

Final Report

Marketing Strategy Development



March 26, 1998

*This report is confidential and intended solely for the use
and information of the client to whom it is addressed.*

BOOZ·ALLEN & HAMILTON INC.

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I. INTRODUCTION

HISTORICALLY, THE PANAMA CANAL HAS BEEN OPERATED SIMILAR TO A PUBLIC UTILITY – IN AN OLIGOPOLISTIC MODE WITH LITTLE REQUIREMENT TO PROVIDE CONTEMPORARY MARKETING PROGRAMS OR SERVICE

- The Canal has traditionally viewed itself as a form of public utility – providing service to whomever requested it
- Additionally, the Canal has experienced strong demand for transit slots and has consequently been able to fund itself without difficulty
- The lack of a profit motive – as well as governing legal provisions – also has discouraged the common practice of optimizing business from targeted customer groups
- The net result has been the lack of the need for the Canal to “market” itself to increase its business/revenue base

THE PANAMA CANAL NOW FACES A PERIOD OF TRANSITION CHARACTERIZED BY BOTH OPPORTUNITY AND RISK

- Post-transition, regulatory changes present an opportunity for the Canal to become a more customer-focused and commercially-oriented enterprise while still fulfilling its responsibilities
- Additionally, the turnover to Panamanian control presents a need for increased customer interaction in order to address stability concerns
- Consideration of significant maintenance and investment options requires the Canal to better understand its market potential
- The world fleet trend has been toward larger vessels – including Post-Panamax containerhips which cannot transit the Canal with the current infrastructure
- Trade patterns are shifting – in some cases toward lanes that do not involve the Canal
 - Increase in North-South trades in the Americas benefits the Canal, but
 - The shift to Southeast Asia manufacturing and
 - Changing grain production/consumption patterns potentially do not

**THE LEADERSHIP OF THE CANAL HAS STATED ITS INTENTION TO RETAIN THE LONG
STANDING POLICY OF NON-DISCRIMINATION AND TRANSIT MAXIMIZATION**

- The Canal will continue to accept vessels under equal terms
- Pricing policy will remain essentially unaltered for the vast majority of transits
- Pricing changes – if any – will focus on vessels which pose increased risk to the Canal or significantly decrease the Canal's capacity due to transit restrictions
- In this study, Booz-Allen has assumed that the Canal will not lower its prices to attract new business since it is near capacity and, consequently, has no incentive to do so

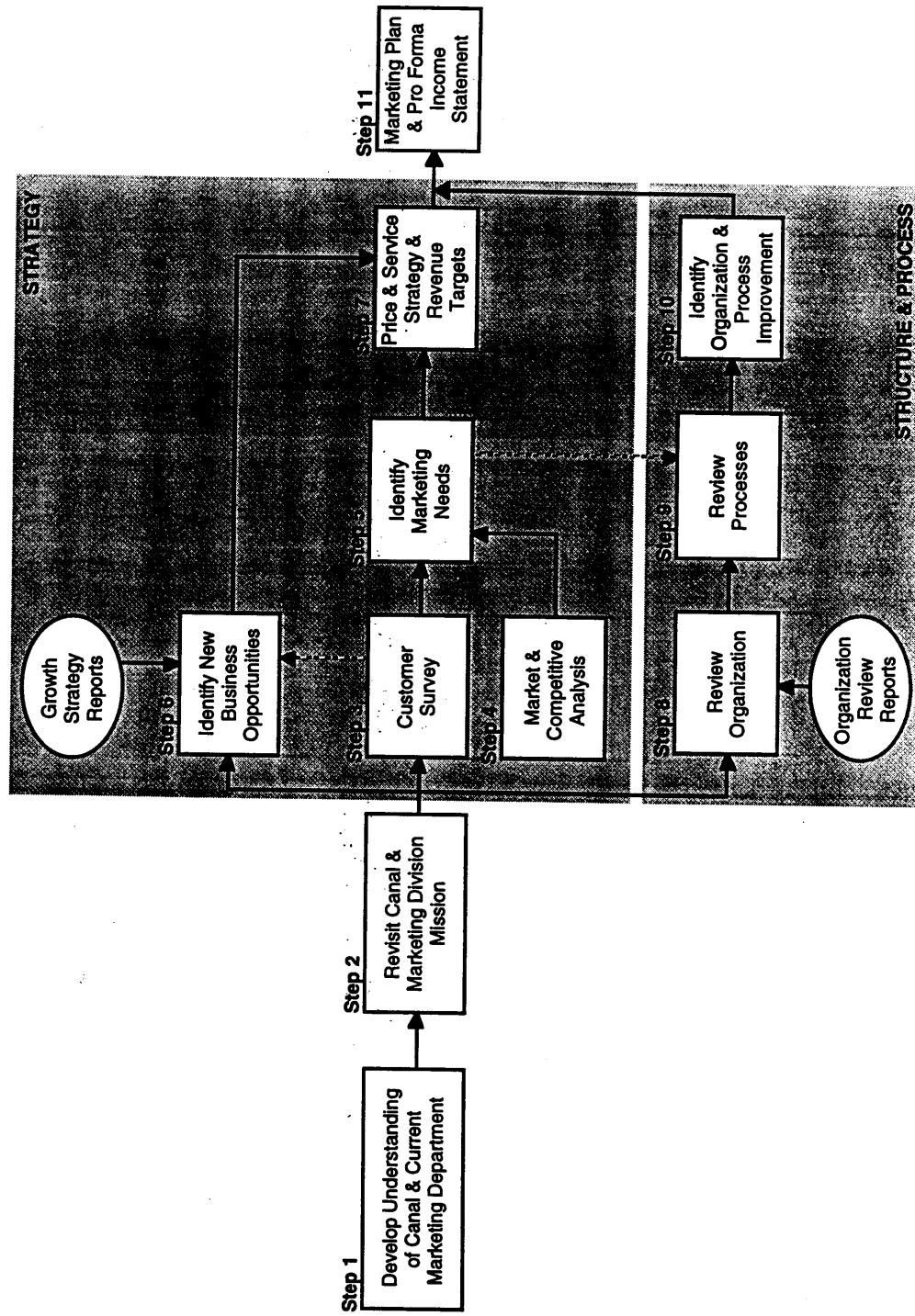
**NONETHELESS, IT IS IMPORTANT THAT THE CANAL GAIN A BETTER UNDERSTANDING OF THE
VARYING MARKET ENVIRONMENTS AND DRIVERS**

ACCORDINGLY, THE PANAMA CANAL COMMISSION (PCC) ASKED BOOZ-ALLEN TO ASSIST IN DEVELOPING A MARKETING STRATEGY FOR THE NEXT THREE YEARS WHICH REFLECTS THE PARAMETERS UNDER WHICH IT MUST OPERATE

- The Canal has stated its intention to maintain the status quo with regards to price and service strategies until well beyond the transition
- The goal of the three-year strategy within this context is to build knowledge, marketing expertise, and customer relationships for the future
 - Identify the best potential market segments/customers for the Canal
 - Develop a plan to build relationships with these customers
 - Develop an understanding of these markets to aid in customer relations as well as the development of future price and service options
 - Ensure that the PCC is prepared to implement these plans
 - People
 - Processes
 - Budget

TO DEVELOP THE MARKETING PROGRAM, BOOZ-ALLEN FOCUSED ON THE STRATEGY AS WELL AS THE PEOPLE AND PROCESSES

Marketing Strategy Workplan Diagram



TO COMPLETE THIS EFFORT, BOOZ-ALLEN INTERVIEWED OVER 15 CANAL SENIOR MANAGERS AND ALL MARKETING STAFF, VISITED 16 LARGE CUSTOMERS, SENT SURVEYS TO OVER 200 SHIPPING LINES AND INVESTIGATED THE MAJOR CANAL MARKETS

- Booz-Allen interviewed key Canal staff – from across the organization – whose roles include marketing and customer contact functions
 - Administrator and Deputy Administrator
 - Marketing/Economic Research
 - Operations/Booking
 - Public Relations

- Along with PCC staff, we conducted joint interviews with the senior executives of target NY/NJ customers – primarily in the container and dry bulk trades

- Additionally, we distributed a survey to a wide cross-section of 224 larger Canal customers – 21 percent were returned and analyzed

- In an effort to understand the trends and buying criteria of the major Canal markets, we assessed cargo/trade outlooks and routing/sourcing alternatives

THIS FINAL REPORT IS DESIGNED TO PROVIDE AN ASSESSMENT OF THE CURRENT MARKET SITUATION AND PRESENT RECOMMENDATIONS FOR THE MARKETING PROGRAM

- Profile of market segments
- Analysis of competitive factors
- Customer feedback from the interviews and surveys
- Review of the Canal's Marketing program
- Recommendations for the Marketing program
 - Strategic direction
 - Organization and processes

II. CANAL COMPETITIVE ANALYSIS

1995 Trade Volumes (million tons)

Commodity	World Trade	Canal Trade	Canal Share
Containers	1,509	25	2%
Crude Oil	1,415	11	1%
Coal	423	8	2%
Grain	196	44	23%
Reefer	25	7	27%

source: Fearnley, PCC, Drewry, Booz-Allen analysis

THE CANAL'S GEOGRAPHY AND CAPACITY RESTRICTIONS ARE THE PRIME DETERMINANTS OF ITS CARGO MIX – IT PLAYS A KEY ROLE IN WORLD REEFER AND GRAIN MARKETS WHICH ARE DRIVEN BY ITS U.S. AND LATIN AMERICAN NEIGHBORS

- Most of the world container, crude oil, and coal trades moves in lanes that are not suited to a Canal transit
- Due the large presence of the U.S. Midwest in the world grain market, nearly a quarter of world grain trade moves through the Canal
- While accurate data on Canal Phosphate traffic is unavailable, it appears that the Canal transits a considerable percentage of the world trade in phosphates – which are limited in world source to North Africa and the U.S. Southeast
- Similarly, the dominance of Latin American banana producers affords the Canal considerable prominence in reefer trade

THE CANAL IS A PARTY TO A LARGER WORLD COMMODITY MARKET WHERE A COMPLEX COMBINATION OF ECONOMIC ISSUES CONTRIBUTES TO ROUTING AND PURCHASING DECISIONS

- Cost differentials in routing options such as U.S. landbridge and Cape routes affect the final cost of products
- Sourcing options and their associated costs have a similar effect
- Weather also factors into the supply and demand of the commodities trades
 - Energy commodities such as heating oil and coal are affected by winter temperatures
 - Agricultural crops are affected by rainfall, natural disasters, etc.
- Farming subsidies which vary across countries and commodities can have a considerable impact on the price of goods on the world market
- Other politically driven controls such as quotas and duties have a similar effect

**FOR EXAMPLE, THE ECONOMIC CRISIS IN ASIA HAS RESULTED IN CURRENCY DEVALUATION
CAUSING SIGNIFICANT SHORT-TERM DISRUPTIONS TO WORLD TRADE**

- Reduced Asian spending power will change their demand for agricultural products and other key raw materials
- World market prices for certain commodities – crude oil, copper, etc. – have already fallen as a consequence of this crisis
- Conversely, exports of manufactured goods from these regions are expected to increase as currency values make Asian goods cheaper in terms of US dollars
- Nonetheless, there continues to be long-term confidence in trade with Asia

ADDITIONALLY, THE WEATHER DISRUPTION OF EL NIÑO WILL AFFECT THE CANAL'S CAPACITY AND POTENTIALLY CARGO VOLUMES

- Due to low lake levels, the Canal does have sufficient water to sustain normal operations necessitating temporary draft restrictions on transits – this decision significantly increases transportation expenses for Canal customers
- Additionally, deforestation and environmental concerns about the Panama Canal watershed prompt long term draft concerns
- While El Niño will have an effect on global agribusiness, advance forecasts have allowed farmers to mitigate some crop losses which have occurred in previous years
 - Farmers in affected areas have switched to crops which can survive the forecasted weather
 - The drought in Australia has not materialized as originally thought

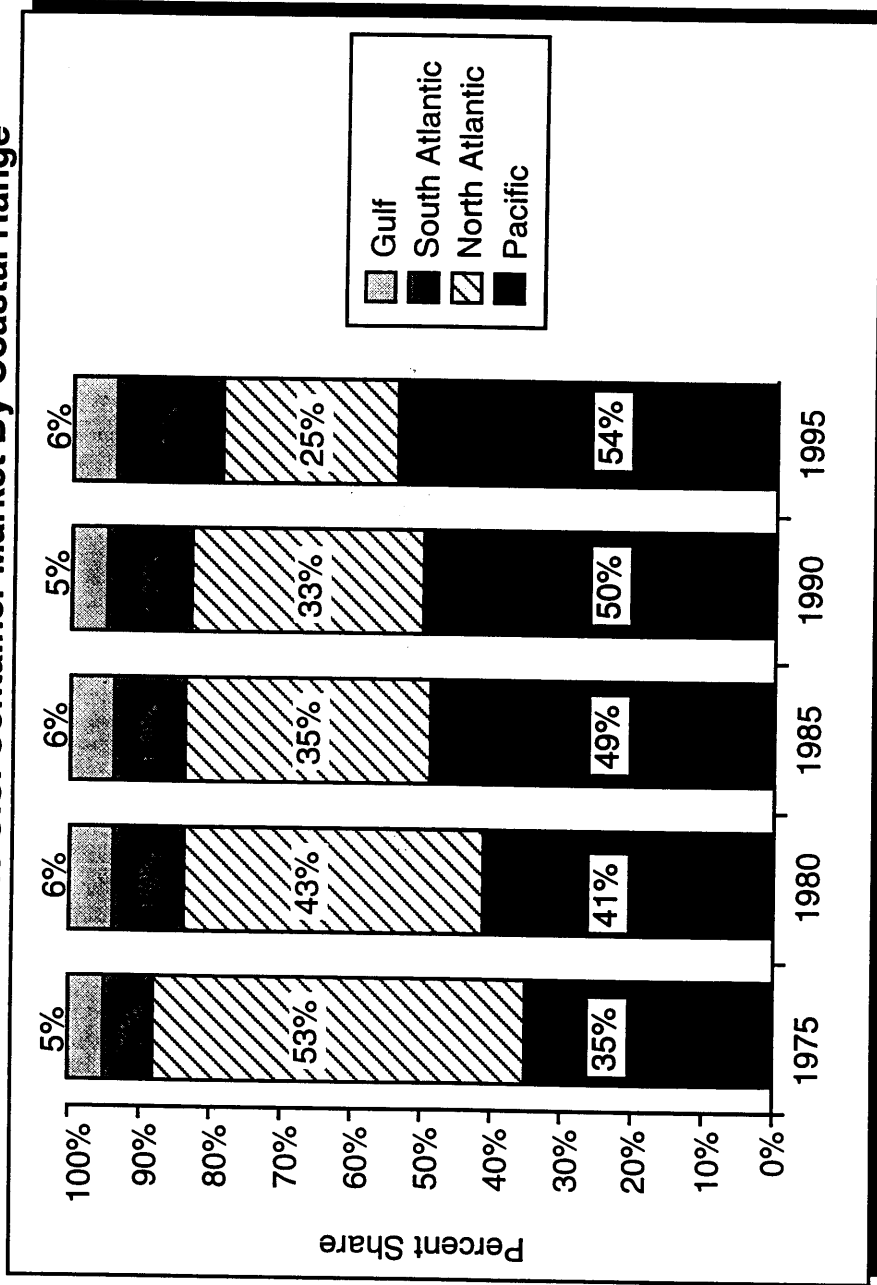
AS STABILITY IS A KEY CONCERN OF CANAL CUSTOMERS, UP-FRONT AND ACCURATE COMMUNICATION ABOUT THE SITUATION AND THE CANAL'S INTENTIONS IS CRITICAL TO SUCCESSFUL CUSTOMER AND PUBLIC RELATIONS – OTHERWISE, CUSTOMERS WILL SEEK LONG-TERM ALTERNATIVES

THE PRIMARY ROUTING ALTERNATIVE TO THE CANAL IS THE U.S. LANDBRIDGE – THE LANDBRIDGE’S QUICK DELIVERY TIMES HAVE HELPED IT CAPTURE THE HIGH VALUE U.S. CONTAINER TRADE WITH ASIA

- Of all the Canal's customers, container carriers have the greatest ability to bypass the Canal due to the U.S. landbridge
- The landbridge is a more costly option, but one which can save on average 12 days
- For high value cargo with large inventory carrying costs, consequently, the landbridge is the preferred option
- With its lower costs but longer delivery times, the Canal is a better solution for low value cargo

THE LANDBRIDGE ALTERNATIVE – PARTICULARLY WITH THE INNOVATION OF DOUBLE STACK – HAS HELPED FUEL U.S. WEST COAST PORT GROWTH AT THE EXPENSE OF U.S. EAST COAST PORTS AND THE PANAMA ALL-WATER ROUTING

Overview Of The U.S. Container Market By Coastal Range



A COMBINATION OF RAIL AND PORT CONGESTION THIS FALL SEVERELY HAMPERED THE US TRANSPORTATION NETWORK – THE LONG-TERM IMPACT ON THE CANAL, HOWEVER, WILL BE MINIMAL

- Shippers claim that the delays added more than \$100 million per month to supply chains
- The delays did result in some temporary diversion of container cargo, but this was focused on re-ordering West Coast port calls rather than increasing Canal transits
- Carrier investments in Southern California ports make long-term diversion economically unwise in light of resolution of the problems
- The situation was viewed by most international shippers as an unfortunate confluence of events and not a long-term stability issue warranting a modal shift

THE BYPASSING OF THE CANAL WILL LIKELY BE EXACERBATED BY THE GROWING PROMINENCE OF POST-PANAMAX CONTAINERSHIPS WHICH OFFER CARRIERS SIGNIFICANT ECONOMIES OF SCALE

- Driven by a desire to achieve lower unit costs per TEU, container carriers are introducing larger and larger vessels into their trade lanes
- These vessels are initially being deployed in Asia to Europe trades but are also making their way into Asia - U.S. trade lanes
- While representing less than one-fifth of today's fleet in terms of capacity, Booz-Allen projects these vessels will account for more than one-third of fleet capacity in 2010 (see facing page)

THESE LARGER VESSELS ARE WELL SUITED FOR THE ASIA TO U.S. ALL WATER TRADE – BUT ARE OBVIOUSLY CONSTRAINED BY THE CURRENT PHYSICAL DIMENSIONS OF THE CANAL

Major Global Container Trade Lanes

Trade Lane	Current Volumes	Route Length	Growth Potential	Optimal Vessel Size	Time to Realize Optimal Vessel Size
Asia – USWC	●	◐	●	5,200	Now
Asia – Europe	◐	◐	◐	6,000	Now
Europe – USEC	◐	◐	◐	4,000	Now
Asia – USEC (Panama)	◐	●	◐	6,700	Canal Constrained
Asia – USEC (Suez)	○	●	●	6,600	5 to 10 yrs.

source: Booz-Allen Vessel Optimization Model

○ Small	● Large
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THE SUEZ CANAL IS ALSO EMERGING AS A ROUTING ALTERNATIVE FOR SOUTHEAST ASIAN AND INDIAN SUBCONTINENT CARGOS – ALTHOUGH THE POTENTIAL DIVERSION IMPACT HAS LARGELY BEEN OVERSTATED

- The Suez Canal offers an alternative to the landbridge and Panama Canal routings for cargo bound for the U.S. East Coast
- Its appeal is particularly strong for Southeast Asian and Indian Subcontinent cargos which are viewed as attractive markets
 - The shift in manufacturing capacity from higher cost North Asia to lower cost Southeast Asia is regarded a very favorable trend for the region
 - Singapore is traditionally thought of as the natural trade dividing line where cargo originating west of this point can competitively move over Suez
- While Suez trade lane growth has been impressive, the market innovator – NOL – recently stopped its service
- More importantly, even with impressive growth, the base size of the markets is very small when compared with North Asian markets which are better positioned to use the Panama Canal
 - North Asian markets are far larger – particularly when an emerging China is considered
 - North Asian markets will continue to use the transpacific routing because of the shorter distances
- While the Suez routing will consequently carve an important place for itself – and likely surpass the Panama Canal’s Asia to U.S. container volumes – it should not be viewed as a threat to Panama’s base container volumes

GEOGRAPHIES AND TRADE DENSITY – RATHER THAN CURRENT CANAL TOLLS – ARE THE PRIMARY DRIVERS OF CONTAINER CARRIERS’ SELECTION OF SUEZ AND PANAMA ROUTES

- While the Suez Canal offers a more cost effective routing for Southeast Asian cargo destined to the US East Coast, it is more expensive for North Asian cargo
 - This routing split will not be disrupted by small toll adjustments such as Suez rebate pricing
 - Even if the Suez toll were eliminated, it could not attract significant cargo from key trading partners such as Japan, China, Korea, and Taiwan
 - Hong Kong cargo, however, could potentially be attracted to a Suez route if extreme toll rate actions were taken on the Suez Canal
- It is important to note that vessel string development is a complex optimization of commercial and operational factors for multiple origins and destinations
 - Cargo on less dense trade routes is shipped via feeder vessels to transshipment ports such as Singapore and Hong Kong
 - Additionally, some of the all-water Singapore cargo, which is Suez-advantaged, moves on a Panama route because the vessel strings also make North Asia calls

MORE DIRECT COMPETITORS TO THE CANAL EITHER ARE BEING BUILT OR HAVE BEEN PROPOSED – BUT THESE ARE NOT SUPERIOR ALTERNATIVES FOR CONTAINER TRAFFIC

- Central American highway and rail “dry canals” have been proposed as competition for the Panama Canal – most notably in Nicaragua, Mexico and Columbia
- The Hutchinson Whampoa and Kansas City Southern infrastructure investment in Panama also creates an ocean to ocean transport link
- In these instances, however, the additional handling costs which would accompany large scale vessel discharging and re-loading make the economic viability of these proposals questionable
- Of the proposed “dry canals”, Mexico may pose the largest threat – albeit a long term one – due to its northern location and because port and rail infrastructure are already in place
- Improvements in Latin American East-West highway conditions may divert some cargo from the Canal as trucking longer distances becomes more feasible

APART FROM CONTAINERS, THE U.S. LANDBRIDGE ALSO PROVIDES AN ALTERNATIVE – ALBEIT ONE OF LIMITED CAPACITY – FOR THE CANAL’S LARGEST COMMODITY, U.S. GRAINS TO ASIA

- The U.S. Gulf represents the primary outlet of U.S. grains for export – volumes are roughly twice than those from the U.S. Pacific Northwest (PNW)
- One of the primary reasons for the prominence of the Gulf is the cheaper access to markets it provides – inland rail costs to deliver grain to the PNW have historically been \$10 greater per ton than rail or barge costs to the Gulf
- Consequently, port selection for incremental lots of grain has been driven largely by ocean freight rates which fluctuate greatly as a function of both global and regional supply and demand
- When per ton voyage rates from the Gulf exceed PNW rates by \$10 or more – as happened recently in December 1996 through February 1997 and again toward the end of 1997 – grain cargos are more likely to be diverted from the Gulf to the PNW
- Incremental shifts, however, are limited by several factors – particularly in the near term
 - Rail capacity, both in term of system availability and physical assets (cars and locomotives) would be able to absorb only a small portion of current U.S. Gulf exports
 - Shifting grains to the PNW would decrease barge demand, thereby lowering barge prices and making Gulf exports relatively more attractive once again

BULKS AND OTHER COMMODITIES ALSO HAVE THE ALTERNATIVE OF MOVING AROUND THE CAPE – BUT THIS IS LARGELY IMPRACTICAL FOR ALL BUT THE LARGEST COMMODITY SHIPMENTS

- The Canal represents a superior economic alternative to transiting around Cape Horn as shown in the representative grain movement example on the facing page
- The economics of the North-South trade – e.g. bananas from Ecuador – are even more favorable to the Canal as the extra voyage time requires additional vessels if scheduled, service is to be maintained
- Larger ships can make up the cost difference but are impractical for current trades due to port limitations
 - Despite the longer routing, Capesize vessels can deliver similar delivery costs per ton due to their economies of scale
 - The U.S. Gulf, however, is largely unprepared to handle these vessels
- The economics of being able to move larger ships through the Canal however, are quite compelling
 - The above example roughly estimates per ton savings of \$2.59 in delivery cost via a Canal route on a Capesize vessel compared to a Panamax vessel
 - This savings exists even with an assumed toll of \$200,000

THESE CURRENT CAPE MARKETS, IN FACT, ARE A POTENTIAL OPPORTUNITY AREA SHOULD A NEW SET OF LOCKS WITH LARGER DIMENSIONS BE ADDED

**THE CANAL REPRESENTS A SIGNIFICANTLY LESS EXPENSIVE ROUTING OPTION FOR
NEARLY ALL OF ITS MAJOR COMMODITIES AND TRADE LANES ...**

Estimated Routing Alternatives for Typical Canal Movements (dollars in thousands)

