

**Hawaii Harbor
Users Group
Report on
Port Facilities
& Development
Priorities**



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Bellevue, WA
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Forward

The Hawaii Harbor Users Group (HHUG) is a non-profit maritime transportation industry group comprised of the key harbor users:

Matson Navigation Company
Horizon Lines, LLC
Young Brothers/Hawaiian Tug & Barge
Norwegian Cruise Line
Sause Bros., Inc.
Aloha Cargo Transport (ACT)
McCabe Hamilton & Renny Co., Ltd.
Hawaii Stevedores, Inc.
Hawaii Superferry, Inc.
Tesoro Hawaii Corporation
The Gas Company
Ameron Hawaii

The purpose of HHUG is two-fold:

1. Establish a marine transportation industry group to develop a set of priorities for future port development.
2. Help the state Department of Transportation to obtain mandates, approvals and financing to implement projects to meet the transportation needs of the community.

The Mercator Transport Group has been engaged by HHUG to assist the group in defining the collective needs and priorities of harbor users and in developing a plan for promoting development that satisfies those needs.

HHUG Background:

- Users of Hawaiian ports are increasingly confronted with limitations on the availability of berth and terminal resources throughout the Hawaiian port system.
- Harbor users understand well the critical role ports play in the economic life of the islands, and witness each day the great extent to which the port facilities influence the State's commercial well-being.
- There is a looming shortage of port facilities on many of the islands, brought about by the continued growth in intra and interstate cargoes, the cruise ship business, and the introduction of the inter-island ferry service.

- Any reserve capacity will soon be gone. It is projected that Honolulu will run out of space for international cargo this year and for domestic cargo in 2010.

We hope this report will provide government, community, and business leaders with new insights into the crisis confronting Hawaii's harbors, and assist in making informed decisions regarding infrastructure and facility requirements for Hawaii's harbor system.

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Facility Planning and Development in Hawaiian Ports

1. Executive Summary

Users of Hawaiian ports are increasingly confronted with limitations on the availability of berth and terminal resources throughout the Hawaiian port system. Harbor users, including members of the Hawaii Harbors Users Group (HHUG) understand well the critical role ports play in the economic life of the Islands, and witness each day the great extent to which port facilities influence the success and commercial well-being of the State and the level of service provided to the residents of the State.

In order to provide input that would be useful to HDOT / Harbors and that would assist with the planning and development of port facilities, the HHUG retained Mercator Transport Group to work with its member companies to review and evaluate facility requirements within the Hawaiian harbors system and develop a set of priorities for future port development.

The Mercator team identified a looming shortage of port facilities on many islands, brought about by rapid growth of cruise traffic, the introduction of inter-island ferry service and the continued growth in the transportation of core commodities and consumer goods. Increased cargo and cruise traffic will soon consume most of the reserve capacity of the existing facilities, and thereby reduce the ability of ports and port users to efficiently serve the existing market, respond to new service requirements or recover quickly from the natural and man-made service disruptions that invariably occur.

Mercator has worked closely with the users of the Hawaiian harbors network to develop this assessment of port development requirements and to identify recommended actions to be taken. In this report, we summarize the key issues that drive the need for increased focus on port facility development, identify the locations and causes of the most critical port capacity shortages, and put forward a set of recommendations for new facilities to address these problems.

Our recommendations for priority port development, jointly put forward with the HHUG members, have been organized into three groups: Long term strategically critical projects, medium term projects required to meet the needs of the next 2-4 years, and short term projects that are smaller in scale and provide immediate relief of pressing constraints and should be targeted for completion in the next year.

Strategic Priorities

Timeframe of 5+ years

Location	Project	Est. Cost \$ millions
Honolulu	Kapalama Terminal Development	300+ ?
Kahului	West Harbor Development	150+ ?
Kalaeloa	Pier 8 construction	50+ ?
		500+ ?

Priority Medium Term Projects

Complete in 1-5 Years

Location	Project	Est. Cost \$ millions
Honolulu	Re-route Sand Island Access Road - DLNR / Highway Dept Proj)	10-15
Honolulu	Pier 40 Improvements	8-10
Honolulu	Pier 19 Ferry Terminal	8-10
Kalaeloa	Fuel pipeline system expansion	??
Kahului	Inter-Island Terminal Expansion	13-15
Kahului	Pier 3 deepening	??
Kahului	Pier 2b Ferry Terminal	8-10
Hilo	Pier 4 Inter-Island Terminal	45
Hilo	Pier 2-3 Passenger Improvements	??
Kawaihae	Ferry Terminal development	8-10
Nawiliwili	Ferry Terminal development	8-10
Lanai	Pier rebuilding	??
Pt. Allen	Pier rebuilding	??
Subtotal		110-125

Near Term - Immediate Benefits, Limited Spending

Complete Next Year

Location	Project	Est. Cost \$ millions
Honolulu	Pier 1 warehouse demolition	1-2
Honolulu	Develop Sand Island DLNR Land	3-4
Honolulu	Pier 1 lighting improvements **	*
Honolulu	Sand Island container yard deck hardening **	*
Hilo	Open Pier 1 container gate	1
Kawaihae	Complete small boat harbor (DLNR - BOBOR Project)	2-3
Kawaihae	Paving	1
Nawiliwili	Pier 3 Dolphin	1-2
Subtotal		9-13

* These projects are understood to already be programmed for 2006.

Other Recommendations

The costs to complete required projects is clearly large, and will exceed the capability of existing funding mechanisms and available cash flows. It is therefore recommended jointly by Mercator and the HHUG members that the Harbors Division immediately consider increases in the wharfage rates in order to increase the cash flow available now and to build a reserve fund to be used for undertaking the significant "medium term" capital projects required during the next 1-5 years. It is also recommended that the Harbors Division undertake more specific analysis of alternative funding mechanisms to determine the quantity of funds that could be raised under each of them (some approaches are described briefly in Section 8 of this report) and test the feasibility of successfully completing one or more significant port infrastructure development projects under each approach.

HDOT / Harbors Division should continue to actively engage the users of the harbor in setting development priorities and in raising sufficient funds to move forward with development projects on a timely basis in order to ensure that facilities are developed before needs become critical.

2. Introduction

Key Harbor Users have identified a need for increased focus on the development of port facilities, and have joined together in order to highlight this need and assist the Department of Harbors in implementing port facility improvements. In order to advance this process, the Hawaii Harbor Users Group - consisting of Matson Navigation Co., Horizon Lines, Ltd., Young Brothers/Hawaiian Tug & Barge, Sause Brothers, Aloha Cargo Transport (ACT), McCabe Hamilton & Renny Stevedores, Hawaii Stevedores, Norwegian Cruise Line, Hawaii Superferry, Tesoro, The Gas Company, and Ameron Hawaii - has retained Mercator Transport Group to study the needs and priorities for port facility development as seen from the perspective of the Harbor Users in order that these needs can be addressed more effectively by the Department of Harbors.

This report has thus been developed in order to bring together the views and concerns of key Harbor Users and document existing and emerging port facility requirements that are not effectively being satisfied.

In the course of this project, the Mercator team met with key managers and executives from each of the Harbor Users Group companies, and visited numerous port facilities on Oahu and Maui. Extensive data on cargo flows and port usage was obtained from both the HDOT Harbors Division and from Harbor Users, and was analyzed in order to provide a quantitative basis where possible to support the assessments presented in the report. In addition, the team has drawn on its extensive experience in Hawaiian ports, acquired over



many years working in the liner industry serving the Hawaiian market, and consulting to transportation and port operating companies active in the Hawaiian trades.

3. Overview of Port Operations By Location

Honolulu Harbor

Honolulu Harbor includes facilities for cargo of all types, passengers, ship repair and vessel services, with berths numbered from 1 thru 53. Types of activity handled at particular locations within the port are listed below. A more complete inventory of facilities and characteristics is provided in Appendix 4.

