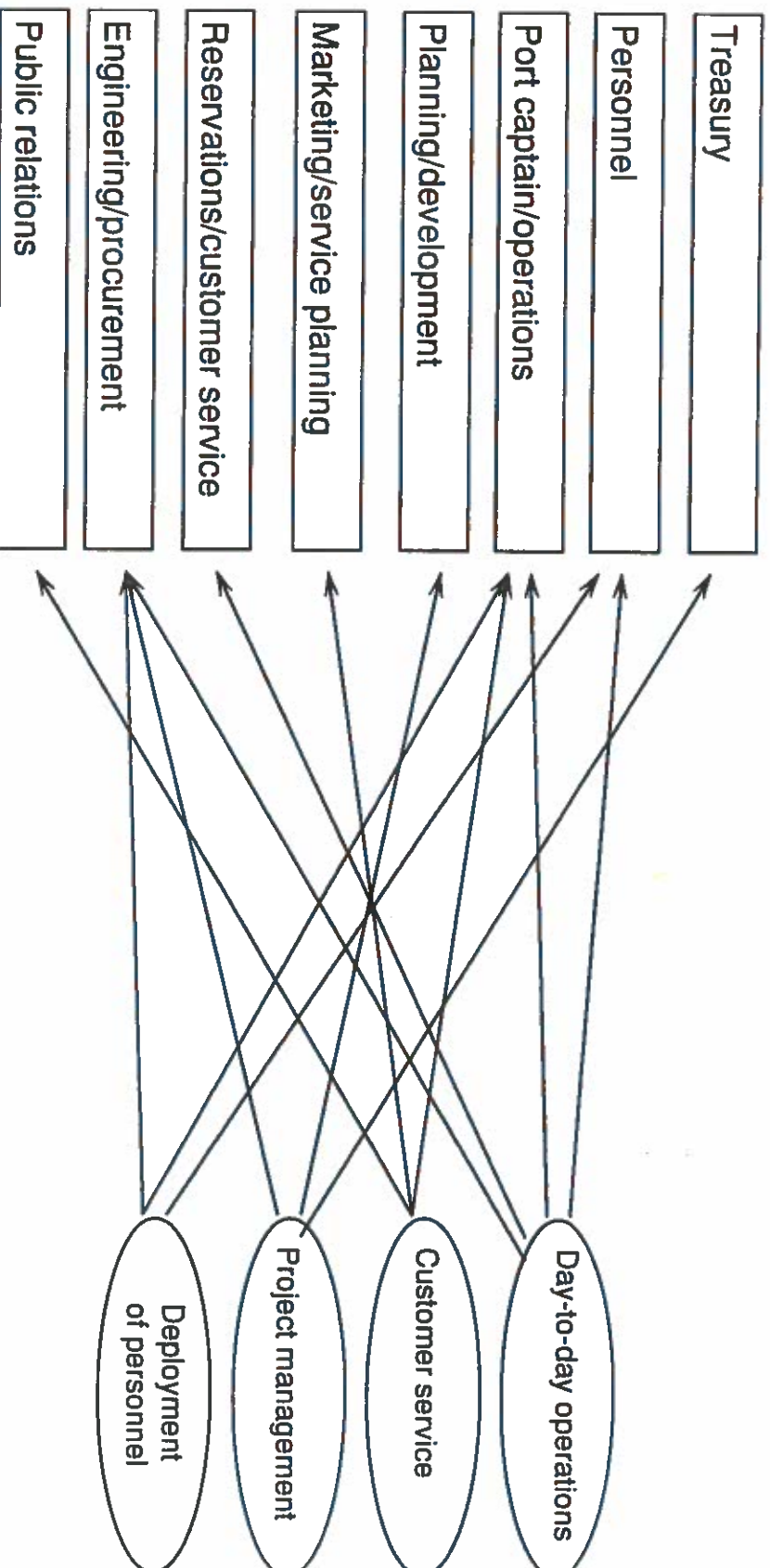
In addition, some day-to-day activities are blurred among functional groups, leading to a lack of clarity regarding where responsibility resides, and making management more difficult.

UNCLEAR DIVISION OF RESPONSIBILITIES AMONG FUNCTIONS ADDS COMPLEXITY

PRELIMINARY

FUNCTION

RESPONSIBILITIES



Source: Interviews

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Budget Process Not Effective

Third, SSA's operating budget process is not effective as a management tool. Most budgets are prepared with little involvement from line personnel, partly due to a lack of budgeting skills. Managers are also not held accountable for meeting budgets, resulting in the budgets being ignored.

SSA'S OPERATING BUDGET PROCESS DOES NOT FOSTER INVOLVEMENT OR ACCOUNTABILITY

PRELIMINARY

- **Budget process is currently not owned by line personnel, leading to a disregard for the process**
 - Treasurer prepares budgets with minor input from line managers – "Wayne prepares it for everyone and then we read through it."
 - Line managers do not use budgets in management of day-to-day operations (e.g., "my budget just sits on my shelf.")
 - Many rationalizations used to avoid using budgeting to plan
 - "If I ran according to my budget, I couldn't assure my passengers' safety."
 - "You can't budget maintenance costs. You never know what it'll cost 'til you open her up."
- **Some line managers lack the necessary skills to prepare the budgets effectively, causing errors and delaying completion**
 - No training programs exist for line managers who lack a financial background
 - Department heads don't have the technical knowledge to be able to prepare budgets-"it would take them a long time."
- **Managers are not held accountable for meeting budgets, resulting in budgets being ignored**
 - No incentives in place for managers to meet budgets – "nothing happens if you miss your budget."
 - "Post mortem" budget reviews in place, but not perceived to be linked to compensation or performance review

The capital budget process also needs to be revisited, as a lack of uniform proposal quality and complexity of the process results in potentially ineffective resource allocation.

CAPITAL BUDGETING PROCESS IS ALSO NOT IDEAL

PRELIMINARY

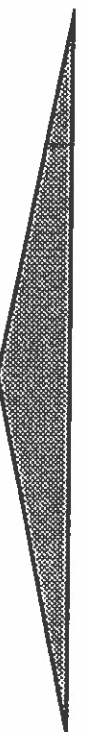
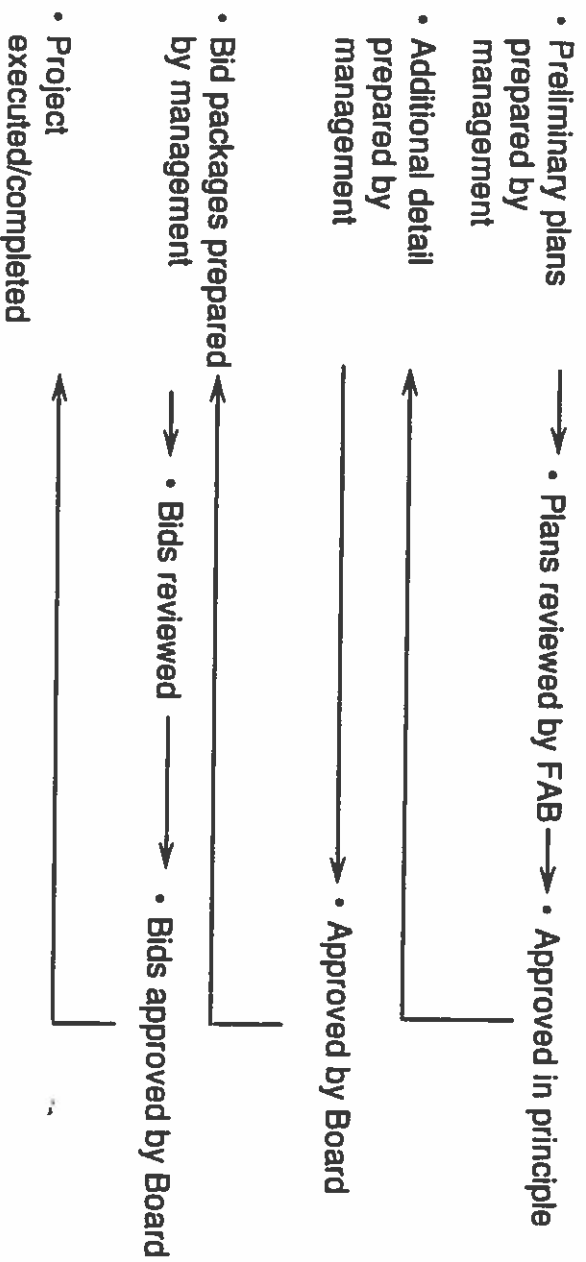
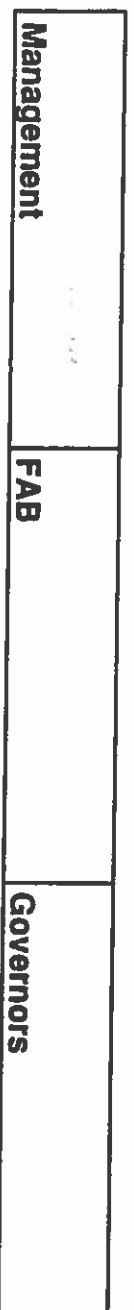
- **Quality and detail of current proposals not uniformly high, leading to ineffective use of Board's time and inability to properly assess appropriateness of project**
 - Identical process in place for small and large projects; management not required to develop detailed plans for major projects
 - Lack of rigorous financial analysis (e.g., net present value) to determine cost/benefit of potential projects
 - Accountability to meet budget seems lacking; "no one gets penalized for missing the numbers."
- **Complexity of process itself is high, resulting in constant reevaluation of "approved" projects and slow completion time**
 - Managers required to get multiple approvals for the same project before being allowed to proceed
 - Projects can be delayed several months while passing through different levels of approval, leading to missed milestones
 - Constant reexamination, while it can "weed out" some projects, slows others, retards progress, and frustrates managers

Source: Interviews

Some steps may be eliminated from the current capital budgeting process without reducing its effectiveness.

CAPITAL BUDGET PROCESS COMPLEX, MAY NEED STREAMLINING

ILLUSTRATIVE



- 6 approvals in total
- 3 different proposals made by management
- Complete process has 9 steps even if no rebudgeting or iterations

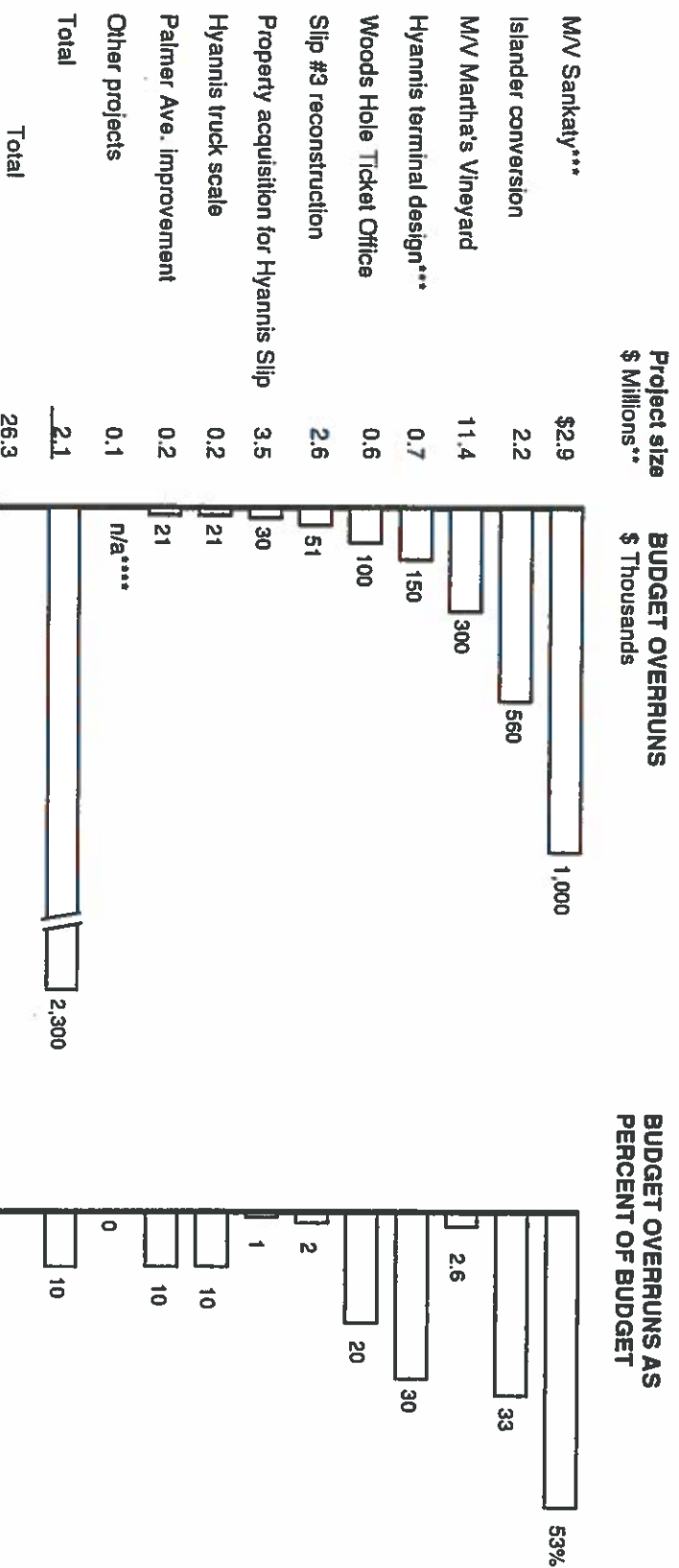
Management of Large Projects Needs Improvement

Fourth, the management of large projects is a major issue for SSA. Over the last five years, SSA has suffered significant cost overruns on many large-scale projects across multiple areas (e.g., constructing a new vessel and renovating ticket offices).

SSA SUFFERS SIGNIFICANT COST OVERRUNS ON MANY LARGE CAPITAL PROJECTS

PRELIMINARY

BUDGET OVERRUNS – 1989-93*



* As of 12/93; some budgets may have been revised, leading to conservative overrun estimates

** Rounded to the nearest \$100,000

*** Project not completed as of 3/8/93

**** Overruns not significant

Such overruns were common in the past as well.

HOWEVER, PROBLEMS WITH LARGE PROJECTS ARE HARDLY A NEW PHENOMENON

Examples of older projects with overruns...

- Nantucket Terminal reconstruction project completed only after numerous and costly changes to original designs
- Blacksmith Road lot acquired by SSA for \$1.2 million after it had been purchased only days earlier by owner for \$300,000
- Construction of \$8.4 million Eagle came in over budget
- Skipper restaurant purchased for \$1.3 million with appraisal performed after acquisition took place

...recognized other by studies of SSA

"Better supervision and oversight should be provided on construction projects."

—Inspector General, 1985

"The maintenance and construction manager should be given clear authority over all construction activity."

—Inspector General, 1985

"...[SSA] sometimes gets into difficulty when it gets into a nonrecurring matter like purchasing a property and building a facility, whether it be a terminal, vessel, or parking lot... This report recommends that an Office of Planning and Development be created."

—"A Plan to Make a Plan" by Edward Logue, 1992

These overruns suggest that SSA's project management needs to improve potentially through adding project management skills and through clarifying the Board's involvement.

OVERRUNS IMPLY INEFFECTIVE PROJECT MANAGEMENT

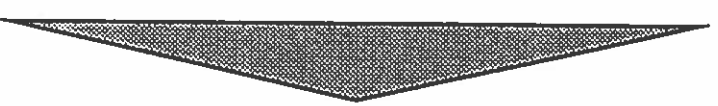
PRELIMINARY

- **Project management skills appear to be lacking, sometimes causing lost time, cost overruns, and wasted resources**
 - Little formal project planning once budget approved
 - Same detail for large and small projects
 - Little evidence of produced workplans, accountability, or milestones
 - "Plans around here tend to be seat-of-the-pants"
 - Master plan to coordinate all projects appears to be ineffective/lacking
 - Sankaty project brought in despite heavy involvement in M/V Martha's Vineyard construction; resources diluted to detriment of both projects
 - More rigorous ongoing maintenance scheduled in same period as large capital projects; little prioritization to ensure timely, cost-effective completion of projects and maintenance
 - Projects pulled in-house despite lack of prior experience resulting in higher costs than budget
- **Direction from Board inconsistent or lacking**
 - Numerous design changes initiated by Board on Hyannis Terminal even after prior plans were approved
 - Maintenance mission hasn't been defined clearly – is it to maintain the fleet and terminals or to actively do major shipyard-like renovations?