Vessel Type	Primary Canal Commodity/Trade Lane	Typical Canal Port Pairs	Typical Canal Vessel Size (DWT)	Alternatives	Canal Cost Advantage per Voyage ⁽¹⁾	Canal Transit Advantage (days)
Reefer	Bananas: Ecuador to Europe	Guayaquil to Bremerhaven	11,000	Cape Horn	\$301	12
Tanker	Petroleum/Products: WCSA to US Gulf	Guayaquil to Galveston	60,000	Cape Horn	\$386	20
Tanker	Petroleum/Products: ECSA-WCSA	Puerto Cabella to Valparaiso	60,000	Cape Horn	\$99	7
Vehicle	Automobiles: Japan-USEC	Yokohama to New York	17,000	Suez	\$357	7
Vehicle	Automobiles: Japan-USEC	Yokohama to New York	17,000	Landbridge	\$1,218	-2
Dry Bulk	Grain: US Gulf - Japan	Galveston to Yokohama	60,000	Suez	\$150	12
Dry Bulk	Grain: US Gulf - Japan	Galveston to Yokohama	60,000	Cape Horn	\$381	18
Dry Bulk	Grain: US Gulf - Japan	Galveston to Yokohama	60,000	PNW route	\$0 ⁽²⁾	-2
General Cargo	Metals: Chile - Europe	Valparaiso to Bremerhaven	16,000	Cape Horn	\$22	3
Container	Manu Goods: North Asia - USEC	Yokohama to New York	3500 TEU	Landbridge	\$1,139	-3
Cruise	Passengers: partial/trans-Canal	-	-	none for Canal attraction	n/a	n/a

notes: (1) includes vessel fixed and operating costs, fuel, Canal tolls, and cargo inventory carrying cost

(2) cost difference is variable due to charter rates

...ACCORDINGLY, THE LARGEST THREAT TO EXISTING CANAL TRAFFIC IS CHANGES IN SOURCING PATTERNS TO ROUTES WHICH DO NOT INCLUDE THE CANAL

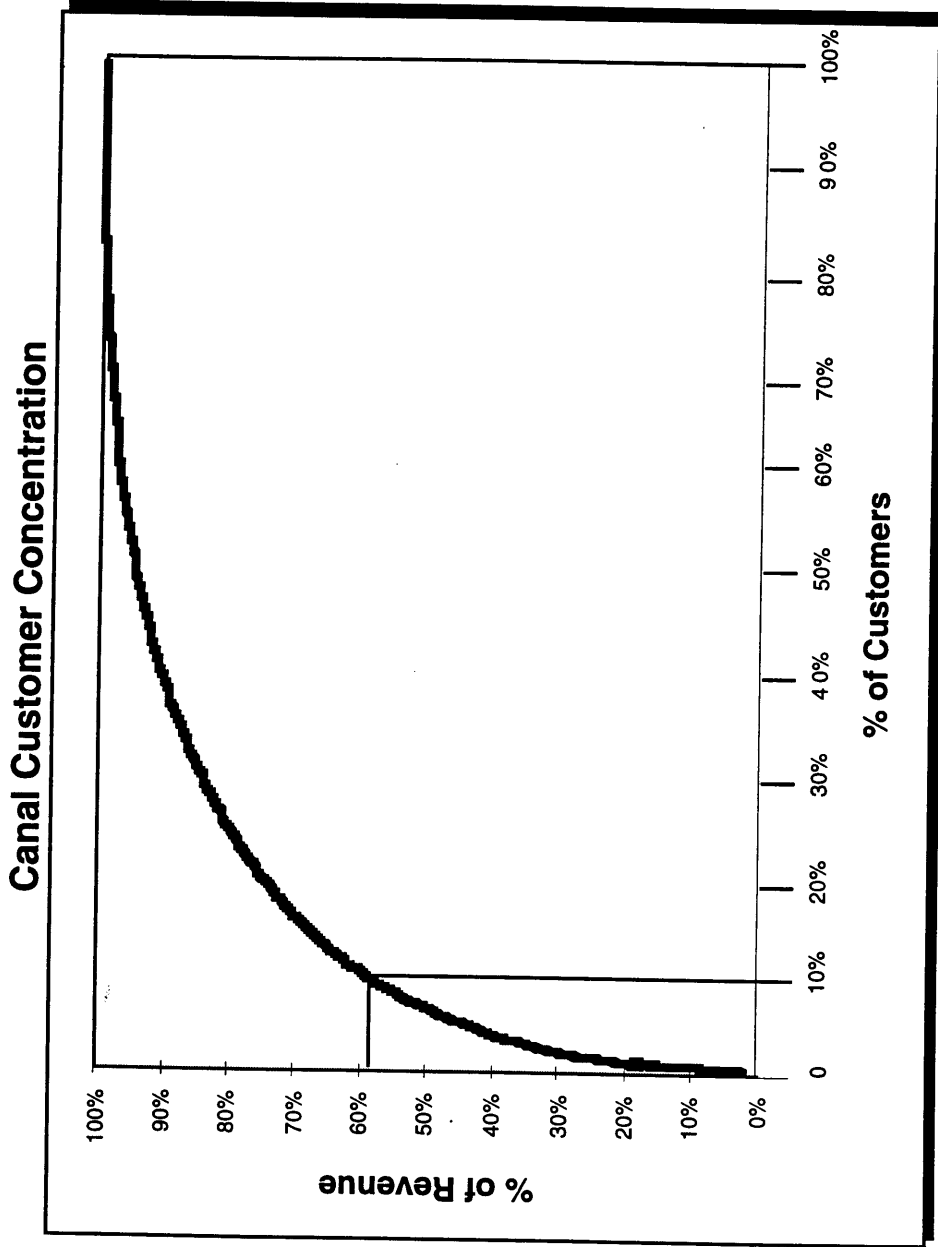
Sourcing Alternatives for Canal Commodities

Commodity	Primary Canal Origin	Primary Canal Destination	Alternate Sources
Corn	USGC	Asia	Argentina (non-Canal), Canada
Wheat	USWC, WCCanada	North Africa	Argentina (non-Canal)
Wheat	USGC	WCSA	Argentina (non-Canal)
Soy	USGC	Asia	Brazil (potentially non-Canal)
Coal	WCCanada	Europe	Australia (non-Canal), South Africa (non-Canal)
Crude Oil	Ecuador	USEC	Venezuela (non-Canal), Mexico (non-Canal), North Sea (non-Canal)
Bananas	Ecuador	Europe	East coast of Central America (non-Canal), Caribbean (non-Canal), Africa (non-Canal)
Phosphates	USGC	Asia	Africa (non-Canal)

APART FROM MAINTAINING COMPETITIVE PRICING, HOWEVER, THERE IS LITTLE THE CANAL CAN DO TO AFFECT SHIPPER/RECEIVER SOURCING DECISIONS

III. CANAL MARKET EVALUATION

THE CANAL'S CUSTOMER BASE IS HEAVILY CONCENTRATED WITH THE TOP 10 PERCENT OF CUSTOMERS DELIVERING NEARLY 60 PERCENT OF THE REVENUE



THESE CUSTOMERS REPRESENT A BROAD RANGE OF SHIPPING INTERESTS

- Dry bulk vessels are the largest Canal users at 29 percent of transits and 36 percent of toll revenue
 - Grain – although down 17 percent compared to FY1996 – is the largest commodity moving through the Canal
 - Other significant dry bulk commodities include coal, phosphates and fertilizers
- Reefer vessels, transporting predominantly bananas, are the second most frequent vessel type using the Canal – due to small vessel size, however, they account for only 8 percent of the tolls
- Carrying predominantly manufactured products, full container and container-compatible vessels account for 12 percent of transits, but 19 percent of tolls – the Canal's second largest source of revenue
- Tankers – transporting largely petroleum products, crude oil and chemicals – comprise 15 percent of transits

DESPITE YEAR-TO-YEAR FLUCTUATIONS IN THESE MARKETS, THE CANAL'S BASE OF BUSINESS HAS REMAINED FAIRLY STABLE OVER THE PAST TWO DECADES AND WILL LIKELY REMAIN SO

- Over the long term, the Canal has had a very stable base of business
- Noteworthy changes and year-to-year fluctuations are attributable to causes beyond the control of the Canal, and – in many cases – its customers
 - The opening of the trans-Panama pipeline in the early 1980s significantly reduced the volume of crude oil moving through the Canal – that Alaskan crude oil traffic, however, is now refined on the west coast
 - The introduction of reliable double-stack rail service across North America diverted some container volumes away from the Canal
 - Increased demand for imported grain in developing countries brought more grain through the Canal
- Nevertheless, the business base remains fairly constant because the Canal is an integral part of the trade chains of countries in its hemisphere
- While container volumes are projected to increase substantially, the balance of Canal traffic is expected to grow slowly, maintaining the business base

CONTINUED GROWTH IN CANAL TONNAGE IS ANTICIPATED FOR THESE MAJOR MARKETS – PARTICULARLY IN CONTAINERS

Canal Market Trends

Market	Trends ⁽¹⁾	% of 1996 Transits	Average Canal Annual Growth through 2010 ⁽²⁾
Dry Bulk	<ul style="list-style-type: none"> • China is becoming more self-sufficient in its grain production 	29%	.9%
Reefer	<ul style="list-style-type: none"> • Much of the reefer trade has moved to containers instead of breakbulk (pallets) • "Dollar-banana" restrictions are currently being debated in Europe 	19%	1.7%
Tanker	<ul style="list-style-type: none"> • US regional gasoline requirements have driven shuttle services 	15%	2.0%
Container	<ul style="list-style-type: none"> • Shifts in manufacturing to Southeast Asia have diverted some traffic, mostly west coast intermodal, to Suez routing • Lines are deploying larger ships – particularly Post-Panamax 	10%	4.8%
Vehicles	<ul style="list-style-type: none"> • Transplant operations have proliferated, somewhat mitigating the need to move fully assembled autos via ocean • The market for used automobiles in developing countries is increasing 	4%	2.1%
Passengers	<ul style="list-style-type: none"> • A strong US economy is contributing to a strong cruise market 	2%	n/a

notes: (1) A more detailed discussion of Canal commodity cargo trends is provided in Appendix B
 (2) In long tons, based on "Panama Canal Commission Long Term Transportation Forecast", 1997

THERE ARE IMPORTANT DIFFERENCES, HOWEVER, WITHIN THESE MARKETS

WHILE COST IS A KEY CONCERN FOR ALL CARRIERS, THE VALUE AND TIME-SENSITIVITY OF THE CARGO REQUIRE TIMELY AND RELIABLE TRANSIT FOR CONTAINER AND VEHICLE CARRIERS

- When the carrying costs of inventory are considered, the cost of delay increases significantly for container and vehicle carriers – while the inventory costs may not be immediately apparent to the Canal's customers, this expense affects the prices shipping lines are able to charge their shippers

- In addition to these daily carrying costs, there are significant service recovery expenses
 - Liner services incur service recovery expense in order to return to scheduled service ...
 - Extra bunker fuel to speed up vessel
 - Extra transshipment expense to skip vessel calls
 - Expedited service for "hot" shipments

 - ... making the reliability of the transit time just as important as the actual elapsed time

 - Container carriers estimate recovery costs on the order of \$50,000 to \$100,000 for a day's delay

EVIDENCED BY THEIR HIGH USAGE OF THE BOOKING SYSTEM, THESE MARKETS – AS WELL AS PASSENGER AND REEFER – ARE WILLING TO PAY A PREMIUM FOR IMPROVED SERVICE

Booking System Usage

Market	% of FY97 Transits Using Booking System
Passenger	100% ⁽¹⁾
Full Container	68%
Reefer	54%
Vehicle Carrier	48%
Tanker	25%
Dry Bulk	18%
General Cargo	17%

source: PCC

note: (1) Estimated based on survey responses

THE OPPOSITE IS TRUE FOR DRY-BULK CARRIERS AND TANKERS WHERE SMALL CHANGES IN COMMODITY PRICE OR EVENTS BEYOND THE CANAL'S CONTROL AFFECT ROUTING AND SOURCING DECISIONS

- Canal tolls represent a larger portion of cargo value

- Flows of the commodities fluctuate from year to year due to causes beyond the Canal's or the carriers' control
 - Currency
 - Weather
 - Subsidies

- As long as the Canal continues to charge only a modest portion of cargo value, it will capture the available market – there is little it can do to incent more business or to extract large premiums

IV. CUSTOMER FEEDBACK

Face-to Face Discussions

Predominant Canal Carrier Category	Customers
Container Operators	Chilean Line Evergreen OOCL Columbus Line Maersk P&O Nedlloyd Cho Yang NYK Zim
Bulk Operators	COSCO (and Container) Greenwich Marine NYK Bulkship (and Reefer) Daiichi Chuo J. Lauritzen (and Reefer)
Other	Cunard (Passenger) HUAL (Vehicles)
Total	16 Lines

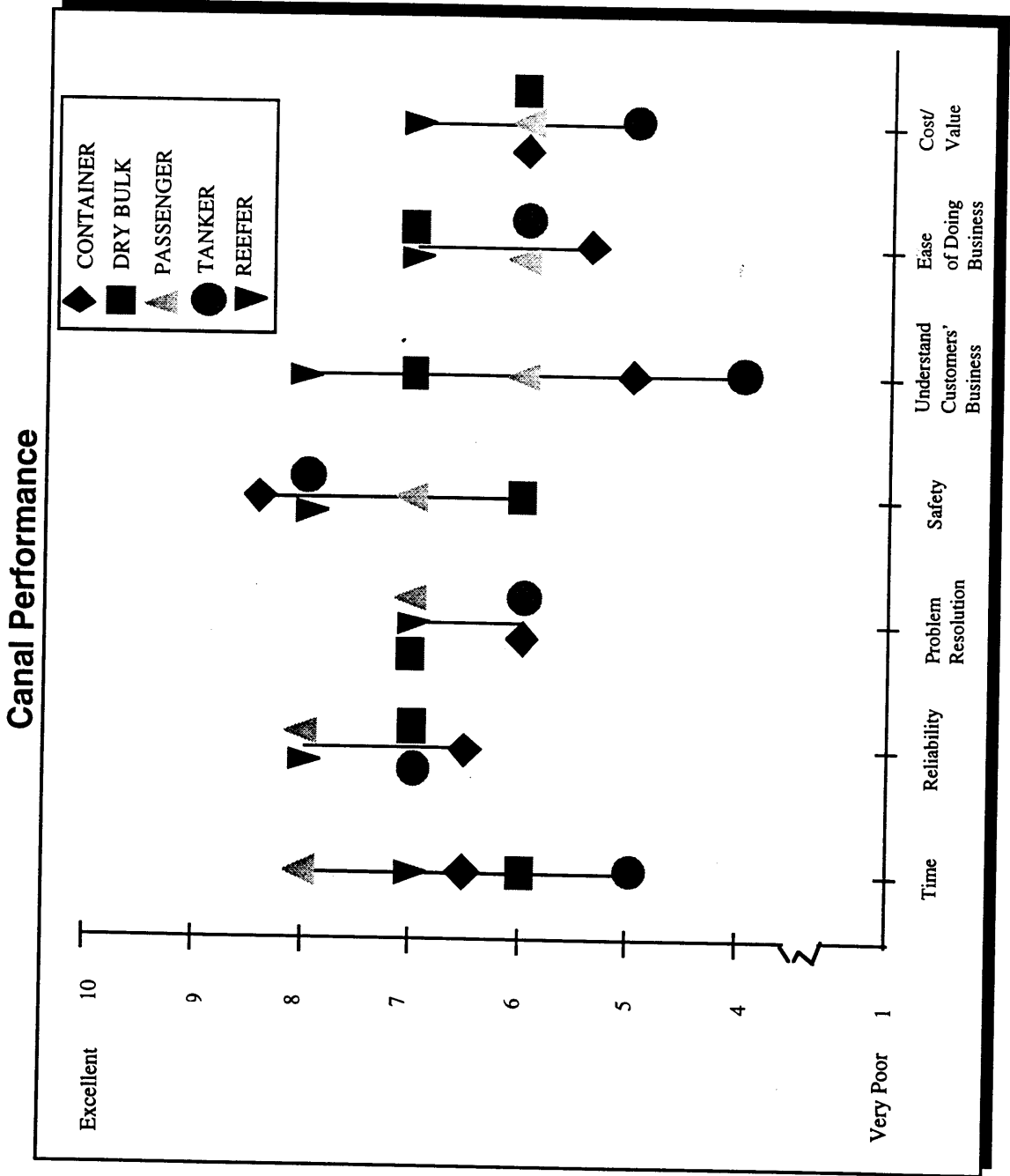
Faxed Surveys

Predominant Canal Carrier Category	Surveys Sent	Surveys Returned	% Returned
Containers and Container/BB	33	10	30%
Dry Bulk	67	13	19%
Tanker/LNG	36	7	19%
Reefer	28	3	11%
Vehicles/RoRo	14	2	14%
Passenger	13	7	54%
General Cargo	20	5	25%
Other/Undetermined	13	0	0%
Total	224	47	21%

IN ORDER TO PROVIDE AN EXTERNAL PERSPECTIVE TO THE MARKETING PROGRAM DEVELOPMENT, THE INPUT OF KEY CANAL CUSTOMERS WAS SOLICITED THROUGH BOTH FACE-TO-FACE DISCUSSIONS AND A FAXED SURVEY

- An understanding of customer's perspectives is critical to the development of a PCC marketing strategy and an understanding of the customer base
- In conjunction with a PCC sponsored luncheon, interviews were jointly conducted by PCC and Booz-Allen staff with the senior executives of 16 target NY/NJ customers – mostly in container and bulk trades
- A confidential survey was faxed to a wide cross-section of 224 Canal customers to provide customer inputs concerning:
 - Canal importance
 - Canal service performance
 - Routing decision criteria
 - Customer opinions/suggestions
 - Sufficiency of proposed locks dimensions
 - Market interest in new Canal services
- 21 percent of those sent surveys responded – the responses demonstrate a pattern of perspectives among Canal users
- The survey was targeted at larger Canal users – the average respondent transits the Canal 72 per year
- Details of the customer survey results are tabulated in Appendix A

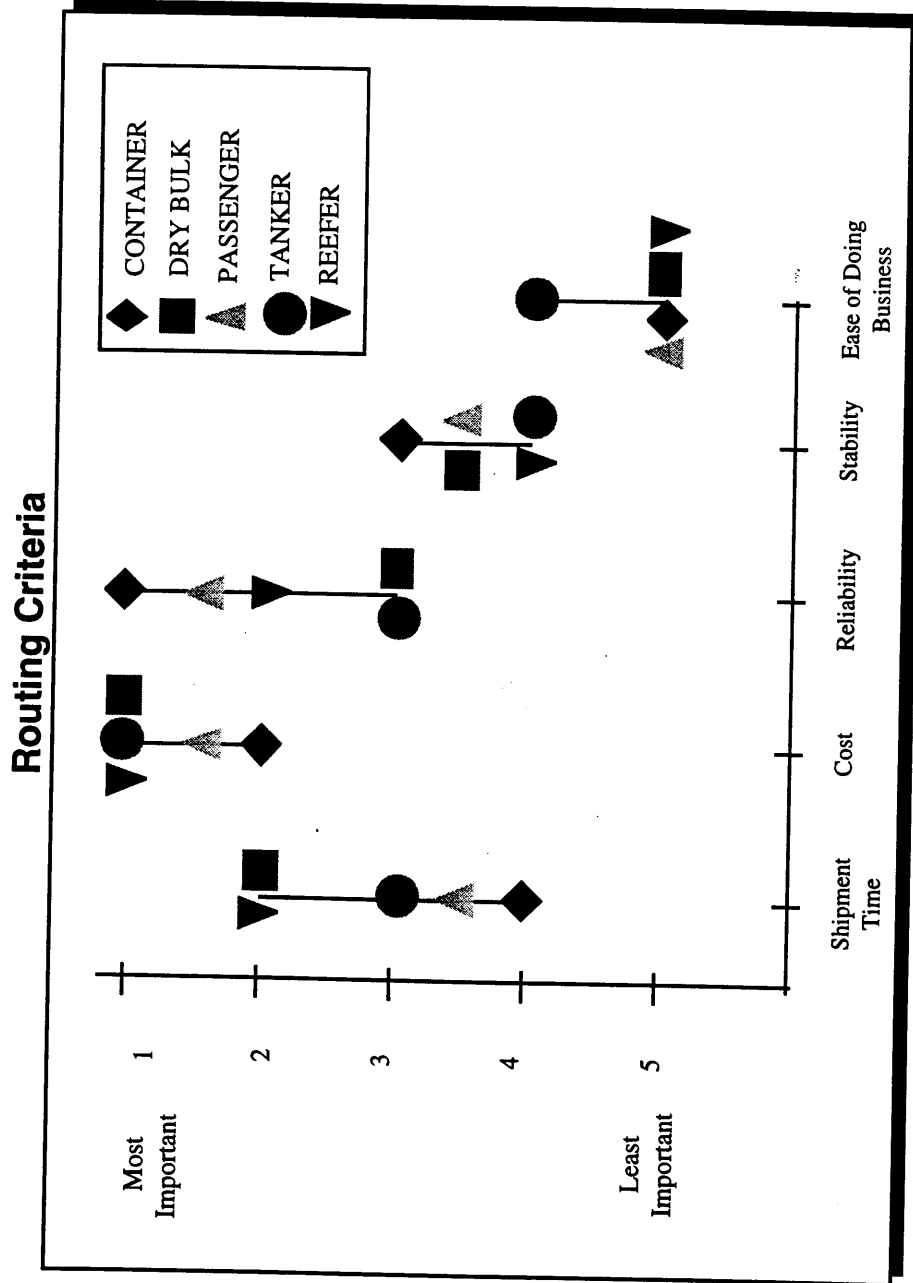
CUSTOMERS VIEW THE CANAL'S PERFORMANCE AS GENERALLY FAVORABLE – ITS LOWEST RATINGS WERE IN ITS UNDERSTANDING OF ITS CUSTOMERS' BUSINESS



MOST CUSTOMERS – PERHAPS PREDICTABLY – RATED COST/VALUE AN AREA OF POOR PERFORMANCE FOR THE CANAL

- While in absolute terms, the Canal provides an attractive cost per value of service provided, customers are particularly sensitive about costs for several reasons
 - Revenue pressures in their own markets have driven carriers to focus increasingly on cost reduction in order to remain profitable
 - Recent PCC rate increases have brought the cost of the Canal to center-stage
 - Toll increases
 - On-deck cargo charges
 - Cruise booking fees
- It would be erroneous to interpret this low rating as an indicator that the Canal is a high cost option for its customers – rather the Canal must be cognizant of this key customer concern as it develops a marketing program
- Further, in face-to-face interviews, many customers acknowledged the much higher cost of the Suez Canal

WHEN ASKED TO SELECT THEIR MOST IMPORTANT ROUTING CRITERIA, CARRIERS WERE SPLIT BETWEEN RELIABILITY AND COST



MANY RESPONDENTS, ESPECIALLY REEFER VESSEL OPERATORS, INDICATE THAT THEY HAVE NO ROUTING ALTERNATIVE TO THE PANAMA CANAL – SOURCING OPTIONS, HOWEVER, PREVENT A CAPTIVE MARKET

Canal Routing Options

Primary Vessel Type	Percent Indicating No Routing Alternatives	Indicated Routing Options
Reefer	67%	Cape Horn (for Australia/Europe)
Passenger	57%	New/Different Itineraries
Dry Bulk	50%	Cape Horn, Suez
General Cargo	50%	Suez
Tanker	43%	Cape Horn, Suez, Cape of Good Hope
Container	33%	Landbridge, Suez, Cape Horn (for S. America/Europe)
Overall	45%	

... CONTAINER LINES, OBVIOUSLY, BELIEVE THEY HAVE THE MOST ROUTING OPTIONS

THE BOOKING SYSTEM IS AN IMPORTANT AND SENSITIVE ISSUE FOR CANAL USERS

- 68 percent of respondents indicated that the booking service option is “Very Important”
- However, five respondents recommended discontinuation of the booking system altogether
 - From a tanker non-user – “Should be discontinued. Doesn’t guarantee transit in timely fashion and adds to already exorbitant cost. Further, booking fee not recoverable under world scale.”
 - From tanker medium-user – “Eliminate the booking system. Make it first come-first serve”
 - From a container ship high-user – “[The booking system is] the token that the Canal can not always accept ships transit. Your goal might be to eliminate this booking system.”
- Due to the non-time sensitive nature of tanker cargo, tanker operators do not have a reason to use the booking system – except to avoid getting caught behind the line of booked vessels
- In the interviews, container operators noted the importance of meeting schedules and the booking system’s role in doing so – additionally, several lines expressed interest in a system that would afford them priority transit even if they missed their reservation
- Not surprisingly, cruise lines are angered at the new fees associated with their priority status – “We are incensed that the booking fee has been levied on cruise vessels and that transit priority status has been withdrawn.”

WHEN ASKED WHAT CONCERNED THEM ABOUT THE CANAL, THE OVERWHELMING CUSTOMER RESPONSE WAS TRANSIT DELAYS AND POST-TRANSITION STABILITY...

- Delays, especially due to maintenance efforts, were the most frequently cited concern
 - "Congestion is the big worry with costly delays."
 - "Our concern is that you can ensure that lock/lane outages do not occur during heaviest transit times." and "For our business, it is very important not to have major lane outages ... from December to May"
 - "Increasing number of vessels transiting the Canal and the incidents of congestion."
 - "The increasing costs and time used when locks are under repairs."
 - "Too many lengthy delays this year, resulting in grave losses to owners."
- Customers have concerns about the Canal post-transition, specifically about how revenue will be used
 - "That when the control of the Canal is transferred to the Panamanian government, the Canal revenue be used not only to cover the Canal expenses ... but to cover other government political priorities..."
 - "Due to the decreasing number of Americans, both pilots and locomotive drivers has seemingly reduced the safety, consistency and value."
 - "We hope that the Canal will continue as a non-profit business also after year 2000. PCC should be aware that we can live without the Canal, but they can't live without us."