General cargo and container operations

- Pier 1 Diamond Head Terminal – containers and general cargo, including ACT, NYK and PM&O
- Pier 29 General cargo / Ro-Ro (including Matson ro-ro vessels)
- Pier 31-34 General cargo / Ro-Ro (including Pasha ro-ro vessel and calls by international ro-ro vessels)
- Pier 39-40 Young Brothers Inter-Island Terminal - containers and general cargo
- Pier 51 Horizon Lines Terminal – containers (also has aviation fuel connections)
- Pier 51c/53 Matson Terminal – containers

Passenger cruise/ferry facilities

- Pier 2 Now being re-developed as a 2nd passenger cruise terminal
- Pier 10/11 Cruise Terminal
- Pier 19/20 Ferry Terminal (currently handling bulk sand shipments by barge)

Liquid Bulk & Dry Bulk Cargo

- Pier 20 Bulk sand shipments by barge
- Pier 23 Grain handling / silos
- Pier 30 Liquid Bulk - privately owned (Chevron)
- Pier 31-34 Liquid Bulk – bunker barges in addition to Ro-Ro and Genl Cargo
- Pier 51A&B Liquid Bulk – aviation fuel (in addition to containers)
- Pier 38 Propane Barge
- Pier 60 Bulk sand

Tourist Operations / Tour Boats

- Pier 5-9 Tour Boats / Dinner Cruises
- Pier 40F Tour Boats / Dinner Cruises

Tug & Barge Baseport Operations & Layberths

- Pier 13/14
- Pier 21/22
- Pier 24-27

Fishing

Pier 16/17
 Pier 36-38

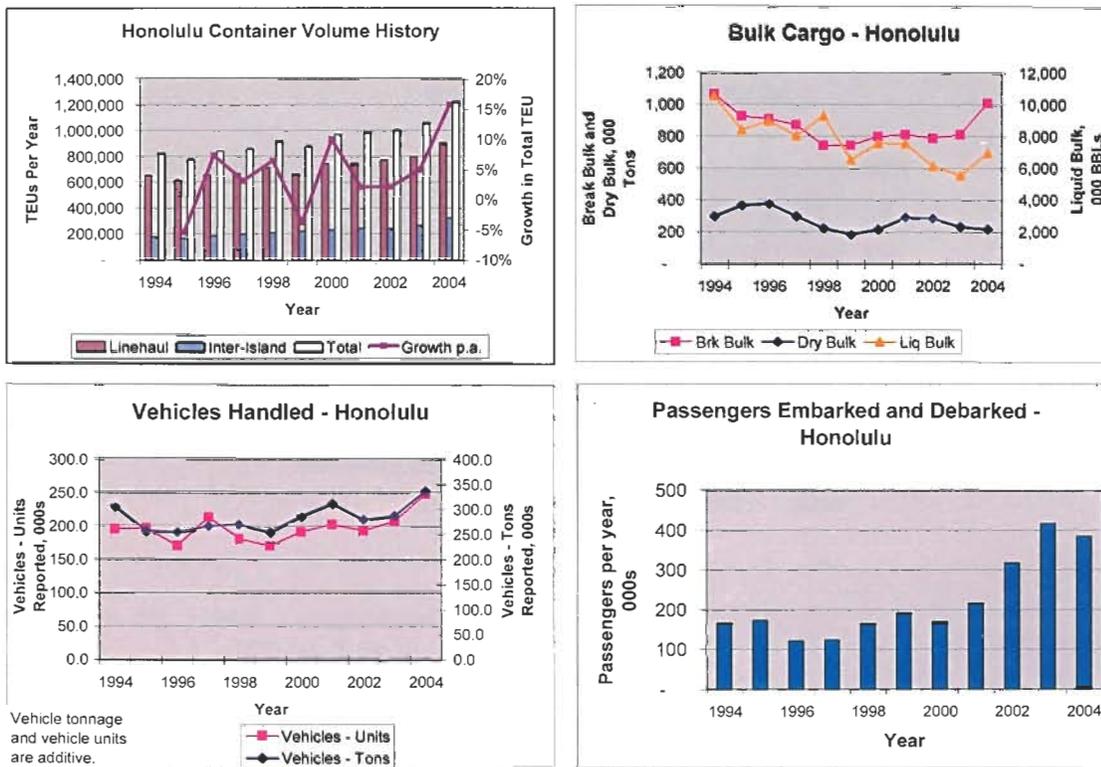
Miscellaneous

Pier 15 Fireboat
 Pier 18 Pilotboat
 Pier 35 Spill response vessels
 Pier 41/42 Shipyard
 Pier 44/45 NOAA vessel, University of Hawaii

Honolulu Cargo & Passenger Activity

Cargo and passenger data as reported in the The Hawaii DOT wharfage database are presented in Figure 1¹. The underlying data is also tabulated in Appendix 2a – 2e².

Figure 1 - Honolulu Cargo History



Source: Hawaii DOT, Department of Harbors Wharfage System

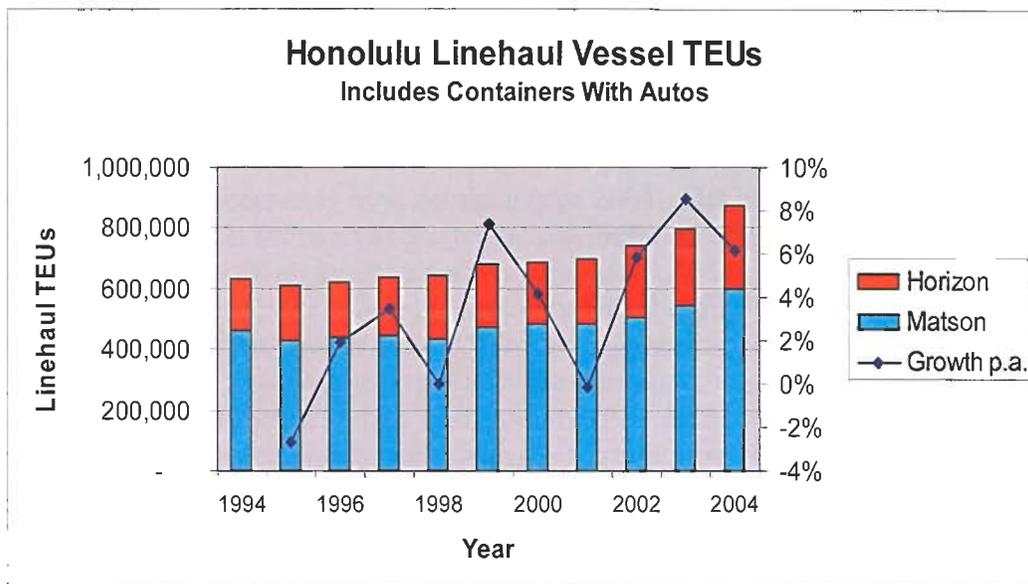
¹ The Honolulu inter-island container volumes shown in the above graph were derived from the HDOVT statistics by assuming Honolulu volumes are equal to the sum of the Neighbor Islands volumes. This adjustment to the HDOT figures corrects an apparent reporting problem in the Honolulu figures.

² The Appendix 2e container volume historical analysis remains incomplete due to missing inputs. However, the available data for 2004 shows reasonable agreement with the (adjusted) HDOT figures.

The number and complexity of the cargo flows through Honolulu make it difficult to see clearly just what is happening in the Port, particularly given the way that cargo data is collected and made available. Nonetheless, a few observations can be made:

- Container traffic has steadily increased, with an average increase of about 4% per year over the 10 years through 2004. Over the last 4 years, however, container traffic has increased more sharply and is up more than 26% versus year 2001 levels.
- The majority of container traffic in the port is generated by the two largest domestic carriers, Matson and Horizon. Linehaul vessel TEU volumes for each and growth rates for this overall sector are presented below in Figure 2.

Figure 2 - Honolulu Domestic Carrier Linehaul Vessel TEUs



Source: Matson Navigation and Horizon Lines

- Domestic carriers each expect their long term container traffic to continue growing at approximately (3% p.a.), with foreign carriers growing considerably faster.
- Dry bulk and liquid bulk cargos remain an important part of Honolulu traffic, but have actually declined over the last 10 years, as a result of moving certain traffic to the KBPH facility. Molasses and livestock traffic have also declined, but neither of these represent a major part of the Honolulu cargo base.
- Breakbulk cargo includes a variety of non-containerized general cargoes, the largest commodity being lumber, which in 2004 accounted for nearly 180,000t. The lumber traffic, however, was moved from Honolulu to KBPH at the end of

2004. Non-containerized intra-island traffic was the largest component of breakbulk traffic, amounting to 670,000t in 2004. This business is growing slowly, and is expected to continue migrating to containers, which will increase the requirements for container handling facilities.

Passenger traffic has grown at the highest rate, with compound average growth of 9% over the last 10 years, and 23% over the last 4 years. Expectations are that this traffic will continue to grow until NCL America completes its deployment of its U. S. flag fleet in mid-2006. After that time, it is expected that cruise ship traffic will stabilize unless new berths are developed for cruise ships and foreign flag carriers feel the market justifies deployment of additional ships to Hawaii.

•
 Vehicle traffic since 1994 shows a general upward trend, overlaid by cyclical fluctuations. Historically, the volatility in vehicles volumes has largely been attributed to the car rental market and the policies of the major auto manufacturers. The 2004 figures show vehicle and truck volumes jumping nearly 20%, to reach a new high of 247,000 units plus 350,000 tons.