Another side effect of these large projects is that they are beginning to impair the ability of the Maintenance group to service the rest of the organization.

POOR PROJECT MANAGEMENT MAY ALSO BE AFFECTING OTHER PARTS OF MAINTENANCE

- **Responsiveness to the needs of other departments slipping, hindering service quality**
 - Maintenance requires extensive paperwork ("work orders") even for minor repairs
 - "You always feel they [Maintenance] are doing you a favor by taking care of your problems."
- **Use of engineering/maintenance resources does not appear optimal during overhauls, reducing timeliness and effectiveness**
 - Management of overhauls is unclear – both engineering and maintenance heavily involved without clear accountability for results
 - Integration between engineering and maintenance lacking; "During repair I have to make up tasks for my people because Maintenance doesn't let us do anything."
- **Maintenance management characterized by putting out fires rather than up-front planning, again reducing effectiveness**
 - No long-term "maintenance plan" appears to be in place for vessels/terminals
 - "There seems to be constant crisis mode in Maintenance – they are always reacting to some problem or another."



Time and effort required to conduct large-scale projects appear to be affecting quality of day-to-day operation

Costs are Rising

The final issue SSA faces is a changing economic structure. After relatively stable prices in the early to mid 1980s, fares have begun to rise in recent years.

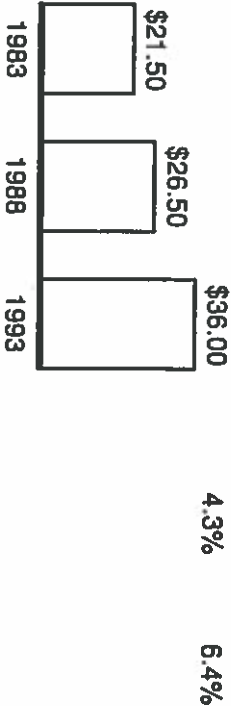
AT SSA, RATES HAVE INCREASED, ESPECIALLY IN RECENT YEARS

EXAMPLE – MARTHA'S VINEYARD

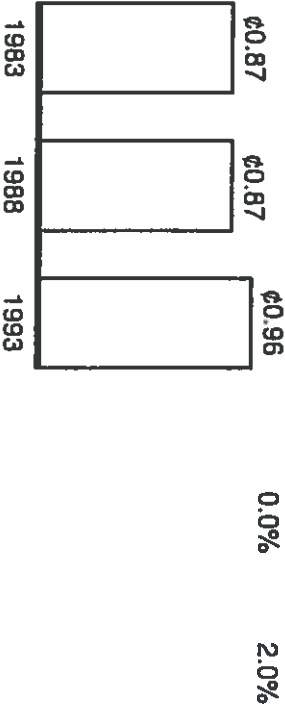
PASSENGER RATE*		CAGR	CAGR
\$/Passenger		1983-88	1988-93



AUTOMOBILE RATE*		CAGR	CAGR
\$/Car		1983-88	1988-93



FREIGHT RATE**		CAGR	CAGR
Cents/100 Lbs.		1983-88	1988-93



* Rates represent one-way regular fares during peak season 5/15-10/14

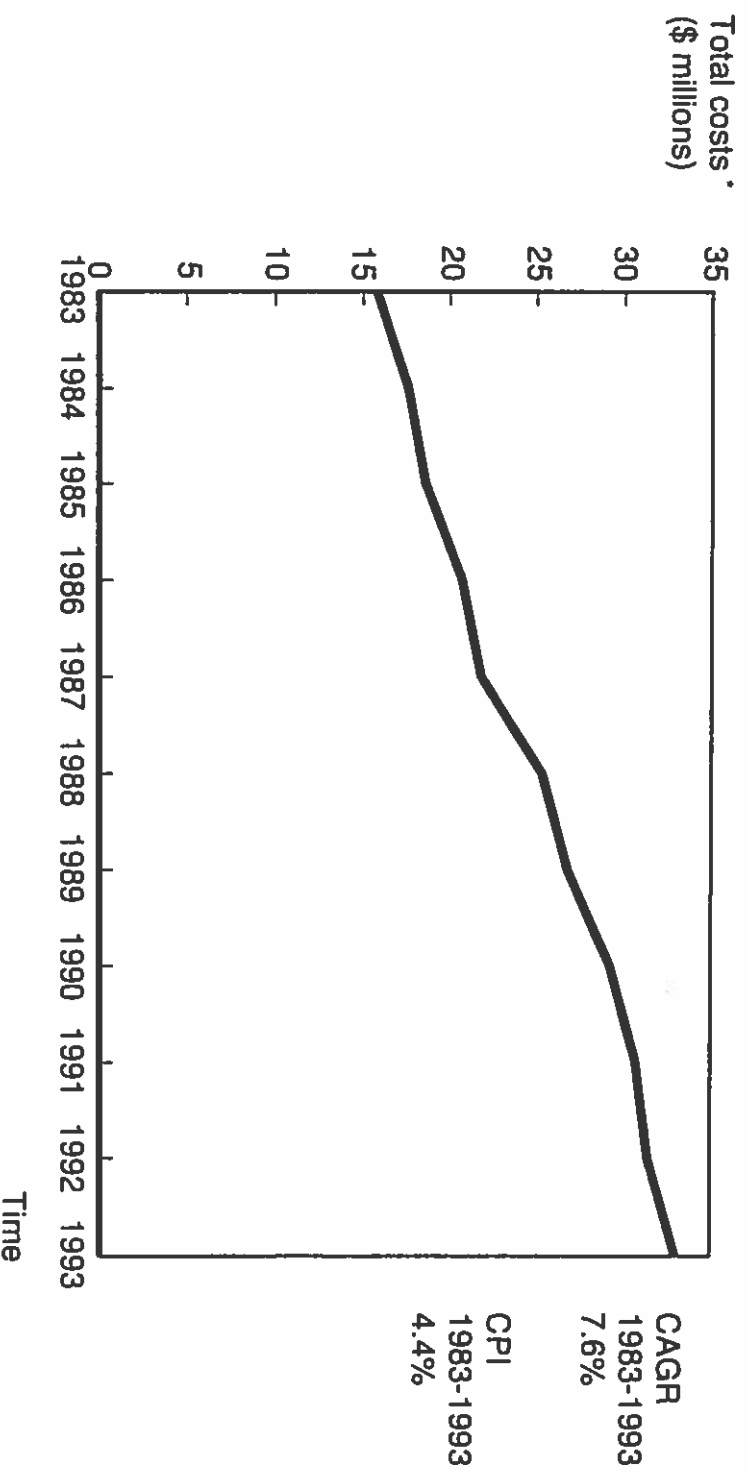
** Rates represent one-way regular route on weight class 12,000-20,000 pounds

Source: SSA Treasury

The reason for these fare increases has been to cover a steady rise in costs. Over the past decade, costs have increased at an average rate of 7.6 percent versus inflation of 4.4 percent.

THESE INCREASES MAY HAVE BEEN DRIVEN BY A SIGNIFICANT RISE IN COST

PRELIMINARY



* Includes both operating expenses and fixed charges

Source: Income statements 1983-1993

This increase has occurred in all areas, although G&A and Maintenance have been rising the fastest.

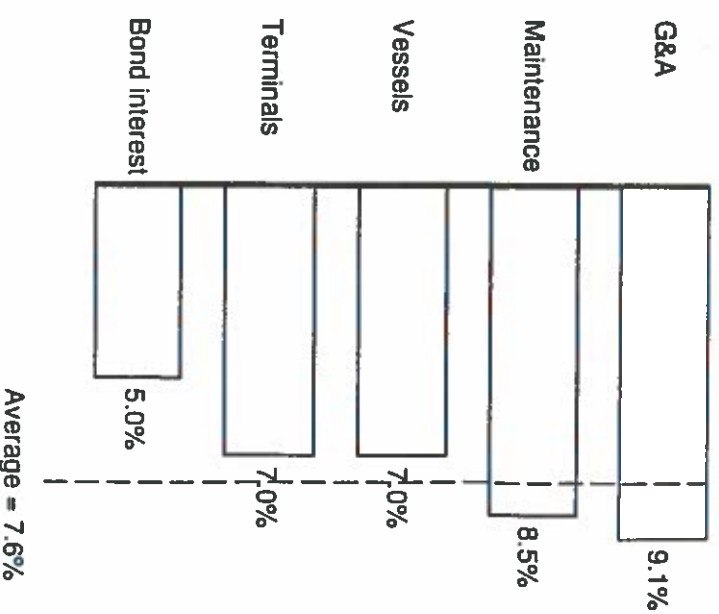
COSTS HAVE RISEN ACROSS THE BOARD, THOUGH ONLY G&A AND MAINTENANCE HAVE INCREASED RELATIVE TO OTHER AREAS

PRELIMINARY

\$ Millions

	100% = \$15.8	\$33.0
Bond interest	7%	5%
Maintenance	11%	12%
Terminals*	17%	16%
G&A	28%	32%
Vessels*	37%	35%
	1983	1993

CAGR 1983-93
Percent



In large part, these cost increases have resulted from staff additions due to increased activity, primarily in operation and maintenance.

THESE INCREASES HAVE BEEN DRIVEN IN LARGE PART BY STAFF ADDITIONS

PRELIMINARY

 = increases in staff

Department	Summer staff in 1987	Summer staff in 1993	Growth 1987-1993
Personnel/operations*	45	97	116.0%
Engineering and procurement	27	37	37.0%
Reservation/customer service	39	43	10.0%
Terminals and vessels	356	381	8.1%
Office of General Manager	6	6	0.0%
Accounting and finance	18	17	(6.0%)
Marketing service/planning	10	9	(10.0%)
Other	0	1	N/A
Total	501	591	18.0%

* Includes parking lots

In operations SSA staffs its vessels in excess of both Coast Guard and union negotiated requirements. Part of the reason for this may be to improve safety and increase convenience for passengers.

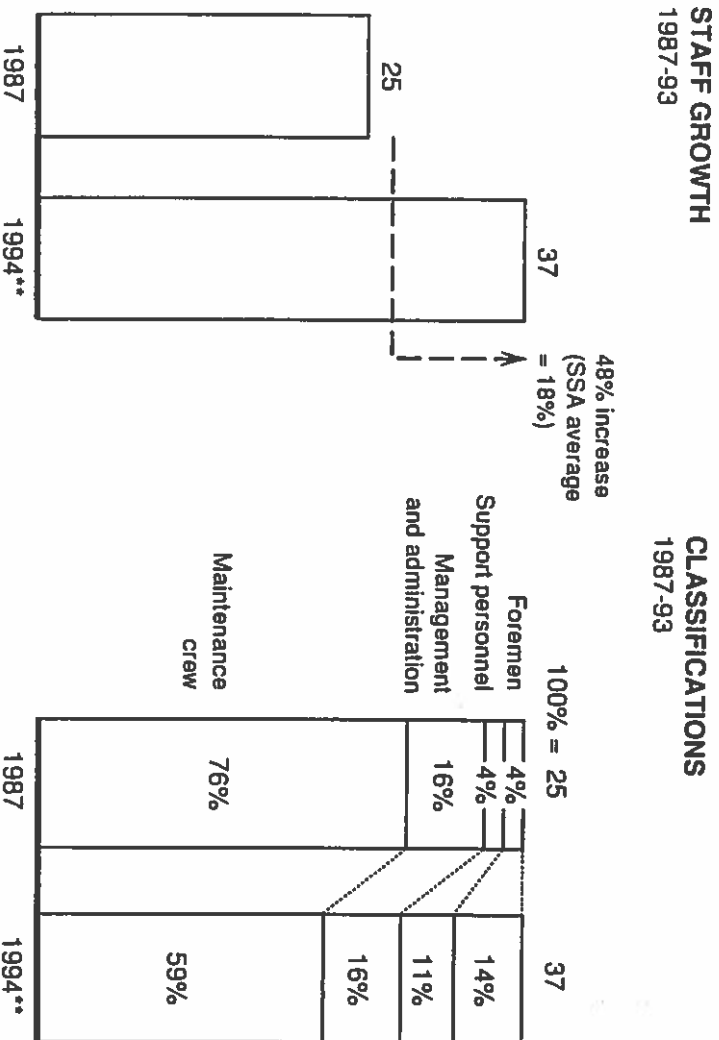
IN OPERATIONS, SSA STAFFS VESSELS IN EXCESS OF BOTH NEGOTIATED LEVELS AND COST GUARD REGULATIONS

<u>Vessel</u>	<u>Coast Guard manning requirement per shift</u>	<u>Union-negotiated manning per shift</u>	<u>Additional SSA manning per shift</u>	<u>Total manning per shift</u>
M/V Islander	10	17	1	18
M/V Nantucket	10	15	2	17
M/V Katama	4	8	0	8
M/V Eagle	10	15	2	17
M/V Gay Head	4	8	0	8
M/V Martha's Vineyard	11	15	2	17
M/V Sankaty	6	8	0	8
Total per shift	55	86	7	93
x 3 shifts	x 3	x 3	x 3	x 3
Total manning	165	258	21	279

In maintenance, a combination of staff growth and classification changes has added to costs. In addition, the cost/benefit tradeoffs of outsourcing repairs versus hiring more talent inside are unclear.

IN MAINTENANCE*, STAFF GROWTH COUPLED WITH CLASSIFICATION CHANGES ARE KEY COST DRIVERS

PRELIMINARY



Other factors

- Cost/benefit of bringing talent in-house not clear and dependent on projects
- Internalizing big projects further increases overtime expenses, currently running at 25% of payroll

* Includes both Engineering and Procurement
 ** Winter 1994; excludes temporary personnel hired for Sankaty Project
 Source: SSA employee statistics 1987-93; SSA Treasury

The problem that arises from these cost increases is a potential lack of economic flexibility going forward. As debt service increases due to the large capital projects that are about to be completed, the increase in the cost base, if it continues at current levels, would outstrip forecast revenue, resulting in an annual income gap of \$2.3 to \$3.5 million going forward.

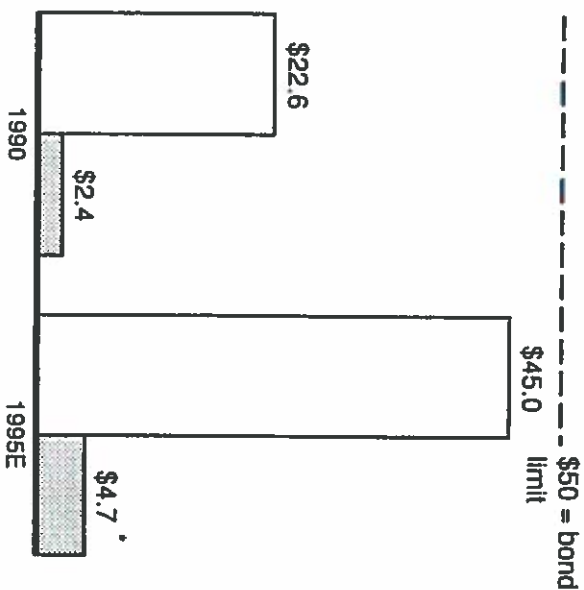
THESE INCREASES, WHEN COMBINED WITH EXPECTED INCREMENTAL FINANCING EXPENSES, COULD LEAD TO INCOME GAP

PRELIMINARY

DEBT VOLUME INCREASING DUE TO PROJECTS...