... FOLLOWED BY DRAFT MAINTENANCE, CANAL CAPACITY, AND RATE INCREASES

- Service disruptions due to El Niño were mentioned several times
 - “Draft restrictions due to El Niño.”
 - “...regular service considering climatic changes.”
 - “We have concerns regarding the Canal’s ability to maintain a Panamax-size draft at all times.”
- Customers have concerns about the capacity of the Canal
 - “Ability of the Canal to absorb the ‘natural growth’ in traffic”
 - “Insufficient capacity to handle volume”
- Potentially self-serving, several customers expressed concern about the recent toll increases

LOOKING TOWARD AN EXPANDED BUSINESS BASE, THERE'S AN APPRECIABLE DEMAND FOR ADDITIONAL SERVICES AT THE CANAL -- THE SURVEY INDICATED A STRONG POTENTIAL FOR ELECTRONIC/COMMUNICATIONS AND ENGINE/MACHINERY REPAIR

Interest in Other Canal Services

Type of Service	Percent of Respondents Expressing Interest
Ship Repair	
Electronic/Communications	70%
Engine/Machinery	67%
Topside	37%
Dry Dock	52%
Training	24%
Class Inspections	52%
Crew Services	41%
Data/Information Services	46%
Salvage	33%
Medical Services	65%

SUCH EXPRESSED INTEREST MERITS FURTHER INVESTIGATION INTO SEVERAL OPPORTUNITY AREAS

V. MARKETING PROGRAM ASSESSMENT

THERE WAS A SPLIT IN OPINION AS TO HOW A THIRD SET OF LOCKS WOULD AFFECT TRANSITS – WITH SMALLER CARRIERS, IN PARTICULAR, VOICING CONCERNS ABOUT HOW IT WOULD BE FUNDED

- 41 percent of those surveyed believed that a third set of locks would cause an increase in their usage of the Canal
- Two bulk operators noted that the proposed third lock dimensions (1200' long x 150' wide x 60' deep) would not meet their needs well into the future – they indicated a required width dimension of 155 feet
- It is difficult, however, to determine the full benefit of the additional locks from the survey because it was directed only at carriers who currently use the Canal
- Several operators of smaller vessels – in interviews and survey responses – expressed concern that, “... operators of relatively small ships will be subsidizing owners of large ships using the third set of locks through increased tolls for all ships.”

THERE ARE DISTINCT BENEFITS TO MOVING TO A CUSTOMER-FOCUSED, MARKET-DRIVEN SYSTEM

- Gain invaluable insight into the movement of cargo which can be married with cargo forecasts to form a better understanding of canal traffic projections
- Provide the research needed to make an informed decision on the need and timing of a third set of locks
- Develop an understanding of existing and potential future competitive routes
- Learn underlying economics of traffic flows/vessel movements which could be used to
 - Understand traffic sensitivity to key variables including Canal tolls and waiting time
 - Form the basis for tiered pricing based upon vessel type, cargo carried, etc. should the Canal adopt such a system
 - Develop future marketing programs to attract cargo should a third set of locks be built
- Generate new business opportunities for the canal leveraging its vast customer base
- Learn patterns of customers which can aid in scheduling

AN EFFECTIVE MARKETING PROGRAM IS CRITICAL TO SUCH A MOVE

THE HISTORICAL EFFORTS OF THE CANAL TO UNDERSTAND THE ENVIRONMENT IN WHICH IT OPERATES HAVE FOCUSED ON CARGO FLOWS – WITH LIMITED CUSTOMER OUTREACH

- Cargo flows have been of particular importance because they have driven annual budget projections
- Customer contact has been limited to very few individuals who have left, or are in the process of leaving the Canal
- The net result is that little understanding of the shipping companies which comprise the Canal's customer base remains

AS A RESULT, A FORMALIZED MARKETING PROGRAM, STAFF DEVELOPMENT PLAN AND CUSTOMER INFORMATION SYSTEM HAVE NEVER BEEN ESTABLISHED

DIFFICULTIES RANGE FROM INCORRECT CONTACT SHEETS AND LACK OF BASIC COMPETITIVE INFORMATION ...

- While efforts have begun to compile a contact list for Canal customers, there is still a considerable amount of missing and incorrect information
 - Data is incomplete – less than 60% of the Canal's top 100 customers were represented when this project began
 - Primary contacts, as opposed to board members and chairmen, are not maintained
 - Firms are repeated
 - Data is not updated – in fact, correspondence was sent to a contact who had been deceased for 4 years
 - Contact data is available to only one marketing staff member
- Basic customer information is not collected and kept in a common file
 - Customer Annual Reports
 - Call reports
 - Correspondence
- As a result, the Canal is unable to be pro-active in addressing customer concerns

...TO MORE FUNDAMENTAL CONCERNS SUCH AS NEEDING TO RE-DEFINE THE DATA COLLECTED ON TRANSITS TO FORM A MORE ACCURATE PICTURE OF WHICH COMPANIES ARE USING THE CANAL

- Transit data is collected at the vessel level based on an old set of PCC needs, leaving critical marketing information unrecorded
 - In cases of chartered vessels, the actual vessel operator is not easily determined
 - The cargo owner, the decision maker in some cases, is not captured
 - Liner vessels move through the Canal in multi-ship, scheduled rotations – knowing when to expect the next transit could aid in effective scheduling
- As a result, the Canal cannot determine the revenue levels of specific customers
- Additionally, a lack of consistent, accurate data collection results in suspect and potentially unusable historical information
 - Canal reported tonnage for phosphate rock transiting from the U.S. is more than twice the actual U.S. exports – it appears that this error results from reporting processed fertilizer (which contains the word “phosphate”) as phosphate rock
 - Container volumes are reported in both TEUs and Units, without record of the measurement used producing incomparable results
 - Actual cargo origins and destinations – as opposed to mother vessel last/first ports of call – are not consistently recorded for container traffic

ADDITIONALLY, THE INFORMATION COLLECTED BY MARKETING STAFF HAS NOT BEEN TRANSFORMED INTO USEFUL MARKET INTELLIGENCE

- A great deal of time is spent maintaining files of customer-related periodical articles – these files, however, are seldom referred to by the broader staff
- Although individuals within the Marketing department invest considerable time reading industry journals, customer expertise is limited
 - Historic focus has been on commodities – not shipping companies/customers
 - Lack of interaction with customers makes it difficult to attach significance to news items/industry trends
 - Until recently, Canal staff did little comparative/competitive analysis – when information is not used, it is much harder to retain

THE CANAL HAS TAKEN SOME PRELIMINARY STEPS TOWARD INCREASED CUSTOMER FOCUS ...

- The recent Reorganization places a new focus on the importance of Marketing
 - Customer Service
 - Marketing
 - Economic Research
 - Integration of Cruise and Freight Marketing

- Recent efforts to “reach-out” to the customer base
 - Universal Congress
 - Customer visits
 - Europe
 - Mexico
 - Chile
 - NY/NJ

... WHICH HAVE BEEN WELL RECEIVED BY THE CUSTOMER BASE

- The vast majority of customers visited by the Canal described the new approach as “very positive ... very encouraging”
 - From an Operations Director – “[I’ve been] working with the Canal since 1961, [this is] the first time I’ve met someone from the Panama Canal Commission.”
 - From a Chief Operating Officer – “First time we’ve had someone from the Canal to visit us.”
 - From an Operations Director – “A tremendous change.”
- The customers are eager for more interaction – in the survey, 64 percent gave the idea of a Customer Advisory Board a “10”, the highest score

THE KEY NOW IS TO BUILD ON THE MOMENTUM CREATED BY THESE INITIAL EFFORTS

VI. MARKETING PROGRAM RECOMMENDATIONS

THE MARKETING PROGRAM – WHILE ONLY HAVING A THREE YEAR HORIZON – MUST LAY THE FOUNDATION FOR FUTURE INITIATIVES

- Marketing is a continual process where messages and strategies are shaped and reshaped based upon the changing competitive environment of the product and the organization
- In this instance, the Canal is in transition from a U.S. government agency to a more market focused concern – this marketing program will serve as the bridge between the two paradigms
- While currently restricted from the classical marketing approach of customer segmentation and optimization by U.S. law, there is still much the Canal can do to prepare for the post-transition business model

THERE ARE FOUR NEAR-TERM IMPERATIVES TO DEVELOP AN EFFECTIVE MARKETING PROGRAM

- **Building Capabilities** focusing on:
 - Developing staff,
 - Establishing systematic processes,
 - Introducing tools, and
 - Establishing Canal-wide marketing support.

- **Assuring Transitional Stability** through a clear, consistent message

- **Implementing Targeted Marketing** by differentiating the Canal's customer base

- **Installing New Pricing Mechanisms** which focus on use of resources and risk

**THE CANAL'S NEW MARKET PARADIGM REQUIRES THE GROWTH OF NEW CAPABILITIES –
THE MARKETING GROUP IS NOW ORGANIZED TO SERVE THE CANAL'S NEW DIRECTION**

- The PCC's reorganization effort has yielded a Marketing and Planning division which is much better aligned to the Canal's goals going forward
- Within this group, keeping the lines of communication open between Business Development, Strategic Planning, and Marketing will be the key to extracting the most value
 - Marketing can feed Business Development ideas from talking to Canal customers
 - once these ideas take the shape of business plans, Marketing can help by going back to the customers and testing the assumptions/plans
 - Marketing can work hand in hand with Strategic Planning to provide critical industry trends, and develop and test ideas with the customer base
- Within Marketing, division of responsibilities will promote leaders in critical market segments – but cross fertilization is key to enhancing the knowledge of the entire group
 - Geographic specialization among in the Marketing Specialists (customer contact role) will aid in efficient travel and speed the learning process
 - The Economic Research and Forecasting staff should also have industry leaders but should work more closely with customer staff to integrate “real world” concerns to enhance their forecasting and competitive analysis

FILLING IN THE ORGANIZATION AND DEVELOPING IN-HOUSE MARKET EXPERTISE IS THE CRITICAL NEXT STEP

- The nature of the Canal's business does not require a large marketing staff, yet this does not diminish the importance of recruiting, training and developing talented marketing professionals
- Currently, 11 positions are open within the Corporate Planning and Marketing Group
 - Importantly, a permanent Director has yet to be selected
 - The Marketing Group has four vacancies, including two "team" leaders
- While not evidenced by the organization chart, there is a need to define and fill the roles of the Marketing Specialists
 - These staff should be the primary customer contacts
 - General skills/qualifications required include:
 - Analytical and technical skills
 - Industry expertise
 - Communications skills
 - Language ability (Spanish/English)
 - Career paths should exist for professionals to pursue long-term careers with the Canal or to move into marketing management
 - Current Marketing staff may be able to fill the roles but need training and – most importantly – significantly increased exposure to the customer base

**PORT AUTHORITIES – WHICH SERVE A SIMILAR CUSTOMER BASE – PROVIDE A USEFUL
BASE ORGANIZATIONAL MODEL FOR MARKETING WHICH CAN BE TAILORED TO THE
CANAL'S SPECIFIC NEEDS**

- Most large U.S. ports divide their marketing staff by commodity and region
 - Commodity divisions facilitate a better understanding of products – in the post-transition environment the Canal will be in a position to offer different products to different commodities
 - Regional divisions enable more cost efficient customer visits
 - Some Ports also divide their staff functionally (e.g., pricing, market research, sales, etc.) – it is doubtful that this type of split could enable the Canal the rapid learning curve it requires
- Many large U.S. ports maintain significant Sales representation in foreign countries – the canal's need to develop customer and industry knowledge in-house makes that model inappropriate in the near-term
- Marketing spending varies significantly among large U.S. ports – While this is partially attributable to differing market positions, it is largely a reflection of different philosophies illustrated by the spending difference between two nearly identically situated ports, Long Beach and Los Angeles

DIVIDING MARKETING RESPONSIBILITIES ON A GEOGRAPHY/COMMODITY MATRIX BASIS IN THE NEAR-TERM WILL SIMULTANEOUSLY YIELD THE CANAL DEVELOPED EXPERTISE AND STAFF INTERCHANGEABILITY

- In the matrix scenario, each Marketing Specialist would develop expertise in a particular geography and commodity ...
 - Geographic specialization will afford cost-effective customer visits while allowing all Marketing Specialists to have face-to-face contact with customers
 - Commodity specialization will develop the in-depth knowledge that will be necessary as potential price and service options are developed post-transition
- ... while gaining exposure to the range of Canal customers
 - Knowledge of multiple customer segments allows the Canal to fully and effectively utilize the available staff
 - Coverage during vacations and business travel
 - Special projects requiring additional effort
 - Additionally, this exposure mitigates the knowledge drain that typically accompanies staff terminations
- This methodology could also be applied in the Economic Research group

THE CANAL'S MARKETING GROUP MUST BE PREPARED TO EXECUTE KEY TASKS ...

Key Marketing Tasks

General Area	Key Tasks
Strategic Marketing Direction	<ul style="list-style-type: none"> • Develop a coherent understanding and vision of the Canal's competitors and the external market factors the Canal faces now and in the future • Provide a forum to coordinate Canal-wide opportunities and resolve conflicts
Market and Competitor Research	<ul style="list-style-type: none"> • Research current and emerging customer needs/problems • Identify and assess the impact of critical trends – environmental, competitive, infrastructure • Translate knowledge/research into strategic insights • Build knowledge of costs, prices, and sensitivities for future pricing actions • Perform research on customer needs/problems • Collect data on critical trends affecting the business • Maintain library of marketing information and research
Market Segmentation	<ul style="list-style-type: none"> • Segment based on fundamental customer needs • Characterize segment buying behavior, size, profitability, etc.
Market Message/Communications/Image	<ul style="list-style-type: none"> • Establish and coordinate of Canal image • Generate messages to support market strategy
Market Performance Monitoring	<ul style="list-style-type: none"> • Monitor ongoing performance against goals (if and when differentiated targets are set) • Identify reasons for performance shortfalls and develop strategic options to address them
Market Research and Analysis	<ul style="list-style-type: none"> • Perform research on customer needs/problems • Collect data on critical trends affecting the business • Maintain library of marketing information and research
Product Development	<ul style="list-style-type: none"> • Identify and develop new service offerings
Sales Program Management	<ul style="list-style-type: none"> • Develop general and segment-specific sales training • Consolidate customer feedback
Sales/Customer Interaction	<ul style="list-style-type: none"> • Develop descriptive customer databases of users, decision makers, etc. • Visit with selected customers • Prepare and distribute Canal publications • Respond to customer inquiries • Pro-actively address customer concerns • Institute Customer Advisory Board

... WHICH CAN BE CODIFIED INTO FORMAL PROCESSES TO ENSURE THAT JOB RESPONSIBILITIES ARE UNDERSTOOD AND COMPLETED – AS WELL AS TO ENABLE MORE EFFECTIVE CROSS-TRAINING

Activity Descriptions for Key Tasks

Task	Goals	Others Involved	Description of Activity	Frequency
Target New Customers	Bring new customers to Canal	Operations, Administrator's Office	Daily reading of periodicals, talk to existing customers, ports, others to identify existing or emerging transport chains which might consider using the Canal; entering up these prospects into a database; and following up with visits to determine primary transport concerns and build relationships to affect routing decisions	Daily
Price & Cost Research	Develop a base of knowledge to be latter used if Canal moves toward price differentiation	Economic Research	Work in concert with economists to model price and service characteristics of market; bring "real world" concerns of carriers/ shippers to the effort	Annual by commodity type - as needed for target accounts
Complaint/ Inquiry Handling	Ensure Canal customer's have a voice in the operation	Administrator's Office, Operations	Log complaints/inquires based upon topics/type of operators to determine any emerging trends or sensitivities; place customer letters in central customer file; Route concern to appropriate department for action; follow up to ensure action taken; prepare response; address serious issues in face to face meetings	Regularly, As required
Industry Surveys	Develop base knowledge of firms and services in the many cargo markets the Canal serves - Can be basis for later data sales	Economic Research	Read periodicals, turn macro and micro knowledge of shipping industry into cargo sector briefs which can be used by senior staff to understand key markets	Bi-annual for each major sector
Promotional Material Development	Communicate clear, consistent themes and a professional image to customers and public	Public Affairs, Administrator's Office	Work with Public Affairs to write, edit and produce relevant marketing and promotional materials	Annual

ACCURATE AND TIMELY MARKET INFORMATION IS ANOTHER CRITICAL COMPONENT OF THE CAPABILITIES DEVELOPMENT – THE CONSIDERABLE INDUSTRY DATA TO WHICH THE CANAL HAS ACCESS SHOULD BE FULLY UTILIZED

- The Ship Data Bank poses an opportunity for the Canal to better understand its markets – the current data structure and collection methodology prevent the full use of this asset
 - Erroneous data
 - Insufficient data
 - Inconsistent collection of data
- Representatives from all users of the Ship Data Bank should be involved in discussions to restructure the system to accurately collect all necessary data
 - Charterer (if applicable)
 - Shippers of large lots (e.g., bulks)
 - Correct commodity
- Data gatherers must be properly trained in the end-use and importance of the data collected and quality checks should be incorporated into the process

MANAGEMENT OF CUSTOMER RELATIONSHIPS CAN BE MADE MORE EFFICIENT AND DIRECTED WITH THE USE OF OTHER MARKETING TOOLS

- Customer files, if used pro-actively, can afford better understanding of the customer base
 - Call reports
 - Annual reports and customer publications
 - News articles
 - Correspondence
- An accurate, current, and complete customer contact list is essential to effective outgoing communication
- Sales force automation tools can assist in customer visit scheduling and follow-up

CANAL-WIDE SUPPORT IS NECESSARY TO SUCCESSFULLY IMPLEMENT THE MARKETING PLAN – MARKETING ACTIVITIES ARE NOT CONFINED TO THE MARKETING DEPARTMENT

- The Canal creates an impression at many levels which can shape the perceptions of decision makers – from interaction with agents and ship captains to home office staff
- Clear, consistent themes are needed for all Canal employees to present when dealing with customers – this should be an early goal of the Marketing Steering Committee and is especially important as it relates to post-transition stability
- Implementation of the Customer Advisory Board will incorporate customer feedback into multiple Canal functions

PUBLIC RELATIONS IS ANOTHER KEY AREA FOR NECESSARY COOPERATION WITH MARKETING

COORDINATION BETWEEN MARKETING AND PUBLIC RELATIONS IS PARTICULARLY IMPORTANT FOR DEVELOPING AND PROJECTING AN IMAGE OF STABILITY THROUGH THE TRANSITION

- The roles and responsibilities of Public Relations are intertwined with Marketing – operational silos must be eliminated to ensure the best overall advantage for the Canal
- The transition – as well as the current El Niño crisis – demands a well coordinated information campaign to customers and the general public alike
- The key is a uniform approach, where the media strategy reinforces and enhances marketing efforts
 - Articles about the Canal
 - Interviews given by Canal staff

ADDITIONALLY, THE MARKETING DEPARTMENT HAS SYNERGIES WITH OTHER DEPARTMENTS THAT CAN BE EXPLOITED TO REALIZE THE GREATEST BENEFITS

- Understanding both regular shipping patterns and short-term fluctuations enables the Canal to more efficiently allocate its capacity on an operating basis
 - Planning outages
 - Optimizing daily mix of vessels for transit
- Operations has the most frequent contact with customers – this should be exploited to gather and disseminate information
 - Marketing should receive regular feedback from Operations on service performance and specific incidents in order to proactively address customer concerns
 - Customer contact lists should be shared between Marketing and Operations
 - Marketing messages can be incorporated into Operations announcements – similarly, Operations staff could be included on selected Sales calls
- The market knowledge and insight developed within the marketing department can be an asset to Canal capital planning efforts

THE CANAL'S CUSTOMER CONCENTRATION FOLLOWS A CLASSIC PATTERN WITH THE TOP 10 PERCENT OF CUSTOMERS DELIVERING NEARLY 60 PERCENT OF THE REVENUE – SUGGESTING THAT A VOLUME SEGMENTED APPROACH TO CUSTOMER INTERACTION IS APPROPRIATE

Customer Volume Segmentation ⁽¹⁾

Customer Segment	Number of Customers	Percent of Revenue	Segment Profile	Communication Approach
"A" Top 10% of Customers	146	58%	28% Dry Bulk 23% Full Container 18% Tanker 11% Vehicle	Regular Visits, Newsletters
"B" Middle 40% of Customers	582	35%	49% Dry Bulk 16% Tanker	Select Visits, Newsletters
"C" Bottom 50% of Customers	727	7%	46% Dry Bulk 13% General Cargo 12% Tanker 12% Other ⁽²⁾ 11% Reefer	Media Outlets

notes: (1) Listing of Customer Segmentation is provided in Appendix C

(2) Other excludes Full Container, Dry Bulk, Tanker, Vehicle, General Cargo, Reefer, and Passenger

A TARGETED CUSTOMER CONTACT APPROACH UTILIZING APPROPRIATE INTERACTION METHODS WILL AFFORD THE CANAL EFFICIENT AND EFFECTIVE COMMUNICATION WITH ITS DIVERSE CUSTOMER BASE

Customer Interaction Methods			
	Customer Visits	Newsletters	Media Outlets
Goal	<p>Establish relationships and communication channels with strategic Canal customers; Gain feedback on service performance, customer concerns, industry issues, future plans, etc.</p>	<p>Communicate Canal issues to key users; Promote Canal image</p>	<p>Communicate major Canal issues to broad community; Promote Canal image</p>
Process Elements	<p>Planning</p> <ul style="list-style-type: none"> - Select customers to visit based on geography, last visit, current issues <p>Preparation</p> <ul style="list-style-type: none"> - Feedback from Operations, rest of Marketing - File research - Briefing book <p>Follow-up</p> <ul style="list-style-type: none"> - Thank you letters - Research and resolution of Canal issues and questions brought forward by customers <p>Dissemination</p> <ul style="list-style-type: none"> - Preparation of Call Reports - Distribution of key findings to Administrator, Operations, Economic Research, other Marketing staff, etc. 	<p>Contact List</p> <ul style="list-style-type: none"> - Maintain and update Schedule - Regular issues - Special editions <p>Article Development</p> <ul style="list-style-type: none"> - Information customers should learn directly from the Canal - New Canal service initiatives - Profiles of Canal staff - Canal Performance - Customer Concerns - Surveys 	<p>Coordination with Public Affairs</p> <ul style="list-style-type: none"> - Current issues impacting customers - New market initiatives

THE IMPORTANCE OF FACE-TO-FACE SALES AS AN EFFECTIVE MARKETING TOOL IS DEMONSTRATED BY A RECENT SURVEY OF U.S. PORT AUTHORITIES – WHOSE TARGET CUSTOMER BASE IS SIMILAR TO THE CANAL'S

**Perceived Effectiveness of Promotional Techniques
Among Selected U.S. Port Authorities
(1 = very ineffective, 5 = very effective)**

Port	Print Advertising	Face-to-Face Sales	Direct Mailing
A	3	5	4
B	2	5	1
C	3	5	1
D	1	5	3
E	2	5	3
Average	2.2	5	2.4

source: Booz-Allen survey of U.S. port authorities (1998)

WHILE THE CANAL DOES NOT INTEND TO ALTER ITS BASIC PRICE STRATEGY OVER THE NEXT FEW YEARS, RISK AND RESOURCE-BASED PRICING CAN BE EMPLOYED TO BEGIN SEGMENTATION AND ASSURE THAT EACH TRANSIT COVERS ITS COST

- With the introduction of the reservation system several years ago, the Canal established the practice of differentiated pricing
- This could be expanded to include Risk/Resource based pricing surcharges which lay the foundation for full scale differentiated pricing based upon service offering and commodities should the Canal choose to move in that direction in the future
 - Transits that pose additional hazard to Canal infrastructure should compensate for the chance of damage
 - Hazardous shipments
 - Improperly maintained vessels
 - Ships that are more expensive to transit due to required special handling should pay more than a standard transit
 - Panamax vessels
 - Nuclear submarines
- This concept was recently employed with the introduction of a minimum toll aimed at pleasure craft

ONCE THESE NEAR TERM GOALS ARE ACCOMPLISHED, THE CANAL HAS THE OPTION TO EMPLOY MORE SOPHISTICATED TECHNIQUES TO OPTIMIZE ITS CUSTOMER BASE AND REVENUE FLOW

- Differentiated cargo pricing/yield management
 - Because the vessels transiting the Panama Canal vary in cargo value and time sensitivity, commodity pricing may provide additional revenue for the Canal – especially if offered in conjunction with premium service
 - Preliminary analysis on this type of pricing system in Booz-Allen's Panama Canal Growth Strategy Report (June 1996) indicated the potential for over \$125 million in additional tolls
- Super-premium bookings
 - Tighter operational windows with guaranteed service in exchange for higher tolls may be attractive to the most time-sensitive vessel operators
 - Interest in this service was confirmed in our customer interviews
- Volume pricing/service discounts
 - Discounts for exceptional volumes or long term agreements are a common means of securing a customer base
 - Here again, interviews confirmed an interest in this type of system

THE COMPETITIVE ANALYSIS SUGGESTS THE CANAL HAS LIMITED OPPORTUNITY IN THE PRICE DRIVEN BULK SECTOR BUT MUCH GREATER POTENTIAL IN SERVICE DRIVEN MARKETS

- Price is a marketing tool typically used to create market growth. Given the Canal's capacity situation, however, lowering price – which would increase bulk movements – would not be advisable at this time
- Additional Container and Vehicle business could be attracted with new “premium” products which guarantee passage within a specified window
- The Canal is positioned to attract more Cruise business – if it desires to do so
 - Cruise lines may be interested in other products such as excursions off the vessel both within and beyond the Canal
 - While Panama has not historically been a tourist attraction, neighboring countries, most notably Costa Rica, have been extremely successful
 - Initial efforts have been successful with one cruise line for an “in-Canal” excursion
 - Marketing efforts could be further extended to travel agents and cruise passengers in order to promote Canal cruises and develop Panama tourism

TARGETING MARKETS NOW WILL BE IMPORTANT WITH CANAL CAPACITY SET TO INCREASE BY 20 PERCENT IN 2003

IF AND WHEN THE CANAL DECIDES TO DIFFERENTIATE ITS CUSTOMER BASE AND CUSTOMIZE ITS PRICE/SERVICE OPTIONS, IT SHOULD FOCUS ON PROVIDING RELIABLE, QUICK TRANSIT TO TIME AND SCHEDULE SENSITIVE CARRIERS WHILE REMAINING THE LOW COST OPTION FOR CORE BULK SHIPMENTS

- The Canal should offer an array of premium based products to its “service driven” customer base including container and vehicle carriers, cruise and reefer vessels
 - Increased reservation options
 - Narrower guaranteed transit windows
 - Ability to buy back into the queue is slot is missed
 - Preferences during lane outages or other long delay periods

- For these services, the Canal should charge premium prices based upon rigorous and continually updated sensitivity analysis of what the market will bear

- Bulk markets will remain the core of Canal transits and consequently must be priced competitively to prevent alternate routing or sourcing
 - Long term or volume agreement to secure business base
 - Base service levels to compensate for lower prices

A. CUSTOMER SURVEY DETAILS

THE FOLLOWING PAGES PROVIDE DETAILS OF THE CUSTOMER SURVEY

- Survey Questions
- Tabulation of Survey Responses
- Note that in questions 4 and 8, survey responses have been coded as indicated on the question sheets

Panama Canal Customer Survey

Page 2

4. What percent of your transits use the booking/reservation system? _____%. Do you believe this service option is (please check one):

Not Important	_____	<i>code=1</i>
Somewhat Important	_____	<i>code=2</i>
Very Important	_____	<i>code=3</i>
No Opinion	_____	<i>code=0</i>

Do you have any recommendations on this service?