Port Call Statistics and Berth Occupancy

Port call statistics and berth occupancy for each of the terminal facilities in Honolulu for the year ending in March 2005 have been reviewed and tabulated. A summary of this data is presented in Appendix 1³.

Cruise berths recorded moderately high occupancy in 2004. The cruise berth at Pier 10/11 received 114 cruise vessels (with an average port stay duration of 16 hrs), while Pier 2 received 24 cruise vessels (with average port stay duration of 35 hrs). During the 12 months ending in Mar 2005, there were 22 days on which 2 cruise vessels arrived, and three days on which 3 cruise vessels arrived. The average utilization of Pier 10/11 by cruise vessels was 32%. Other vessel types also use Pier 10/11 when cruise vessels are not alongside. Considering all vessel types, utilization of Pier 10/11 was 35%. Cruise vessel berth occupancy will increase dramatically with the introduction of one additional NCL vessel this year, and a second in 2006, each of which will call every week in Honolulu.

³ **Comments About Berth Occupancy Levels:** Defining the maximum level of berth occupancy that is considered acceptable is difficult because it depends on many factors specific to each location, such as the type and size of vessels being served, the length of typical port stays, the feasibility and cost of stevedoring operations on nights and weekends, the degree of schedule coordination among users and the cost to users of waiting for a berth.

What is universally, true, however, is that achieving berth occupancy of 100% is neither possible or desirable because of the significant disruptions and transport system efficiency impacts that result from trying to achieve super-high berth occupancy.

As a general rule of thumb, berth occupancy below 40% creates few problems or delays to vessels, 40-60% forces some vessel re-scheduling that may sub-optimize vessel utilization and limit the ability to efficiently add more vessel calls, occupancy 60-80% leads to periodic berthing delays and sub-optimal vessel scheduling, while occupancy at or above 80% would involve a large number of vessels waiting in a queue and is in most cases not achievable as a practical matter.

During the period studied, Pier 2 still handled nearly 70 non-cruise vessels and over 100 barge calls. When Pier 2 is fully operational as a cruise terminal and cruise activity begins to displace most or all other traffic, especially on Saturdays, Sundays and Mondays of each week and occasionally other days during the spring and fall cruise season, this non-cruise activity will need to move to a new location.

Container and general cargo berth utilization

Berth occupancy was assessed quantitatively on the basis of how many daytime or nighttime windows at cargo loading berths are being occupied by cargo vessels or barges, as a percentage of the number of such windows available. For this analysis, each berth was assumed to have two ½ day windows available each day. The diagram of port call windows is attached as Appendix 3, with occupancy figures for each terminal summarized below as follows:

	Days	Nights
Matson Sand Island	50%	60%
Horizon Sand Island	57%	71%
Young Brothers terminal	81+%	

(increasing as more sailings are added)

Matson Sand Island handles 3-4 container vessels per week, along with about 8 barge sailings per week. The Horizon lines terminal accommodates 2 container vessels per week, along with 1 product tanker about every 3 weeks. The ability to add additional port calls is limited by the need for time between port calls to allow for off-schedule arrivals and the need to arrange containership schedules so as to meet the requirements of the market and fit within available berth windows on the US West Coast.

In Honolulu, the Young Brothers schedules typically involve a morning arrival and evening departure, often with the same barge arriving and departing on the same day. Most activity at the terminal must be completed during dayshift, both to cater to the sailing schedules and to accommodate customers that are picking-up and dropping-off cargo. The Inter-Island cargo terminal at pier 39/40 has just three berthing positions that are suitable for end-loading barges⁴. Once the new sailings coming on line in 2006 are added, these three barge loading berths will be occupied during virtually 100% of all dayside shifts, with overall daytime berth occupancy above 80%. New sailings, if they could be squeezed into the schedule at all, will come with a higher cost as more and more cargo is handled using less efficient berth arrangements.

⁴ While YB may use alternate discharge methods in some destination facilities, stern loading remains the most efficient in the absence of shore cranes and is preferred by YB in all locations. As DOT Harbors makes improvements in each destination, YB hopes to be able to operate a stern loading operation throughout the state.

The Pier 1 terminal handled slightly more than 2 container vessels per week, along with about three other barges or miscellaneous cargo vessels. At present, utilization of the berth and the availability of berthing windows is not considered a significant issue at Pier 1.

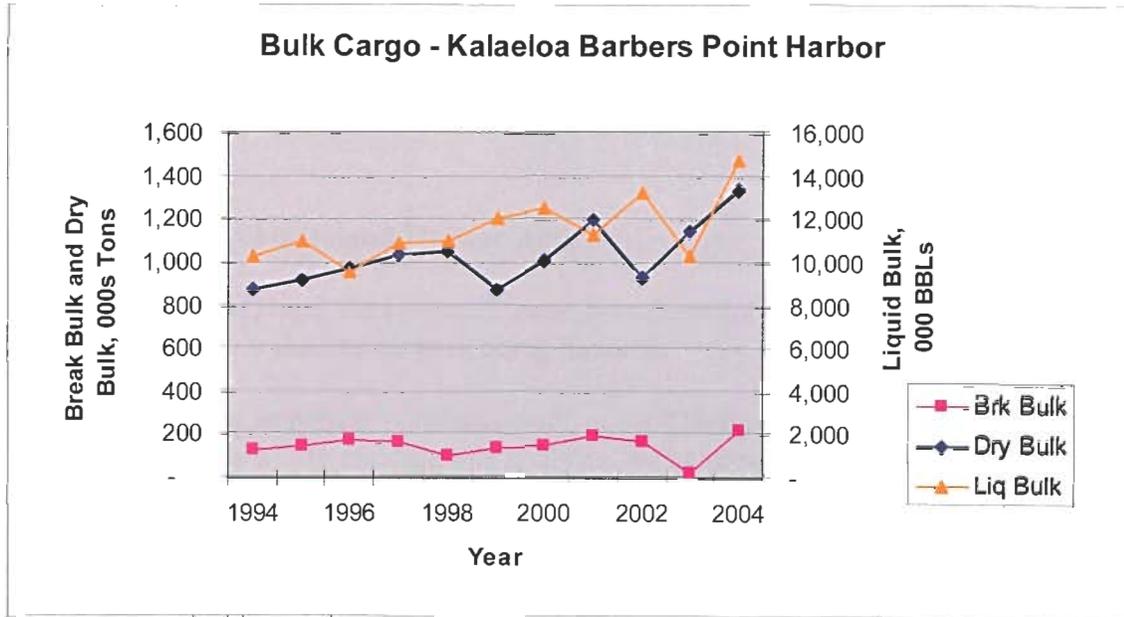
Liquid bulk cargo within Honolulu Harbor is primarily handled at the privately owned Chevron facility (Pier 30), at the propane berth (Pier 38), and at Sand Island (Pier 51-A). The Pier 38 propane berth had a high occupancy because the propane barges use the pier as a layberth. Utilization at the Chevron facility was not reported. Tankers discharging aviation fuel compete with container vessels for access to berth 51-A, which also handles container traffic.

The ro-ro / general cargo facilities (Pier 28/29 and Pier 31/34) each experienced moderate levels of berth occupancy. Prior to the introduction of the new Pasha ro-ro service, Pier 31-34 was already receiving about 1 large cargo vessel per week, in addition to a large number of barges, fishing & fish processing vessels, tank vessels and tugs. Matson is the primary user of Pier 29, calling each week, either twice with its large cont/ro-ro combination vessels or once with its pure ro-ro vessel. Tugs and barges also make use of the pier when it is not occupied by Matson.

Kalaeloa Barbers Point Harbor (KBPH)

The KBPH facility experiences high utilization, handling primarily dry bulk and liquid bulk commodities. In 2004, the facility handled about 1.34m tons of dry bulk cargo (cement, coal), about 14 million BBL (about 2,000,000 t) of liquid bulk cargo (primarily fuel oil, gasoline, aviation fuel and LPG), and about 212,000 tons of breakbulk cargo (general merchandise, lumber and scrap metal). Dry cargo growth between 2002 and 2004 exceeded 19%. The port serves as one of two major distribution points for all liquid bulk cargos going to neighbor islands.