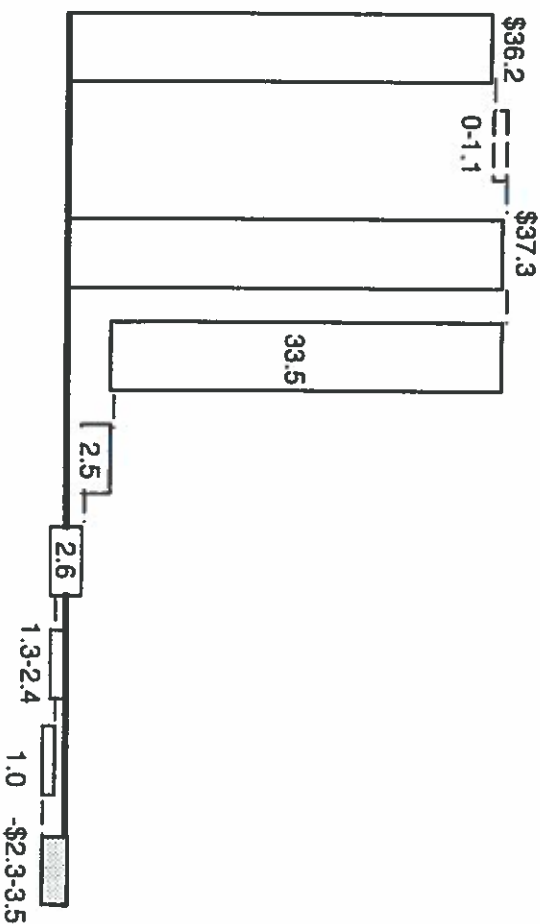
\$ Millions

Volume of bonds
Annual debt service



... LEADING TO HIGHER ONGOING INCOME REQUIRED

\$ Millions



* Includes interest and principal
** Estimated based on 1994 budgeted operating costs increasing at 7.6%
*** Interest only

Source: SSA Treasury

1994 1994-95 1995E 1994 1994-95 1995E Implied \$1 million 1995
forecast expected revenue fore- expected debt deficit to fund estimated
revenue volume increase cast cost service*** interest income
oper- increase** ailing cost account gap

To close this gap, SSA will need to consider both revenue enhancement and cost reduction ideas. Neither one alone is likely to be viable, as union negotiations hamper cost reduction efforts while SSA's mission rules out rapid rate increases.

AS A RESULT, SOME COMBINATION OF ANNUAL ACTIONS MAY BE REQUIRED TO CLOSE THE GAP

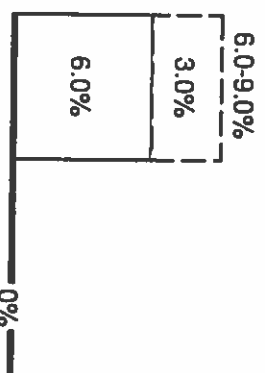
PRELIMINARY



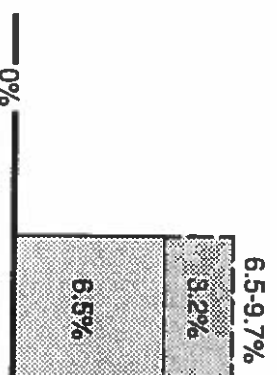
ACTION

INCREASE/DECREASE REQUIRED

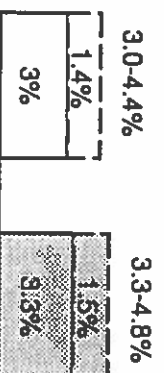
Raise revenue only



Lower cost only



Raise revenue and lower cost equally



- Short-term cost reduction alone may be difficult due to union negotiations; implies need for no incremental cost increase above revenue from 1995 on
- Revenue increases alone may conflict with mission
- Therefore, some combination of revenue increase and cost reduction is required

IMPLICATIONS FOR SSA

Going forward, SSA will need to address these five issues to ensure the organization's long-term success and effectiveness.

BASED ON THESE ANALYSES, SSA SHOULD RESOLVE SEVERAL KEY ISSUES GOING FORWARD

FOR DISCUSSION

Issue	Key analyses/activities
Roles and responsibilities of the Board unclear	<ul style="list-style-type: none"> • Develop guidelines for Board to follow in relations to SSA management • Identify ways to improve communication between Board and management
Complex management organization of functional areas	<ul style="list-style-type: none"> • Design and evaluate options for new functional organization, reducing complexity and aligning responsibilities
Lack of an effective budget process and accountability	<ul style="list-style-type: none"> • Design a new budget process with accountability • Develop training program for managers where needed
Cost/time overruns on large-scale projects and operating problems in maintenance	<ul style="list-style-type: none"> • Identify "best practice" for project management, e.g., automotive "project champion" model • Adapt model to SSA's operating environment • Re-engineer SSA's approach to overhauls focusing on involvement of all relevant personnel • Evaluate and recommend ways to improve responsiveness
Increasing operating costs creating income gap	<ul style="list-style-type: none"> • Develop strategy to fill income gap

To accomplish this a three phased process should be undertaken beginning with workshops with SSA managers.

PROPOSED ANALYSES AND ACTIVITIES TO DEVELOP RECOMMENDATIONS



Completed by • Week of March 28

• Week of April 18

• Week of May 1

Activities

- Agree to major issues with SSA management
- Hold joint McKinsey/SSA workshops on major issues to brainstorm solution ideas
- Identify major analyses to evaluate ideas
- Develop workplan for each issue
- Complete identified analysis to evaluate/prioritize ideas
- Review/refine with management and the Board
- Synthesize list of ideas into recommendations
- Review with management and Board
- Develop next steps to begin implementation

End products

- List of hypothesized solutions/ideas for each issue
- Workplans to evaluate ideas
- Prioritized list of ideas for each issue
- Recommendations to address each issue
- Implementation approach

Participants

- Board
- SSA
- McKinsey as facilitator
- McKinsey, select SSA managers
- McKinsey
- SSA top management
- Board

These workshops should involve a broad range of SSA personnel and cover all areas that SSA needs to address. The results will be a broad set of potential solutions as well as buy-in from key managers and line personnel.

WORKSHOPS WITH SSA SHOULD BE USED TO DEVELOP RECOMMENDATIONS		PRELIMINARY
Proposed SSA workshops	Proposed SSA involvement	

Week 1

- | | |
|--|--|
| <ul style="list-style-type: none"> • Role of Board • Organizational redesign • Budget process | <ul style="list-style-type: none"> • 2-3 Board members (including FAB) • 3-4 members of management • 2-3 members of management • 2-3 line persons • Treasury personnel • 3-4 members of management |
|--|--|

Week 2

- | | |
|---|---|
| <ul style="list-style-type: none"> • Large project management • Maintenance effectiveness • Profit improvement | <ul style="list-style-type: none"> • 2-3 maintenance representatives • 3-4 members of management • 2-3 maintenance personnel • 2-3 engineers • 2-3 members of management • 2-3 members of management • 2-3 Board members (including FAB) |
|---|---|

Weeks 3-5

- | | |
|--|---|
| <ul style="list-style-type: none"> • Additional analysis • Follow-up workshop meetings • Synthesis and final presentation | <ul style="list-style-type: none"> • Support as needed – point person from workshops • TBD • TBD |
|--|---|

- End products

 - Hypotheses/solutions
 - Analyses to be completed to support solutions
 - Broad buy-in from participants

NEXT STEPS

- ¶ Address any diagnostic issues remaining
- ¶ Agree on issues and ongoing approach
- ¶ Decide on participants for workshops
- ¶ Schedule and conduct workshops/develop detailed work plans to support recommendations.

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Enhancing SSA's Organizational Effectiveness – Phase 2: Recommendations

THE WOODS HOLE, MARTHA'S VINEYARD, AND
NANTUCKET STEAMSHIP AUTHORITY

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May 5, 1994

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INTRODUCTION

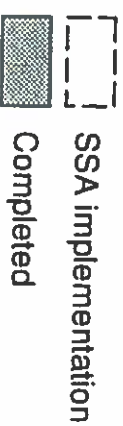
Founded in 1960, the Woods Hole, Martha's Vineyard, and Nantucket Steamship Authority (SSA) has historically enjoyed considerable success, offering convenient, safe, and reliable transportation to Cape Cod and the islands for islanders and tourists alike. SSA's historical financial performance has also been solid, with no operating income deficits since 1982 despite a significant increase in volume and service levels.

However, recently SSA has experienced cost overruns on large scale projects, prompting concern over the organization's ability to manage its growth and increasing complexity. As a result, SSA's Board of Governors recently asked McKinsey & Company to help the Authority find ways to improve the performance of its organization. Accordingly, since February, McKinsey has undertaken a pro bono project to identify organizational issues and develop recommendations to enhance effectiveness.

By agreement with the Board, McKinsey did not evaluate the performance of specific SSA personnel. In addition, the focus of the project was on organizational effectiveness rather than recommending specific financial initiatives (e.g., cost reduction).

This project was completed in two phases.

PROJECT OVERVIEW



Major activities

- Interview board members, functional managers, and line personnel
- Review SSA's economics
- Synthesize findings and identify key issues facing SSA
- Conduct management workshops to identify solutions
- Review alternative approaches and evaluate options
- Develop blueprint implementation plan

At our last meeting, we reviewed our initial findings regarding the key issues facing SSA. In total, five major areas were identified.

REVIEW OF FIRST PHASE FINDINGS – KEY ISSUES FACING SSA

1. **Board and General Manager roles and responsibilities not clearly defined**, leading to inconsistent direction-setting and inefficient oversight
2. **Effectiveness of management organization hampered by overlapping roles and responsibilities between functions and lack of communication between management and employees**
3. **Overall budget and project management processes are ineffective as management tools** due to insufficient guidance, lack of up-front planning, and unclear accountability. As a result, budgets traditionally have not been followed and some projects have experienced cost overruns and delays
4. **Maintenance efforts for vessels and terminals somewhat ineffective**, hampered by an ad hoc process, a lack of coordination between engineering and maintenance, and excessive demands placed on maintenance resources by large projects
5. **Operating expenses are rising faster than volume**, especially given rising debt service due to recent capital projects. As a result, **SSA may face operating deficits** without some combination of revenue increases and cost reduction

To address these issues, the SSA Board and senior management should focus on six broad improvement initiatives. The remainder of this document discusses each of these recommendations in more detail.

SUMMARY OF RECOMMENDATIONS FOR SSA

1. **Redefine the role of SSA's governing bodies;** focus Board/Finance Advisory Board (FAB) involvement on policy making and delegate operating responsibilities to the role of the General Manager
2. **Streamline the management organization structure** by combining and/or relocating overlapping functions; and **improve coordination between management and employees**
3. **Redefine budget and project management processes** to institute greater accountability and ownership for results, improve internal coordination, and minimize cost overruns and project delays
4. **Redesign SSA's approach to vessel and terminal maintenance;** specify a single project manager to oversee all aspects of overhaul; improve pre-overhaul planning
5. **Examine a combination of selected revenue enhancement and cost reduction initiatives** to ensure long-term economic flexibility and avoid operating deficits
6. **Implement the improvement initiatives in a manner which assures broad organizational commitment.** This will require substantial time investments by the Board and senior management

1. REDEFINE ROLE OF GOVERNING BODIES

SSA should formally define the roles of its three governing bodies to focus the Board and FAB more on policy issues while delegating operating responsibility to the role of the General Manager.

TOP LEVEL VIEW OF RECOMMENDED NEW ROLES

Primary responsibilities

Board of Governors

- Set long-term vision and annual operating/performance goals
- Provide consistent direction as needed on major operating or strategic issues (e.g., new terminals and changes in schedule)
- Provide early guidelines for operating and capital budgets (e.g., acceptable rate structure)

Financial Advisory Board

- Screen and make recommendations on proposed initiatives affecting SSA economics – both operating and capital
- Work with management to develop and review annual operating/capital budgets and present them with management to Board for approval

General Manager

- Manage all day-to-day operations of SSA, including staffing, maintenance, vessel/terminal operations, customer service, etc.
- Provide leadership to SSA organization in coordinating functional requirements, resolving disputes, and allocating resources
- Serve as primary liaison to Board – provide required Board information and assist Board in developing long-term vision and operating goals

These roles represent a significant departure from historical practices. For example, in the past, the Board has at times become actively involved in certain daily operational issues. Recently, the Board has found itself more involved in daily operations than it would like to be, largely due to concerns over management's handling of major projects.

PROPOSED ROLE OF SSA BOARD OF GOVERNORS

Historical situation	Recommended change
<ul style="list-style-type: none"> • Lack of focused oversight due to confusion over mission hinders effective guidance and decision making 	<ul style="list-style-type: none"> • Conduct Board meeting at outset of each operating year to come to agreement on SSA's operating priorities, e.g., "improve service to islanders" versus "boost tourist revenue" <ul style="list-style-type: none"> – Guidelines will assist General Manager in making operating tradeoffs – Board should seek input from General Manager in setting priorities
<ul style="list-style-type: none"> • Historically, to assure control, the Board at times became involved in managing SSA on a daily basis, e.g., assigning "special projects" to line managers 	<ul style="list-style-type: none"> • Focus Board efforts of policy setting and issues of major concern to constituents, e.g., new site selection <ul style="list-style-type: none"> – Board should also resolve issues of political nature such as New Bedford terminal – Operating execution should be delegated to General Manager – Special projects should be funneled through General Manager
<ul style="list-style-type: none"> • Due to the current process, the Board's input occurs late in budget preparation. As a result, responding to direction from Board often requires extensive rework by management 	<ul style="list-style-type: none"> • Involve Board up front in budgetary process through prebudget policy meetings between Treasurer, General Manager, and Board <ul style="list-style-type: none"> – Discuss fiscal outlook/issues – Resolve constituent concerns, e.g., traffic – Provide management with clearer direction, e.g., appropriate rate structure

Similarly, the FAB's role would also change. Under the new vision, the FAB would sharpen its role as a financial overseer and work more collaboratively with management to prepare financial recommendations for the Board.

PROPOSED ROLE OF FAB

Historical situation

- FAB mission unclear, leading to an inconsistent role
 - FAB at times plays role of financial oversight agent and at other times policy advisor
 - Lack of vote limits FAB ability to enact and affect policy (e.g., cost guidelines)

Recommended change

- FAB mission unclear, leading to an inconsistent role
 - FAB at times plays role of financial oversight agent and at other times policy advisor
 - Lack of vote limits FAB ability to enact and affect policy (e.g., cost guidelines)
- Focus FAB efforts on becoming a first screen of financial analysis, developing explicit and actionable recommendations for the Board, e.g., on cost implications of design changes
 - Review financial analysis performed by management to ensure completeness
 - Present recommendation on financial analysis to the Board
- Increase FAB involvement in operating and capital budgeting by appointing a budget representative and conducting quarterly reviews with management
 - Budget representative attends periodic meetings with functional managers during budget preparations
 - Quarterly review meetings evaluate budget vs. actual results
 - FAB becomes an objective partner with management and jointly present results to the board
- Due to lack of clarity in its mission, FAB does not play as much of a "financial watchdog" in budgeting as it could

Finally, the General Manager's position should evolve to have clearly positioned responsibility over day-to-day activities.

PROPOSED ROLE OF GENERAL MANAGER

Historical situation

- Role of General Manager in several aspects of operations ill-defined, e.g., large project management
- Lack of clear guidance from Board on SSA priorities due to confusion over mission makes it difficult for General Manager to allocate resources, provide clear guidance, and resolve disputes

Recommended change

- General Manager currently not primary liaison to Board; line managers work with Board extensively
- Current Board/General Manager interactions do not facilitate easy decision making
 - Issues raised with Board without proposed solutions
 - Board becomes "solution generators" rather than "approvers," requiring more day-to-day involvement
- Miscommunication of Board information requirements undermines effectiveness of Board/management working relationship
- GM should assume full responsibility for all day-to-day operating decisions within guidelines established by the Board including hiring, staffing, maintenance, terminal/vessel operations, and large project management
- Work with Board more closely at the beginning of each year to solicit SSA direction
- Serve as primary contact with Board, reducing frequency of Board interface with other operating managers
- Develop implications and proposed solutions to guide Board in direction setting and minimize requirements for Board day-to-day interaction
- With Board, develop guidelines for type and quantity of information Board should receive on major issues
 - Prepare biweekly, synthesized executive summary of issues (e.g., major project status) to update Board in executive meetings

Examples of how these roles would work in decision-making are illustrated below.