5. Do you have any concerns regarding the Canal? If so, please describe.

6. Do you have alternatives to routing through the Canal? If so, what are they?

7. Do you expect your routing options/preferences to change in the next 10 years? If so, how?

8. Ten years from now, do you anticipate that your total annual Canal transits will: (please check one)

Increase more than 10%	_____	<i>code=5</i>
Increase less than 10%	_____	<i>code=4</i>
Stay the same	_____	<i>code=3</i>
Decrease less than 10%	_____	<i>code=2</i>
Decrease more than 10%	_____	<i>code=1</i>

Will this change if a third set of locks with larger dimensions is built?

Third set of locks will cause increase in my usage	_____	<i>code=3</i>
Third set of locks will have no affect on my usage	_____	<i>code=2</i>
Usage will decline even with third set of locks	_____	<i>code=1</i>

Panama Canal Customer Survey

9. The Canal has recently announced proposed specifications for a third set of locks of 1200' x 150' x 60' (length x width x depth in feet). Will this be able to accommodate your needs well into the future?

If not, which dimension need to be changed? _____ (l) x _____ (w) x _____ (d)

What type of vessels (e.g. 150,000 DWT ore carrier) would require your suggested dimensions? _____

Do you currently have such a vessel (please circle all that apply):

In fleet	On Order	Contemplating Order	Would Consider With New Locks	No Plans
----------	----------	------------------------	----------------------------------	----------

How many vessels in your fleet/plans would require your suggested dimensions? _____

10. Are there other services you would like to see the Canal provide?

Ship repair

Electronic/Communications	Yes	No
Engine/Machinery	Yes	No
Topside	Yes	No
Dry Dock	Yes	No
Training	Yes	No
Class Inspections	Yes	No
Crew Services	Yes	No
Data/Information Services	Yes	No
Salvage	Yes	No
Medical Services	Yes	No

Other: _____

Other: _____

11. The Canal is contemplating setting up a standing customer committee/advisory board. Is this (please circle one):

1	2	3	4	5	6	7	8	9	10	X
Very Poor Idea									Very Good Idea	No Opinion

Do you have any recommendations who should be a part of this group?

Primary Ship Type	# Vessels		Transits	% of Bus	Canal Importance	Service Rating								Criteria Rank					New Business Opportunities										Advisory Board
	Owned	Chrd-In				Time	Rel	Probes	Safety	Und Biz	Base	Est/Val	Time	Cost	Rel	Stabil	Base	Eng/Mach	Topside	Dry Dock	Training	Inspection	Crew	Data	Salvage	Medical	Rank	Recommendations	
DRY BULK			70	50%	5	9	9	9	9	9	9	9	9	9	4	3	1	2	5	X	X	X	X	X	X	X	10	The group should be comprised of people from the PCA who are in a position to implement viable recommendations -- other members should be from the shipping community -- ship owners and operators, not voyage charterers/cargo interests.	
DRY BULK	5	20	30	50%	5	5	7	7	5	7	7	5	5	1	1	1	1	1	X	X	X	X	X	X	X	10			
DRY BULK				20%	4	8	8	8	8	8	8	7	3	2	4	1	5												
DRY BULK	25	300	>100	60%	5	8	9	10	10	7	9	8	2	1	3	4	5								8				
DRY BULK					4	6	5	3	3	5	5	5									X	X		X	10	This board needs to be comprised of both shippers and owners and should have a meaningful role with regard to Canal operations and long-range strategy.			
DRY BULK	20	25	25	5%	5	8	7	8	8	4	5	4	2	1	3	4	5		X			X	X		6				
DRY BULK																													
DRY BULK	29	60-70	50-100	10-15%	5	3	8	7	9	9	7	5	2			1			X				X	10					
DRY BULK	18	20	12	10%	4	6	9	7	5	8	9	7	2	1	4	3	5		X										
DRY BULK	29	60-70	50-100	10-15%	5	3	8	7	9	9	7	5	2			1			X				X	10	should also include members from the users (owners/operators)				
GC	23		10	1%	3	8	8	8	8	8	8	8	1	2	1	1	1								0				
GC	56		20	1%	3	6	7	7	7	6	6	5	1	2											0				
GC	53	16	84	20%	4	7	5	3	7	5	7	4	2	1	3	4	5		X	X		X			0	No customers			
																									8	Believe the present authority serves the customers need for direct contact. Accordingly, see no benefit in establishing further bureaucratic entity.			

Primary Ship Type	# Vessels		Transits	% of Bus	Canal Importance	Service Rating									Criteria R				New Business Opportunities									Advisory Board						
	Owned	Chrd-In				Time	Rel	PrbRes	Safety	Und Biz	Base	Cst/Val	Time	Cost	Rel	Rank	Elect/Com	Eng/Mach	Topside	Dry Dock	Training	Inspection	Crew	Data	Salvage	Medical	Rank	Recommendations						
GC					5	4	5	3	7	2	3	5	2	3	1																			
PASS	5	0	20	10%		9	9	9	10	9	9	8	1	1	1						X	X								10	a) the major users - based on how many transits they have. b) shipowner associations, agents (owners).			
PASS	1		10		5	6	6	5	5	5	5	5	5	2	1	3				X	X									8	apart from anybody else are members to be from the industry or understands our needs (cruise industry)			
PASS	2	2	4	6%	4	7	8		10	5	9	7				2	1	1	X	X					X					8				
PASS	3	0	4	12%	5	8	8	4	7	4	5	7							X	X				X	10					10	frequent users			
PASS	9	0	44	14%	5	8	7	7	7	6	6	3	3	1	2	4															8	The appropriate cruise line representative body should have the opportunity to participate.		
PASS	2	0	10		5	8	6	7	6	8	7	6	4	2	1	3							X	10							10			
PASS	5		7	1%	3	7	8	7	7	7	6	4				2	1	3														9		
FF	68	0	400	20%	4	7	8	7	8	8	7	7	3	1	2	4				X	X	X	X		X							8		
FF	110	15	100	10%	5	8	8	7	8	8	7	8	2	1	3	4				X	X	X	X										7	
FF	14	20	90	50%	5	7	5	5	9	5	7	7	1	3	2	5				X	X				X	8						8	Representatives of shipping organizations	
FCFO	29	5	100	80%	5	8	8	8	8	9	7	5	4	3	1	2	5			X	X	X	X	X	X	X							10	Representatives of owners/operators – not necessarily through owners bodies but by individual owners/operators being part of the group.
FCFO	28	5	125	80%	5	4	5	8	9	4	8	3	2	3	1	4	5			X	X	X	X	X	X								10	Agents in the Canal Zone and owners' regional reps.
																																	9	transit agents, BIMCO, ICS

Primary Ship Type	# Vessels		Transits	% of Bus	Canal Importance	Service Rating										Criteria		
	Owned	Chrt'd-In				Time	Rel	P/bRes	Safety	Und Biz	Ease	Cst/Val	Time	Cost	Rel			
TANKER	32	60-100	200	5%-10%	4	3	5	5	5	2	4	4	2	1	3			
TANKER	3		10-12	25%	5	3	5		8	7	7	5	5	1	2			
TANKER	9				5	7	8	9	9	8	8	5	1	1	1			
TANKER	7	0	40-45	25-30%	4	1	2	2	8	2	6	2	4	2	3	5		
TANKER	3	6	30	65%	5	9	9	9	9	9	9	9	2	1	3	5		
TANKER	45	20	112	30%	5	7	7	4	8	4	6	7	3	2	4	1		
TANKER	3	8	60	50%	5	5	9	7	8	4	6	7	3	1	2	4		

New Business Opportunities													Advisory Board	
Elec/Com	Eng/Mach	Topside	Dry Dock	Training	Inspection	Crew	Data	Salvage	Medical	Rank	Recommendations			
X	X	X	X	X	X	X	X	X	X	10	Board should represent three major client types: container, cruise, dry/liq bulks/reefers			
X		X		X					X	10	Intertanko			
X	X	X	X	X	X	X	X	X	X	10	Canal Commissioning & Agency			
X	X	X	X		X	X	X	X	X	10	owners with frequent transits, agents.			
X	X	X	X	X	X		X	X	X	10	Delegates of countries that have no alternative but to use the Canal for its trade with the East and Gulf Coast of US and Europe. Delegates of the International Chamber of Shipping, BIMCO, Intercargo, and other sectors of the industry.			
X	X			X	X	X		X		10	Chemical Carriers Association, Intertanko			

B. COMMODITY TREND DISCUSSION

THE CANAL'S MARKETING PROGRAM MUST INCLUDE A CLEAR UNDERSTANDING OF THE TRENDS IN KEY COMMODITY TRADES MOVING THROUGH THE CANAL

- Dry/Liquid Bulk
 - Grain
 - Phosphates and Fertilizers
 - Crude Oil and Petroleum Products
 - Coal

- General Cargo
 - Lumber
 - Reefer

- Liner/Cruise
 - Containers
 - Cruise

Grain ...

ALTHOUGH GRAIN HAS TRADITIONALLY BEEN A STRONG CANAL COMMODITY, WHEAT AND CORN VOLUMES BEEN DECLINING IN RESPONSE TO WORLD MARKET CHANGES WHILE SOY VOLUMES HAVE INCREASED

Canal Grain Flows (thousand tons)

	Canal Route	% change 95 to 97	Canal Vols FY 1997	Canal Vols FY1996	Canal Vols FY1995	Canal Alternatives/Trends
Corn	USEC (1) - Asia	-29%	14,831	20,665	20,844	Route Alternatives: Pacific
	USEC - WCSA	-17%	1,395	1,712	1,676	Source Alternatives: Argentina, Canada
	All other	36%	1,892	1,950	1,388	
	Total	-24%	18,118	24,328	23,909	Trends: Asian self-sufficiency
Wheat	US/CanWC - N Afr	-13%	629	828	722	
	USEC - WCSA	-24%	625	860	823	Route Alternatives: Pacific
	US/CanWC - ECSA	-19%	273	497	336	Source Alternatives: Argentina, Canada
	USEC - Asia	-94%	250	2,413	3,976	
	US/CanWC - Eur	n/a	175	164	0	
	All Other	-27%	1,248	1,189	1,713	Trends: Asian self-sufficiency, world wheat oversupply
	Total	-58%	3,200	5,951	7,570	
Soy	USEC - Asia	25%	9,221	7,501	7,395	Source Alternatives: Brazil
	All Other	5%	1,088	1,120	1,036	Trends: declines in protein substitutes (fishmeal)
	Total	22%	10,309	8,621	8,431	
	Total Grain	-20%	35,311	42,434	44,074	

source: PCC data, Booz-Allen analysis
 note: (1) USEC includes the East and Gulf coasts of the United States

Grain ...

WHILE SHORT-TERM PROSPECTS ARE WEAK, SIGNIFICANT GROWTH IN WORLD GRAIN TRADE IS ANTICIPATED OVER THE LONG-TERM – SOURCING AND ROUTING OPTIONS, HOWEVER, MAKE THE PANAMA CANAL'S SHARE DISCRETIONARY

- Due to export demand growth – driven by diet diversification and the resulting need for livestock feed – in developing regions such as Asia, North Africa, and the Middle East, world trade in grain is expected to grow significantly over the next 20 years
- The US has historically been a grain export leader and is expected to benefit from most of this trade growth – production capabilities in other areas, however, offer the potential for source substitution to non-Canal eligible routes
 - Canada
 - Argentina
 - Eastern Europe
- Routing options, specifically inland routes in North America, also pose a threat to the Canal's share
 - Routing US grain over Gulf ports and through the Canal offers a cost advantage to routing over Pacific Northwest ports
 - Volatility in Panamax tramp rates, however, can make the PNW routing attractive
 - Additionally, significant increases in Canal tolls could drive this commodity away from the Canal – limited capacity in the PNW would mitigate this effect temporarily

Coal ...

COAL HAS BEEN A FAIRLY STEADY CANAL COMMODITY IN TOTAL VOLUMES OVER THE LAST THREE YEARS WITH INTRA-SOUTH AMERICAN TRADE MAKING UP FOR DECREASES IN EXPORTS FROM THE U.S. TO ASIA

Canal Coal Flow (thousand tons)

Canal Route	% change 95 to 97	Canal Vol FY 1997	Canal Vol FY1996	Canal Vol FY1995	Canal Alternatives/Trends
WCCan - Europe	12%	4,582	4,484	4,105	Route Alternatives: eastbound to Asia Source Alternatives: Australia, South Africa, Canada
USEC - Asia	-49%	1,272	1,565	2,498	
ECSA - WCSA	137%	824	991	347	
USEC - WCCAm	68%	346	366	206	
USWC - Europe	11%	241	104	218	
All Other	13%	537	733	475	
Total	-1%	7,802	8,242	7,849	

source: PCC data, Booz-Allen analysis

Coal ...

WHILE WORLD COAL TRADE IS PREDICTED TO GROW, MUCH OF THIS GROWTH WILL BE IN NON-CANAL ROUTES – ADDITIONALLY, THIS CARGO IS VERY SUSCEPTIBLE TO SOURCING SUBSTITUTION

- Colombian, South African and Venezuelan competition for European imports and Indonesian and Australian competition for Asian imports have resulted in extremely low prices for steam coal prompting some U.S. producers to indicate that they will withdraw from the market in 1998
- U.S. lignite exports, however, have grown substantially in the last year, primarily to Canada and Latin America
- Europe is expected to increase its coal imports over the next five years
 - Average annual growth of 5.1% is predicted for North Europe, 6.7% for South Europe
 - However, much of this increased demand is expected to be met by South African and Australian exports on non-Canal routes
- The coal trade is dominated by non-Canal eligible trades
 - Australia is a major supplier to world markets
 - U.S. East Coast exports often move via South Africa where vessels are topped off
- Coal is also traditionally a Capesize vessel trade
 - Large amounts of low value cargo benefit from Capesize economics
 - Both loading facilities and receiving plants are built to handle larger cargo volumes

Crude Oil and Petroleum Products ...

THE PETROLEUM TRADE IS DOMINATED BY NON-CANAL ROUTES AND POSTPANAMAX VESSELS - NONETHELESS, THE CANAL HAS SEEN GROWTH IN MOST OF ITS KEY CRUDE OIL AND PETROLEUM PRODUCT VOLUMES WITH THE KEY EXCEPTION OF THE U.S. TRADE

NOTEABLE

Canal Crude Oil and Petroleum Product Flow (thousand tons)

Canal Route	% change 95 to 97	Canal Vol FY 1997	Canal Vol FY 1996	Canal Vol FY 1995	Canal Alternatives/Trends	
Ecuador - USEC	33%	4,306	3,979	3,242	Source: Alternatives: Venezuela, Mexico, North Sea	
Ecuador - Panama	70%	1,023	1,123	603		
Ecuador - W Indies	-5%	959	1,463	1,012		
Columbia - Peru	15%	958	1,158	834		
Venezuela - USWC	-23%	810	979	1,055		
All Other	7%	4,434	4,633	4,142		
Total	15%	12,490	13,365	10,889		
ECSA - WCSA	57%	2,788	2,528	1,773		Route Alternatives: USEC to Europe
USWC - Europe	-24%	1,297	1,875	1,707		
USEC - Asia/HI	-18%	1,084	1,503	1,319		
ECSA - WCCAm	18%	1,199	398	647		
W Indies - WCSA	72%	1,024	589	594		
ECSA - USWC	-32%	880	1,252	1,299		
All Other	10%	8,212	8,503	7,569		
Total	11%	18,389	19,422	16,571		

source: PCC data, Booz-Allen analysis

Lumber ...

THE VOLUME OF CANAL LUMBER TRAFFIC HAS BEEN SLIGHTLY INCREASED OVER THE LAST THREE YEARS WITH INCREASES IN US EXPORTS TO ASIA MAKING UP FOR REDUCED VOLUMES FROM CANADA TO EUROPE

- Environmental and regulatory concerns drive much of the lumber trade
- South America is seeing substantial growth as a result of plantations in Brazil and Chile – similar plantations exist in New Zealand
- Nonetheless, old growth forests in the US and Canada remain the source for timber requirements

Reefer ...

UPCOMING CHANGES IN EUROPEAN BANANA IMPORT POLICY MAY INCREASE CANAL VOLUMES – THERE IS ALSO THE POTENTIAL FOR REEFER CARGO TO MOVE IN REFRIGERATED CONTAINERS AS INFRASTRUCTURE CHANGES ALLOW SHIPPERS TO TAKE ADVANTAGE OF ADDITIONAL EFFICIENCIES

- The EEC's preferential treatment of Caribbean bananas has limited European demand for Canal transiting cargo – while implementation has not yet been agreed upon, a WTO ruling mandates a change potentially allowing more banana trade between Latin America and Europe
- While these changes should benefit the Panama Canal, east coast groves and ports in Central America could be developed and utilized to meet demand in this price-sensitive business
- Currently, infrastructure and seasonality limits the amount of reefer cargo that can be containerized – in the future, however, additional containerization can be expected as shippers attempt to realize efficiencies

Containers ...

IN ADDITION TO THE GROWTH IN WORLD CONTAINER TRADE THAT IS ANTICIPATED, THE CANAL CAN ATTRACT HIGHER MARKET SHARE THROUGH IMPROVED SERVICE OFFERINGS – PHYSICAL CONSTRAINTS, HOWEVER, MAY POSE A PROBLEM IN DEVELOPING THIS BUSINESS

- Containerized trade between North America and Asia, the largest Canal market is expected to remain strong
 - Average annual growth estimates are in the 5 to 6 percent range for the next 10 years
 - Exports from the newly industrialized economies of South Asia are expected to grow at a faster rate, around 9 percent per year – some of this cargo, however, will move through the Suez Canal
- Canal container cargo moves at a significantly lower transportation cost than U.S. landbridge cargo – the transit disadvantage, however, makes this an attractive option for less time-sensitive cargo
- The container market is extremely service sensitive with high valued cargo and shipper lean inventory requirements – it follows that additional cargo may be attracted to a Canal routing with premium service offerings
- There is a definite trend toward larger vessels in the container industry as shipping lines strive for reduced per unit expenses – as post-Panamax vessels are deployed on more routes, Canal physical limitations may pose a problem for developing additional business

C. VOLUME SEGMENTED CUSTOMER LIST

THE FOLLOWING VOLUME SEGMENTED CUSTOMER LIST IS BASED ON THE BEST DATA CURRENTLY AVAILABLE, THE SHIP DATA BANK

- Customers are divided into three volume segments
 - top 10% of customers
 - middle 40% of customers
 - bottom 50% of customers

- Operators were consolidated in several cases to reflect families of shipping entities – For example, A.P. Moller and Maersk are listed as “Maersk”

- Because this sample list is based on imperfect data, it should be used with reservation

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Top 10%	COSCO	\$ 17,527,049
Top 10%	NYK	\$ 11,031,988
Top 10%	MAERSK	\$ 10,281,406
Top 10%	EVERGREEN MARINE	\$ 9,063,513
Top 10%	MITSUI O.S.K.	\$ 8,159,146
Top 10%	ECUADORIAN LINE	\$ 6,369,429
Top 10%	HANJIN SHIPPING CO.	\$ 5,715,328
Top 10%	ZIM ISRAEL	\$ 5,292,568
Top 10%	WALLENIUSREDERIERNA	\$ 4,969,607
Top 10%	C.S.A.V.	\$ 4,491,929
Top 10%	YANGMING MAR.TRANS.	\$ 4,185,185
Top 10%	PRINCESS CRUISES INC	\$ 3,961,374
Top 10%	GOULANDRIS,N.J.	\$ 3,744,201
Top 10%	KAWASAKI KISEN (K LINE)	\$ 3,616,686
Top 10%	HAPAG-LLOYD	\$ 3,569,086
Top 10%	WILHELMSSEN,W.	\$ 3,527,991
Top 10%	P&O Ned	\$ 3,455,178
Top 10%	UNICOM MGMT SERVICES	\$ 3,438,305
Top 10%	CHO YANG SHPG.CO.	\$ 3,341,922
Top 10%	BARBER SHIP MGMT AS (N)	\$ 3,232,451
Top 10%	KEYSTONE SHPG.CO.	\$ 3,114,068
Top 10%	HAMBURG-SUD	\$ 3,093,020
Top 10%	PAN OCEAN SHPG	\$ 3,023,718
Top 10%	STOLT-NIELSEN INC.	\$ 2,978,235
Top 10%	TMM	\$ 2,642,876
Top 10%	BT SHPG.	\$ 2,628,800
Top 10%	STORLI	\$ 2,621,412
Top 10%	UNIVAN SHIP MGMT.	\$ 2,600,903
Top 10%	ZEPHYROS AGENCIA	\$ 2,592,443
Top 10%	MARITIME OVERSEAS	\$ 2,559,900
Top 10%	HOLLAND AMERICA LINE	\$ 2,472,186
Top 10%	TMT CO.LTD.	\$ 2,456,914
Top 10%	U.S.MAR.AD.	\$ 2,440,953
Top 10%	WESTFLEET MANAGEMENT	\$ 2,436,936
Top 10%	SANKO KISEN	\$ 2,409,461
Top 10%	LATVIAN SHPG CO	\$ 2,394,286
Top 10%	ROYAL CARIBBEAN CRUISES	\$ 2,289,491
Top 10%	KOBE NIPPON KISEN KAISHA	\$ 2,287,890
Top 10%	KLAVENESS,TORVALD	\$ 2,276,001
Top 10%	OOCL	\$ 2,255,608
Top 10%	WESTFAL-LARSEN	\$ 2,118,579
Top 10%	CROATIA LINE	\$ 1,984,576
Top 10%	LIVANOS S.HELLAS S.A.	\$ 1,973,038
Top 10%	UNITED SHIPPING & TRADING	\$ 1,905,474
Top 10%	SHOEI KISEN	\$ 1,887,358