Figure 3 – Cargo Volume – KBPH



Source: Hawaii DOT, Department of Harbors Wharfage System

Incremental activity was added in 2005 when fortnightly calls by the mainland barge service of Sause Bros. were shifted from Honolulu’s Pier 1 to KBPH. Sause Bros. is now calling with a large barge (or smaller tandem barges) and competing with liquid bulk activity for berth space. Sause cargo fully utilizes the warehouse and furthermore Sause has dedicated paved stack areas at KBPH for storage of plywood, paper and lumber, serving both the Oahu market and transshipping building materials to other islands via KBPH. Sause is or will soon be handling some container loads at KBPH under an agreement with another carrier, although this first regular container service to operate at KBPH is not expected to materially reduce traffic at Honolulu.

Given the high level of barge and ship activity at KBPH, the berth is heavily utilized. In 2004, occupancy of the critical berths 5A, 5 and 6 ran at over 50% on a ft-hr basis (occupancy at 50% or above by this measure is considered high and leads to delays), with berths 5/6 handling nearly 550 barges (an average of 1-2 barges per day), plus fishing and fish processing vessels, tank vessels, tugs and more than a dozen bulk cargo vessels (which remain in port an average of 7 days).

Because of the requirement for liquid bulk barges to berth in front of the pipe connection manifolds, which are located in the same section of the pier that is used by the lumber/breakbulk barges, the true incidence of berthing conflicts is, however, understated by this measure. With the Sause Bros. service now calling KBPH, utilization rates will increase further, increasing occupancy hours of KBPH berths 5A-5-6 by about 5% above the levels experienced in 2004.

Fixed facilities for handling bulk materials (cement and coal) are located at KBPH, including enclosed storage domes for cement and coal conveyors that connect to the

nearby power plant. The large paved area at KBPH is presently under-utilized, with the lack of usage attributable to the location of KBPH (more distant from main markets near Honolulu) and, secondarily, the lack of berth availability to serve additional calls. These issues make KBPH unattractive for many cargos and limit the ability of KBPH to effectively relieve pressure on Honolulu Harbor.

Overview of Neighbor Island Harbor Activity

In this section, we review the principal users of each of the busiest Neighbor Island harbors, and identify the key cargoes being handled.

A 2-week mapping of typical port calls made at each Neighbor Island berth/facility is presented in Figure 3⁵. In creating this analysis, we have subdivided each day into two parts – nominally day and night, which reflects the normal usage patterns of the facilities, and considered the berth as occupied when a vessel or barge is typically alongside for all or part of the half-day window. This reflects the fact that, as a practical matter, a berth window that does not extend for 6-8 hours or more is not generally usable. Occupancy percentages for each berth or in some cases group of berths, are tabulated to the right of the chart, along with the typical number of vessel or barge calls received per 2-week period.

⁵ This diagram is also presented in Appendix 3, along with some additional explanatory notes.

Kahului Harbor

Kahului Harbor is the only cargo facility serving the Island of Maui. Growth in bulk and container shipments, the introduction of expanded service by NCL and the inauguration of the Superferry result in berth occupancy levels during daytime shifts that are quite high, as shown in Figure 4. Daytime occupancy will exceed 70% even if certain operations now handled during the day are shifted to night time.

The principal users of the facility are described below:

Matson Container and Ro-Ro : 2 container barge sailings from Honolulu and one call by a mainland ro-ro vessel each week. In addition, Matson ships containers with YB, and frequently operates its ro-ro barge to Kahului when cargo volumes require (more than 30 times during the 12 months ending in Mar '05)..

Young Brothers Container and Break-Bulk Service: Call frequency has now reached 5 per week on a regular basis, including 3 regulated "PUC" sailings working Mon/Wed/Fri as well as "special" sailings for Horizon and Matson calling on Tue / Sat. YB operates a single 310' barge for the PUC sailings and a 340' barge for the "specials". Although it might be more convenient to occasionally work certain "specials" at Pier 1, labor jurisdictions issues require that all cargo loaded at the YB pier in Honolulu must be offloaded at the YB facility in Kahului.

Pasha Hawaii Transport Lines: In Q2 2005 commenced bi-weekly calls at Kahului Pier 1 with a specialized ro-ro vessel.

Petroleum Supply Operations: Kahului receives about 3 tank barges per week bringing fuel oil, gasoline and aviation fuel, plus 1 call every 3 weeks by the propane barge.

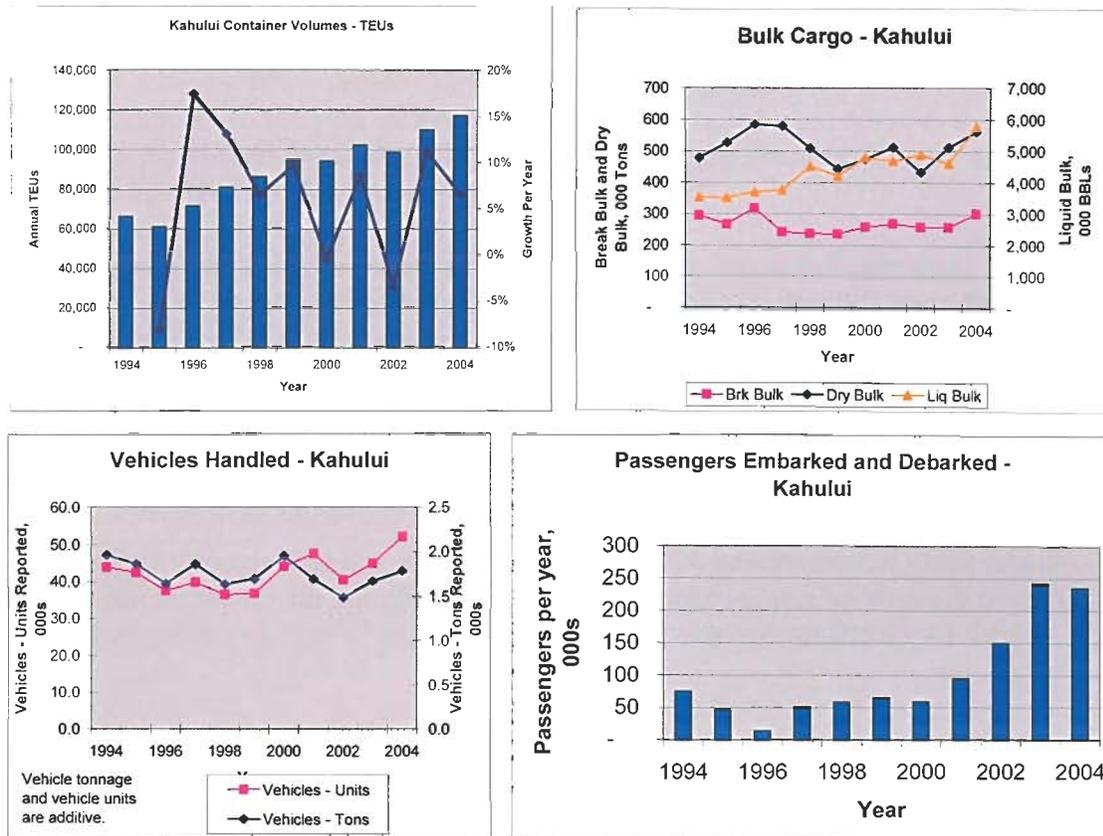
Bulk Materials Operations: In the year ending in Mar 2005, the barge Ka'ala called 98 times primarily carrying sand to Honolulu. 38 calls by the cement barge were received during the year, about 3 calls per month. The Moku Pahu sugar barge made 8 calls during the same period, with an average port stay of 32 hours, along with 2 tin plate vessels (each in port about 20hrs) and 3 coal ships (nearly 100 hours in port per call).

Cruise Vessels: In the year ending in Mar 2005, 65 cruise vessel calls were made at Kahului, 60 of them by NCL with the balance by other lines. During this period NCL had just one vessel on the dedicated inter-island route, plus 1 vessel on the Hawaii-Fanning Island route. With two new ships being delivered in 2005/2006, NCL cruise vessel calls will increase dramatically

Cargo and passenger volumes moving through Kahului are contained in Appendix 2 and presented in the following graphs (Figure 5). Container and liquid bulk show the

greatest increases among cargo types, doubling in the last 10 years. Passenger traffic is up the most among all types of port users, more than 3 times higher than in 1994.

Figure 5 - Kahului Cargo & Passenger History



Source: Hawaii DOT, Department of Harbors Wharfage System

Hilo Harbor

Hilo Harbor is one of two cargo facilities serving the Big Island. In addition to nearly all of the Big Island cruise traffic, a wide variety of cargo is handled across the three piers. With new cruise vessel calls overlaid on existing activity, daytime berth utilization will exceed 60%. Hilo berth occupancy is diagrammed in Figure 4.