EXAMPLES OF NEW BOARD/MANAGEMENT INTERACTIONS

Issue	Board role	FAB role	GM role
New vessel or terminal decision	<ul style="list-style-type: none"> • Define parameters of project, e.g., size • Include/manage constituent concerns • Set timetable 	<ul style="list-style-type: none"> • Develop budgets/financial analysis with management • Approve project and present jointly to Board with management • Conduct "post mortem" review 	<ul style="list-style-type: none"> • Develop detailed plans • With FAB, present plans to Board for approval • Oversee project execution • Keep Board informed on progress/ resolve issues with Board
Determination of operating schedules	<ul style="list-style-type: none"> • Give top-level guidance on constituent concerns • Approve final schedule 	<ul style="list-style-type: none"> • Little formal role; budget rep informed of results 	<ul style="list-style-type: none"> • Develop operating schedule with input from all departments and a focus on cost effectiveness • Manage schedules on a day-to-day basis to provide flexibility (e.g., incorporate additional vessels on peak weekends, as needed)
Deployment of terminal personnel	<ul style="list-style-type: none"> • None, unless constituents complain unduly 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Work with departmental manager to optimize staffing
Travel to trade show	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • Approve budget for travel and entertainment • Monitor expenses versus budget 	<ul style="list-style-type: none"> • Determine allocation of expenses within budgeted levels

A critical element to support these new roles is improved coordination between both Boards and the General Manager. Without such coordination, the new roles will be difficult to maintain.

NEW ROLES REQUIRE IMPROVED BOARD/MANAGEMENT COORDINATION

- **Work more closely as a team** emphasizing partnership between three governing bodies
 - Board/FAB and management should limit discussions with media until after issues have been resolved among each other
 - "Surprise" issues should not be raised by the Board or management in public meetings
 - Management needs to respect Board's authority over issues of a political nature, e.g., moving operations to new locations or major facility upgrades
- **Board/FAB must rely on the role of the General Manager to manage SSA's operations** and should work through General Manager to resolve issues rather than going to operating managers directly
- **General Manager needs to understand and minimize constituent pressures on Board/FAB** (e.g., inform the Board/FAB of any actions that may affect the political environment such as multiple travel to distant locations)

2. STREAMLINE MANAGEMENT ORGANIZATION

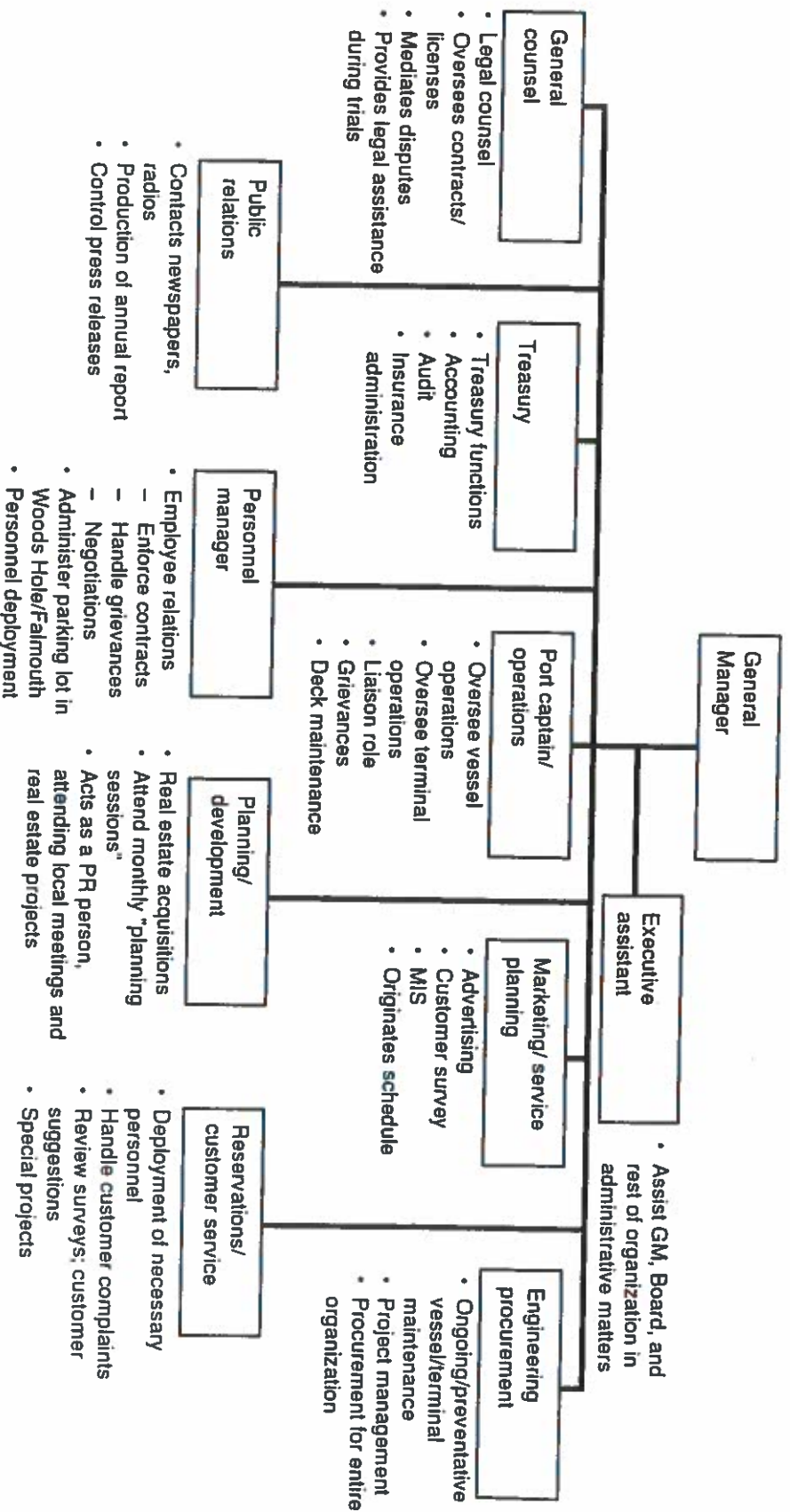
SSA can improve the effectiveness of its management organization through a combination of role consolidation and enhanced communication with employees.

RECOMMENDATIONS TO STREAMLINE MANAGEMENT ORGANIZATIONAL EFFECTIVENESS

Initiative	Rationale
Combine/redefine overlapping activities	<ul style="list-style-type: none">• Some functions overlap (e.g., reservations and marketing both do customer surveys) and can be combined in single area• Some functions (e.g., media coordination) could be better performed in different areas• Others (e.g., planning) are not well enough defined to maximize their effectiveness (e.g., is planning a real estate, engineering, or strategy position)• Lack of information and senior management "visibility" hurting coordination between layers of organization and reducing employee morale
Improve coordination between management and employees to boost morale	

The SSA senior management structure is complex, with 10 functional managers reporting to the General Manager.

SSA ORGANIZATION, APRIL 1994



Source: Interviews; SSA organization chart

Several of these functions have overlapping responsibilities or activities that require similar skills.

FUNCTIONS WITH OVERLAPPING OR SIMILAR RESPONSIBILITIES

☐ Overlapping/similar responsibilities

Public relations

- Administration of media relations
- Dissemination of quotes/SSA information

General manager

- Administration of some public contact (calls to GM office)
- Media liaison/SSA statements

Personnel

- Administer parking lots
- Deploy personnel

Port captain

- Administer terminals
- Deploy personnel

Planning

- Long-range vessel/terminal planning
- Proposal development

Engineering/operations

- Project-specific planning for vessels/terminals
- Proposal development

Marketing

- Group sales
- Operating schedule development
- Customer surveys

Reservations/customer service

- Track traffic statistics
- Group reservations
- Reservation sales
- Input into schedule
- Customer complaints/information/feedback

- Some activities that are performed by more than one function can be combined
- Other activities that are similar in nature could be combined to take advantage of shared skills

Source: Interviews; SSA workshops

To address these overlaps and take advantage of common skills, several areas of SSA should be merged and/or redefined.

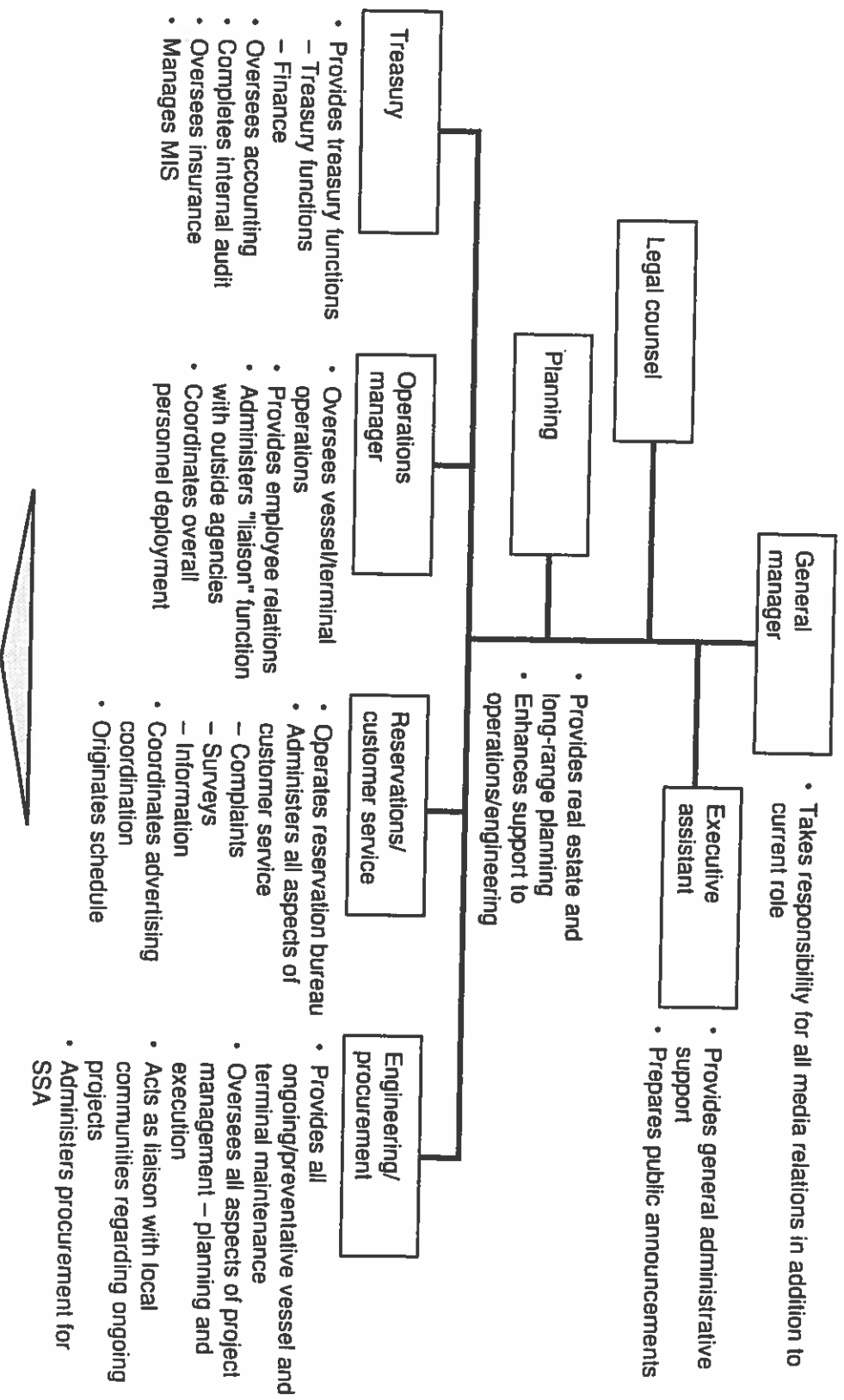
OPPORTUNITIES TO COMBINE/REDEFINE FUNCTIONS

- **Merge Personnel/Port Captain** into a single function responsible for all day-to-day operations of terminals/vessels, including deployment of personnel and employee relations (e.g., training).
- **Combine marketing with reservations** to eliminate overlaps and create a single area responsible for all customer interactions (e.g., advertising, reservation and information).
- **Assign responsibility for media interactions to General Manager** to improve control and signal importance of media relations to the SSA organization. Administrative activities can be handled through the General Manager's office.
- **Better define role of the planning function** to eliminate confusion; specify planner responsibilities in operations, engineering, long range strategy, and real estate planning*.

* See Appendix A for greater detail

The resulting organization would simplify the management of SSA and reduce the number of direct reports to the General Manager.

PROPOSED SSA ORGANIZATION



- Reduces direct reports from 10 to 7; resulting consolidation frees up current administrative and management resources
- Enhances productivity by eliminating overlaps

In addition to these structural changes, senior management should focus on improving its communication and coordination with the broader organization.

ACTIONS TO IMPROVE MANAGEMENT/EMPLOYEE COORDINATION

Historical situation	Recommendation
<ul style="list-style-type: none">• Limited visibility of top management among other employees, particularly on busy weekends leads to a perception of lack of concern for employees and constituents	<ul style="list-style-type: none">• Rotate top managers through assignments on busy terminals during high-season weekends or holidays, e.g., by having managers welcome arriving guests and hand out SSA buttons or support/assist terminal workers• Improve visibility of top management by scheduling periodic visits to vessels/terminals• Adopt uniform policy for all staff regarding holidays, e.g., office staff should not leave early on Friday's before Fourth of July
<ul style="list-style-type: none">• Employees sometimes lack factual knowledge regarding SSA initiatives, operations, or high-profile projects (e.g., Sankaty project)	<ul style="list-style-type: none">• Use employee newsletter to publish factual summaries of high-profile projects or other initiatives and respond to external articles

3. REDEFINE MANAGEMENT PROCESSES

To improve the effectiveness of its management processes, SSA should enhance its budgeting and project management capabilities.

RECOMMENDATIONS TO REDEFINE BUDGET AND PROJECT MANAGEMENT PROCESSES

Initiative	Rationale
<ul style="list-style-type: none">• Redesign operating budget process to incorporate senior management guidance and increase accountability/ownership of operating managers	<ul style="list-style-type: none">• Managers are not held accountable for meeting budgets in all cases, resulting in occasional disregard for the budget process• Some line managers lack necessary skills to prepare budgets effectively causing errors and delaying completion• Board/FAB guidance on budgets occurs late in process leading to extensive modifications
<ul style="list-style-type: none">• Enhance capital budgeting process to improve decision-making	<ul style="list-style-type: none">• Capital budget process overly complex; does not provide all necessary information to make good decisions on projects• Board and management sometimes focus on a wide range of small projects whose financial and operating consequences are limited, diverting attention from a handful of critical projects which require guidance
<ul style="list-style-type: none">• Redesign project management process to enhance up-front planning and improve coordination	<ul style="list-style-type: none">• Due to a lack of clear process and poor information flow, direction and oversight from Board and management on major projects at times inconsistent or lacking• Project management planning appears to be lacking, sometimes causing lost time, cost overruns, and wasted resources

Redesign Operating Budget Process

The operating budget process should be redesigned to achieve earlier Board involvement, increase accountability of managers, and make budgeting easier for managers to execute.