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Top 10%	GREEK INTERESTS	\$ 1,823,732
Top 10%	BILLABONG AS	\$ 1,820,819
Top 10%	ELETSON MARITIME	\$ 1,786,714
Top 10%	REEFER & GENERAL	\$ 1,675,433
Top 10%	FORMOSA PLASTICS	\$ 1,663,696
Top 10%	SOC.ANON.MONEGASQUE	\$ 1,660,927
Top 10%	POLEMBROS MARITIME CO	\$ 1,612,825
Top 10%	DOLE FRESH FRUIT INT.	\$ 1,608,507
Top 10%	SEABOARD SHIP MGMT	\$ 1,594,259
Top 10%	SHOWA LINE	\$ 1,589,012
Top 10%	MARMARAS NAV.	\$ 1,560,894
Top 10%	TRANSPETROL SERVICES	\$ 1,559,409
Top 10%	BERGESEN D.Y.A/S	\$ 1,546,416
Top 10%	CRYSTAL CRUISES INC	\$ 1,537,139
Top 10%	OLDENDORFF,EGON	\$ 1,522,023
Top 10%	THENAMARIS MARITIME	\$ 1,497,311
Top 10%	ARAN SHPG & TRADING S.A.	\$ 1,483,550
Top 10%	ENTERPRISES SHPG.	\$ 1,437,243
Top 10%	KAMBARA KISEN	\$ 1,409,411
Top 10%	GOLDEN UNION SHPG.	\$ 1,392,054
Top 10%	ARCO MARINE INC	\$ 1,379,019
Top 10%	COOL CARRIERS	\$ 1,378,551
Top 10%	ACT MARITIME	\$ 1,372,788
Top 10%	TRANSOCEAN MARITIME AGC.	\$ 1,350,419
Top 10%	HARBOR SHPG & TRADING	\$ 1,341,017
Top 10%	IVER SHIPS	\$ 1,327,222
Top 10%	JO TANKERS	\$ 1,327,098
Top 10%	UB SHIPPING	\$ 1,297,433
Top 10%	CGM - CIE GEN MARITIME	\$ 1,296,413
Top 10%	MOBIL OIL	\$ 1,268,946
Top 10%	UNIVERSE MARITIME LTD	\$ 1,256,690
Top 10%	HOEGH,LEIF	\$ 1,248,357
Top 10%	CENTRAL GULF LINES INC	\$ 1,245,377
Top 10%	CIDO SHIPPING CO LTD	\$ 1,242,979
Top 10%	STAR REEFERS	\$ 1,242,244
Top 10%	PACIFIC CARRIERS	\$ 1,238,954
Top 10%	ACOMARIT	\$ 1,226,868
Top 10%	CUNARD LINE LTD	\$ 1,220,554
Top 10%	OLDENDORFF,KLAUS	\$ 1,218,159
Top 10%	SOFLUMAR VAN OMMEREN	\$ 1,206,487
Top 10%	HACHIUMA KISEN	\$ 1,196,018
Top 10%	SEATRADE GRONINGEN	\$ 1,188,703
Top 10%	NIEDERELBE SCHIFFAHRT	\$ 1,176,257
Top 10%	ATWOOD OCEANICS	\$ 1,161,407
Top 10%	MEDITERRANEAN SHPG.	\$ 1,154,924

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Top 10%	CHINESE INTERESTS	\$ 1,149,801
Top 10%	GUANGZHOU MARITIME	\$ 1,143,461
Top 10%	SONAP	\$ 1,142,551
Top 10%	SUISSE-ATLANTIQUE	\$ 1,140,500
Top 10%	NISSEN KAIUN	\$ 1,136,007
Top 10%	INTL REEFER SERVICES	\$ 1,133,115
Top 10%	LONDON & OVERSEAS FREIGHT	\$ 1,131,449
Top 10%	SMT SHIPMANAGEMENT	\$ 1,126,691
Top 10%	TSAKOS SHPG.& TR.	\$ 1,116,386
Top 10%	CENARGO LTD.	\$ 1,102,295
Top 10%	DSR	\$ 1,098,257
Top 10%	MARIN GENERAL SHPG AGENCY	\$ 1,098,257
Top 10%	ATTIKA SHIPPING	\$ 1,066,056
Top 10%	HELIKON SHPG.ENT.	\$ 1,066,056
Top 10%	SHIPPING & INTL. TRAD.	\$ 1,066,056
Top 10%	KYOKUTO SHPG CO	\$ 1,060,273
Top 10%	COSTAMARE SHPG.CO.	\$ 1,056,124
Top 10%	COASTAL MARITIME INC	\$ 1,054,982
Top 10%	BERGEN SHIP MGMT (USA)	\$ 1,052,514
Top 10%	MMS	\$ 1,043,705
Top 10%	ORIMI-SHIP	\$ 1,041,701
Top 10%	HYUNDAI MERCHANT MAR.	\$ 1,022,230
Top 10%	NISSAN MOTOR CARRIER	\$ 1,018,670
Top 10%	CANADIAN TRANSPORT CO	\$ 1,017,333
Top 10%	CHILENA INTEROCEANICA	\$ 1,007,985
Top 10%	OFFEN,CLAUS-PETER	\$ 966,723
Top 10%	ZEPHYROS SHIP AGENTS/BRKS	\$ 966,149
Top 10%	SEAVENTURE MAR.ENT.	\$ 960,135
Top 10%	MAERSK CO	\$ 947,991
Top 10%	IMC	\$ 947,545
Top 10%	OSPREY MARITIME	\$ 929,016
Top 10%	FAIRMONT SHPG.(HK)	\$ 918,065
Top 10%	INTERMODAL SHPG.	\$ 913,040
Top 10%	NOVOSHIP UK	\$ 910,950
Top 10%	OAK MARITIME (CANADA) INC	\$ 908,272
Top 10%	OCEAN LONGEVITY	\$ 907,237
Top 10%	BLUE STAR LINE	\$ 904,951
Top 10%	DIORYX MARITIME	\$ 895,910
Top 10%	ADMANTHOS SHPG.AGC.	\$ 889,227
Top 10%	ANANGEL SHPG.ENT.	\$ 886,029
Top 10%	MORMAC	\$ 874,639
Top 10%	TOKAI SHPG.CO.	\$ 869,618
Top 10%	NORTHSOUTH MGMT	\$ 858,293
Top 10%	MURMANSK SHPG CO	\$ 846,643
Top 10%	WALLEM SHIPMGNT (HK)	\$ 845,740

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Top 10%	FUKUNAGA KAIUN	\$ 844,415
Top 10%	MILBROS SHIPPING	\$ 836,861
Top 10%	LASCO SHPG.	\$ 834,552
Top 10%	TROJAN MARITIME	\$ 833,803
Top 10%	ARMADA SHIPPING APS	\$ 818,876
Top 10%	PROSPERITY BAY SHPG.	\$ 814,488
Top 10%	BYZANTINE MARITIME	\$ 805,457
Top 10%	MASUMOTO SHIPPING	\$ 802,419
Top 10%	COMNINOS BROS.	\$ 798,718
Top 10%	COMANDO TRANSPTS NAVALES	\$ 792,436
Middle 40%	TAMAHINE SHIPPING	\$ 789,945
Middle 40%	AGENCY TRUST LTD	\$ 789,621
Middle 40%	NORTH AMERICAN SHIP AGC.	\$ 786,455
Middle 40%	STAR SHIPMANAGEMENT	\$ 776,951
Middle 40%	GREAT WHITE FLEET	\$ 770,151
Middle 40%	MALAYSIAN INT.SHPG.	\$ 765,546
Middle 40%	KANSAI S.S.CO.	\$ 764,488
Middle 40%	KAPAL MANAGEMENT	\$ 763,650
Middle 40%	FORUM MARITIME	\$ 759,541
Middle 40%	CZECH.OCEAN SHPG.	\$ 755,148
Middle 40%	NOMIKOS, E.P.	\$ 751,731
Middle 40%	NATIONAL SHPG.& TR.	\$ 744,116
Middle 40%	SOCANAV INC.	\$ 738,591
Middle 40%	U.S.NAVY M.S.C.	\$ 724,777
Middle 40%	FAIRFIELD-MAXWELL SVCS	\$ 723,976
Middle 40%	GLAFKI (HELLAS)	\$ 722,264
Middle 40%	LAURITZEN,J.	\$ 721,855
Middle 40%	SOUTHERN SHPG.& ENT.	\$ 718,682
Middle 40%	SINNO TRADING & NAV.	\$ 714,619
Middle 40%	WORLDER SHPG	\$ 712,919
Middle 40%	DYNACOM TANKERS MGMT	\$ 712,008
Middle 40%	SHELL INTL SHPG	\$ 704,034
Middle 40%	CARRAS(HELLAS)	\$ 700,467
Middle 40%	FRANCO COMPANIA NAVIERA	\$ 700,420
Middle 40%	DAIO KAIUN	\$ 687,628
Middle 40%	ANTARES SHPG.	\$ 684,976
Middle 40%	METROFIN LTD	\$ 684,446
Middle 40%	TAIYO KAIUN	\$ 670,177
Middle 40%	DOLPHIN CRUISE LINE	\$ 670,094
Middle 40%	MARINSERVE MARITIME CO	\$ 667,191
Middle 40%	NORWEGIAN CRUISE LINE	\$ 660,191
Middle 40%	INTEROCEAN UGLAND MNGT AS	\$ 656,207
Middle 40%	PACIFIC BASIN AGCS.	\$ 655,192
Middle 40%	ARMADA (GREECE)	\$ 654,677
Middle 40%	HORNBECK OFFSHORE SVCS	\$ 645,815

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	LEMOS,DIAMANTIS	\$ 644,047
Middle 40%	NEPTUNE SHPMGMT SERVICES	\$ 640,756
Middle 40%	KOBE SHPG.	\$ 640,440
Middle 40%	ANPO SHPG.	\$ 640,009
Middle 40%	FIRST LINE CORP.	\$ 631,655
Middle 40%	PLEIADES SHIPPING	\$ 629,638
Middle 40%	BLACK SEA SHPG CO	\$ 621,544
Middle 40%	SPLOSNA PLOVBA	\$ 614,932
Middle 40%	OCEANBULK MARITIME	\$ 611,970
Middle 40%	OMI CORP.	\$ 608,403
Middle 40%	RICKMERS,B.	\$ 604,733
Middle 40%	TORM,D/S	\$ 599,925
Middle 40%	INTERORIENT NAVIGATION	\$ 598,575
Middle 40%	ANDRIAKI SHIPPING	\$ 597,665
Middle 40%	DOHLE,PETER	\$ 595,082
Middle 40%	NAVIERA UNIVERSAL	\$ 594,027
Middle 40%	CERES HELLENIC SHPG.	\$ 593,695
Middle 40%	NOMADIC MANAGEMENT	\$ 593,339
Middle 40%	TRANSMAN SHPG.	\$ 587,984
Middle 40%	WALLENIUS LINES SNG PTE	\$ 587,464
Middle 40%	IINO KAIUN KAISHA LTD	\$ 585,797
Middle 40%	LIQUIMAR TANKERS MGMT	\$ 581,982
Middle 40%	FIRST SS.CO.	\$ 576,654
Middle 40%	SEVEN SEAS MARITIME	\$ 565,969
Middle 40%	MTL SHIP MANAGEMENT	\$ 560,447
Middle 40%	ACTINOR SHIPPING	\$ 558,770
Middle 40%	ANDREADIS(UK)LTD.	\$ 557,838
Middle 40%	SEACHEM TANKERS LTD	\$ 549,391
Middle 40%	BLYSTAD SHIPPING	\$ 544,261
Middle 40%	MARTIME	\$ 542,787
Middle 40%	EASTERN MED.MAR.	\$ 540,455
Middle 40%	FAFALIOS SHPG	\$ 534,267
Middle 40%	LATMAR COLUMBIA (CYPRUS)	\$ 533,546
Middle 40%	AURORA TANKERS	\$ 533,058
Middle 40%	BIKO KISEN	\$ 526,800
Middle 40%	GEOMAR SHIPPING	\$ 526,568
Middle 40%	MO SHIP MANAGEMENT	\$ 526,365
Middle 40%	CELEBRITY CRUISES MGMT	\$ 517,306
Middle 40%	HIGASHI NIPPON FERRY	\$ 509,513
Middle 40%	IASON HELLENIC SHPG.	\$ 508,269
Middle 40%	FIRST MARINE SERVICE CO	\$ 507,427
Middle 40%	STENERSEN AS	\$ 506,737
Middle 40%	TANKER PAC.MGMT.(SNG)	\$ 506,490
Middle 40%	NETSUI & CO.	\$ 499,498
Middle 40%	POSEIDON SHPG.CO.	\$ 499,345

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	VOM MANILA	\$ 498,622
Middle 40%	SATO KISEN	\$ 496,953
Middle 40%	SCINICARIELLO AUGUSTEA	\$ 495,542
Middle 40%	THORESEN & CO.(BANGKOK)	\$ 495,146
Middle 40%	GREAT CIRCLE SHPG	\$ 493,474
Middle 40%	VAN OMMEREN	\$ 492,970
Middle 40%	POL-AMERICA INC	\$ 489,382
Middle 40%	HOLY HOUSE SHIPPING	\$ 486,997
Middle 40%	MARINE MGMT SERVICES M.C.	\$ 486,299
Middle 40%	HALLA MERCHANT MARINE	\$ 484,208
Middle 40%	CONSHIP CONTAINERLINES	\$ 482,496
Middle 40%	NAVIX LINE	\$ 482,122
Middle 40%	MYANMAR MARINE	\$ 481,650
Middle 40%	TRANSESTE SCHIFFAHRT	\$ 481,137
Middle 40%	COASTAL TANKERS LTD	\$ 478,145
Middle 40%	NOMO SHOSEN	\$ 478,145
Middle 40%	MANITOBA NAVIGATION SRL	\$ 477,515
Middle 40%	POLSTEAM OCEANTRAMP LTD	\$ 476,513
Middle 40%	LEANDROS SHPG.CO.	\$ 474,008
Middle 40%	LARSEN,IRGENS	\$ 472,805
Middle 40%	MITSUBISHI ORE TRANS.	\$ 472,584
Middle 40%	GOURDOMICHALIS MAR.	\$ 471,342
Middle 40%	FAR EASTERN SHPG CO	\$ 471,153
Middle 40%	KATSIKIS & SIGALAS	\$ 469,556
Middle 40%	MANTINIA SHIPPING CO	\$ 468,275
Middle 40%	RAVENSROFT SHPG	\$ 467,506
Middle 40%	RADISSON SEVEN SEAS	\$ 464,206
Middle 40%	FLOPEC	\$ 462,419
Middle 40%	AZOV SHPG CO	\$ 462,091
Middle 40%	GOOD FAITH SHPG.CO.	\$ 461,633
Middle 40%	FOMENTOS ARMADORA	\$ 460,140
Middle 40%	MC SHIPPING INC	\$ 457,768
Middle 40%	ULJANIK PLOVIDBA	\$ 457,607
Middle 40%	MARUTA SANGYO	\$ 456,553
Middle 40%	GOLDENPORT SHIPSMGMT.	\$ 448,762
Middle 40%	EUROPEAN NAV.INC.	\$ 447,632
Middle 40%	MARYVILLE MARITIME	\$ 445,038
Middle 40%	POLSTEAM SHORTRAMP LTD	\$ 442,633
Middle 40%	TRADER NAVIGATION	\$ 442,114
Middle 40%	VALLES STEAMSHIP CANADA	\$ 440,625
Middle 40%	NEWS MARITIME	\$ 439,822
Middle 40%	ULTRAGAS,SOC NAV	\$ 438,843
Middle 40%	SAFMARINE	\$ 437,830
Middle 40%	SEAFARERS SHIPPING	\$ 437,681
Middle 40%	INTERSCAN SCHIFF	\$ 435,461

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	BACHKE & CO	\$ 433,496
Middle 40%	BAKRI NAV.CO.	\$ 428,253
Middle 40%	GULF DEVELOPMENT MARINE	\$ 428,253
Middle 40%	SEAWIND LINE	\$ 428,253
Middle 40%	ROPNER SHPG.SVCS.LTD.	\$ 425,041
Middle 40%	TOMASOS BROS	\$ 421,634
Middle 40%	NIKKO KISEN KK	\$ 418,550
Middle 40%	LAGOA SHIPPING CORP	\$ 416,936
Middle 40%	NAV.CHILENA PACIFICO	\$ 416,541
Middle 40%	SAKHALIN SHPG CO	\$ 416,323
Middle 40%	DAISHIN SENPAKU	\$ 415,003
Middle 40%	AMERICAN HEAVY LIFT	\$ 412,360
Middle 40%	GESTION MARITIME	\$ 411,979
Middle 40%	CONSTANTIA SCHIFF.	\$ 411,621
Middle 40%	DITLEV-SIMONSEN,H.	\$ 411,058
Middle 40%	WAH KWONG	\$ 410,396
Middle 40%	TEO SHPG.CORP.	\$ 410,001
Middle 40%	TAIYO MARINE MANAGEMENT	\$ 409,595
Middle 40%	COSENA	\$ 408,522
Middle 40%	ASTRON MARITIME CO SA	\$ 406,212
Middle 40%	SESA SHIPPING LTD	\$ 406,162
Middle 40%	EASTWIND SHIPMANAGEMENT	\$ 405,945
Middle 40%	ANGLO-GEORGIAN SHPG	\$ 405,913
Middle 40%	SAMSON MARITIME	\$ 399,985
Middle 40%	DOCKENDALE SHPG.	\$ 398,551
Middle 40%	GRUBE,H.C.	\$ 395,185
Middle 40%	HEGEMANN-KAMMERER	\$ 395,185
Middle 40%	MINOAN CRUISES	\$ 395,185
Middle 40%	TRICOLI,ANTONIO	\$ 395,185
Middle 40%	TAT ON SHPG & ENTPRS CO	\$ 393,639
Middle 40%	KOKUSAI KISEN	\$ 392,507
Middle 40%	B.M. TRIDENT SA	\$ 390,650
Middle 40%	VITA MANAGEMENT	\$ 390,196
Middle 40%	AEOLOS MANAGEMENT	\$ 389,022
Middle 40%	ORIX MARITIME CORP	\$ 388,984
Middle 40%	VARSHIP SHIPPING CO	\$ 387,969
Middle 40%	SLOBODNA PLOVIDBA	\$ 384,611
Middle 40%	TREASURE MARITIME	\$ 381,091
Middle 40%	KASSOS MARITIME	\$ 379,296
Middle 40%	JEBSENS SHIP MGMT AS	\$ 379,197
Middle 40%	SINGAPORE INTERESTS	\$ 378,778
Middle 40%	DENHOLM SHIP MGMT (SNG)	\$ 377,621
Middle 40%	ORIENT MARINE	\$ 377,067
Middle 40%	DRYTANK S.A.	\$ 374,507
Middle 40%	REEDEREI BERTRAM RICKMERS GMBH	\$ 372,898

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	V.SHIPS - SHPG MNGT SAM	\$ 372,604
Middle 40%	ZADEKO SHPG.	\$ 368,966
Middle 40%	SUNNTRANS HOLDINGS	\$ 366,559
Middle 40%	DENHOLM SHP MGMT (O'SEAS)	\$ 364,833
Middle 40%	NORBULK SHPG.	\$ 362,061
Middle 40%	PDV MARINA	\$ 362,017
Middle 40%	ALLIED MARITIME INC	\$ 360,297
Middle 40%	MAGSAYSAY LINES INC.	\$ 359,508
Middle 40%	EMPROS LINES	\$ 358,569
Middle 40%	MOWINCKELS,LUDWIG	\$ 354,205
Middle 40%	NIPPON DENRO ISPAT	\$ 353,923
Middle 40%	GRIFFIN SHPG ASIA	\$ 353,520
Middle 40%	LAMA TRADING CO	\$ 352,893
Middle 40%	MARUHA KAIUN	\$ 352,038
Middle 40%	THEONYMPHOS MARITIME INC	\$ 351,393
Middle 40%	RANGER MARINE SA	\$ 350,694
Middle 40%	EURONAV LUXEMBOURG	\$ 349,430
Middle 40%	NANKAI FERRY	\$ 349,104
Middle 40%	OCEAN FREIGHTERS	\$ 347,777
Middle 40%	KUN YUAN NAVIGATION CO SA	\$ 346,510
Middle 40%	DENAK SHIPPING AGENCY	\$ 346,146
Middle 40%	BALTIC SHPG CO	\$ 345,089
Middle 40%	LLOYD TRIESTINO	\$ 342,625
Middle 40%	FAR EASTERN SILO CORP.	\$ 340,893
Middle 40%	DELMAS	\$ 340,875
Middle 40%	JUNO SHPG.	\$ 339,376
Middle 40%	CHINA OCEAN CHIPPING COSCO	\$ 338,638
Middle 40%	SUNFORD SHIPPING LTD	\$ 338,568
Middle 40%	HELLENIC STAR SHPG.	\$ 336,016
Middle 40%	KUMIAI SENPAKU	\$ 335,929
Middle 40%	DALNAVE NAVIGATION INC.	\$ 333,806
Middle 40%	ASTRON MARITIME COMPANY	\$ 332,848
Middle 40%	ETERNITY SHPG.	\$ 331,569
Middle 40%	EUROAFRICA SHIPPING	\$ 331,505
Middle 40%	LAEISZ,F.SCHIFFFAHRTS	\$ 331,419
Middle 40%	ALPHA SHIP	\$ 331,360
Middle 40%	RETHYMNIS & KULUK.	\$ 330,609
Middle 40%	KARAGEORGIS	\$ 329,509
Middle 40%	REDERI AB SUNSHIP	\$ 329,493
Middle 40%	SEARLAND SHPG	\$ 329,282
Middle 40%	NAVIX MARINE SINGAPORE	\$ 327,105
Middle 40%	ASSC CONSOLIDATED	\$ 327,074
Middle 40%	DOWA LINE	\$ 326,972
Middle 40%	VICTORIA SS.CO.	\$ 324,280
Middle 40%	SHIPPING CORP.INDIA	\$ 320,768

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	CARNIVAL CORPORATION	\$ 320,125
Middle 40%	SWIFT SHIPHOLDING	\$ 318,578
Middle 40%	WEIR,ANDREW	\$ 318,485
Middle 40%	PETRA NAVIGATION	\$ 318,196
Middle 40%	SAMTA PTE.	\$ 318,196
Middle 40%	WINTER,G.S.	\$ 318,196
Middle 40%	KEE YEH SHPG.	\$ 317,608
Middle 40%	MARFIN MGMT.	\$ 316,365
Middle 40%	LONDON SHIP MANAGERS	\$ 315,480
Middle 40%	TSM SRL	\$ 315,473
Middle 40%	WORLD MARINE SHPG LTD	\$ 314,503
Middle 40%	AEGEUS SHPG.	\$ 313,753
Middle 40%	BELSTOVE MGMT AS	\$ 311,904
Middle 40%	SERVIOCEAN	\$ 311,476
Middle 40%	PARGA SHIPPING CO SA	\$ 311,290
Middle 40%	MISANO DI NAV.	\$ 311,118
Middle 40%	P&O CRUISES (UK) LTD	\$ 310,430
Middle 40%	PRONOA SHIP AGNTS & BRKS	\$ 308,905
Middle 40%	ATLANTSKA PLOVIDBA	\$ 307,081
Middle 40%	BORGESTAD AS	\$ 306,627
Middle 40%	PROJEX SCHIF.	\$ 306,572
Middle 40%	TRANSMARINE APS	\$ 306,572
Middle 40%	WAH TUNG SHPG	\$ 306,458
Middle 40%	WALLEM,STECKMEST	\$ 306,430
Middle 40%	HIN LEONG MARINE	\$ 306,067
Middle 40%	CHARTWORLD SHPG CORP	\$ 303,760
Middle 40%	DANENA,AS	\$ 303,029
Middle 40%	DOOYANG SHIP MANAGEMENT	\$ 302,679
Middle 40%	TSCHUDI & EITZEN	\$ 294,129
Middle 40%	NORTHERN NAV SHIP MGMT	\$ 293,392
Middle 40%	STAMCO SHIP MANAGEMENT CO. LT	\$ 291,782
Middle 40%	MYANMAR NAV CORP	\$ 287,201
Middle 40%	HECATE SHPG	\$ 286,821
Middle 40%	SPLIETHOFFS BEVR.	\$ 286,187
Middle 40%	ATLANTIC BULK CARRIERS	\$ 285,994
Middle 40%	LARSEN,KNUD I.	\$ 285,252
Middle 40%	ITALIA,SOC.	\$ 284,878
Middle 40%	MAGNA MARINE	\$ 284,457
Middle 40%	MISR SAUDI OFFSHORE CO.	\$ 281,523
Middle 40%	LEMONS,N.S.	\$ 281,390
Middle 40%	VENTOURIS GROUP ENT.	\$ 280,765
Middle 40%	EISHO SANGYO K.K.	\$ 280,380
Middle 40%	DEIULEMAR	\$ 280,162
Middle 40%	CHOWGULE SS.LTD.	\$ 279,388
Middle 40%	YENIL CORP	\$ 278,186

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	BOGAZZI SERVIZI NAVALI	\$ 278,184
Middle 40%	EVALEND SHPG.	\$ 277,062
Middle 40%	LUNDQVIST-REDERIerna	\$ 276,471
Middle 40%	MENGWALL,A.E.	\$ 276,314
Middle 40%	KRITSAS SHPG (PANAMA) SA	\$ 275,316
Middle 40%	TARGET MARINE	\$ 274,854
Middle 40%	ASLAN TRANSMARIN	\$ 274,429
Middle 40%	CHEVRON SHPG.CO.	\$ 274,405
Middle 40%	KIKUJO MTME	\$ 273,916
Middle 40%	MARINE MANAGERS LTD	\$ 273,828
Middle 40%	MAMMOET SHIPPING BV	\$ 273,431
Middle 40%	BOTTIGLIERI NAV.	\$ 273,229
Middle 40%	NATIONAL SHPG AGENCY CORP	\$ 272,532
Middle 40%	TAIO KAIUN	\$ 269,095
Middle 40%	NORDLUND SHIPPING	\$ 267,790
Middle 40%	INDIAN OCEAN LINE	\$ 267,742
Middle 40%	CONTINENTAL SHPMGMT AS	\$ 267,693
Middle 40%	INTERMARINE INC.	\$ 267,458
Middle 40%	NAVIERA CHILENA DEL PACIFICO NA	\$ 265,797
Middle 40%	BUSS,HERMANN	\$ 264,835
Middle 40%	SEA PIONEER SHPG CORP	\$ 264,529
Middle 40%	DAIICHI CHUO	\$ 262,822
Middle 40%	NATALCA SHIPPING CO SA	\$ 262,258
Middle 40%	D.B.TURKISH C.L.	\$ 261,123
Middle 40%	MCKEE,J & PTNRS	\$ 260,083
Middle 40%	LEROS MGMT	\$ 259,494
Middle 40%	NIPPON REEFERS	\$ 258,862
Middle 40%	GARD SHIPPING	\$ 258,404
Middle 40%	VRONTADOS NEPE	\$ 257,949
Middle 40%	EDI MARINE CARRIERS	\$ 257,598
Middle 40%	ARMINTER S.A.M.	\$ 257,434
Middle 40%	COMMON PROGRESS S.A.	\$ 257,286
Middle 40%	A1 TEAM SHPG & TRDG	\$ 257,175
Middle 40%	SEAPLAN SHIPPING	\$ 256,538
Middle 40%	WEATHERFORD MARITIME	\$ 255,127
Middle 40%	NITTA KISEN	\$ 254,990
Middle 40%	TRANS OCEAN EXPRESS LTD	\$ 254,609
Middle 40%	CHEMICAL TANKERS INC.	\$ 253,522
Middle 40%	AABYS,E.B.	\$ 253,211
Middle 40%	HVIDE MARINE INC	\$ 251,931
Middle 40%	HAI SUN HUP CO.	\$ 250,574
Middle 40%	NORSK PACIFIC	\$ 250,017
Middle 40%	INTL UNITED SHIPPING	\$ 248,581
Middle 40%	THOME SHIP MGMT.	\$ 248,135
Middle 40%	LASKARIDIS SHPG.	\$ 247,834