Principal users of Hilo Harbor are as follows:

Matson Container and Ro-Ro: 2 barge calls per week (1 container barge and 1 ro-ro barge, plus one call by a mainland ro-ro vessel each week.

Young Brothers Container and Break-Bulk Service: Two regulated “PUC” sailings working on Monday and Friday. Turn-around time in Hilo is longer than other locations, so YB does a “drop and swap” which means that a barge is in Hilo every day of the week.

Pasha Hawaii Transport Lines: In Q2 2005 commenced bi-weekly calls at Hilo with a specialized ro-ro vessel.

Petroleum Supply Operations: Hilo receives about 3 tank barges per week (166 during 12 month sample period) bringing fuel oil, gas/diesel and aviation fuel, plus 1 call every 2 weeks (24 calls during 12 month period) by the propane barge.

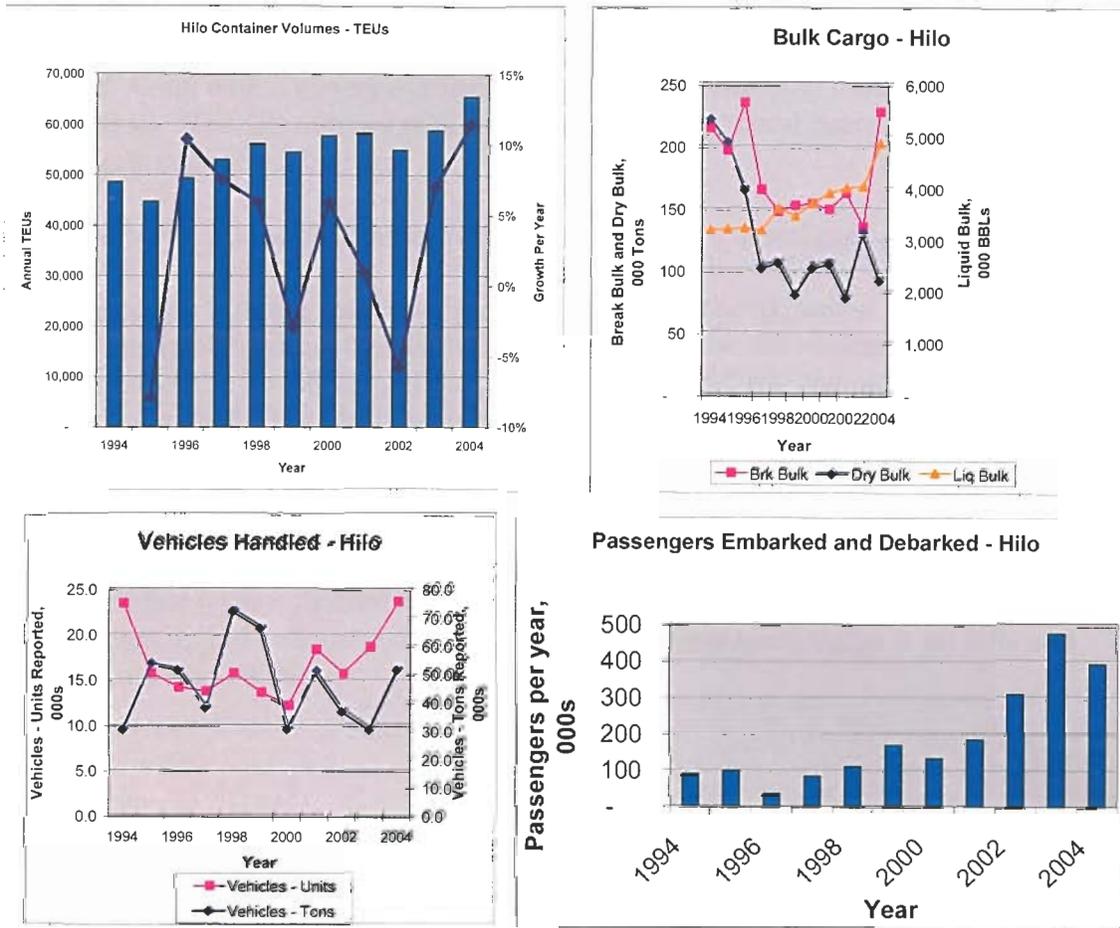
Other Operations: In the year ending in Mar 2005, 20 calls by the barge delivering cement were recorded, plus about 45 additional deck cargo barge calls over and above the 156 in the fixed YB/Matson schedules.

Cruise Vessels: In the year ending in Mar 2005, 139 cruise vessel calls were made at Hilo, 77 of them by NCL with the balance by other lines. During this period NCL had just one vessel on the dedicated inter-island route, plus 1 vessel on the Hawaii-Fanning Island route.

In addition to commercial operations, pleasure boats are occasionally berthed within Hilo Harbor, typically at the outer end of Pier 2.

Port volumes through Hilo are presented in Figure 6. A pattern similar to the one in Kahului can be seen, with both liquid bulk and container volume up strongly over 10 years (about 60% and over 45%, respectively), with passenger traffic up 4-fold.

Figure 6 - Hilo Cargo and Passenger History



Source: Hawaii DOT, Department of Harbors Wharfage System

Kawaihae Harbor

Kawaihae Harbor is the second cargo facility serving the Big Island. Although no cruise vessels are received, a variety of other traffic is handled across the three piers, with berth occupancy at a moderate level (about 40%), though increasing and starting to become a concern. Principal users of Kawaihae Harbor are as follows:

Matson Container and Ro-Ro : 2 container barge and 1 ro-ro barge sailings from Honolulu each week. On some weeks, the Matson Ro-Ro barge will make a 2nd call in Kawaihae (63 total ro-ro barge calls were recorded during the 12 month sample period).

Young Brothers Container and Break-Bulk Service: Two regulated "PUC" sailings working on Friday and Monday, plus 2 "special sailings" carrying container traffic for Matson, Horizon, and foreign carriers.

Petroleum Supply Operations: Kawaihae receives liquid cargo tank barges about every 3 weeks (only 18 calls during 12 month sample period).

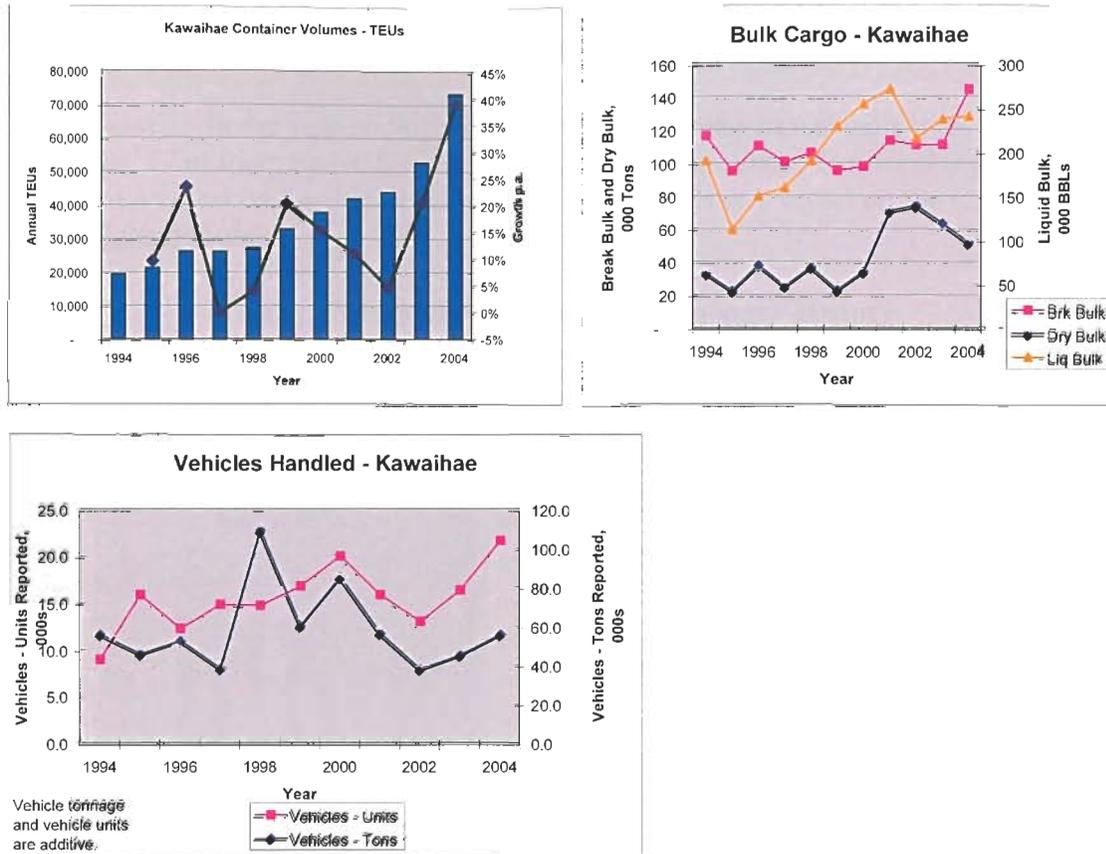
Other Operations: In the year ending in Mar 2005, 39 calls by the cement barge were recorded, along with a variety of miscellaneous vessels handling cattle, and other commodities. The US military makes regular use of the “coral beach” area at the Southeast corner of the harbor.