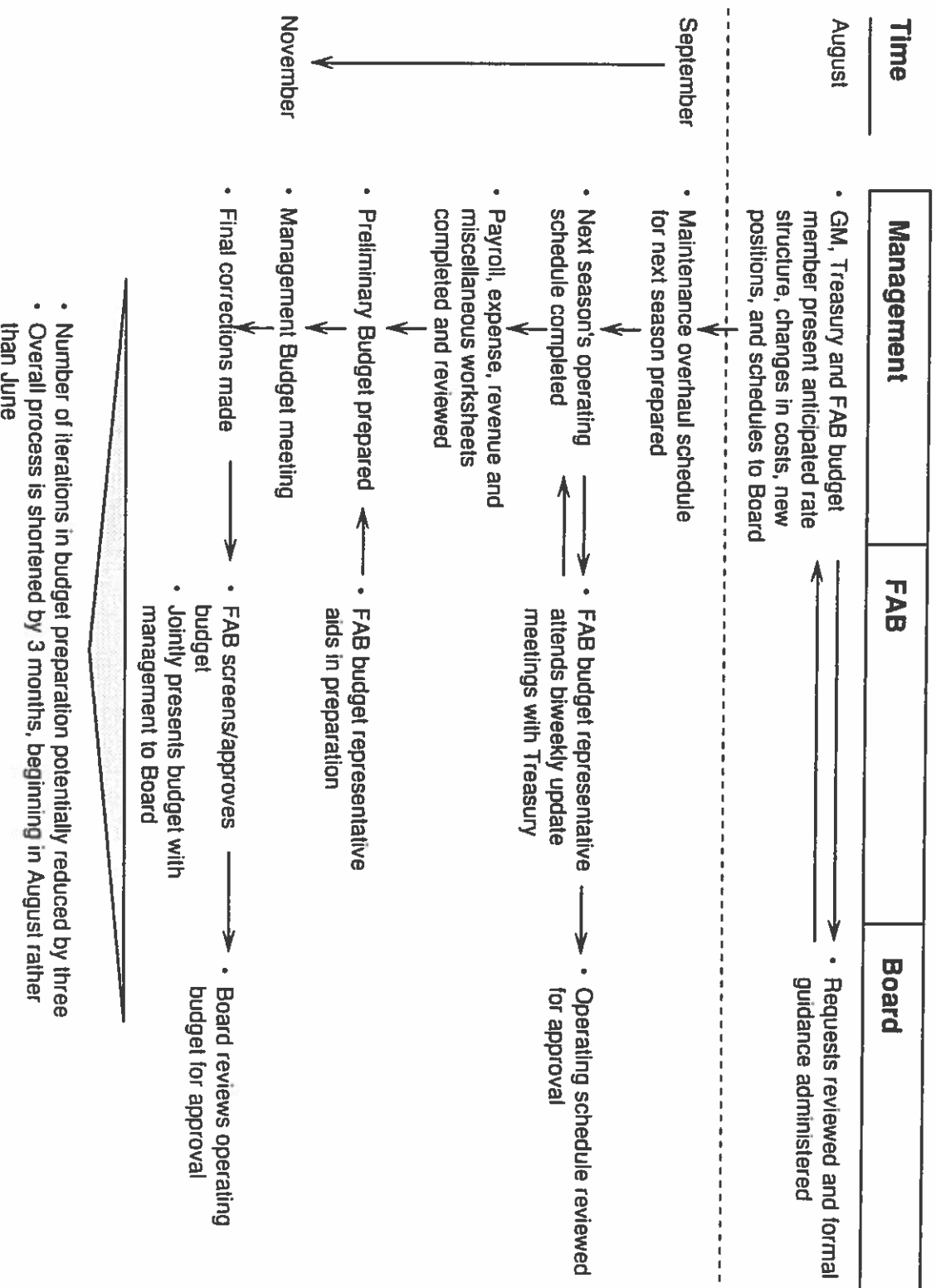
RECOMMENDATIONS TO IMPROVE OPERATING BUDGET PROCESS

- **Conduct up-front policy meeting between Treasury, General Manager, and Board***
 - Meetings resolve key issues, e.g., operating schedules and acceptable rate increases.
 - Discussions should be led by General Manager/Treasury which presents preliminary forecasts of next year's results
- **Appoint a "budgetary contact" from the FAB**
 - Meet with management in biweekly budget sessions
 - Assume role of sounding board for management, e.g., on proposed items to include in budget
 - Review and approve budgets and jointly present to Board
- **Increase department head accountability versus budget***
 - Account for yearly variances when budgets are submitted
 - Conduct quarterly budget reviews with the FAB comparing budget versus actuals
 - Tie budgetary performance to performance evaluations
- **Conduct budget workshops with department heads***
 - Review worksheet completion and technicalities, e.g., how to account for random vessel failures.
 - Simplify worksheets where possible, e.g., for engineering/procurement.

- For proposed agendas, see Appendix B

The new budget process would shorten the total time required and reduce iterations.

PROPOSED OPERATING BUDGET PROCESS



To support these changes, the Board, the FAB, and management will have to undertake new responsibilities.

NEW RESPONSIBILITIES TO SUPPORT OPERATING BUDGET

	Management	FAB	Board
New responsibilities	<ul style="list-style-type: none"> • GM and Treasurer prepare preliminary revenues, expenses, new positions, schedules, and rates for presentation to Board prior to budget preparation • Individual department heads account for any year-to-year variances appearing on their worksheets • Department heads account for any significant variances between budgeted and actual expenses at quarterly budget reviews 	<ul style="list-style-type: none"> • FAB member designated as budget representative <ul style="list-style-type: none"> – Attends biweekly meetings with Treasury throughout budget process – Leads formal quarterly budget review meetings after approval • With management, FAB budget representative jointly presents operating budget to Board for approval 	<ul style="list-style-type: none"> • Board of Governors provides guidance on rate structure and acceptable expense increases, schedules and new positions prior to budget preparation
Supporting tools/activities	<ul style="list-style-type: none"> • Treasury holds workshops to explain line items and address concerns of individual department heads • Treasury prepares budget manual detailing the steps involved in preparing the budget • Quarterly budget review meeting with predetermined format and agenda • Bi-weekly meeting between Treasury and FAB to incorporate FAB suggestions and keep FAB updated on budget 		

Enhance Capital Budget Process

To enhance the capital budget process, SSA should streamline the number of approvals, improve the quality of information included, differentiate between large and small projects, and enhance Board oversight.

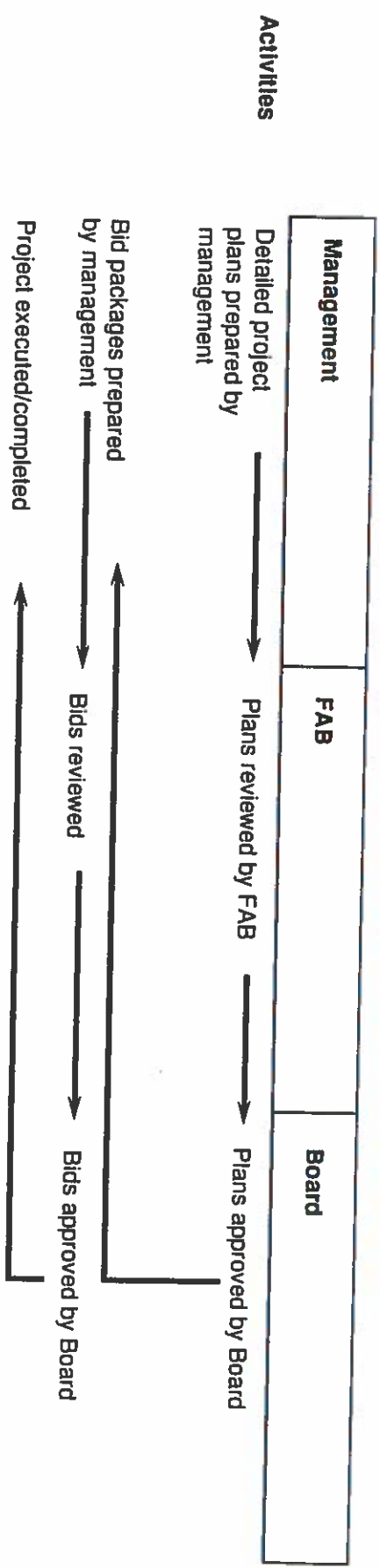
RECOMMENDATIONS TO ENHANCE CAPITAL BUDGET PROCESS*

- **Reduce number of approvals/iterations to streamline overall capital budgeting and speed decision-making**
- **Improve quality of information in budget to foster more effective approvals**
 - Project expected investment requirements and likely cash flows resulting from project
 - Perform cost/benefit analyses (e.g., payback, net present value) to evaluate project economics
 - Include more rigorous examination of non-financial factors
- **Differentiate process between large and small projects**
 - Give General Manager discretion to approve projects under \$20,000, subject to budgeted limit
 - Focus Board/FAB interactions on large projects (e.g., over \$200,000)
- **Enhance oversight by appointing FAB capital budget representative to work with management in preparing and presenting the capital budget to the Board for approval**

- For proposed template, see Appendix C

Redesigning the capital budget process through reducing iterations, including more FAB involvement, and improving the quality of information used in budgeting would also help to improve project management.

PROPOSED CAPITAL BUDGETING PROCESS

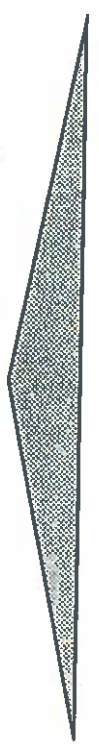


Activities

Responsibilities

- Management prepares thorough capital project proposals included in detailed project plan for projects over \$20,000
- FAB member assigned to each project as financial overseer attends biweekly meeting/update on financial status of project
- Governors evaluate capital project proposals based on FAB approval
- Managements retains discretion for projects under \$20K without approval (subject to budgeted limits)
- FAB thoroughly evaluate capital project proposals include in the budget before submission for final approval

- Reduce iterations/approvals
- Include cost/benefit calculations such as net present value or payback
- Focus process on projects over \$200,000

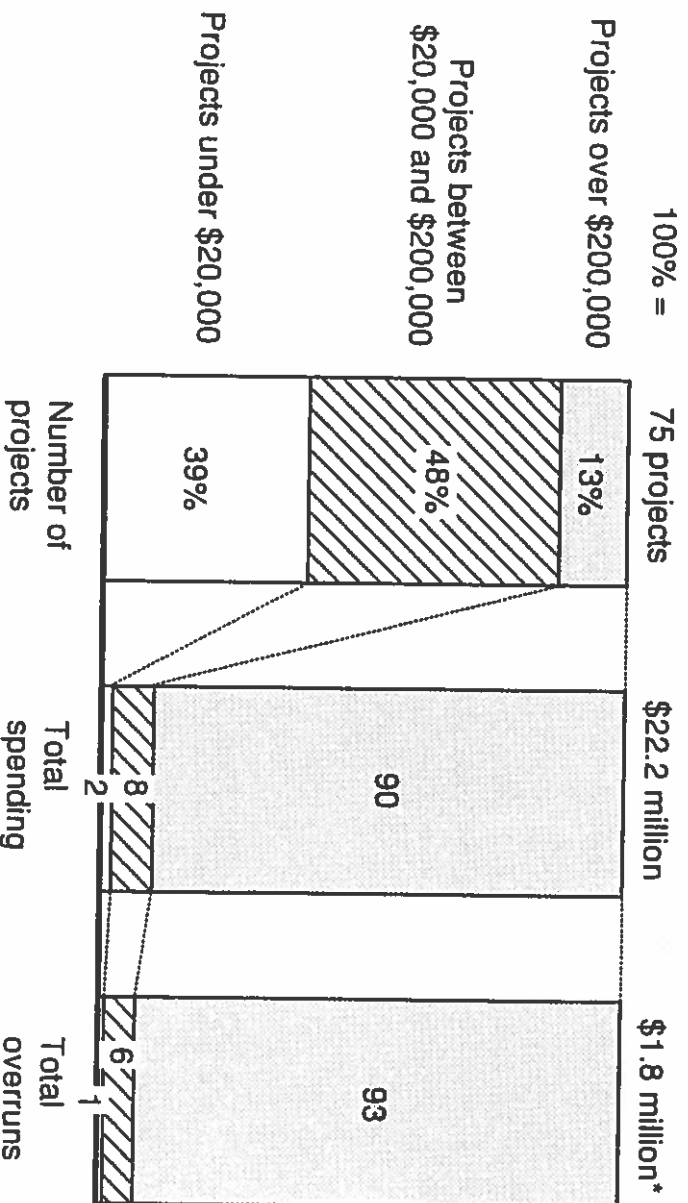


Redesign Project Management Process

A small handful of projects account for the majority of capital spending and cost overruns.

PROFILE OF CAPITAL PROJECTS – 1991-93

ESTIMATE



* As of May 5, 1994, Sankaty overruns alone reached over million, excluding benefits

Source: SSA Capital Projects Report

Restructuring project management to institute greater up-front planning, better oversight, and more rigorous financial analysis should help to reduce the problems with these large projects.

RECOMMENDATIONS TO IMPROVE PROJECT MANAGEMENT PROCESS*

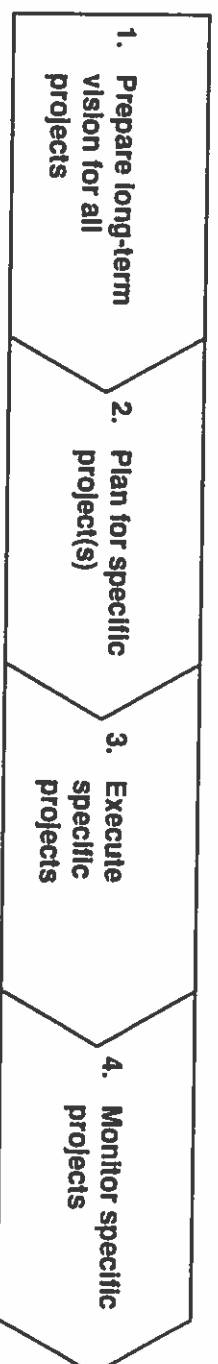
- **Develop long-term "5-year" plan for major projects**
 - Management (via planner) develops plans to review with Board
 - After initial approval, Board presents plan to constituents to solicit and integrate input (e.g., timing, scope)
 - Management and Board then prioritize projects and approve "master project schedule"
 - Plan should attempt to minimize multiple projects to make project management easier
- **Enhance up-front planning for specific projects**
 - Planner conducts "make-or-buy" analysis to determine if project should be brought in-house (e.g., project is cheaper done in-house vs. done outside)
 - GM appoints project manager
 - Planner and project manager then generate project master plan, including financial analysis to be used for capital budgeting and "critical path" timing to be used as guide for project execution
 - Board/GM approve plan, agreeing on project milestones (e.g., "freeze points" for each project, after which design is fixed)
- **Improve ongoing Board oversight**
 - Update Board monthly using executive summary from project managers
 - Maintain FAB budget contact on project to resolve major issues/oversee progress more closely

* See proposed "Project Management Handbook" in Appendix C

Making such changes would redesign the project management process, making it more streamlined with a greater emphasis on planning

PROPOSED PROJECT MANAGEMENT PROCESS FLOW

ILLUSTRATIVE



Activities

- Management develops a long-range master plan which details all SSA projects for 5-year period, their objectives, scope and impact
- Board/management prioritizes list of projects and gains agreement with constituents
- Management updates/revisits prioritized list continuously
- SSA limits projects to one at any given time
- Management draws up project details including make/buy analysis, projected required investment, project timeline, and milestones
- Management appoints project leader and team
- Board appoints key FAB contact/approves plan
- Project manager lines up required resources and begins notifying/involving suppliers
- Project team executes project against agreed-on milestones on plan
- Project manager updates project plan as better information becomes available
- Any major issues in project resolved by project manager, GM, and Board contact as needed
- Board kept apprised of any major changes
- Management conducts monthly meetings with Board/FAB to update on progress; executive summaries distributed prior to meetings
- Project team and GM conduct formal "post mortem" project reviews with SSA, Board, and FAB
- Review actual costs, operating economics vs. project plan
- Assess how well team and Board contact worked together
- Explicitly link project success to team performance evaluation

End products

- Prioritized "5-year" master plan for all major projects
- Detailed individualized project plans
- Project leader and FAB contact
- Project completion
- "Lessons learned" to be applied in the next large project

REFINE APPROACH TO MAINTENANCE

The maintenance area suffers from 3 major shortcomings: lack of clarity over its over-arching mission, lack of up-front planning, and limited integration with the engineering department.