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	SHANGHAI HAI XING SHPG.	\$ 246,808
Middle 40%	SIOMAR ENT.	\$ 246,044
Middle 40%	KISHINCHAND CHELLARAM	\$ 246,013
Middle 40%	ABO SHOTEN	\$ 245,555
Middle 40%	V.SHIPS (CYPRUS)	\$ 244,620
Middle 40%	BLUE FLAG NAV.	\$ 244,442
Middle 40%	OCEAN SHIPHOLDINGS	\$ 243,911
Middle 40%	ERMIS MARITIME	\$ 242,886
Middle 40%	GOUMAS,J.G.	\$ 242,863
Middle 40%	LOHMANN,HERMANN	\$ 241,613
Middle 40%	SHUN TAK SHIP MANAGEMENT	\$ 241,613
Middle 40%	TAIHEIYO MARINE MGNT	\$ 240,320
Middle 40%	SHERIDAN TRANSPORTATION	\$ 238,911
Middle 40%	CAVO DORO	\$ 238,769
Middle 40%	DAMMERS SHIPMANAGEMENT NV	\$ 238,602
Middle 40%	SENO KISEN	\$ 237,946
Middle 40%	TARPON SHPG.	\$ 235,224
Middle 40%	VOSTOKTRANSFLOT	\$ 235,025
Middle 40%	GRECOMAR SHPG AGENCY	\$ 234,470
Middle 40%	KIRBY CORPORATION	\$ 233,595
Middle 40%	GOLIAT SHPG.	\$ 233,122
Middle 40%	DORCHESTER MARITIME	\$ 232,745
Middle 40%	SAGA PETROLEUM	\$ 232,721
Middle 40%	EFSHIPPING CO.	\$ 232,084
Middle 40%	ATHENIAN BULKERS SA	\$ 231,652
Middle 40%	OLYMPIC SHIPPING & MGMT	\$ 231,385
Middle 40%	CALEDONIAN MACBRAYNE LTD	\$ 230,901
Middle 40%	KOREA LINE CORP.	\$ 230,277
Middle 40%	L&W SHIPPING	\$ 229,630
Middle 40%	EAC SHIPPING LTD AS	\$ 229,528
Middle 40%	SEASTAR NAV.CO.	\$ 229,344
Middle 40%	EURASIA SHPG.& MGMT.	\$ 228,258
Middle 40%	BALIWAG NAV.INC.	\$ 226,240
Middle 40%	KOYO LINE LTD	\$ 225,739
Middle 40%	JUNGERHANS,HEINRICH	\$ 225,427
Middle 40%	AGIA KYRIAKI NE	\$ 225,326
Middle 40%	CARIBE EMP NAV	\$ 225,326
Middle 40%	TRANSORIENT OVERSEAS	\$ 225,326
Middle 40%	ULTRAOCEAN S.A.	\$ 224,504
Middle 40%	JARDINE SHPG.	\$ 224,388
Middle 40%	UGLAND BULK CARRIERS AS	\$ 223,248
Middle 40%	TERMOFRACHT	\$ 222,800
Middle 40%	SOUGERKA MARITIME	\$ 222,604
Middle 40%	HUMBOLDT	\$ 222,503
Middle 40%	AKRA SHPG.CO.	\$ 222,285

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Middle 40%	NAV.MAR.BULGARE	\$	221,839
Middle 40%	UNIMAR SHIPMANAGEMENT SVC	\$	221,088
Middle 40%	CELESTIAL MARITIME	\$	220,642
Middle 40%	COECLERICI ARMATORI SPA	\$	220,517
Middle 40%	LEONHARDT & BLUMBERG	\$	220,057
Middle 40%	PYRSOS MANAGING CO.	\$	219,589
Middle 40%	LOGISTICA MARITIMA	\$	218,346
Middle 40%	WORLD SHIPPING KK	\$	217,836
Middle 40%	DENHOLM SHIP MGMT.	\$	217,235
Middle 40%	UGLAND MARITIME SERVICES	\$	217,117
Middle 40%	MINERVA SHIPPING CO	\$	216,741
Middle 40%	DE BEERS MARINE	\$	215,405
Middle 40%	KARLOG SHPG.CO.	\$	215,382
Middle 40%	MCRINK,JOHN	\$	215,035
Middle 40%	SANDFORD SHIPMGMT.	\$	214,280
Middle 40%	SEMBAWANG JOHNSON MGMT	\$	213,203
Middle 40%	O.I.L.LTD.	\$	212,697
Middle 40%	ROYAL OLYMPIC CRUISE	\$	212,251
Middle 40%	ANCORA INVESTMENT TRUST	\$	212,077
Middle 40%	BOSKALIS B.V.	\$	211,938
Middle 40%	OCEAN TANKERS	\$	211,926
Middle 40%	OVERSEAS FREEZER OPS GMBH	\$	211,351
Middle 40%	GOLDEN OCEAN GROUP	\$	210,754
Middle 40%	LAURIN MARITIME (AMERICA)	\$	210,537
Middle 40%	YUGREFTRANSFLOT	\$	209,715
Middle 40%	KYVERNITIS SHIPPING CO	\$	209,199
Middle 40%	AMER SHIP MGMT	\$	209,099
Middle 40%	YAMAMOTO KAIUN	\$	208,801
Middle 40%	ARBROSS SHIP MGMT	\$	207,890
Middle 40%	BRASILEIRA OFF-SHORE	\$	207,594
Middle 40%	BAY OCEAN MGMT	\$	207,195
Middle 40%	WESTERN TUG & BARGE	\$	207,101
Middle 40%	OCEANMARIS MANAGEMENT	\$	207,059
Middle 40%	SHENZHEN OCEAN SHPG CO	\$	206,111
Middle 40%	PANKAR MARITIME	\$	205,522
Middle 40%	HONG LAM MARINE	\$	204,695
Middle 40%	KALBA MARINE SERVICES	\$	204,695
Middle 40%	WON KWANG	\$	204,695
Middle 40%	LIHAI INTERNATIONAL SHPG	\$	204,449
Middle 40%	SEABRIDGE INC	\$	204,449
Middle 40%	EMPREMAR	\$	204,094
Middle 40%	YORK SHPG CORP	\$	204,002
Middle 40%	SEA JUSTICE SA	\$	203,214
Middle 40%	GOLDBEAM INTERNATIONAL	\$	202,178
Middle 40%	TONNEVOLD,O.T.	\$	201,527

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	MF MARINE CO LTD	\$ 201,406
Middle 40%	TAI CHONG CHEANG SS.	\$ 200,761
Middle 40%	DAMMERS & VAN DER HEIDE	\$ 200,412
Middle 40%	COGEMA	\$ 200,378
Middle 40%	CHRONOS SHPG.CO.	\$ 200,207
Middle 40%	INTL MARINE SVCS-IMS SHPG	\$ 199,961
Middle 40%	NAVITRANS MARITIME	\$ 199,946
Middle 40%	CENTRAL SHPG.CO.	\$ 199,830
Middle 40%	MARI TECH	\$ 199,503
Middle 40%	NORDIC ORIENTAL SMGMT PTE	\$ 198,650
Middle 40%	HAKATA Zosen	\$ 198,493
Middle 40%	MARUBENI CORP.	\$ 198,348
Middle 40%	HASE,PAUL	\$ 198,268
Middle 40%	GOLDEN FLAME SHIPPING SA	\$ 197,989
Middle 40%	EFHARIS SHPG.& TR.	\$ 197,590
Middle 40%	POSEIDON SCHEEPV.	\$ 197,123
Middle 40%	TEH-HU CARGOCEAN MGMT.	\$ 196,864
Middle 40%	ARGONAUT A/B	\$ 196,646
Middle 40%	GOLDEN OCEAN (UK)	\$ 196,450
Middle 40%	ROUSSOS SHIPPING	\$ 195,533
Middle 40%	NORDEN AS	\$ 194,150
Middle 40%	NANKO KISEN	\$ 193,318
Middle 40%	SAMOS STEAMSHIP CO	\$ 193,256
Middle 40%	PACIFIC & ATLANTIC CORP	\$ 192,480
Middle 40%	AUGUSTEA MARITTIMA	\$ 191,687
Middle 40%	GANSHIP INTERNATIONAL	\$ 190,858
Middle 40%	MYKONOS SHPG.CO.	\$ 190,647
Middle 40%	CANDIDA CORP.	\$ 190,235
Middle 40%	OMI BULK MGMT.	\$ 189,518
Middle 40%	ODYSSEOS SHIPMANAGEMENT	\$ 188,645
Middle 40%	ROSEMONT SHPG.	\$ 188,338
Middle 40%	RUSS,ERNST	\$ 186,449
Middle 40%	HERACLES SHPG.CO.	\$ 185,928
Middle 40%	SANMAR	\$ 185,219
Middle 40%	GLOBAL OCEAN CARRIERS	\$ 184,957
Middle 40%	VROON B.V.	\$ 184,441
Middle 40%	CORLEIS KG,REEDEREI HEINZ	\$ 182,558
Middle 40%	LAUTERJUNG,MANFRED	\$ 182,558
Middle 40%	FINMARE SOCIETA FINANCIARIA MAF	\$ 182,294
Middle 40%	ORWELL SHPG.	\$ 182,020
Middle 40%	BRAY SHIPPING CO	\$ 181,761
Middle 40%	CROWLEY MARITIME CORP.	\$ 181,371
Middle 40%	FAIRDEAL GROUP MNGMT	\$ 181,260
Middle 40%	TRISTAR SHPG LINES	\$ 180,868
Middle 40%	HUNG FU SHPG (SINGAPORE)	\$ 179,843

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	NIMEX	\$ 178,648
Middle 40%	KAVADAS SHPG.	\$ 178,615
Middle 40%	LAURIN MARITIME AB	\$ 178,143
Middle 40%	D'ALESIO,GAETANO	\$ 178,044
Middle 40%	HAGENAES,JOHAN	\$ 177,940
Middle 40%	SOCATRA	\$ 177,727
Middle 40%	PAMAR INC	\$ 176,068
Middle 40%	SHIKISHIMA KISEN	\$ 175,976
Middle 40%	TACHIBANAYA KK	\$ 174,756
Middle 40%	PETROMIN SHPG	\$ 173,498
Middle 40%	HADLEY SHPG	\$ 173,108
Middle 40%	UNION MARINE ENT.	\$ 173,098
Middle 40%	NAVIHOUSE	\$ 173,021
Middle 40%	NORTHERN SHPG CO	\$ 172,931
Middle 40%	LIVANOS,N.G.	\$ 171,176
Middle 40%	WHITE SEA-ONEGA SHPG CO	\$ 171,084
Middle 40%	JOONG ANG SHPG.CO.	\$ 170,554
Middle 40%	MEIJI KAIUN	\$ 170,015
Middle 40%	GARDLINE SURVEYS	\$ 169,785
Middle 40%	ANTARES NAVIERA	\$ 169,435
Middle 40%	INTL SHIPHOLDING CORP	\$ 169,381
Middle 40%	KAWAR EGYPT SHIPPING	\$ 169,381
Middle 40%	MATSUSHIMA KAIUN	\$ 169,381
Middle 40%	HANNO, HEINRICH	\$ 168,705
Middle 40%	SAGAR	\$ 166,570
Middle 40%	TOKO KAIUN	\$ 166,565
Middle 40%	FISHER,JAMES	\$ 166,232
Middle 40%	SORENSEN,C.H.	\$ 164,106
Middle 40%	FEDNAV LTD	\$ 163,618
Middle 40%	NOMIKOS,A.M.- T.M.A. SA	\$ 163,502
Middle 40%	KIKU OCEAN INDUSTRIAL	\$ 163,228
Middle 40%	TEXACO INC.	\$ 162,856
Middle 40%	KOLLINTZAS MARINE CO.	\$ 162,828
Middle 40%	UTKILENS,ANDERS	\$ 161,531
Middle 40%	U.A.S.C.	\$ 161,432
Middle 40%	ALENDAL,T.REDERI AS	\$ 160,711
Middle 40%	JARDINE SHIP MANAGEMENT	\$ 160,645
Middle 40%	THAI OIL	\$ 160,543
Middle 40%	SEAMAR	\$ 159,348
Middle 40%	FIRST EASTERN SHIP MNGT	\$ 159,010
Middle 40%	FAIRMONT SHPG (CAN) LTD	\$ 157,529
Middle 40%	SOLVANG	\$ 157,362
Middle 40%	NAESS SHPG.	\$ 156,731
Middle 40%	ROSWELL NAVIGATION CORP.	\$ 156,578
Middle 40%	WALLEM SHIPMANAGEMENT	\$ 156,227

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Middle 40%	POHL SHPG.	\$	156,110
Middle 40%	JACOB,ERNST	\$	155,473
Middle 40%	GLOBAL CARRIERS	\$	155,452
Middle 40%	PHOCEAN SHIP AGY.	\$	154,729
Middle 40%	VIA MARINE CORP	\$	153,529
Middle 40%	ITALIAN INTERESTS	\$	153,210
Middle 40%	ESERCIZIO RIMORCHI	\$	153,188
Middle 40%	ANGLO-EASTERN SHIP MGMT	\$	152,437
Middle 40%	NORDENFJELDSKE	\$	152,436
Middle 40%	NOVOROSSIYSK SHPG CO	\$	151,952
Middle 40%	NORWEGIAN INTERESTS	\$	151,873
Middle 40%	LIBO MARITIME MGMT LTD	\$	151,597
Middle 40%	ALL TRANSPORT AS	\$	149,783
Middle 40%	DANZ,REINHARD	\$	149,783
Middle 40%	STARGAS	\$	149,097
Middle 40%	BIBBY INTL SVCS (IOM) LTD	\$	148,354
Middle 40%	MOSS MARINE MANAGEMENT SA	\$	148,008
Middle 40%	WORLD MARINE	\$	147,553
Middle 40%	PARAKOU SHIPPING LTD	\$	147,542
Middle 40%	C.T.G.M.	\$	146,269
Middle 40%	COLD SEA INTNL	\$	146,202
Middle 40%	SPEAR SHIPPING	\$	146,202
Middle 40%	V.SHIPS (DUBAI)	\$	146,202
Middle 40%	FAR EAST INTERESTS	\$	146,196
Middle 40%	WORLDWIDE OCEAN CHART.	\$	145,708
Middle 40%	ABC CONTAINERLINE	\$	145,595
Middle 40%	TIDEWATER MARINE	\$	144,499
Middle 40%	MINGTAI NAV.CO.	\$	143,765
Middle 40%	P&L MARINE LTD	\$	143,699
Middle 40%	MINOAN LINES SHPG.	\$	143,453
Middle 40%	SURRENDRA OVERSEAS	\$	143,408
Middle 40%	AMER SHPG	\$	143,022
Middle 40%	BILINDER MARITIME	\$	142,980
Middle 40%	RIGOS,JOHN J.	\$	142,980
Middle 40%	DALEX SHPG.CO.	\$	142,408
Middle 40%	DANE - DODEKANISSIAKI	\$	142,408
Middle 40%	NEARCHOS MARITIME	\$	142,408
Middle 40%	MAYAMAR MARINE ENT.	\$	142,160
Middle 40%	PANAMA CANAL COMMISSION	\$	142,160
Middle 40%	COLUMBIA SHIPMGMT.	\$	141,866
Middle 40%	ROMLINE	\$	140,521
Middle 40%	YONG FA SHIPPING	\$	140,485
Middle 40%	KITaura KAIUN	\$	140,046
Middle 40%	GEOGAS TRADING SA	\$	139,633
Middle 40%	TORDENSKJOLD	\$	139,318

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Middle 40%	DOCKWISE NV	\$	139,046
Middle 40%	TRADE FORTUNE INC.	\$	138,901
Middle 40%	SALAMINIAKI SHIPPING	\$	138,375
Middle 40%	ATLANTIC UNITED MARINE	\$	137,846
Middle 40%	KONKAR SHPG AGENCIES	\$	136,977
Middle 40%	MTSUI WAREHOUSE	\$	136,856
Middle 40%	CONSERVAS GARAVILLA SA	\$	136,695
Middle 40%	SANASIA MANAGEMENT	\$	136,445
Middle 40%	UNIQUE SHPG.AGC.	\$	136,145
Middle 40%	ELDRIMA MARITIME ENTS	\$	136,077
Middle 40%	AVIN INTNL CORP	\$	135,630
Middle 40%	RIO DOCE NAV.	\$	135,325
Middle 40%	D'AMATO,FRATELLI	\$	134,757
Middle 40%	TOYO SANGYO KK	\$	134,735
Middle 40%	PINAT AS	\$	134,708
Middle 40%	FOREMOST MARITIME	\$	134,664
Middle 40%	FRONAPE	\$	134,607
Middle 40%	BALLAST NEDAM DREDGING	\$	134,430
Middle 40%	ARPENI OCEAN LINE	\$	133,793
Middle 40%	BLASCO UK LTD	\$	133,506
Middle 40%	SEALIFT INC.	\$	133,439
Middle 40%	LEOND MARITIME INC	\$	133,117
Middle 40%	SQUARE LTD.	\$	133,060
Middle 40%	THALASSIC SS.AGC.	\$	132,527
Middle 40%	VIKEN SHIPPING	\$	132,109
Middle 40%	ATHENA MARINE CO LTD	\$	131,733
Middle 40%	D'AMICO,FRATELLI	\$	131,650
Middle 40%	GREAT EASTERN SHPG.	\$	130,878
Middle 40%	TANKERSKA PLOVIDBA	\$	130,792
Middle 40%	DENHOLM SHIP MGT (IOM)	\$	130,673
Middle 40%	REFTRANSFLOT	\$	130,434
Middle 40%	VERNICOS MARITIME CO SA	\$	129,779
Middle 40%	SANTANA SHIPPING SERVICES	\$	129,630
Middle 40%	DECLOEDT & FILS	\$	129,541
Middle 40%	REHDER,CARSTEN	\$	129,390
Middle 40%	BRUDEY FRERES	\$	129,287
Middle 40%	ELMEKA NAFTIKI ETERIA	\$	129,287
Middle 40%	SYRIGAS,ELIAS	\$	129,287
Middle 40%	SUN TRANSPORT INC	\$	128,795
Middle 40%	TOTIS MARITIME SA	\$	128,728
Middle 40%	WING TAK SHPG.	\$	128,622
Middle 40%	SUN ENTERPRISES	\$	128,476
Middle 40%	NOMIKOS,A.E.	\$	128,271
Middle 40%	ENOMENA SHPG.(HELLAS)	\$	127,972
Middle 40%	HELMSING & GRIMM	\$	127,822

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Middle 40%	CHIOS NAV.LTD.	\$ 127,326
Middle 40%	MOUNDREAS SHIPPING, M.B.	\$ 127,252
Middle 40%	STRAHLMANN SCHIFFAHRTS	\$ 126,879
Middle 40%	GOBEL,H.	\$ 125,714
Middle 40%	PROTANK	\$ 125,555
Middle 40%	ALMI MARINE MGNT	\$ 124,558
Middle 40%	NISSAN PRINCE KAIUN	\$ 124,463
Bottom 50%	VULCANUS,AS	\$ 124,045
Bottom 50%	SOUTHERN WOODCHIPS	\$ 123,098
Bottom 50%	SKOUKLA INC	\$ 122,805
Bottom 50%	VINALMAR S.A.	\$ 122,609
Bottom 50%	KAISHO SHIPPING	\$ 122,416
Bottom 50%	WULFF,HERMANN	\$ 121,395
Bottom 50%	D S MARINE LTD	\$ 121,241
Bottom 50%	TSANGARIS BROS	\$ 121,051
Bottom 50%	EUROCARRIERS SA	\$ 120,666
Bottom 50%	ALL TRUST SHIPPING CO SA	\$ 120,217
Bottom 50%	CORONA MARITIME PTE	\$ 119,706
Bottom 50%	LIBERTY MARITIME CORP	\$ 119,383
Bottom 50%	PETROMARINE SHPG.	\$ 119,322
Bottom 50%	INVERCLYDE SHIP MGMT	\$ 119,267
Bottom 50%	VANGUARD ENTERPRISE	\$ 118,003
Bottom 50%	KAPELCO MARITIME SERVICES	\$ 117,862
Bottom 50%	GUISE SHPG.CORP.	\$ 117,838
Bottom 50%	SHAPHA MAR.	\$ 117,639
Bottom 50%	VOSCO	\$ 117,639
Bottom 50%	DANTAS,H.	\$ 117,552
Bottom 50%	CARBOFIN SPA	\$ 117,495
Bottom 50%	STAR INTERNATIONAL SHPG	\$ 117,435
Bottom 50%	VIKING MARITIME INC	\$ 117,237
Bottom 50%	MARIMED AGENCIES (UK)	\$ 117,033
Bottom 50%	PETROMARINE SA	\$ 117,033
Bottom 50%	SEA-LAND SERVICE	\$ 116,960
Bottom 50%	SEACOR MARINE INC.	\$ 116,554
Bottom 50%	FRAM SHIPPING	\$ 116,242
Bottom 50%	HYDROSHIP AS	\$ 116,091
Bottom 50%	EAGLE MARITIME CO LTD	\$ 114,245
Bottom 50%	NAVIERA FRIGORIFICA MTMA	\$ 113,309
Bottom 50%	BROSTROM SHPG	\$ 113,002
Bottom 50%	EXMAR	\$ 112,895
Bottom 50%	MARE MARITIME	\$ 112,710
Bottom 50%	EL CHIATY	\$ 112,706
Bottom 50%	HAM	\$ 112,480
Bottom 50%	CUBA	\$ 111,302
Bottom 50%	ROTH,JOSEF	\$ 111,243

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Bottom 50%	STARLINE CRUISES	\$ 111,178
Bottom 50%	ITAYA SHOSEN	\$ 110,775
Bottom 50%	INTER MARIT.MANAGE.	\$ 110,129
Bottom 50%	BLACK STAR LINE	\$ 110,003
Bottom 50%	V.SHIPS (MARINE)	\$ 109,883
Bottom 50%	CALM SEA SERVICE	\$ 109,707
Bottom 50%	ETHIOPIAN SHPG LINES	\$ 109,461
Bottom 50%	SEASCOT SHIPMANAGEMENT	\$ 109,238
Bottom 50%	MKM CHARTERING	\$ 109,040
Bottom 50%	RODA BOLAGET	\$ 108,778
Bottom 50%	VALIANT SHPG.CO.	\$ 108,367
Bottom 50%	ERIKSON,GUSTAF	\$ 108,188
Bottom 50%	AKMAR SHPG	\$ 108,104
Bottom 50%	RIGEL SCHIFFAHRTS	\$ 107,976
Bottom 50%	ROXANA NAVIGATION	\$ 107,571
Bottom 50%	COSULICH, FRATELLI	\$ 107,353
Bottom 50%	HAGLAND SHPG	\$ 107,353
Bottom 50%	SOCIETE (S.A.M.A.M.A.)	\$ 106,982
Bottom 50%	KUWAIT MARITIME TRANS.	\$ 106,911
Bottom 50%	NIKKAI MARINE	\$ 106,849
Bottom 50%	VENTOURIS LINES	\$ 106,829
Bottom 50%	MAYFAIR SHIPPING LTD	\$ 105,951
Bottom 50%	SMC INC	\$ 105,914
Bottom 50%	LOUIS-DREYFUS	\$ 105,614
Bottom 50%	PREMUDA SPA	\$ 105,018
Bottom 50%	AFRAM LINES	\$ 104,756
Bottom 50%	NEREUS SHPG.	\$ 104,460
Bottom 50%	BARU LAMA INC.	\$ 104,332
Bottom 50%	CENTURY SHIPPING	\$ 104,049
Bottom 50%	PALMYRA TSIRIS LINES	\$ 103,588
Bottom 50%	LEHMANN,HANS	\$ 103,512
Bottom 50%	PUGLIESE,ANTONIO	\$ 103,276
Bottom 50%	KYLCO MARITIME	\$ 102,869
Bottom 50%	PRODROMOS LINES	\$ 102,075
Bottom 50%	SEAHORSE SHIP MGMT.	\$ 101,571
Bottom 50%	MARWAN SHPG.	\$ 101,123
Bottom 50%	OGINO S.	\$ 101,123
Bottom 50%	WAN SHUN SS.CO.	\$ 101,123
Bottom 50%	KLAIPEDA TRANSPORT	\$ 100,706
Bottom 50%	SITINAS SHPG	\$ 100,363
Bottom 50%	LARSEN & TOUBRO	\$ 100,221
Bottom 50%	TIRRENIA SOC NAV	\$ 99,614
Bottom 50%	TONEN TANKER	\$ 99,591
Bottom 50%	PERUVIAN GOVT.	\$ 99,473
Bottom 50%	DOOYANG LINE CO.	\$ 98,566