Cruise Vessels: Kawaihae Harbor is not used as a cruise vessel port.

Pleasure Boats: A large number of pleasure boats are moored within Kawaihae Harbor. These boats remain within the commercial harbor because the adjacent small boat harbor, which is under the jurisdiction of the Department of Land and Natural Resources, remains unfinished. The small boats moored within the harbor interfere with navigation of the commercial vessels, and incidents involving commercial vessels and small boats are not un-common.

Container volume has shown extraordinary growth, tripling during the last 10 years. During the last 6 years, annual container growth was below 10% only 1 time. Over the last 10 years, liquid bulk cargo is up by a factor of 4, breakbulk cargo is up 50% and drybulk cargo up 100%.

Figure 7 - Kawaihae Cargo History



Source: Hawaii DOT, Department of Harbors Wharfage System

Nawiliwili Harbor

Nawiliwili Harbor is the principal cargo and passenger facility serving the island of Kauai. A variety of traffic is handled across the three piers, with berth utilization at a manageable level (about 23%). Principal users of Nawiliwili Harbor are as follows:

Matson Container and Ro-Ro : 1 container barge (working Saturday pm) and one ro-ro barge (working Friday am), plus occasional extra ro-ro barge calls on the weekend.

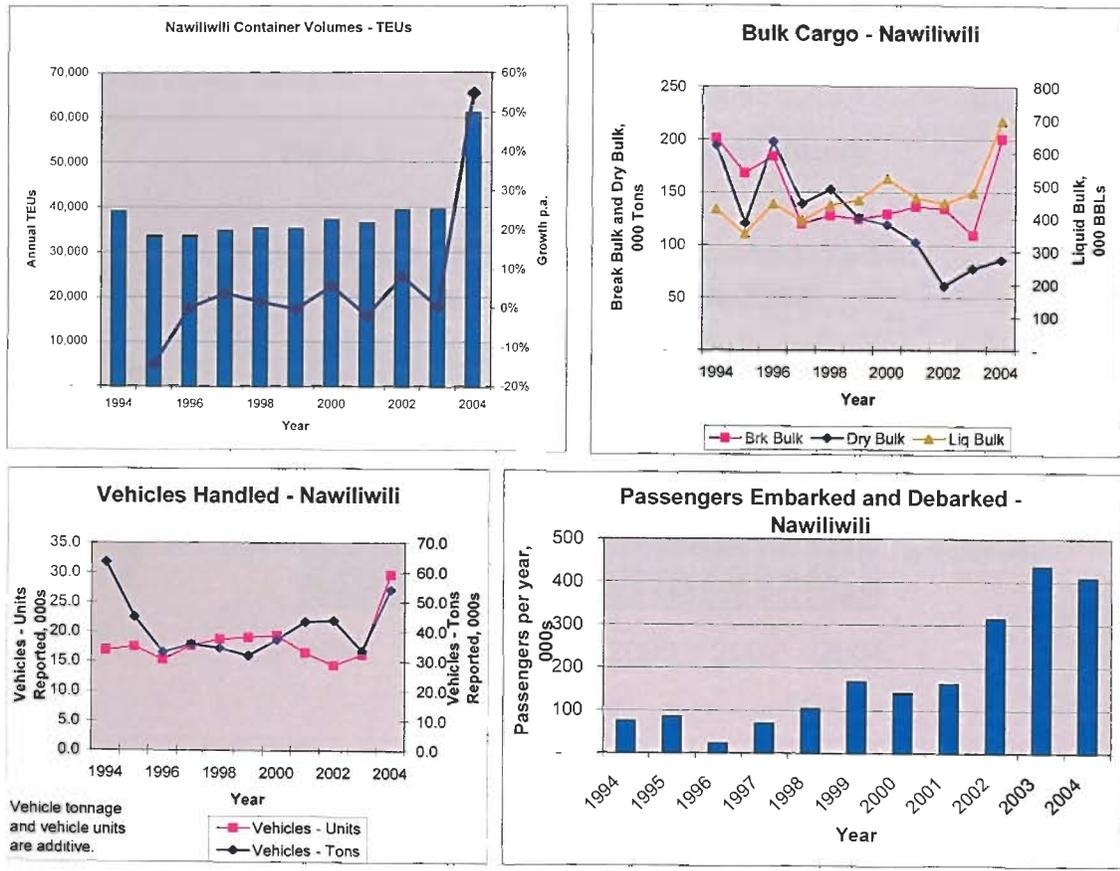
Young Brothers Container and Break-Bulk Service: Two regulated “PUC” sailings working each week on Tuesday and Friday, each typically operated with a tandem barge.

Petroleum Supply Operations: Nawiliwili receives 1 tank barge about every 2 weeks (26 during 12 month sample period) bringing fuel oil, gas/diesel and aviation fuel, plus 1 call every 4 weeks (12 calls during 12 month period) by the propane barge.

Other Operations: In the year ending in Mar 2005, 15 calls by the cement barge were recorded, plus about 45 additional deck cargo barge calls over and above the 156 in the base YB/Matson schedules. Matson's bulk sugar vessel (Moku Pahu) made 3 calls, and the PHTL ro-ro vessel Jean Ann made one call.

Cruise Vessels: In the year ending in Mar 2005, 139 cruise vessel calls were made at Nawiliwili, 77 of them by NCL with the balance by other lines. During this period NCL had just one vessel on the dedicated inter-island route, plus 1 vessel on the Hawaii-Fanning Island route.

Figure 8 - Nawiliwili Cargo & Passenger History



Source: Hawaii DOT, Department of Harbors Wharfage System; (2004 spike in container traffic appears to be an anomaly in the data)

Nawiliwili passenger volumes have increased nearly 5-fold since 1994, the largest percentage increase within the harbor system. Consistent with the patterns in other neighbor islands, passenger traffic and liquid bulk volume are both steadily increasing.

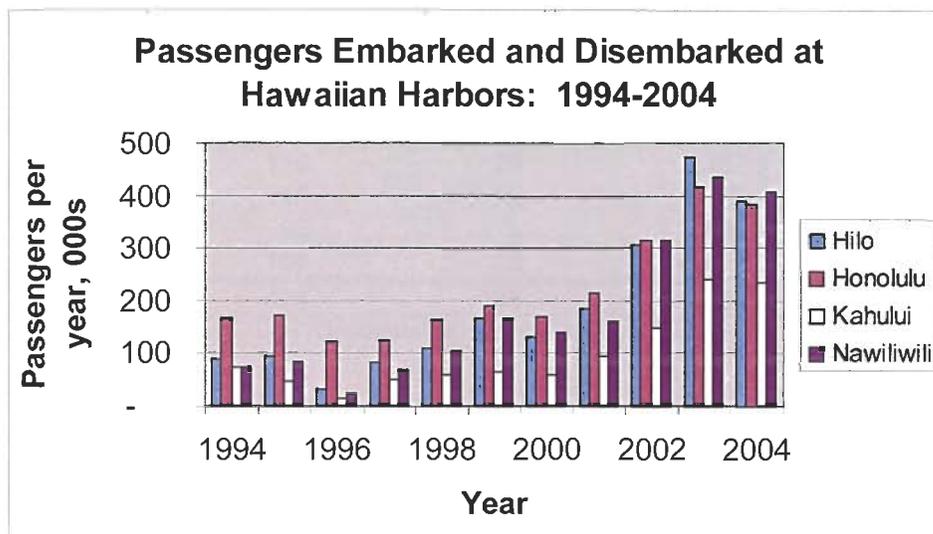
4. New Activity To Be Accommodated Within the Hawaiian Harbors System

Before considering the key capacity and operating issues (which will be addressed in the next section), we outline here the increasing demands being placed on the system by new business activity and growth within the current users.

Cruise Sector Expansion

As can be seen in Figure 9, the cruise sector has grown significantly over the last several years, with 2004 passenger counts summed across Hawaiian ports exceeding 1.4 million, up by 180% versus 2000.