SHORTCOMINGS OF CURRENT MAINTENANCE EFFORTS

Vessel maintenance

- Lack of clarity over maintenance mission
 - Recent projects have led SSA to add activities of a major shipyard
 - Activities have strained existing facilities and resources, hampering maintenance efforts
- Lack of resources and upfront planning can cause maintenance to become overly involved in "fire-fighting", reducing effectiveness of ongoing maintenance
- Limited integration between engineers and maintenance
 - Leads to some mistrust between the two groups
 - Limits communication and ability to coordinate/plan vessel overhauls

Terminal maintenance

- Lack of scheduling and planning leads to ad hoc maintenance and inefficient use of resources

Source: SSA workshops; interviews

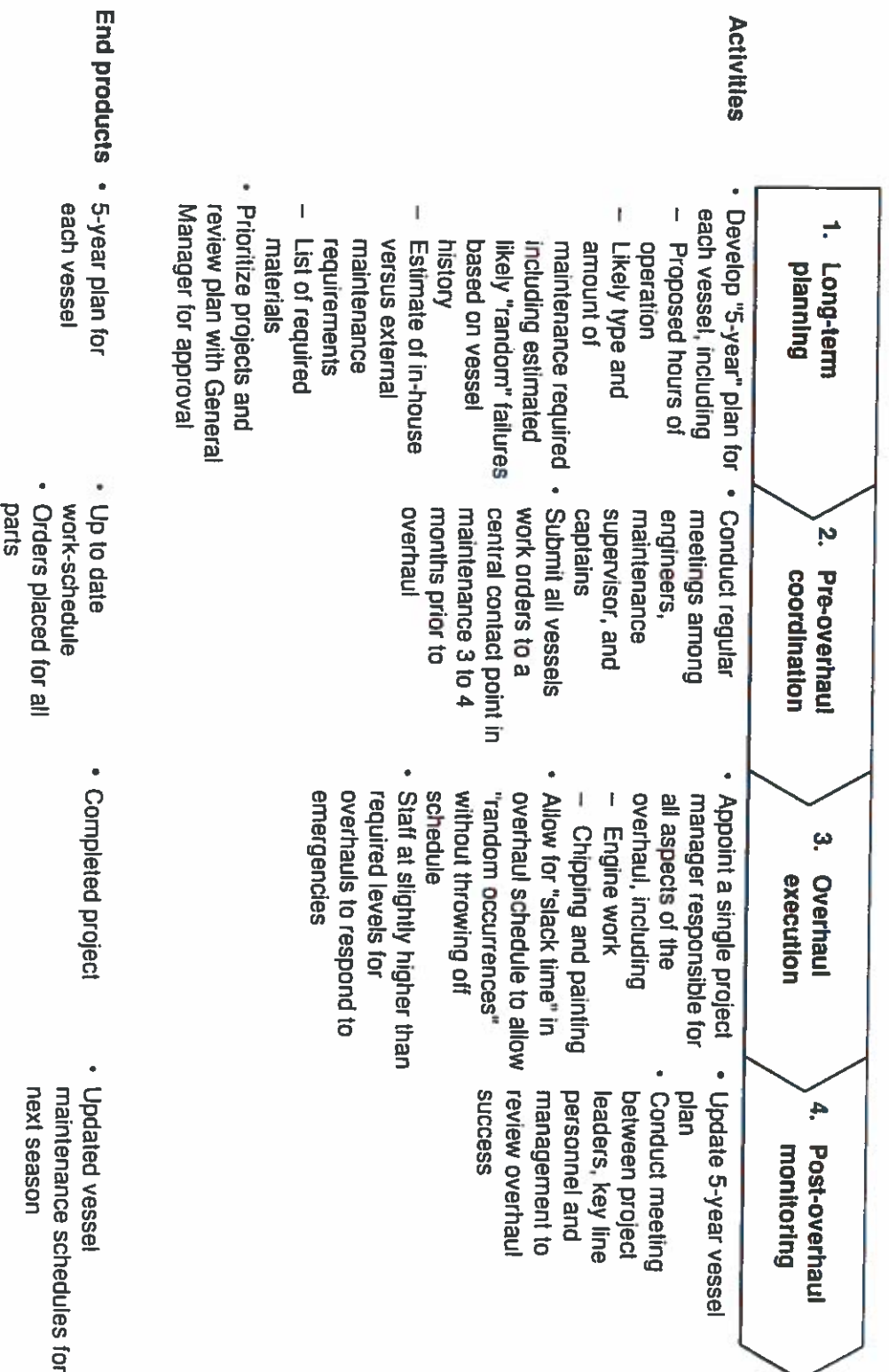
These vessel maintenance issues should be addressed by more clearly defining the maintenance department's mission, systematizing its maintenance process, and taking steps to improve relations between maintenance and engineering.

RECOMMENDATIONS TO IMPROVE VESSEL MAINTENANCE

- **Clarify maintenance mission**
 - Focus efforts on maintaining existing vessels rather than undertaking shipyard-like activities
 - Bring major shipyard-like projects in-house only as last resort
 - Alleviate space problems by renovating existing areas (e.g., use freight shed for office space to reduce strain on facilities)
 - **Systematize planning/overhaul management process***
 - Develop "5-year" maintenance plans for each vessel
 - Include hours of operation, regular maintenance schedule, and likely parts requirements
 - Involve ship engineers, captains, and terminal agents in developing plans
 - Appoint a single project manager from maintenance during vessel overhauls
 - Assign manager overall responsibility for engine work, chipping and painting
 - Give manager central control over all resources, e.g., maintenance personnel, engineers and vessel employees
 - Centralize collection of work orders (from vessels and terminals) throughout the operating year to ensure all materials and equipment are available during vessel overhauls
 - **Implement expense tracking system to monitor project costs, improve control of resources, and assist in "make/buy" analysis**
 - **Improve integration between engineering and maintenance**
 - Consider rotating ship engineers through maintenance to enhance understanding among the two groups
 - Assignments should be short-term (e.g., 1 week)
 - Engineer should assume responsibilities of a similar-tenure maintenance employee
 - Involve engineering in overhaul planning and oversight
- * See "5-year plan" template in Appendix D

Such changes would redesign vessel maintenance to systematize the process and reduce the amount of "fire fighting."

PROPOSED VESSEL MAINTENANCE PROCESS



Similarly, terminal maintenance should formalize planning in order to reduce the cost of its overall activity.

RECOMMENDATIONS TO IMPROVE TERMINAL MAINTENANCE

Scheduling/planning issues

- No formal plan in place for terminal maintenance leading to ad-hoc maintenance during operating year
- Maintenance personnel used even for minor work at remote locations, resulting in high costs and slow response time
- Team of maintenance personnel assigned on as needed basis to provide terminal repairs
 - Results in frequent repeat trips to terminals that could be combined if repairs done on scheduled basis
 - Proposed solution under discussion to dedicate permanent maintenance personnel to each terminal; dedicated position may not be fully utilized at all times/would likely increase costs

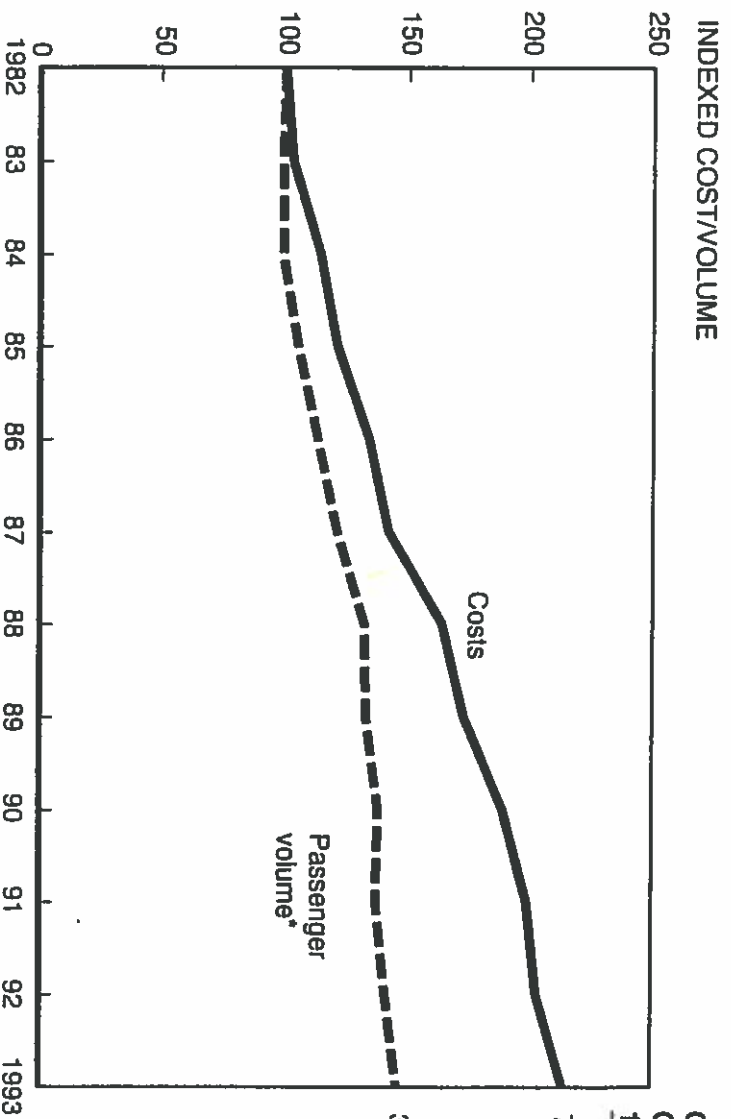
Recommendations

- Prepare detailed "5-year" maintenance plans for each terminal
 - Distinguish between periodic major efforts and repairs that need to be addressed each season
 - Prioritize list based on "nice to have" versus "critical to operations" maintenance
- Review cost/benefit of sending out central maintenance personnel versus utilizing locally available talent (e.g., terminal workers, local contractors)
- Such a review is also critical for major projects (i.e., new Hyannis terminal)
- Conduct "batch processing" of terminal maintenance with a crew spending up to 1 week per terminal taking care of all periodic maintenance requirements; maintain central control over maintenance resources

5. EXAMINE REVENUE ENHANCEMENT/COST REDUCTION INITIATIVES

While operating economics were not included formally in the scope of our organizational review, emerging challenges on this front are sufficiently large that they have potential organizational implications. As we discussed in an earlier meeting, SSA costs have been rising faster than volume since 1983, requiring rate increases to avoid operating deficits.

INDEXED COST AND VOLUMES – 1982-1993



Compound Annual
Growth Rate
1983-93

7.6%

3.7%

- Costs up faster than inflation and volume
- Rate increases therefore necessary to avoid operating deficits

* Passenger volume chosen as representative benchmark; freight volume up 3.7% and auto volume up 3.9% over same period
Source: Annual report

ESTIMATE

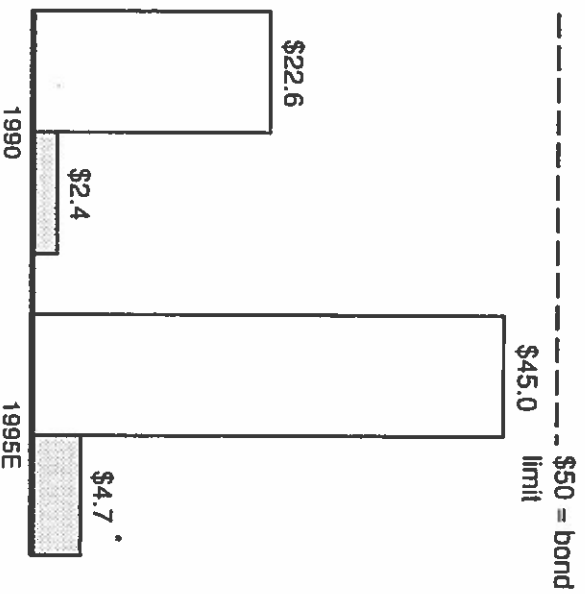
These cost increases imply a potential lack of economic flexibility going forward. As debt service increases due to the large capital projects currently underway, a potential income gap of \$2.3 to \$3.5 million emerges.

POTENTIAL 1995 INCOME GAP

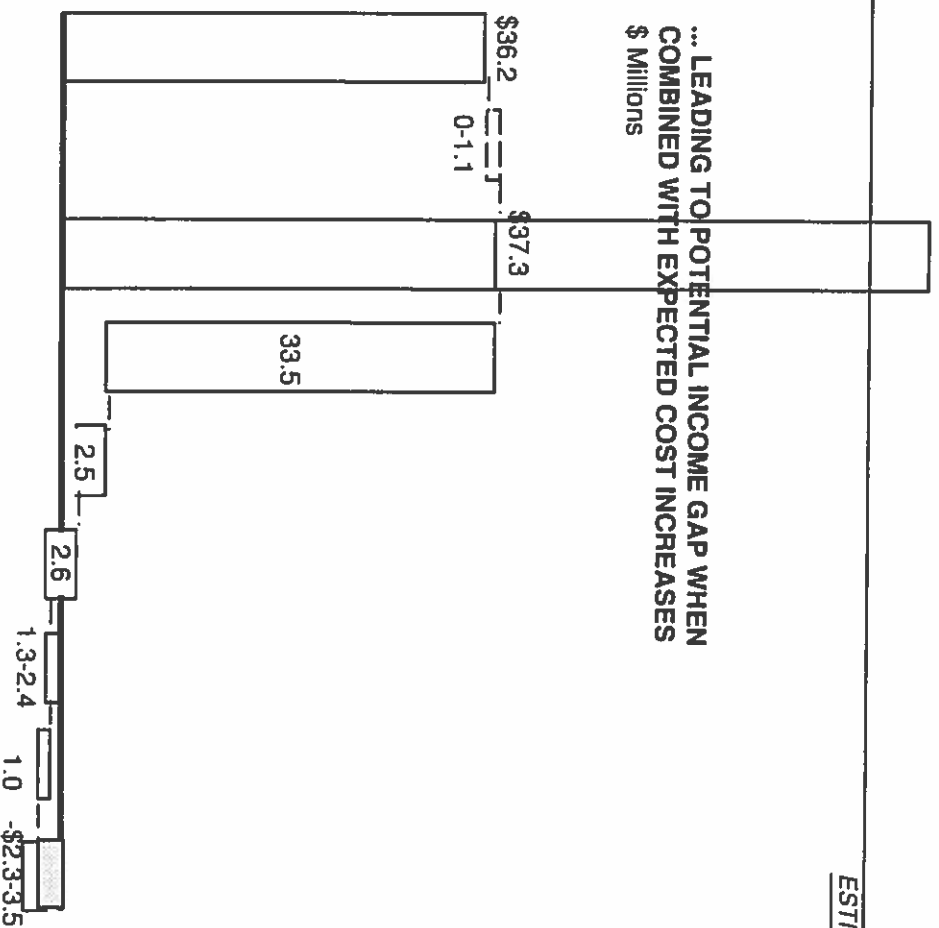
ESTIMATE

DEBT VOLUME INCREASING DUE TO PROJECTS...

Volume of bonds
Annual debt service



... LEADING TO POTENTIAL INCOME GAP WHEN COMBINED WITH EXPECTED COST INCREASES



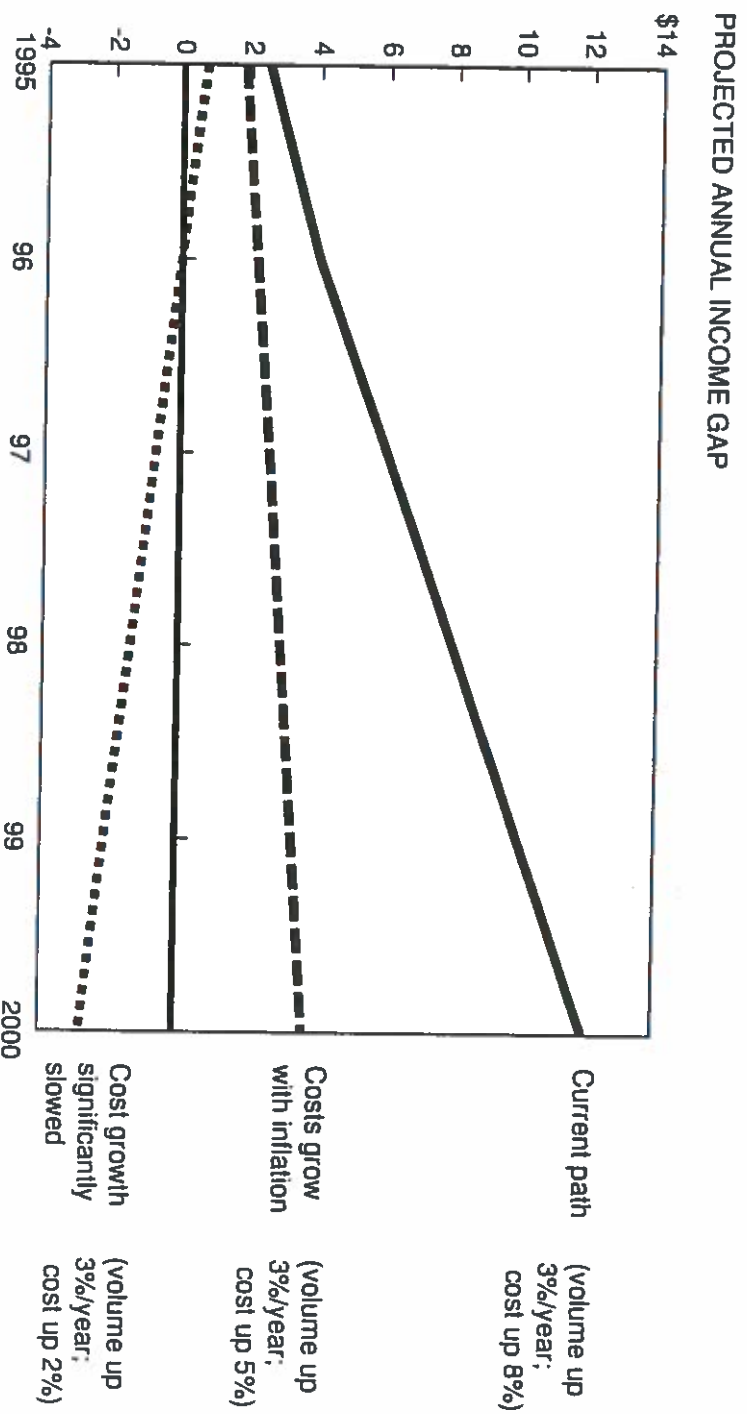
* Includes interest and principal
 ** Estimated based on 1994 budgeted operating costs increasing at 7.6%
 ... Interest only

Source: SSA Treasury

If volume and costs continue to increase at 1994 rates with no actions to fill the income gap, SSA risks operating deficits of over \$10 million by 2000. Even if costs rise at inflation only, deficits could still reach almost \$4 million.