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	EASTERN SHIPPING CO	\$	98,250
Bottom 50%	SIDERMAR	\$	98,078
Bottom 50%	INDIA SS.CO.	\$	97,965
Bottom 50%	MOERMAN	\$	97,890
Bottom 50%	NARVAL SHPG.CORP.	\$	96,120
Bottom 50%	OW SHIP MGMT	\$	95,684
Bottom 50%	COASTAL BUNKERING SVC.	\$	95,644
Bottom 50%	NICHIMEN K.K.	\$	95,644
Bottom 50%	DORVAL TANKSHIPS	\$	95,320
Bottom 50%	TAIKO KAIUN	\$	95,309
Bottom 50%	KYOKUJO SHIPYARD CORP	\$	94,756
Bottom 50%	IONIAN TRANSPORT&TRADING	\$	94,734
Bottom 50%	BOTELHO SHPG.CORP.	\$	94,554
Bottom 50%	CHINESE-POLISH SHPG.	\$	94,223
Bottom 50%	SINGA SHIP MGMT A/S	\$	94,026
Bottom 50%	GEORGIAN SHPG CO	\$	93,825
Bottom 50%	THESARCO SHPG.	\$	93,459
Bottom 50%	EMSAN AGENTUR	\$	93,389
Bottom 50%	MARITIME PTE.	\$	93,225
Bottom 50%	PROJECT SHIPPING INC	\$	93,137
Bottom 50%	WALLENUS LINES JAPAN	\$	92,316
Bottom 50%	NISSUI SHIPPING	\$	92,312
Bottom 50%	GEDEN LINE	\$	92,210
Bottom 50%	NAVIERA MAR AMERICA	\$	92,191
Bottom 50%	TRITEA MARITIME	\$	92,080
Bottom 50%	CENTRAL SHPG.	\$	92,043
Bottom 50%	HOKUSHIN SENPAKU	\$	91,603
Bottom 50%	CYPRUS NATANT LINES	\$	90,500
Bottom 50%	ALNAUTIC	\$	90,469
Bottom 50%	POSEIDON MARINA BAY	\$	90,265
Bottom 50%	KIEPE-SCHEPERS	\$	90,122
Bottom 50%	TOHSHIN KISEN	\$	89,900
Bottom 50%	SINHA SHIPPING	\$	89,193
Bottom 50%	JURGENSEN BRINK WOLFFEL	\$	89,170
Bottom 50%	DAHL SHIPPING AS,THOR	\$	89,041
Bottom 50%	CARAVAN SHIPPING	\$	89,027
Bottom 50%	STEVEDORING & TRANSPORT	\$	89,014
Bottom 50%	HILTVEIT ASSOCIATES	\$	88,977
Bottom 50%	GLAHR,H.& CO.	\$	88,959
Bottom 50%	NAV.HUMBOLDT	\$	88,955
Bottom 50%	REX SHPG.	\$	88,106
Bottom 50%	ORMOS MARINE SERVICES	\$	88,074
Bottom 50%	TOYO SHIPPING LINE CO	\$	88,027
Bottom 50%	INTERCHEM SRL	\$	87,634
Bottom 50%	IKAROS SHPG & BROKERAGE	\$	87,582

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	ITALIAN GVT (MTGN) LAGHI	\$	87,520
Bottom 50%	GAZOCEAN ARMEMENT	\$	87,446
Bottom 50%	VAN OMMEREN SHIPPING	\$	87,317
Bottom 50%	KAPTANOGLU GROUP	\$	87,200
Bottom 50%	SEA-PRAXIS	\$	87,171
Bottom 50%	CHILEAN INTERESTS	\$	87,131
Bottom 50%	ALBA SHIPPING SRL	\$	86,880
Bottom 50%	EFTHYMIU,D.N.	\$	86,331
Bottom 50%	SUNLIGHT CIA.NAV.	\$	86,177
Bottom 50%	SABINE TOWING & TRANS.	\$	85,943
Bottom 50%	INFRETRA SHIPPING INC	\$	85,636
Bottom 50%	WORLD-WIDE SHPG.	\$	85,492
Bottom 50%	DOIL STEAMSHIP LTD	\$	85,461
Bottom 50%	EAST ATLANTIC INT.	\$	85,461
Bottom 50%	KAWASAKI KINKAI KISEN	\$	85,461
Bottom 50%	SEVEN SEAS CARRIERS	\$	85,375
Bottom 50%	CHILES OFFSHORE	\$	85,335
Bottom 50%	SHSA SHIPPING MANAGEMENT	\$	85,335
Bottom 50%	IRAN MARINE SERVICES	\$	85,222
Bottom 50%	DAEBO SHIPPING CO LTD	\$	84,954
Bottom 50%	ALBAMAR SHIPPING CO	\$	84,106
Bottom 50%	KOYO KAIUN CO.	\$	83,503
Bottom 50%	SOUTER SHPG.	\$	83,503
Bottom 50%	RUSSIA GOVT	\$	82,988
Bottom 50%	ANRAL SHIPPING	\$	82,759
Bottom 50%	ZEPPENFELD,HORST	\$	82,468
Bottom 50%	TOMASOS,C.(HELLAS)	\$	82,389
Bottom 50%	KALKAVAN,KASIF	\$	82,358
Bottom 50%	BISCHOFF,BRUNO	\$	82,274
Bottom 50%	ILIOS SHPG.CO.	\$	81,512
Bottom 50%	STELMAR TANKERS	\$	81,238
Bottom 50%	GIGILINIS	\$	79,916
Bottom 50%	MARTI SHPG.& TR.	\$	78,641
Bottom 50%	PRIMORSK SHPG CO	\$	78,566
Bottom 50%	FINAVAL	\$	78,557
Bottom 50%	NAVIERA POSEIDON	\$	78,462
Bottom 50%	HANSE BEREEDERUNGS	\$	77,349
Bottom 50%	NIARCHOS GROUP	\$	77,339
Bottom 50%	NATIONAL NAV.CO.	\$	76,908
Bottom 50%	AQUARIAN SHELL MARINE INC	\$	76,881
Bottom 50%	TRANSGLOBAL SEA CARRIERS	\$	76,762
Bottom 50%	OERSSLEFFS	\$	75,725
Bottom 50%	MARITIME CONSULTANTS (S)	\$	75,447
Bottom 50%	LYRAS MARITIME LTD	\$	74,961
Bottom 50%	OLYMPO SA	\$	74,722

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Bottom 50%	APOLLONIA SHPG.CO.	\$ 74,678
Bottom 50%	FRANDOR SHPG INC	\$ 74,517
Bottom 50%	MARCO SHIPPING	\$ 74,517
Bottom 50%	ESSAR SHPG.	\$ 74,033
Bottom 50%	CUBANA DE PESCA	\$ 72,841
Bottom 50%	CHILE(GOVT)	\$ 72,683
Bottom 50%	JO MANAGEMENT BV	\$ 72,342
Bottom 50%	HONG KONG MING WAH	\$ 72,249
Bottom 50%	HAKANS OY AB, ALFONS	\$ 72,192
Bottom 50%	ANDHIKA SHIPMANAGEMENT	\$ 71,897
Bottom 50%	FREESE SCHIFFAHRTS	\$ 71,840
Bottom 50%	HEUNG-A SHPG.	\$ 71,816
Bottom 50%	KOREAN INTERESTS	\$ 70,934
Bottom 50%	ADRIATIC TANKERS	\$ 70,826
Bottom 50%	FINMARE SOCIETA FINANZIARIA MAR	\$ 70,607
Bottom 50%	VERGOTTIS LONDON	\$ 70,607
Bottom 50%	MALAYSIAN INTERESTS	\$ 70,324
Bottom 50%	ORMOS CIA.NAV.	\$ 70,145
Bottom 50%	MEGALOHARI HELLENIC TUG	\$ 70,039
Bottom 50%	KOSMAS MARINE LINE	\$ 69,730
Bottom 50%	FUYO KAIUN	\$ 69,723
Bottom 50%	TOLANI SHPG	\$ 69,681
Bottom 50%	STANDARD BULK TRANS.	\$ 69,644
Bottom 50%	PRIMERA MARITIME HELLAS	\$ 69,448
Bottom 50%	SUMO SHIPMANAGEMENT	\$ 69,396
Bottom 50%	KONTIKI SHPG	\$ 69,384
Bottom 50%	PAN OCEANIC SHIP MGMT(UK)	\$ 69,018
Bottom 50%	WEALTH OCEAN SERVICES	\$ 68,342
Bottom 50%	MANHATTAN SHPG.	\$ 68,285
Bottom 50%	ECKERO REDERI AB	\$ 68,278
Bottom 50%	FRIENDLY LUCK ENTERPRISES	\$ 68,236
Bottom 50%	DOUN KISEN	\$ 68,209
Bottom 50%	MARCANTONAKIS,MATH.	\$ 67,918
Bottom 50%	BULKITALIA OVERSEAS NV	\$ 67,823
Bottom 50%	KATOPAGI MANAGEMENT SA	\$ 67,719
Bottom 50%	MARLEMOS SHPG	\$ 67,719
Bottom 50%	FERM INTL SHIP MGMT AB	\$ 67,681
Bottom 50%	D'AMATO DI NAVIGAZIONE	\$ 67,595
Bottom 50%	JAPANESE INTERESTS	\$ 67,376
Bottom 50%	ESTONIAN SHPG CO	\$ 67,348
Bottom 50%	ATLANTIS MGMT.	\$ 67,288
Bottom 50%	KIL MANAGEMENT AS	\$ 67,239
Bottom 50%	INTERSHIP NAV	\$ 67,210
Bottom 50%	SANSHO KAIUN	\$ 67,041
Bottom 50%	SEAFLIGHT MGMT CONSULTANT	\$ 67,029

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	ROKOSHIP INC.	\$	66,897
Bottom 50%	SINGA STAR PTE LTD	\$	66,872
Bottom 50%	SHELL TANKERS BV	\$	66,351
Bottom 50%	MORBIHANNAISE ET NANTAISE	\$	66,302
Bottom 50%	JEBSEN,KG	\$	66,265
Bottom 50%	VEDER SCHEEPVAART MAATSCH	\$	66,138
Bottom 50%	PRIMERA SHIP MGMT.	\$	65,759
Bottom 50%	MARBELLA CARRIERS CORP	\$	65,670
Bottom 50%	DAIWA KISEN	\$	65,659
Bottom 50%	NEPTUNE ORIENT LINES	\$	65,462
Bottom 50%	DALIAN STEAM SHPG	\$	65,311
Bottom 50%	PREKOOKEANSKA PLOVIDBA	\$	65,306
Bottom 50%	PANMARINE SHPG.CORP.	\$	65,165
Bottom 50%	HOLLMING LTD	\$	65,163
Bottom 50%	SONDERBORG RED.	\$	65,133
Bottom 50%	CERRAHGIL	\$	64,729
Bottom 50%	BERGSHAV AS	\$	64,709
Bottom 50%	MARITIME INVESTMENT INTL	\$	64,709
Bottom 50%	UNI-TANKERS	\$	64,195
Bottom 50%	TAE-A SHIPPING	\$	63,993
Bottom 50%	SCORPIO SHIPMGMT	\$	63,805
Bottom 50%	ERSHIP S.A.	\$	63,493
Bottom 50%	HADJIPATERAS,JOHN	\$	63,275
Bottom 50%	DEL BENE	\$	63,166
Bottom 50%	PETROFLOTA	\$	62,761
Bottom 50%	SPANKA MARITIME CO	\$	62,729
Bottom 50%	PIONEER TANKERS SHPG CORP	\$	62,567
Bottom 50%	LOFOS SHPG	\$	62,145
Bottom 50%	WEST COAST TOWING	\$	62,145
Bottom 50%	SAINT NAVIGATION	\$	62,072
Bottom 50%	GLOBAL MARINE	\$	61,811
Bottom 50%	CARAVELLA SHPG	\$	61,681
Bottom 50%	SEVRYBKHOLODFLOT	\$	61,335
Bottom 50%	LARSEN'S PR	\$	61,260
Bottom 50%	AHRENKIEL,CHR.F.	\$	61,213
Bottom 50%	HAILONG MARITIME PTE LTD	\$	61,208
Bottom 50%	YARDIMCI SHPG GROUP	\$	61,115
Bottom 50%	SEAWAYS CHARTERING CO LTD	\$	60,963
Bottom 50%	FREJA TANKERS	\$	60,541
Bottom 50%	HIGH TIDE MARITIME	\$	60,450
Bottom 50%	LAESZ,F.REEDEREI GMBH	\$	60,247
Bottom 50%	SEA BLISS (SNG) PTE LTD	\$	60,116
Bottom 50%	DONNELLY SHIPMANAGEMENT	\$	59,895
Bottom 50%	NAVARONE S.A.	\$	59,621
Bottom 50%	RAVENNAVI S.P.A.	\$	58,958

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	FRIGOMAR	\$	58,636
Bottom 50%	HALKIDON SHIPPING	\$	58,618
Bottom 50%	INTERUNITY MGMT CORP	\$	58,147
Bottom 50%	MARREINA	\$	58,059
Bottom 50%	COMOMAR	\$	57,957
Bottom 50%	GI AVRIDIS, THEODORE	\$	57,906
Bottom 50%	NORSUL	\$	57,889
Bottom 50%	BOTANY BAY MGMT SVCS	\$	57,761
Bottom 50%	BRITTANY FERRIES	\$	57,425
Bottom 50%	POLENA SHIPPING SPA	\$	57,305
Bottom 50%	SEABOURN CRUISE LINE	\$	57,164
Bottom 50%	REX SHIPPING CO.	\$	56,616
Bottom 50%	MED-LINK LINES SA	\$	56,557
Bottom 50%	RF REEDEREIGEMEINSCHAFT	\$	56,557
Bottom 50%	ALASKA STATE	\$	56,158
Bottom 50%	SAMUDERA INDONESIA	\$	56,130
Bottom 50%	ORION REDERIERNE	\$	56,052
Bottom 50%	TOKYO MARINE	\$	55,970
Bottom 50%	ANGELAKOS LTD.	\$	55,727
Bottom 50%	BALTIC SHPG. CO.	\$	55,533
Bottom 50%	KAPPA SHIPPING	\$	54,627
Bottom 50%	BARU DELTA MARITIME INC	\$	54,528
Bottom 50%	LINEA PENINSULAR	\$	54,274
Bottom 50%	SARONIC OVERSEAS CORP	\$	54,006
Bottom 50%	NAKANO MARITIME	\$	53,714
Bottom 50%	MARINE MGMT SERVICES LTD	\$	53,506
Bottom 50%	FAROS MARITIME	\$	53,166
Bottom 50%	LIGNES TOGOLAISES SA	\$	52,947
Bottom 50%	NORDSTRAND MARITIME	\$	52,468
Bottom 50%	IOANNITSA SHIPPING	\$	52,386
Bottom 50%	INTL CAPITAL EQPMT	\$	52,322
Bottom 50%	SLOVAK DANUBE NAVIGATION	\$	51,897
Bottom 50%	LYDIA MAR SHPG.	\$	51,816
Bottom 50%	NEW OCEAN LTD	\$	51,679
Bottom 50%	TRISUL SHPG	\$	51,679
Bottom 50%	COREMAR	\$	51,436
Bottom 50%	LYKES BROS	\$	51,166
Bottom 50%	HUNGARIAN SHPG CO	\$	50,947
Bottom 50%	RYBCOMFLOT	\$	50,397
Bottom 50%	UK GOVT (NAVY)	\$	50,251
Bottom 50%	DOHERTY, FRANK	\$	49,623
Bottom 50%	MIZUHO SANGYO	\$	49,623
Bottom 50%	ATLASCO INTERNATIONAL	\$	49,586
Bottom 50%	STEPHENSON CLARKE	\$	49,586
Bottom 50%	SILVER LINE	\$	49,561

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	ULSTEIN SHIPPING AS	\$	49,400
Bottom 50%	KAMCHATKA SHPG CO	\$	49,343
Bottom 50%	SANTOKU KAIUN	\$	49,262
Bottom 50%	CANADA MARITIME	\$	49,201
Bottom 50%	ELMAR SHPG.	\$	49,177
Bottom 50%	BARIBA CORPORATION	\$	49,144
Bottom 50%	BIT-OST,NEFTEGAZOVAYA KO.	\$	49,029
Bottom 50%	LOUIS CRUISE LINES	\$	48,565
Bottom 50%	RED RIVER SHIPPING CORP	\$	48,545
Bottom 50%	BONYAD MARINE SERVICES	\$	48,313
Bottom 50%	TOHNICHI SANGYO KK	\$	48,272
Bottom 50%	FORTUNE POWER	\$	48,096
Bottom 50%	SANTOKU SENPAKU	\$	47,880
Bottom 50%	CHAVAL NAVEGACAO LTDA	\$	47,661
Bottom 50%	P&O EUROPEAN FERRIES	\$	47,575
Bottom 50%	CONDOCK BEFRACHTUNG	\$	47,271
Bottom 50%	ASAHI TANKER CO.	\$	47,142
Bottom 50%	RIGA TRANSPORT FLEET	\$	47,075
Bottom 50%	FORTUNA NAV.CO.LTD	\$	46,635
Bottom 50%	SEASTAR MARITIME MGMT SA	\$	46,335
Bottom 50%	SHISERCO SHPG SVCS	\$	46,105
Bottom 50%	KARAHASAN DENIZ.	\$	45,846
Bottom 50%	FLEET MANAGEMENT	\$	45,813
Bottom 50%	HAYASHI MARINE	\$	45,807
Bottom 50%	CHINA SKY SHIPPING	\$	45,639
Bottom 50%	OK SHIPPING IS	\$	45,601
Bottom 50%	RISING SUN LINE	\$	45,601
Bottom 50%	SAMSUN SHPG.	\$	45,601
Bottom 50%	OCEANGAS AUSTRALIA	\$	45,537
Bottom 50%	PIPPING O/Y	\$	45,537
Bottom 50%	TONY TRAVEL	\$	45,407
Bottom 50%	WESTERN GEOPHYSICAL CO	\$	45,389
Bottom 50%	ACTS/US INC	\$	45,130
Bottom 50%	GRAND SEATRADE SHPG.	\$	44,748
Bottom 50%	CARDIFF MARINE	\$	44,562
Bottom 50%	BLANKEVOORT	\$	44,540
Bottom 50%	CANDLER	\$	44,540
Bottom 50%	FARRELL LINES INC.	\$	44,540
Bottom 50%	JAYA SHIPMANAGEMENT	\$	44,540
Bottom 50%	CABOT LNG	\$	44,419
Bottom 50%	ILES DU PONANT	\$	44,377
Bottom 50%	FAIRSKY SHPG.	\$	44,052
Bottom 50%	RENSBURG SCHIFFFAHRT	\$	44,028
Bottom 50%	INTL CHEMICAL TRANSPORT	\$	43,903
Bottom 50%	SHINSEI KAIUN CO. LTD	\$	43,818

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Bottom 50%	EKTRANS INTNL TSPT	\$ 43,634
Bottom 50%	CHINA GOVT (SHANGHAI)	\$ 43,533
Bottom 50%	TRANSOCEANIC CABLE SHIP	\$ 43,351
Bottom 50%	EGYPTIAN NAV.CO.	\$ 43,256
Bottom 50%	TRASATLANTICA ESPAN.	\$ 43,188
Bottom 50%	MARGARONIS NAV.AGY.	\$ 43,031
Bottom 50%	CHEKKA SHIPPING SA	\$ 42,969
Bottom 50%	SUN CRUISES-AIRTOURS PLC	\$ 42,631
Bottom 50%	INTESTRA CO SA	\$ 42,514
Bottom 50%	POLSKIE TOWARZYSTWO	\$ 42,514
Bottom 50%	IDEMITSU KOSAN KK	\$ 42,507
Bottom 50%	WINFAIR SHIPPING	\$ 42,262
Bottom 50%	AVON STEAMSHIP CO.	\$ 42,257
Bottom 50%	BLUE MARINE SA LIB	\$ 42,012
Bottom 50%	AMASUS SHPG.	\$ 41,919
Bottom 50%	ANANGELMAR S.A.S.	\$ 41,919
Bottom 50%	EIMSKIP	\$ 41,919
Bottom 50%	LEGPROMEXPORT	\$ 41,919
Bottom 50%	TSCHUDI & EITZEN INTL	\$ 41,734
Bottom 50%	VECOMAR SHIPPING MNGMT	\$ 41,717
Bottom 50%	HESNES SHIPHOLDING	\$ 41,714
Bottom 50%	FONWAY ENTERPRISES	\$ 41,583
Bottom 50%	OCEAN LINE CO LTD	\$ 41,583
Bottom 50%	INDIAN INTERESTS	\$ 41,521
Bottom 50%	HARRISON,T.&J.	\$ 41,336
Bottom 50%	PAN NAUTIC S.A.	\$ 41,284
Bottom 50%	ATTRANSCO INC	\$ 41,224
Bottom 50%	YUYO STEAMSHIP CO	\$ 40,805
Bottom 50%	KYOEI KISEN	\$ 40,584
Bottom 50%	SKAARUP SHPG.CORP.	\$ 40,547
Bottom 50%	CABOTAJE,CIA MARITIMA DE	\$ 40,505
Bottom 50%	VEBA POSEIDON SCHIFFAHR	\$ 40,425
Bottom 50%	UNIFIDA S.A.	\$ 40,277
Bottom 50%	KOTAKA KISEN	\$ 40,209
Bottom 50%	TRI-MARINE SHIPPING CO	\$ 40,171
Bottom 50%	FIVE STARS SHIPPING	\$ 40,001
Bottom 50%	DOBSON LINES	\$ 39,930
Bottom 50%	KALOGERATOS,G.	\$ 39,928
Bottom 50%	VERGINA FERRIES	\$ 39,928
Bottom 50%	BRAVE MARITIME	\$ 39,771
Bottom 50%	TUPINAVE	\$ 39,738
Bottom 50%	EMS,AG	\$ 39,732
Bottom 50%	IOLCOS CO.	\$ 39,683
Bottom 50%	NAVIOS CORP.	\$ 39,579
Bottom 50%	METHANEX	\$ 39,431

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	NAM SUNG SHPG.CO.	\$	39,351
Bottom 50%	DOLIHI SHIPPING	\$	39,325
Bottom 50%	TOKUMARU KAIUN	\$	39,325
Bottom 50%	PACIFIC SHIP-MANAGERS	\$	39,219
Bottom 50%	AVIOR SHPG.INC.	\$	39,117
Bottom 50%	M.T.M.SHIP MANAGEMENT	\$	38,980
Bottom 50%	PAN PACIFIC HONG KONG	\$	38,801
Bottom 50%	FASTER S.R.L.	\$	38,609
Bottom 50%	LATVIAN SHIPPING AGENCY	\$	38,609
Bottom 50%	MAYFAIR(HELLAS)	\$	38,483
Bottom 50%	RENSEN	\$	38,096
Bottom 50%	TOEI REEFER	\$	37,981
Bottom 50%	UNISHIP MARITIME INC	\$	37,833
Bottom 50%	GOLDEN MGMT	\$	37,716
Bottom 50%	GENSHIPPING CORP.	\$	37,705
Bottom 50%	NEPTUNE SEA TRADE LTD	\$	37,641
Bottom 50%	NICHIRO CORP	\$	37,495
Bottom 50%	PARTHENON AGENCIES INC	\$	37,072
Bottom 50%	S.N.C.M.	\$	36,952
Bottom 50%	LOSINJSKA PLOVIDBA OOUR	\$	36,770
Bottom 50%	GEMKO SHIPPING	\$	36,604
Bottom 50%	DALIAN MARINE SHPG	\$	36,562
Bottom 50%	CYPRUS SEA LINES	\$	35,966
Bottom 50%	FG-SHIPPING	\$	35,685
Bottom 50%	KRITSAS SHIPPING SA	\$	35,501
Bottom 50%	NISSHIN KISEN CO LTD	\$	35,400
Bottom 50%	COSTA CONTAINER LINES	\$	35,341
Bottom 50%	AUGUST MARINE	\$	34,765
Bottom 50%	PABROCO INC	\$	34,613
Bottom 50%	LIGA MARITIME	\$	34,297
Bottom 50%	TRINITY HOUSE	\$	34,297
Bottom 50%	VENCA SHIPPING LTD	\$	34,297
Bottom 50%	HANSEN, ATLI	\$	34,255
Bottom 50%	YAMADA KAIUN	\$	34,255
Bottom 50%	BRISE SCHIFFAHRTS GMBH	\$	34,198
Bottom 50%	MEADWAY S&T	\$	34,198
Bottom 50%	TSATSAKIS SHPG.	\$	33,886
Bottom 50%	FRANSER SHIPPING SA	\$	33,562
Bottom 50%	FAIRPORT SHIPPING LTD	\$	33,535
Bottom 50%	TRANSTANK SHPG CO	\$	33,461
Bottom 50%	STATOIL NORGE AS	\$	33,280
Bottom 50%	THAI INTERESTS	\$	33,280
Bottom 50%	SAMSON SHIP MGMT (S) PTE	\$	33,273
Bottom 50%	ICK,JOHANNES	\$	33,017
Bottom 50%	SEA-COM CORP	\$	32,732