Figure 9 – Cruise Passenger Count History



Source: Hawaii DOT, Department of Harbors Wharfage System

On top of the strong recent growth, the cruise sector activity at Honolulu, Kahului, Hilo and Nawiliwili is set to go dramatically higher in 2005/2006 as a result of the introduction of new ships to the market. In particular, by May 2006 NCL will have deployed 2 additional vessels in the Hawaiian market⁶, increasing the number of vessel calls at each port. The impact of the NCL expansion on cruise sector berthing requirements is summarized in the following table.

⁶ Two more than the number of vessels deployed in 2004.

Table 1 – Norwegian Cruise Lines Port Call Expansion

Expansion of NCL Port Calls at HNL, KAH, Hilo & NAW

NCL Berth Usage - Actual - Yr Ending Mar 2004					
Port	# Vessel Calls Per yr	Avg. Hrs Per Call	Avg. Hrs Per Week	Avg. Vsl LOA	Ft-Hrs (000s) *
Hilo	77	9.7	14.4	818	675
Honolulu	77	14.2	21.0	822	989
Kahului	60	27.2	31.4	837	1,515
Nawiliwili	79	19.5	29.6	820	1,415
	293		96.4	824	4,595

NCL Plan - Beginning May 2006*					
Hilo	187	11	40	889	2,012
HNL	187	11	40	889	2,012
KAH	156	35	105	917	5,506
NAW	187	31	112	907	5,787
Total	717		296	900	15,316

** First new vessel enters service July 2005

NCL Increase: 2006 vs. 2004					Ft-Hr % Incr.
Hilo	110		25	1,337	98%
HNL	110		19	1,023	3%
KAH	96		74	3,990	163%
NAW	108		82	4,371	209%
Total	424		199	10,721	133%

Source: Hawaii DOT, Department of Harbors, compiled by MTG

The growth of the US-flag cruise business is remarkable, and is expected to consume virtually all of the available cruise vessel berthing capacity at the Hawaiian ports. Even without any further growth by other cruise operators, total cruise sector activity as of mid 2006 is projected to be at the following levels.

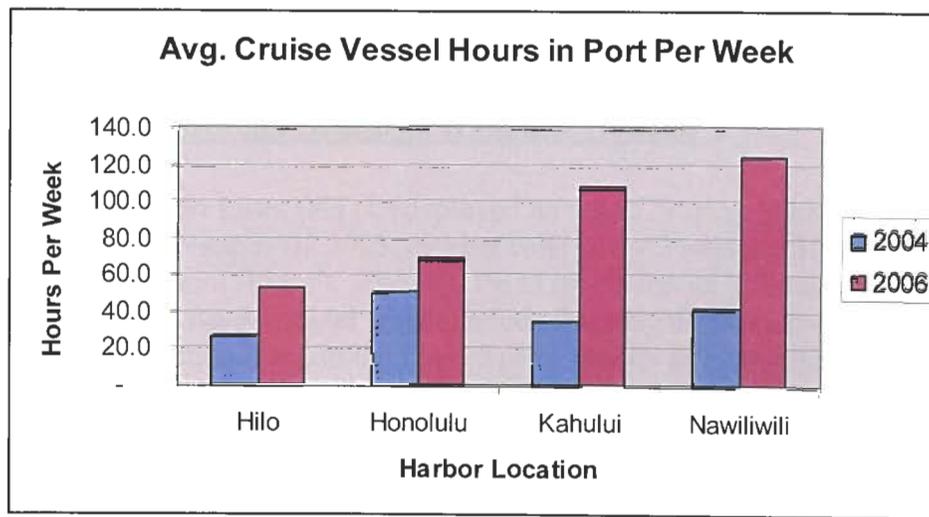
Table 2 – Overall Increase in Cruise Ship Port Call Activity

Operator	Port	12 Months Ending Mar 2005					Additions Within 12 Months			2006 Outlook			
		# Vessel Calls Per yr	Avg. Hrs Per Call	Avg. Hrs Per Week	Avg. Vsl LOA	Ft-Hrs (000s) *	% Incr.	# Vessel Calls/Yr	Avg. Hrs Per Week	Ft-Hrs (000s) *	# Vessel Calls/Yr	Avg. Hrs Per Week	Ft-Hrs (000s) *
Non-NCL	Hilo	62	10.7	12.7	863	623		0	0	0	62	13	623
	Honolulu	61	25.3	29.7	830	1,355		0	0	0	61	30	1,355
	Kahului	5	30.7	3.0	888	157		0	0	0	5	3	157
	Nawiliwili	63	10.0	12.1	866	607		0	0	0	63	12	607
Non-NCL Total		191	15.6	57.5	854	2,741		-	-	-	191	57	2,741
NCL	Hilo	77	9.7	14.4	818	675		110	25	1,337	187	40	2,012
	Honolulu	77	14.2	21.0	822	989		110	19	1,023	187	40	2,012
	Kahului	60	27.2	31.4	837	1,515		96	74	3,990	156	105	5,506
	Nawiliwili	79	19.5	29.6	820	1,415		108	82	4,371	187	112	5,787
NCL Total		293	17.1	96.4	824	4,595		424	199	10,721	717	296	15,316
Total Cruise Sector	Hilo	139		27.1		1,297		110	25	1,337	249	52	2,634
	Honolulu	138		50.7		2,344		110	19	1,023	248	69	3,366
	Kahului	65		34.3		1,672		96	74	3,990	161	108	5,662
	Nawiliwili	142		41.7		2,023		108	82	4,371	250	124	6,394
Total Cruise Sector		484		153.8		7,336		424	199	10,721	908	353	18,057

% Increase in Port Call Activity			
Hilo	79%	93%	103%
Honolulu	80%	37%	44%
Kahului	148%	214%	239%
Nawiliwili	76%	197%	216%
Overall	88%	130%	146%

The impact of these changes will be to increase cruise vessel berth hours at Honolulu by nearly 50%, more than double cruise vessel berth hours at Hilo and more than triple berth hours at both Kahului and Nawiliwili. Cruise vessel weekly hours in port for 2004 and expected hours in port for 2006 are illustrated in Fig 10. These increases, come on top of the high growth already experienced in the last 10 years that was illustrated in the previous section of this report. In spite of the large increase in cruise ship calls, the sector will still represent less than 10% of total Hawaiian port calls made by ocean-going vessels and barges.

Figure 10 – Expected Increase in Cruise Ship Port Call Hours



Source: HDOT and MTG analysis

In evaluating the required facilities for the cruise sector, consideration should be given to the seasonal nature of the business, and what this means for peak demand. Unlike the steady year-round activity of NCL, foreign flag cruise vessel calls are seasonal, which increases the peak requirement. Planning capacity based on the year-round averages will result in insufficient capacity during the peak.

Introduction of Inter-Island Ferry Service

Hawaii Superferry (HSF) is building its first vessel and planning to start limited 1-vessel service in March 2007, with full 2-vessel service commencing in Sept 2008. A fundamental need for the ferry service is reliable access, without delays, to suitable berth and landside facilities in Honolulu, Kahului, Kawaihae and Nawiliwili. HSF will have four departures per day from Honolulu, 2 per day from Kahului, one per day from Nawiliwili and one per day from Kawaihae.

Although HSF’s berth occupancy in the Neighbor Islands will be limited in terms of the number of berth hours occupied, calls will occur on a regular, daily schedule with fixed arrivals and departures, which makes sharing a berth with other users difficult due to the lack of flexibility. Waiting for a berth is not a feasible option for the ferry, as the delay would cause schedule disruptions that would almost certainly result in lost sailings, as well as customer dissatisfaction and loss of ridership.

Although a Ferry Terminal has been established in Honolulu, providing suitable facilities in the neighbor islands represents a major challenge. This is particularly true in Kahului where facilities are already under strain, and other new / expanded operations are

simultaneously being implemented. The issue is more fully addressed in the next chapter of the report.

Introduction of Ro-Ro Services By PHTL and Matson

Pasha Hawaii Transport Lines (PHTL) deployed its new 579' pure vehicle/truck carrier in a fortnightly ro-ro service in Q2 2005, making calls every 2 weeks at Honolulu (Pier 32), Hilo (Pier 1) and Kahului (Pier 1). The new PHTL ro-ro service followed Matson's 2004 introduction of a pure Ro-Ro vessel which included weekly direct calls by mainland vessels at Hilo and Kahului, and at the Pier 29 ro-ro facility in Honolulu.

Although they are not expected to "create" more vehicle and truck traffic (the increase ocean capacity to carry vehicles would typically not increase the number of vehicles sold or rented in Hawaii and which require transport), the PHTL and Matson ro-ro services do increase berthing demand and redistribute vehicle and cargo traffic among the terminals in Honolulu.