POTENTIAL INCOME GAPS BY COST GROWTH SCENARIO – 1995-2000*

ESTIMATE



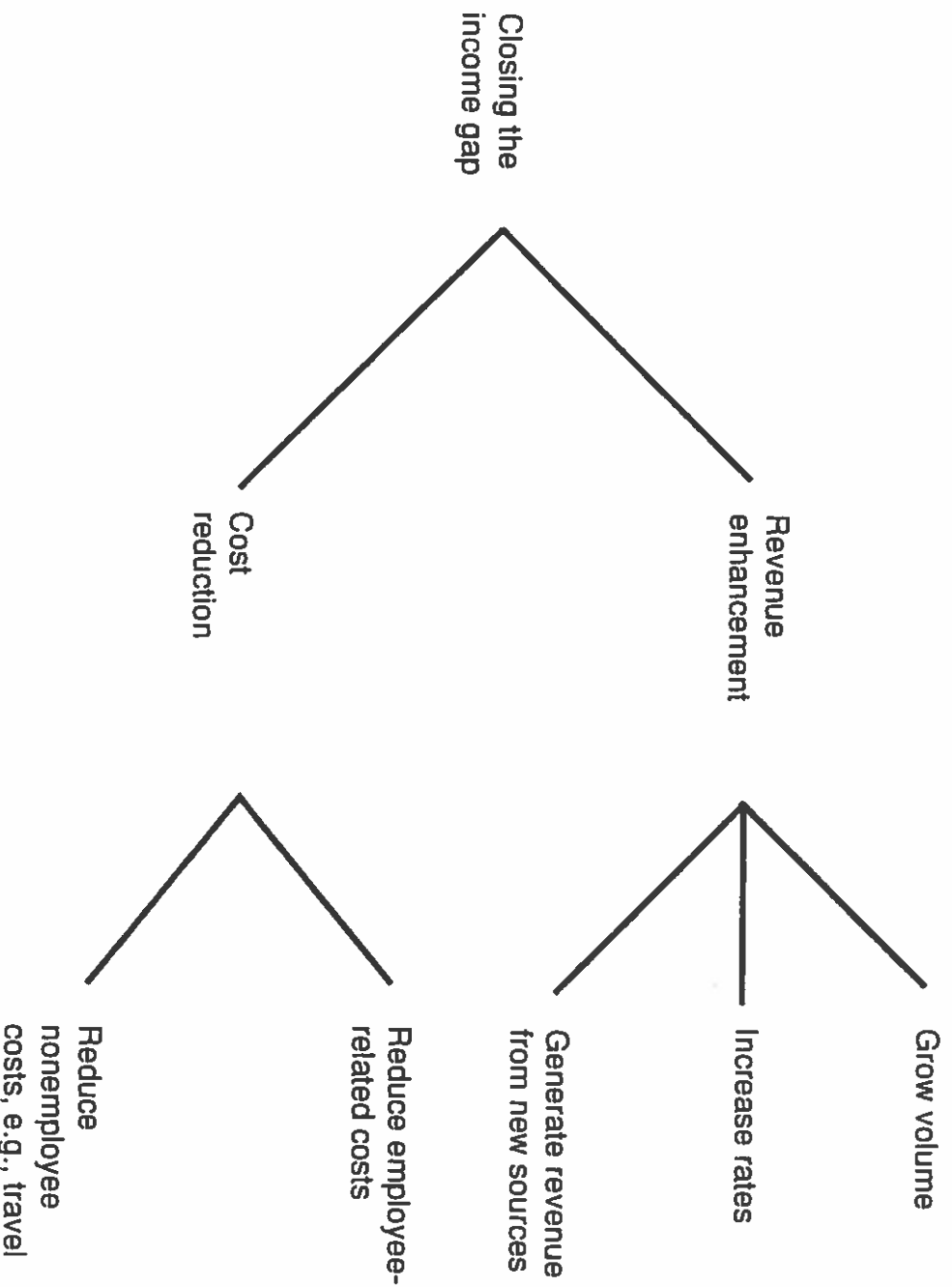
* Includes \$1 million to annually fund replacement account

Source: SSA transcripts; McKinsey analysis

Consequently, SSA must examine ways to either enhance revenues or reduce costs.

OPTIONS FOR CLOSING THE INCOME GAP

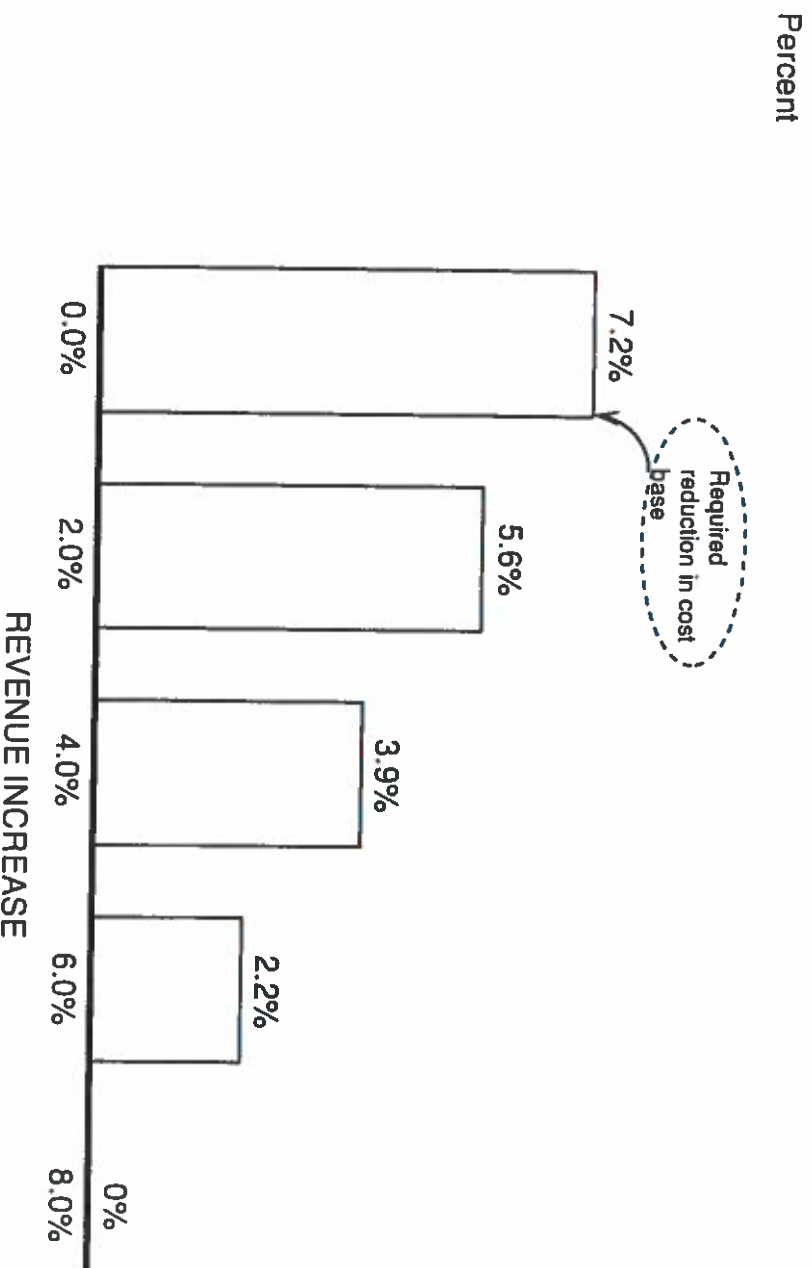
CONCEPTUAL



Some combination of both revenue enhancement and cost reduction is likely required. If no costs were reduced, revenues would have to be increased 8 percent in 1995 to close the income gap, which might be unacceptable to local customers. If no revenue increases occurred, costs would have to be cut 7.2 percent.

POTENTIAL COST REDUCTION/REVENUE ENHANCEMENT COMBINATIONS CLOSING SSA INCOME GAP

ESTIMATE



Source: McKinsey analysis

As our engagement has been organizationally focussed, as opposed to strategic or operational, we have not attempted to develop comprehensive recommendations in this area. However, a brainstorming session with members of the Board and managers yielded a broad list of options. On the revenue side, for instance, peak pricing aimed at weekend/seasonal tourist traffic could help eliminate the income gap without severely affecting core, year-round ridership.

POTENTIAL SSA REVENUE ENHANCEMENT OPTIONS

PRELIMINARY

Example	Estimated Impact (\$)	Comments/assumptions
Rate increases		
• Institute a 10% weekend premium during the peak season on all non-resident rates	\$1,119,000	<ul style="list-style-type: none"> • 58% of all peak season traffic occurs on weekends (i.e., Friday through Sunday) • 10% premium is comparable to that in the travel and leisure industry (e.g., ski resorts) • 10% premium allows weekend rate to remain price competitive • Possible to do without changing freight schedules • Does not impact island residents who use excursion fares
• Extend high season non-excursion automobile rate or Martha's Vineyard and Nantucket through December (i.e., 3/15 through 12/31)	979,000	<ul style="list-style-type: none"> • Possible to do without changing freight schedules • Does not impact island residents who use excursion fares
• Increase all non-resident rates to Martha's Vineyard by 4%	843,000	<ul style="list-style-type: none"> • 4% is the average annual growth rate of rates to Martha's Vineyard over the past 8 years
• Increase all non-resident rates to Nantucket by 3%	290,000	<ul style="list-style-type: none"> • 3% is the annual growth rate of fares to Nantucket over the past 8 years
• Match competitors prices to Nantucket in the peak season	272,000	<ul style="list-style-type: none"> • Current competitor rates 10% higher than SSA • Tourists comprise majority of affected passengers
• Eliminate group discounts to Martha's Vineyard and Nantucket	175,000	<ul style="list-style-type: none"> • Tourists are only affected group • Not likely to impact volume
Volume increases		
• Increase shoulder season volume by 10% through increased promotion with island businesses	887,000	<ul style="list-style-type: none"> • Terminal and vessel capacity is underutilized in shoulder season • Existing support in island communities to boost volume
Other		
• Sell additional SSA souvenir articles on vessels (e.g., SSA baseball caps)	118,000	<ul style="list-style-type: none"> • Assumes \$10 profit margin on baseball caps • Assumes 0.5% of all passengers buy a cap

Source: SSA workshop; McKinsey analysis

Similarly, our brainstorming sessions yielded a set of opportunities on the cost side. Clearly, these are not complete, nor are they specific recommendations. Therefore, next steps would be for management and the SSA Board to determine more precisely desired combinations of revenue and cost initiatives.

POTENTIAL SSA COST REDUCTION OPPORTUNITIES

PRELIMINARY

Example	Estimated Impact	Comments/Assumptions
Short-term actions		
<ul style="list-style-type: none"> Reduce "other" departmental expenses by 5% (e.g., travel, fuel) 	\$451,000	<ul style="list-style-type: none"> Some areas can be trimmed without adverse effects to operation
<ul style="list-style-type: none"> Institute company-wide cap on overtime pay of 6.3% of gross pay 	354,000	<ul style="list-style-type: none"> 6.3% was company-wide overtime as percentage of payroll expense in 1993
Long-term actions		
<ul style="list-style-type: none"> Explore reduce health and benefits costs from 26% over payroll to 23% 	541,000	<ul style="list-style-type: none"> 23% is the average percentage of Health and Benefits over payroll for employees with salaries between \$30,000 and \$50,000
<ul style="list-style-type: none"> Examine staffing levels in terminals, vessels, and overhead areas 	320,000	<ul style="list-style-type: none"> For example, move vessel manning to current union contract levels Assumes 250 working days per year Service levels should be maintained
<ul style="list-style-type: none"> Examine decreasing SSA's pension contribution from 7 to 5% 	TBD	<ul style="list-style-type: none"> Pension fund is currently overfunded Matching contributions are common in many businesses

6. IMPLEMENT INITIATIVES IN A MANNER WHICH ASSURES BROAD ORGANIZATIONAL COMMITMENT

The magnitude of change implied by these recommendations is significant, especially given the increasing complexity of SSA's ongoing operation.

SIGNIFICANT CHANGE EFFORT REQUIRED TO ENHANCE SSA PERFORMANCE

Increasingly complex operation...

Vessel fleet of 7 up from 5 in 1983
Number of trips up to 17,000 from 9,000 in 1983
Traffic volumes of 2.5 million annually up from 1.5 million in 1983 affecting political environment
Bond limit increased from \$25 million to \$50 million in 1987 leading to more capital activity
High season employees over 600, up from 400 in 1983

...requires active response from SSA

From	To
<ul style="list-style-type: none"> Lack of clarity in Board, FAB, and General Manager roles Complex organization with overlapping roles Informal management processes with limited accountability Maintenance efforts characterized by "putting out fires" Risk of potential income gap 	<ul style="list-style-type: none"> Clearly defined roles and responsibilities Leveraged organization with clear functional areas Formal budget and project planning processes with a high degree of accountability Simplified approach to maintenance and greater foresight Active measures to control costs/increase revenues to fill gap

As a result, successful implementation will require actions by a broad cross-section of organizational levels, from senior management to line employees.

PROPOSED ACTIVITIES TO IMPLEMENT RECOMMENDATIONS

Area	Proposed responsibility	Next steps	Possible timing
Board/GM roles	<ul style="list-style-type: none"> Board, FAB, and General Manager 	<ul style="list-style-type: none"> Agree on new roles and working relationships Detail roles/structure and roll out 	<ul style="list-style-type: none"> Immediate
Management organization	<ul style="list-style-type: none"> General Manager 	<ul style="list-style-type: none"> Define goals and detail responsibilities for new functions Roll out new structure 	<ul style="list-style-type: none"> May 20 June 1
Budgeting processes	<ul style="list-style-type: none"> General Manager/Treasury 	<ul style="list-style-type: none"> Detail remaining process steps, e.g., workshop structure Begin implementation 	<ul style="list-style-type: none"> June 1 June 1
Project management	<ul style="list-style-type: none"> GM Planning Engineering and procurement 	<ul style="list-style-type: none"> Initiate long-term planning effort Design new guidelines/"project handbook" Evaluate system needs and roll out 	<ul style="list-style-type: none"> August 1 Immediate September 1 October 1
Maintenance	<ul style="list-style-type: none"> GM Head of maintenance Engineering Captains 	<ul style="list-style-type: none"> Detail responsibilities during overhaul Design information flow for work orders Develop supporting tools, e.g., "make-buy" handbook Pilot new processes Roll out new program 	<ul style="list-style-type: none"> June 1 July 1 August 1 September 1 October 1
Operating income improvement	<ul style="list-style-type: none"> GM Treasury Board member FAB member 	<ul style="list-style-type: none"> Develop options for closing gap Reach consensus on preferred approach with Board Detail road map of how to reach objectives Identify tools required for ongoing monitoring, e.g., MIS Oversee roll out of program 	<ul style="list-style-type: none"> June 15 June 15 June 30 June 30 Ongoing

To affect these changes, five key prerequisites must be met.