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Bottom 50%	WAIBERT	\$ 32,296
Bottom 50%	DILETON MARITIME SA	\$ 32,133
Bottom 50%	STRINTZIS LINES	\$ 32,133
Bottom 50%	ANDES LINE SA	\$ 32,077
Bottom 50%	BONNIE NAV.CO.	\$ 32,025
Bottom 50%	THALKAT SHIPPING SA	\$ 31,911
Bottom 50%	BARBER INTL (PTM)	\$ 31,867
Bottom 50%	TOSHIN KISEN	\$ 31,859
Bottom 50%	SOETERMEER	\$ 31,772
Bottom 50%	HAINAN SHPG & ENTERPRISES	\$ 31,768
Bottom 50%	KAKUSHIMA LINE	\$ 31,599
Bottom 50%	VAN SHIPPING	\$ 31,539
Bottom 50%	EPIDAURUS S.A.	\$ 31,406
Bottom 50%	PRAMS WATER SHPG CO INC	\$ 31,334
Bottom 50%	METRON SHIPPING	\$ 31,294
Bottom 50%	RIALTO SHIPPING CO	\$ 31,292
Bottom 50%	FAYZA SHPG.CO.	\$ 31,165
Bottom 50%	MERCURIUS SCHEEPVAART	\$ 31,097
Bottom 50%	UNOCO MARINE	\$ 31,017
Bottom 50%	DRAXL SCHIFFAHRTS GMBH	\$ 30,990
Bottom 50%	NT MARINE CO.	\$ 30,781
Bottom 50%	ASTRA SRL	\$ 30,748
Bottom 50%	LITHUANIAN STATE FISHING	\$ 30,748
Bottom 50%	PLM INTERNATIONAL	\$ 30,633
Bottom 50%	KALLA LINES	\$ 30,522
Bottom 50%	DEL MONTE FRESH FRUIT INT	\$ 30,478
Bottom 50%	ODFJELL DRILLING	\$ 30,414
Bottom 50%	BALIMAR	\$ 30,288
Bottom 50%	MARINE TRUST	\$ 30,271
Bottom 50%	SEAGER CORPORATION	\$ 30,228
Bottom 50%	TRINIDAD & TOBAGO	\$ 30,217
Bottom 50%	SUNBEAM SHIPPING INC	\$ 30,054
Bottom 50%	PRIME ORIENT MAR.	\$ 29,610
Bottom 50%	EMILIANA MARITTIMA	\$ 29,596
Bottom 50%	EASTERN SHPG.	\$ 29,594
Bottom 50%	PHOENOCAN LTD	\$ 29,592
Bottom 50%	PAROS CIA.NAV.	\$ 29,557
Bottom 50%	WOJIN MARINE	\$ 29,557
Bottom 50%	PETROCOST	\$ 29,552
Bottom 50%	OY MG SHIPPING	\$ 29,475
Bottom 50%	TOR SHIPPING	\$ 29,274
Bottom 50%	HOLLAND SHIP SERVICE	\$ 29,256
Bottom 50%	NESTOS MARITIME INC	\$ 29,238
Bottom 50%	NINA SPA	\$ 28,909
Bottom 50%	VERNICOS NE	\$ 28,907

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Bottom 50%	NEAREST SHIPPING CO	\$ 28,609
Bottom 50%	ALMANA TRANSPORT	\$ 28,454
Bottom 50%	LITHUANIAN SHPG CO	\$ 27,903
Bottom 50%	KYOEI KAIUN	\$ 27,761
Bottom 50%	CARIBMONT SHIPPING INC.	\$ 27,581
Bottom 50%	AQUAMARINE SHIPPING CORP	\$ 27,472
Bottom 50%	SEA RESOURCES	\$ 27,331
Bottom 50%	TURKISH INTERESTS	\$ 27,024
Bottom 50%	ELVIN SHPG	\$ 26,916
Bottom 50%	PIKEY NAVIGATION SA	\$ 26,916
Bottom 50%	ELITE SHPG.	\$ 26,716
Bottom 50%	VENUS ENTERPRISE SA	\$ 26,575
Bottom 50%	SPLIT SHIP MANAGEMENT	\$ 26,544
Bottom 50%	TOHSEI KAIUN	\$ 26,345
Bottom 50%	DANIELSEN,OTTO	\$ 25,774
Bottom 50%	DIANA SHIPPING SERVICES	\$ 25,669
Bottom 50%	NORDANE SHPG.	\$ 25,344
Bottom 50%	CARIBMONT SHPG	\$ 25,104
Bottom 50%	MARINE SPIRIT	\$ 24,924
Bottom 50%	DAL DEUTSCHE AFRIKA LINE	\$ 24,832
Bottom 50%	HANSEATIC SHPG.	\$ 24,713
Bottom 50%	IRANO-HIND SHPG.	\$ 24,480
Bottom 50%	TRANSBULK SHIPPING LTD	\$ 23,908
Bottom 50%	GOKSU MUESSESESI DENIZ	\$ 23,775
Bottom 50%	GUANGZHOU SALVAGE	\$ 23,736
Bottom 50%	HIDAKA KAIUN	\$ 23,470
Bottom 50%	TRANSMED SHPG.LTD	\$ 23,413
Bottom 50%	JEBSENS SHIP MGMT(LONDON)	\$ 23,375
Bottom 50%	NOVOROSSIYSKYBPPROM	\$ 23,061
Bottom 50%	WEALTHY FOUNTAIN	\$ 23,017
Bottom 50%	TRANSOCEAN MARINE MGMT SA	\$ 23,008
Bottom 50%	ROYMAR SHIP MGMT	\$ 22,854
Bottom 50%	POULSEN,J.	\$ 22,788
Bottom 50%	SHINTOKU KAIUN	\$ 22,577
Bottom 50%	SARGEANT MARINE	\$ 22,468
Bottom 50%	KOYO KAIUN CO (KURE)	\$ 22,175
Bottom 50%	UNIQUE TRADING CO.	\$ 22,153
Bottom 50%	JUMBO SHPG	\$ 22,104
Bottom 50%	TRANSOCEAN SHIP MGMT	\$ 22,063
Bottom 50%	OFFSHORE LOGISTICS	\$ 22,053
Bottom 50%	TRANSPORTE FLUVIAL PARAGY	\$ 22,053
Bottom 50%	SEA TRADERS S.A.	\$ 21,828
Bottom 50%	GRANELCO	\$ 21,568
Bottom 50%	RYBPROGNOZ	\$ 21,415
Bottom 50%	UK GOVT (MOD - RFA)	\$ 21,415

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls
Bottom 50%	YAMAJU KAIUN	\$ 21,415
Bottom 50%	FURNESS WITBY SHPG.	\$ 21,368
Bottom 50%	ENTRUST MARITIME	\$ 21,360
Bottom 50%	ACADEMY OF SCIENCES	\$ 21,309
Bottom 50%	DALA REDERI & FORVALTNING	\$ 21,279
Bottom 50%	JACZON REDERIJ	\$ 21,212
Bottom 50%	GECO-PRAKLA	\$ 21,154
Bottom 50%	ATHENS CAPE CIA.NAV	\$ 21,141
Bottom 50%	CIANE-ANAPO	\$ 21,141
Bottom 50%	PEROSEA SHPG.	\$ 20,849
Bottom 50%	NAVIGATOR SHIPPING CO	\$ 20,602
Bottom 50%	SPLITSKA PLOVIDBA	\$ 20,478
Bottom 50%	NRS LTD	\$ 20,385
Bottom 50%	KYOKUTO SENPAKU	\$ 20,253
Bottom 50%	MARINE CHARTERING	\$ 20,253
Bottom 50%	ULVIK MANAGEMENT CO LTD	\$ 20,142
Bottom 50%	PERSEAS SHIPPING SA	\$ 20,034
Bottom 50%	POLISH INTERESTS	\$ 19,899
Bottom 50%	NISA NAVEGACION SA	\$ 19,810
Bottom 50%	MARLOW NAVIGATION	\$ 19,632
Bottom 50%	TRASCHIMAR SAM	\$ 19,572
Bottom 50%	WILLIAMS-MCWILLIAMS	\$ 19,567
Bottom 50%	BOSTON-PUTFORD OFFSHORE	\$ 19,498
Bottom 50%	ULTRAMAR PACIFIC SVCS INC	\$ 19,498
Bottom 50%	EDMUND GANN & ASSOC	\$ 19,354
Bottom 50%	KYOKUYO KAIUN	\$ 19,205
Bottom 50%	MILENA SHIP MGMT	\$ 19,103
Bottom 50%	U.S. INTERESTS	\$ 18,735
Bottom 50%	OLDENDORFF PTE LTD	\$ 18,681
Bottom 50%	JAYSHIP LTD.	\$ 18,615
Bottom 50%	COLOMBIA GOVT.	\$ 18,504
Bottom 50%	BLOSSOM SHIPPING	\$ 18,155
Bottom 50%	ELISEO VILLAR LOUREIRO	\$ 18,151
Bottom 50%	SEDCO FOREX	\$ 18,082
Bottom 50%	DOTO KANKO KAIHATSU	\$ 18,062
Bottom 50%	FINNISH MARITIME ADMIN	\$ 18,062
Bottom 50%	SEAWORLD MGMT.	\$ 18,062
Bottom 50%	PETERS, C F	\$ 17,786
Bottom 50%	SWAN SHIPPING AS	\$ 17,714
Bottom 50%	TECH.MAR.PLANNING	\$ 17,640
Bottom 50%	MITUANA SHIPPING LTD	\$ 17,631
Bottom 50%	TIMOR OFFSHORE SDN BHD	\$ 17,631
Bottom 50%	WONSILD & SON	\$ 17,615
Bottom 50%	NORDTANK SHIPPING	\$ 17,508
Bottom 50%	IINO MARINE SVCE.	\$ 17,440

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	PETROMAR COLOMBIA	\$	17,293
Bottom 50%	GRINAVI	\$	17,206
Bottom 50%	INTL MARITIME MARINE S&T	\$	17,206
Bottom 50%	ORBITER SHIPPING	\$	17,206
Bottom 50%	SOHTORIK DENIZCILIK	\$	17,202
Bottom 50%	FENWICK SHPG.SVCS.	\$	16,945
Bottom 50%	MERKTRANS LTD	\$	16,403
Bottom 50%	BALTIMAR APS	\$	16,263
Bottom 50%	QUIMICA NAVIERA SA	\$	15,777
Bottom 50%	HANSEATIC CRUISES	\$	15,656
Bottom 50%	SOCIETA FINANZIARIA MARITIMA FINI	\$	15,426
Bottom 50%	SECIL MARITIMA	\$	15,296
Bottom 50%	ADRIAMAR SHIPPING	\$	15,191
Bottom 50%	HONG KONG INTERESTS	\$	15,103
Bottom 50%	MCDERMOTT MARINE	\$	14,697
Bottom 50%	CABOVERDEANA DE NAV	\$	14,669
Bottom 50%	CHOUEI KAIUN	\$	14,669
Bottom 50%	ECUADORIAN NAVY	\$	14,669
Bottom 50%	HIBISCUS MARINE MGMT	\$	14,669
Bottom 50%	KAVOUNIDES SHPG.	\$	14,669
Bottom 50%	MARINE STAR	\$	14,669
Bottom 50%	SHINSEI KAIUN	\$	14,669
Bottom 50%	VAKKANAY JOINT VENTURE	\$	14,669
Bottom 50%	ZANEN VERSTOEP	\$	14,669
Bottom 50%	TECTO NV	\$	14,332
Bottom 50%	ZALEWSKI,K-H	\$	14,321
Bottom 50%	CHOOK KNIGHT	\$	14,176
Bottom 50%	PESCAS TAVARES MACARENAS	\$	14,089
Bottom 50%	ISLAND SHPG AGENCIES	\$	14,076
Bottom 50%	DIMKO INTERNATIONAL SA	\$	14,004
Bottom 50%	EIKO MARINE	\$	13,682
Bottom 50%	FH SHIPPING SERVICES	\$	13,659
Bottom 50%	TRACO	\$	13,276
Bottom 50%	DONGWON INDUSTRIES	\$	13,244
Bottom 50%	REINERS, AUGUST	\$	13,118
Bottom 50%	VISTA SHIPPING AGENCY	\$	12,887
Bottom 50%	TRANSPAPEL NAVIERA	\$	12,787
Bottom 50%	NORWEGIAN GAS CARRIERS AS	\$	12,765
Bottom 50%	SKAUGEN,I.M.	\$	12,761
Bottom 50%	BOYE,HERMANN	\$	12,515
Bottom 50%	CUBAN GOVERNMENT	\$	12,252
Bottom 50%	NAVALE FRANCAISE SA	\$	12,093
Bottom 50%	SCHULTE,BERNHARD	\$	11,967
Bottom 50%	BUKSER OG BJERGNING	\$	11,967
Bottom 50%	HORNBECK OFFSHORE LTD	\$	11,967

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	P&O EUROPEAN TRANS.SVCS.	\$	11,967
Bottom 50%	ECUANAVE	\$	11,850
Bottom 50%	0	\$	11,602
Bottom 50%	ATLANTIS CRUISE CORP	\$	11,457
Bottom 50%	TRANSINSULAR	\$	11,457
Bottom 50%	WOODS HOLE	\$	11,457
Bottom 50%	TIDE SHPG.LTD.	\$	11,218
Bottom 50%	KASHIMA KISEN	\$	11,077
Bottom 50%	NAVROM SA	\$	10,878
Bottom 50%	BERLICE SHIPPING CORP	\$	10,600
Bottom 50%	MARINE HYDROPHYSICAL INSTITUTE	\$	10,492
Bottom 50%	JINYU KAIUN	\$	10,060
Bottom 50%	SPRANTE SCHIFFAHRTS	\$	9,945
Bottom 50%	DILMUN SHIPPING CO.	\$	9,905
Bottom 50%	LION MARITIME	\$	9,883
Bottom 50%	CMA	\$	9,790
Bottom 50%	GIBSON GAS TANKERS	\$	9,757
Bottom 50%	REKSTEN MANAGEMENT	\$	9,503
Bottom 50%	YAMATO KISEN	\$	9,300
Bottom 50%	MEXICO GOVT.	\$	8,872
Bottom 50%	JUHL & EHRHORN	\$	8,493
Bottom 50%	LAURITZEN KOSAN TANKERS	\$	8,432
Bottom 50%	RUSSIA GOVT (GAS)	\$	8,378
Bottom 50%	GOZO CHANNEL	\$	8,345
Bottom 50%	POETTO SHIPPING CO LTD	\$	8,345
Bottom 50%	PESQUERA ATUNEIRA SA	\$	8,138
Bottom 50%	ATLANTIC-RHEDEREI/JOCH KG	\$	8,060
Bottom 50%	INTERCOAST SHIPPING LTD	\$	7,859
Bottom 50%	SHINKO KAIUN SHIPPING CO	\$	7,496
Bottom 50%	TECMARINE LINES INC	\$	7,368
Bottom 50%	NAVIMAYA S.A.	\$	7,339
Bottom 50%	EDISON CHQUEST OFFSHORE	\$	7,291
Bottom 50%	HIRAMATSU SHOKAI	\$	7,200
Bottom 50%	SOUTH COAST SHPG.	\$	7,152
Bottom 50%	DE NUL,J.	\$	6,658
Bottom 50%	SCHONING GMBH	\$	6,657
Bottom 50%	HAYAMA SENPAKU	\$	6,619
Bottom 50%	BBC-BURGER BEREEDS.CONTOR	\$	6,590
Bottom 50%	EASTFLOT JOINT STOCK CO	\$	6,566
Bottom 50%	ORMESTAD,L	\$	6,537
Bottom 50%	FUNDACION ENGELMAJER	\$	6,475
Bottom 50%	CAPELLE CHARTERING	\$	6,316
Bottom 50%	DELTA SHPG & TRADING BVBA	\$	6,241
Bottom 50%	NETHERLANDS GOVT(MIN.L&V)	\$	6,137
Bottom 50%	HARTMANN SCHIF.	\$	6,128

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	CROWLEY MARINE SDERICES	\$	6,011
Bottom 50%	DANSHIP SVENDBORG	\$	5,999
Bottom 50%	SWIRE PACIFIC OFFSHORE	\$	5,702
Bottom 50%	HORN LINIE	\$	5,678
Bottom 50%	CANADIAN COAST GUARD(MTS)	\$	5,611
Bottom 50%	GRAND SEAWAY FERRIES	\$	5,514
Bottom 50%	INTL MTME MGMT INC	\$	5,514
Bottom 50%	PROTOMARE COMPANIA NAV	\$	5,510
Bottom 50%	JAPANESE GOVT (SEA TRNG)	\$	5,444
Bottom 50%	LT SHIPHOLDING INC	\$	5,387
Bottom 50%	PETRO-CANADA	\$	5,152
Bottom 50%	FUJIKI KAIUN KAISHA	\$	5,076
Bottom 50%	HEIWA KISEN	\$	5,076
Bottom 50%	SEIWA KAIUN	\$	5,076
Bottom 50%	SEIWA KOSAN	\$	5,076
Bottom 50%	DAE A GOSOK FERRY	\$	4,966
Bottom 50%	MADELEINE & SONS CORP	\$	4,897
Bottom 50%	MARINE INDUSTRIAL	\$	4,897
Bottom 50%	BOX MARINE S.A.	\$	4,889
Bottom 50%	ENV.PROTECTION SVCE.	\$	4,869
Bottom 50%	GERMAN GOVT (RESEARCH)	\$	4,703
Bottom 50%	NAVYLLOYD A.G.	\$	4,703
Bottom 50%	GENERAL MARITIMA SA	\$	4,411
Bottom 50%	TOKAI UNIVERSITY	\$	4,148
Bottom 50%	JAPANESE GOVT(MAR SAFETY)	\$	4,022
Bottom 50%	PHOENIX MARITIMA LTDA	\$	3,932
Bottom 50%	PRODUCTOS PESQUEROS MEXICANOS	\$	3,881
Bottom 50%	MARITIMA PROVIDENCIA	\$	3,871
Bottom 50%	MUSING TRANSPORT	\$	3,779
Bottom 50%	SEMO CO	\$	3,779
Bottom 50%	EKLOF MARINE CORP	\$	3,704
Bottom 50%	KRISTENSEN,EG	\$	3,682
Bottom 50%	WJSMULLER	\$	3,610
Bottom 50%	US GOV.	\$	3,348
Bottom 50%	AGOSTINO LAURO	\$	3,251
Bottom 50%	BJERRUM & JENSEN	\$	3,251
Bottom 50%	WAGLE,ODD	\$	3,251
Bottom 50%	ALBAR SHPG.	\$	3,209
Bottom 50%	SMIT INTERNATIONAL GROUP	\$	2,899
Bottom 50%	TIDEWATER INC	\$	2,898
Bottom 50%	FREMER	\$	2,882
Bottom 50%	UK INTERESTS	\$	2,882
Bottom 50%	KONINKLIJKE BOSKALIS WESTMINSTI	\$	2,790
Bottom 50%	TONNEVOLD & CLAUSEN AS	\$	2,681
Bottom 50%	TRACO TRANSPORTADORA COMERC	\$	2,622

SAMPLE VOLUME SEGMENTED CUSTOMER LIST

Volume Segment	Customer Name	Tolls	
Bottom 50%	HAWAIIAN SUGAR TRANSPORT	\$	2,343
Bottom 50%	FLUVIASA	\$	1,647
Bottom 50%	CSR LTD.	\$	1,574
Bottom 50%	KANOHA BV	\$	1,547
Bottom 50%	UNITED SHIP MGMT.	\$	1,489
Bottom 50%	CORY TOWAGE (PANAMA) LTD	\$	1,324
Bottom 50%	FUKUJU KIGYO K.K.	\$	1,204
Bottom 50%	GREAT PACIFIC NAV.	\$	1,088
Bottom 50%	SKAGA TRAWLING CO LTD	\$	972
Bottom 50%	OCEAN SHIPS	\$	939
Bottom 50%	RHEIN MAAS	\$	829
Bottom 50%	DEEP SEA TRAWLERS LTD	\$	739
Bottom 50%	SIMUNOVICH FISHERIES LTD.	\$	591

D. SURVEY CONTACT LIST

THE FOLLOWING PAGES LIST THE SURVEY RESPONDENTS

- This list can be used in the Canal's effort to update its customer contact list
 - Company name
 - Contact name
 - Contact title
 - Phone number (where indicated on response)
 - Fax number (where indicated on response)

- Where response confidentiality could not be maintained, those company and respondent names were omitted from the list

SURVEY RESPONDENTS

Company	Name	Title	Phone Number	Fax Number
Admanthos Shipping Agency	David Aldrich	Vice President		(1) 203 358 2375
Ananagel	Capt John Lykos	Port Captain		
Aran Shipping & Trading SA	Capt. G.E. Katsoulakos	Ops Department	(30) 1 4283900	(30) 1 4282177
Armada Shipping	John Thomsen	Director Operations		
Blue Star Line	Capt. W. R. Houghton Boreham	Operations Manager		
BT Shipping (London) Ltd.	M.H. Engelschmidt	Commercial Director		
CCNI	Eugenio Valenzuela	Gerente General		(56) 2 3391333
Celebrity Cruises		VP - Marine Operations		(1) 305 267 3501
Columbia Shipmanagement Ltd	Capt A. Xapolytos	QA Manager		(357) 5 320157
COSCO (HK) Shipping Co, Ltd.	Capt. Du Bad Ming	Managing Director		
Crystal Cruises	John Oekland	Marine Superintendent	(1) 310 785 9300	(1) 310 277 2465
CSAV	Jorge Brain	SVP - Planning and Coordination Division		(56) 32 203927
Cunard Line	Dag Toemmervik	AVP - Worldwide Port Operations		(1) 954 522 5112
Daiichi Chou Shipping (America), Inc.	Thomas W. McMahon	Vice President		(1) 212 370 0831
Evergreen America	Teru Huei, YAO	JVP		(1) 201 915 3393
Flopec	Jorge Donoso Moran	General Manager		
Gearbulk (UK) Ltd.	Steve Hutty	Agents and Terminal Manager	(44) 1372 470707	(44) 1372 470746
Genshipping Corporation c/o Slosna Plovba	Mr. Anton Kariz	General Secretary		(386) 86 476110
Goldbeam International	Y. H. Shum	Director	(852) 2545 0951	(852) 2541 9794
Greenwich Marine	Albert E. Rudge	President		(1) 908 604 5591
Hapag-Lloyd Cruiseship Management Gmbh	Capt. Peter Richters	Head of Ship Management Department		(49) 40 3001 74774
Kamchatka Shipping Co (KASCO)	Alexander Mudryi	1st Vice President	(7) 415 22 28211	(7) 415 22 21960
Latvian Shipping Co	Guntars Rozitis	Manager of Reefer Department		371 7228850

SURVEY RESPONDENTS

Company	Name	Title	Phone Number	Fax Number
Louis Dreyfus	J. Stephen Lucas	Vice President	(1) 203 761 2360	(1) 203 761 2360
Mitsui OSK	N. Ishihara	AVP Logistics	(1) 510 688 2606	(1) 510 688 2669
MMS CO Ltd (MOSK Lines Manger)	Isad Ozaki	General Manger		
NYK Line (North America) Inc.	Brian Kern	Senior Manager - Operations		
P&O Cruises	Philip Naylor	Operations Manager	(44) 1703 534323	(44) 1703 534257
Princess Cruises	Peter Ratcliffe	President	(1) 310 553 1770	(1) 310 785 0725
Radisson Seven Seas	Vicki Ferri	Manager of Marine/Technical Operations		
Scaldis Reefer Chartering	Bram van der Broeche	Operations Department	(32) 3 5449493	(32) 3 5449300
Soc. D'Amato di Navigazione	Capt M. D'Amato	General Manager		
SONAP	Jose Thomsen	Gerente General		(56) 32 251325
Spliethoff	J.K. van der Wiele	Operations Manager		
Star Reefers	Capt. G.M. Pepper	Operations Manager		(44) 0171 8275630
Star Shipping	Ivar H. Staff	Manager	(47) 55 23 96 00	(47) 55 23 25 30
Stolt-Parcel Tankers	Joseph E. Ludwiczak	SVP and GM, Tanker Operations	(1) 203 625 3730	(1) 203 625 3925
T. Klaveness Group	Dagfinn Asmyhr	Senior Operations Manager		
Unicom Management Services	Ian McBroom	Managing Director		(47) 22 526220
Unicom Management Services (Cyprus) Ltd.	Kyriakos Orros	Marine Superintendent		
Univan Shipmanagement Ltd	Capt. C.A.J. Vanderperre	Managing Director	(852) 2527 0058	(852) 2861 0742
Vale Do Rio Doce Navegacao SA - DOCENAVE	Pietro Allevato	Chartering and Operations General Manager		
Yang Ming Line	Brutus Yeh	Manager of Agency and Terminal Division		(886) 2 3310827
Zim Israel America	Cohen-Mintz	President		