KEYS TO SUCCESSFUL IMPLEMENTATION

1. **Dedication and leadership from the General Manager;** the General Manager will play a pivotal role in energizing the organization and driving the change process. Without significant commitment and leadership from the General Manager's office, implementation will not be successful
2. **Board/FAB commitment and willingness to invest extra time;** major change programs require significant senior level guidance and commitment to resolve issues and overcome roadblocks to implementation
3. **Include key line personnel in effort, particularly for maintenance;** because line personnel will "own" the new process, they should be included in the change program to access their expertise and increase their ownership
4. **Ability to reduce costs while maintaining the organization's enthusiasm and service levels;** cost reduction must be balanced with minimizing organization turmoil; highly disruptive cost reduction in the face of the other proposed changes will risk any enthusiasm the organization has for the recommended initiatives and endanger their successful implementation
5. **Involve key managers from all main functions as part of implementation roll-out;** to be successful, the organization must "buy in" to changes. Involving key managers will help gain their acceptance of the proposed changes and commit the organization to implementation

SUMMARY OF RECOMMENDATIONS

Area	Recommendations
Refine Board/GM roles	<ul style="list-style-type: none"> • Focus Board efforts on policy making and vision setting; Board should develop long-term vision and annual operating goals, give direction on major operations or strategic issues, and provide guidelines for operating/capital budgeting • Evolve the FAB's role to work more in concert with management to develop, screen, and recommend proposed initiatives affecting SSA economics, including both operating and capital budgets • Focus the General Manager on managing SSA day-to-day operations and providing leadership to the organization in general through coordinating across functions, resolving disputes and serving as the primary liaison to the Board
Streamline management organization structure and improve communication	<ul style="list-style-type: none"> • Combine activities that overlap (e.g., Personnel/Port Captain, Marketing/Reservations) to reduce the number of direct reports to the General Manager • Better define/move other functions to improve control/effectiveness (e.g., media interactions to General Manager, specific job description for planner) • Increase top management visibility in the organization by rotating managers through terminals, increasing visits to vessels/terminals, and extending management holiday hours to match employees' • Improve newsletter to provide better information to employees
Redefine budget and project management processes	<ul style="list-style-type: none"> • Redesign operating budget process to incorporate senior management guidance and add accountability on operating manager level <ul style="list-style-type: none"> – Conduct up-front policy-setting meeting – Appoint FAB budget contact – Increase manager's accountability to budget • Conduct training to improve manager ownership of process • Enhance capital budget process to improve decision making <ul style="list-style-type: none"> – Reduce number of approvals – Improve information quality (projected cash flow, payback, etc.) – Adopt different processes for large/small projects – Appoint FAB contact to enhance oversight • Redesign project management process to enhance up-front planning and improve coordination <ul style="list-style-type: none"> – Develop 5-year project plan – Enhance up-front planning for each project – Improve ongoing Board oversight

SUMMARY OF RECOMMENDATIONS, CONTINUED

Area	Recommendations
Refine approach to vessel and terminal maintenance	<ul style="list-style-type: none"> • Clarify maintenance mission and improve facilities (i.e., undertake shipyard activities only as last resort, refit existing facilities to house maintenance) • Systematize planning/overhaul management process for vessels and terminals (e.g., 5-year plans, single project manager, and central work order collection) • Improve integration between engineering and maintenance through rotating engineers through maintenance and involving them in overhaul planning and oversight
Examine revenue enhancement/cost reduction initiatives	<ul style="list-style-type: none"> • Examine combination of revenue enhancements (e.g., peak season tourist rate increases) and cost reductions (e.g., travel) to avoid potential operating deficits
Implement initiatives with broad organizational commitment	<ul style="list-style-type: none"> • Involve senior management and organization in initiatives to implement above recommendations

Appendix A

Management organization

ROLE OF PLANNING AT SSA

PRELIMINARY

Area	Leader of effort	Example role of planning	Illustrative activities
1. Development of an overall "5-year" plan	General Manager	<ul style="list-style-type: none"> Assist General Manager in structuring key analysis Support overall effort by assuming responsibility for quantitative analysis Be a key "team player" in developing key issues 	<ul style="list-style-type: none"> Develop scenarios for traffic volumes Identify constraints in SSA's "capacity" Develop options to respond to future developments
2. Supporting operations regarding traffic/parking developments	Operations manager	<ul style="list-style-type: none"> Identify options with operations manager Evaluate/support real estate negotiation efforts Work with local communities to address concerns 	<ul style="list-style-type: none"> Evaluate parking capacity Value land acquisitions Design communications program
3. Supporting engineering/procurement regarding large-scale projects (vessels/terminals)	Engineering/procurement manager	<ul style="list-style-type: none"> Develop "master plan" for project with project manager Identify long-term implications Set overall timetable with project manager 	<ul style="list-style-type: none"> Identify costs, revenue, and impact of project with project manager Evaluate SSA's capacity and skills to undertake efforts

NEW COMMUNICATION PROGRAM FOR SSA

PRELIMINARY

Objective	Actions	Description	Participation and timing
1. Improve visibility of SSA top management	<ul style="list-style-type: none"> • Conduct periodic visits to each terminal/vessel 	<ul style="list-style-type: none"> • Top managers visit every terminal and vessel at least once per year to discuss matters of concern to employees and strengthen linkages 	<ul style="list-style-type: none"> • GM and direct reports devoting 1/2 to 1 day every 2 months
2. Listen to employee concerns	<ul style="list-style-type: none"> • Have a member of top management present on high season, high-profile weekends • Conduct "town meetings" twice per year 	<ul style="list-style-type: none"> • Top managers rotate through assignments on terminals, e.g., Woods Hole on top summer weekends to assist terminal personnel • Members of management meet with groups of employees, similar to current captain's meetings; key representatives involved in preparing agenda (stagger visits throughout operating year) 	<ul style="list-style-type: none"> • GM and top manager of area visited
3. Communicate factual information to employees	<ul style="list-style-type: none"> • Take advantage of current employee newsletter to communicate sensitive issues 	<ul style="list-style-type: none"> • Members of management contribute to employee newsletter on key projects, e.g., Sankaty, focusing on responses to recent news articles and providing factual information 	<ul style="list-style-type: none"> • GM and direct reports contributing as necessary

Appendix B

Budgeting

AGENDA FOR UP-FRONT GUIDANCE MEETING AND QUARTERLY REVIEWS

Meeting	Participants	Format	Estimated Timing
Up-front policy setting	<ul style="list-style-type: none"> • Treasury • General Manager • FAB Budget representative • Board of Governors • Public session 	<ul style="list-style-type: none"> • Treasury, GM, and FAB budget representative present on <ul style="list-style-type: none"> – Projected top-level cost – Projected revenues – Estimated surplus/deficit – Recommendations to address deficit (if applicable) – Operating schedule • Board of Governors approves/disapproves and issues guidance on <ul style="list-style-type: none"> – Solutions to deficit (e.g., rate increases and/or cost reductions) – Operating schedule – Input from constituents 	2 hours
Budget workshop	<ul style="list-style-type: none"> • Treasury • Department managers 	<ul style="list-style-type: none"> • Treasury meets with department managers as a group or individually, as needed on <ul style="list-style-type: none"> – Components and history of line items – Accounting technicalities, e.g., how to account for vessel failures – Ways to simplify worksheets 	2 hours
Quarterly review	<ul style="list-style-type: none"> • Management • Treasury • General manager • FAB 	<ul style="list-style-type: none"> • Individual managers and project leaders present on <ul style="list-style-type: none"> – Budget vs. actual variances – Actions being taken to reverse any consistently unfavorable variance 	3-4 hours
Postmortem meeting	<ul style="list-style-type: none"> • Management • Treasury • General manager • FAB 	<ul style="list-style-type: none"> • Individual managers and project leaders present on <ul style="list-style-type: none"> – Total year's budget vs. actual variances • GM and FAB determine reward/penalty for budget performance 	3-4 hours

Appendix C

Project management

POTENTIAL DIFFERENTIATED APPROACHES CAPITAL BUDGETING

PRELIMINARY
☐ Selected for review

Project size	Process	Analysis required
<div>Capital project segmentation by size</div> <div>< \$20,000</div> <div>\$20,000-\$200,000</div> <div>> \$200,000</div>	<ul style="list-style-type: none"> General management has flexibility to authorize directly Results reviewed by general managers only Requiring board/FAB sign-off initially; once signed off general manager can execute Reviewed with FAB quarterly 	<ul style="list-style-type: none"> Use current worksheet augmented by additional financial analysis, e.g., "make vs. buy" Analysis performed for <20,000 projects plus <ul style="list-style-type: none"> Revenue potential Detailed "make/buy" Impact on organization
	<ul style="list-style-type: none"> Board/FAB approval required Reviewed quarterly with FAB/board Extensive "post-mortem" review including board/FAB 	<ul style="list-style-type: none"> Prepare detailed analysis addressing <ul style="list-style-type: none"> Project objectives/scope Fit with SSAs operations Impact on organization and local communities Changes in service Detailed cost analysis Revenue potential Present value/payback time Project timeline

DRAFT

[PROJECT NAME]

[SUBMITTED BY]

[DEPARTMENT NAME]

[SUBMISSION DATE]

GM RECOMMENDATION

Recommend: _____ Not recommended: _____

If not recommended, state reason: _____

FAB RECOMMENDATION:

Recommend: _____ Not recommended: _____

If not recommended, state reason: _____

BOARD OF GOVERNORS DECISION:

Approved: _____ Denied: _____

If denied, state reason: _____

PROJECT DESCRIPTION:

PROJECT OBJECTIVE:

PROJECT JUSTIFICATION:

PROJECT TIMING:

IMPACT OF DENIAL POSTPONEMENT:

REVENUE/BENEFIT ANALYSISILLUSTRATIVE**NET OPERATING CASH FLOW STATEMENT**

Potential revenues	Financial impact	Notes/rationale
<ul style="list-style-type: none">• Passenger seating• Freight space• Expanded cafeteria• Souvenir shop	<ul style="list-style-type: none">____________________	New vessel holds 400 passengers
Subtotal	_____	
Operating costs	Financial impact	Notes/rationale
<ul style="list-style-type: none">• Compensation expense• Fuel expense• Food supplies• Stores, supplies, and equipment• Other expenses• Maintenance• Depreciation• Insurance• Light, heat, power, and water	<ul style="list-style-type: none">_____________________________________________	
Subtotal	_____	
Net cash flows	Financial impact	Notes/rationale
Operating income	_____	
Taxes (if applicable)	_____	
After tax operating income	_____	
Depreciation	_____	
Total	=====	

COST ESTIMATE

ILLUSTRATIVE

ESTIMATED CASH OUTLAY AT TIME INVESTMENT IS MADE

Make Cost components	\$ Cost	Assumptions
1. Study		
2. Design		
3. Construction		
• Materials		
• Labor		
• Equipment		
4. Increased working capital (if necessary)		
5. Opportunity cost of capital		
6. Tax effects (loss x tax rate)		
7. Proceeds from sale of old machine		
8. Net cash outflow		

Buy Cost components	\$ Cost	Assumptions
1. Study		
2. Design		
3. Payment to manufacturer/ contractor		
4. Increased working capital (if necessary)		
5. Opportunity cost of capital		
6. Tax effects (loss x tax rate)		
7. Proceeds from sale of old machine		
8. Net cash outflow		

Outsource



FINANCIAL ANALYSIS

ILLUSTRATIVE

PRESENT VALUE OF THE PROJECT

	Year										
	0	1	2	3	4	5	6	7	8	9	10
Revenues											
Operating costs											
Net operating cash flow											
Present value											
Total											

PAYBACK

	Year										
	0	1	2	3	4	5	6	7	8	9	10
Total cash flow											
Initial investment											
Percent of value recovered											
Payback time											

QUALITATIVE IMPACT ANALYSIS

Internal Concerns

- ¶ SSA organization: Does this project have any adverse effect on:
 - Service levels
 - Maintenance capability
 - Operations in any other department
 - Employee morale?
- ¶ Skills and systems
 - Does SSA have the in-house skills and equipment to undertake this project?
 - If not, and they are acquired, can SSA use them subsequent to this project?
 - Are there any systems required to complete this project that SSA does not currently have?

External Concerns

- ¶ Will this project result in
 - Higher level of traffic in surrounding communities
 - Criticism from the surrounding communities for reasons other than traffic
 - Any positive effect on community relations?

Other Issues

- ¶ Are there any other issues that could prevent the completion of this project in a timely and cost-effective manner?

Appendix D

Maintenance

MAINTENANCE PLAN – VESSEL "A"
VESSEL HISTORY

EXAMPLE

1983	1984	1985	1986	1987	1988	1989	1990
<ul style="list-style-type: none"> • Vessel purchased 	<ul style="list-style-type: none"> • Clutch replaced • Chip, prime and paint interior • Additional seating added on upper deck 			<ul style="list-style-type: none"> • Hull overhaul • Engine overhaul • Main radar replaced • Freight deck renovated 			

Current status of vessel A:

Vessel A is in good condition but will need a complete mid-life overhaul within the next five years in order to ensure that she is operational for the next decade

MAINTENANCE PLAN – VESSEL A

EXAMPLE

Required annual maintenance

Task	Parts	Part #	Lead time	Estimated time to complete	Rationale
Engine					
• Replace clutch	Clutch		6 weeks	2 days	• 1 engineer @ 16 hours
• Replace alternators	3 Alternators		2 weeks	1 days	• 1 engineer @ 8 hours
• Clean spark plugs					
• Replace oil filters					
• Replace coolant			0		
Hull					
• Remove ballast and inspect hull				1 week	• 2 men @ 16 hours each to remove ballast
• Chip, prime, and paint hull			0	2 weeks	• 2 men @ 24 hours each to inspect for cracks
Interior					
• Inspect sanitary facilities					
• Inspect sprinklers					

TOTAL OVERHAUL TIME

MAINTENANCE PLAN - VESSEL A

Estimated Cost of Annual Maintenance

[illegible]

ADDITIONAL MAJOR MAINTENANCE REQUIRED

EXAMPLE

Task	Rationale	Estimated timing of task	Estimated time required for task	Personnel requirements
Electrical system overhaul	Manufacturer recommends a complete overhaul of the vessel's electrical system after 250,000 hours of operation which will be reached in 2 years	2 years	2 weeks	<ul style="list-style-type: none"> • 3 electricians at 80 hours each
Mid-life overhaul	Manufacturer recommends a complete mid-life overhaul after 500,000 hours of operation which will be reached in 4 years	4 years	8 weeks	<ul style="list-style-type: none"> • 2 electricians at 40 hours each • 3 engineers at 200 hours each • 5 mates at 400 hours each
"	"	"	"	"
"	"	"	"	"

COST ESTIMATE ADDITIONAL MAJOR TASKS

EXAMPLE

Task	Cost	Requirements	
Electrical system overhaul	\$ 64,000	• Parts	\$ 54,000
		• Labor	
		– 3 electricians	6,000
		– 5 deckhands	4,000
Mid-life overhaul	360,000	• Parts	300,000
		• Labor	
		– 10 deck hands	17,000
		– 3 electricians	28,000
		– 5 engineers	15,000

SUMMARY OF MAINTENANCE REQUIREMENTS

EXAMPLE

	1994	1995	1996	1997	1998	1999	2000	Total
Activity	<ul style="list-style-type: none"> • Regular maintenance • Electrical system overhaul 	<ul style="list-style-type: none"> • Regular maintenance 	<ul style="list-style-type: none"> • Regular maintenance • Replace seating in front cabin 	<ul style="list-style-type: none"> • Regular maintenance 	<ul style="list-style-type: none"> • Regular maintenance 	<ul style="list-style-type: none"> • Regular maintenance 		
Resulting availability	150 days							
Cost to SSA	\$1,000,000							\$9,000,000

TERMINAL MAINTENANCE DECISION TREE TO PERFORM "MAKE VS. BUY" ANALYSIS