Because all vehicle carriers share the same storage yards in Kahului and Hilo, the landside impacts in those locations will be small. Although calls by these vessels are relatively short (typically no more than 8-10 hours), scheduling of the calls is difficult because of the lack of flexibility on the part of the linehaul vessels.

Upgrade of Mainland Barge Services

In Q2 2004, Sause Brothers increased the frequency of its barge service to every 2 weeks and moved the operation to Kalaeloa Barbers Point Harbor (KBPH). Sause has already upgraded to 8000 t barges (which carry breakbulk lumber, paper, modular buildings and machinery), and is presently adding a tandem barge to the service which will carry containers. This represents a significant addition of activity to the KBPH facility.

ACT similarly increased the frequency of mainland barge sailings beginning in Q4 of 2004, from 1 sailing every 21 days to one every 2 weeks, and has built larger, faster barges with new hull technologies and capacities of up to 12,500 t. ACT provides a combination carrier service, with break-bulk building materials, boats, heavy equipment, modular buildings, and RO/RO cargos sharing vessel space equally with containerized and flat-rack loads. Vessel calls at Pier 1 are highly important to the marketplace served in the more central commercial areas of Oahu, as well as to the carrier's neighbor island service, which is provided by transshipment via Young Bros., Ltd. from their Pier 40 location. The ACT frequency and capacity upgrade increases throughput at Pier 1.

Commencement of Outbound Waste Shipments in 2006

It is expected that the shipment of compacted waste from KBPH will commence within the year, and create new pressure on berth facilities at KBPH. Whether this cargo moves on an existing mainland barge service or a new service, the loading of this new cargo will increase berth occupancy and make the scheduling of new and additional calls increasingly difficult.

Expanded Bulk Products Shipments at KBPH

There is the possibility that coal will have an increasing role in the generation of power on Oahu, which would require a corresponding increase in the number of coal carrying vessels served at KBPH. AES advises that an additional coal burning plant is likely to be operating by about 2015, which would double the coal tonnage (from about 650,000 tons per year to about 1.3 million tons per year) and double the number of coal carrying vessels calling at KBPH, from 1 per month to 2 per month, which would prompt a requirement for improved facilities.

Cement shipments have become an important commodity at KBPH, and are expected to continue growing at about 3-4% per year. This modest level of growth would result in about a 50% increase over 10 years. Although possibly not a major capacity factor by itself, it contributes to the cumulatively growing demands on the ports.

Development of Forest Product Exports Through Kawaihae

There are plans to develop a forest products industry on the Big Island, which would create a need to ship significant volumes of logs, lumber, wood chips or other products from Kawaihae. With Kawaihae already the fastest growing port in the Hawaiian harbors network, this new cargo overlaid on existing cargo flows could rapidly outrun available capacity.

Increase in The Size of Inter-Island Tank Barges

Liquid bulk volumes, which are primarily gasoline, aviation fuel and fuel oil, are increasing along with the population and development of all the Neighbor Islands. This traffic had a particularly large increase in 2004, particularly to Maui. As a result of volume growth and the requirement of the OPA 90 environmental regulations to phase out single-hull barges, larger barges including Sause's *Hilo Bay* and a new Tesoro fuel barge are being deployed. Fullen laden, the *Hilo Bay* and the Tesoro barge draw about 20-21 ft., and with a 3 ft margin require a water depth of 23-24 ft., which significantly exceeds the 18 ft. water depth available at the primary fuel berth in Maui. Although deep-draft fuel barges can also be berthed at Pier 1 (where fuel pipeline connections are also installed), planned increases in cruise vessel calls at Pier 1 will make the Pier 1 alternative berth generally unavailable for use by tank barges.

Growth in Bulk Sand Shipments

Expansion of construction activity has led to a significant increase in the volume of sand and cement moving between the islands. In the 12 months ending in Mar 2005, Sause Brothers handled 98 barge loads of sand from Maui to Oahu (43 for Ameron and 55 for Hawaiian Cement). The Ameron business is new for Sause, and the Hawaiian Cement business is an increase from a level of about 17 barge loads per year previously. Bulk cement shipments are also increasing.

The sand is primarily needed in central Oahu, so cost minimization requires Honolulu discharge. The incremental cost of handling via KBPH instead of Honolulu is estimated to be between \$5.10 and \$6.50 per ton, depending on the shipper, which includes \$1.10 per ton incremental barge cost and \$4.00 - \$5.40 incremental trucking cost. On an annual basis, this amounts to about \$2.4 million in extra costs.

Container Deployment Changes and Introduction of Larger Vessels

Matson will modify its vessel deployments significantly in 2006 when it launches a new service linking the USWC, Hawaii, Guam and China. This change will result in Matson's largest vessels (the C9 class) calling Honolulu on a once or twice weekly basis, and could increase the volume of Honolulu transshipment activity for mid-Pacific destinations.

Growth in Neighbor Island Traffic

Neighbor Island container traffic handled by Matson and Young Brothers has been increasing steadily and generally at a higher rate than the growth of Honolulu origin/destination traffic. Since 2000, YB containers moving between islands have grown 38%. This puts strain on both the container facilities in the Neighbor Islands and the Honolulu facility of Young Brothers. To accommodate the increased traffic, Young Brothers has increased the number of barge loadings per week from 13 per week in 2001 to 16 per week in 2004, and with plans to reach 18 per week in 2005. The main driver for the increased sailings has been increasing container traffic.

Growth in International and Mainland Container Shipments

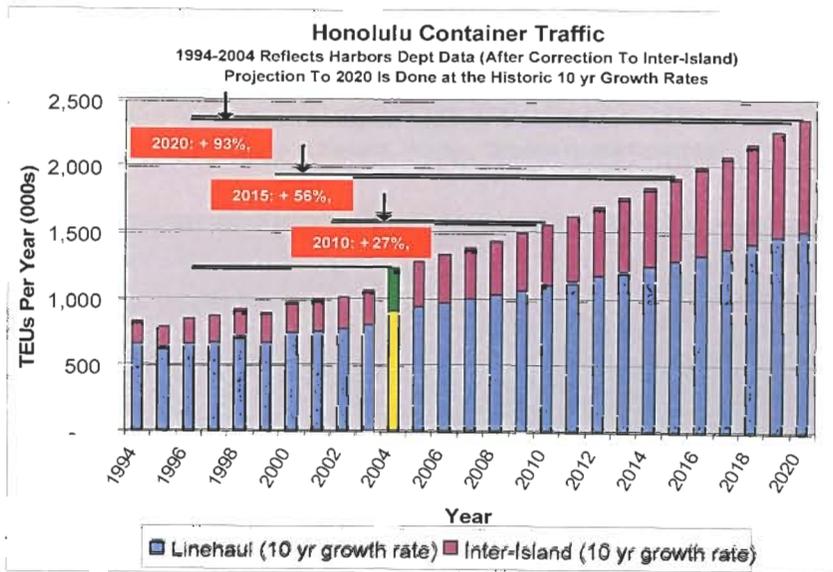
2004 container traffic between Honolulu and Mainland / Foreign ports was reported by HDOT to be 902,000 TEU up 14% from the 2003 level, and up 22% from the year 2000 level. Mercator's tally of 2005 Mainland/Foreign container traffic, based on inputs from carriers and stevedores (with estimated volumes for certain smaller carriers), was about 1,018,000 TEU, up 24% since year 2000.⁷

Over the last 10 years, volume handled on "linehaul" vessels that come from the mainland or foreign ports has grown 3.3% per year, while inter-island volume has grown an average of 6.2% per year. Recent growth rates (over last 4 years) have been somewhat higher: 5.1% for linehaul vessels and 8.8% for container traffic to/from neighbor islands.

Although the preparation of an independent market forecast was not undertaken as a part of the current project, recent growth experience can be used to provide a simple indication of what can be expected in the future. In Figure 11, we have graphed future annual container volumes that would be moving through in Honolulu if the growth rates of the last 10 years continue into the future. Under this entirely plausible growth scenario, volume would be **up 27% by 2010** (5 years from now), **up 66% by 2015** (10 years from now), and **up 93% by 2020** (nearly doubling in the next 15 years).

⁷ The 1,018,000 TEU figure includes containers loaded with autos. Without autos, the total is about 933,000 TEU, which is slightly higher than the HDOT statistics. Extended time series data is not available from all carriers, so the HDOT data is used for trend analysis.

Figure 11 – Honolulu Container Traffic Thru 2020
Future Volume Growth Assuming Historic Growth Rates of Last 10 Years

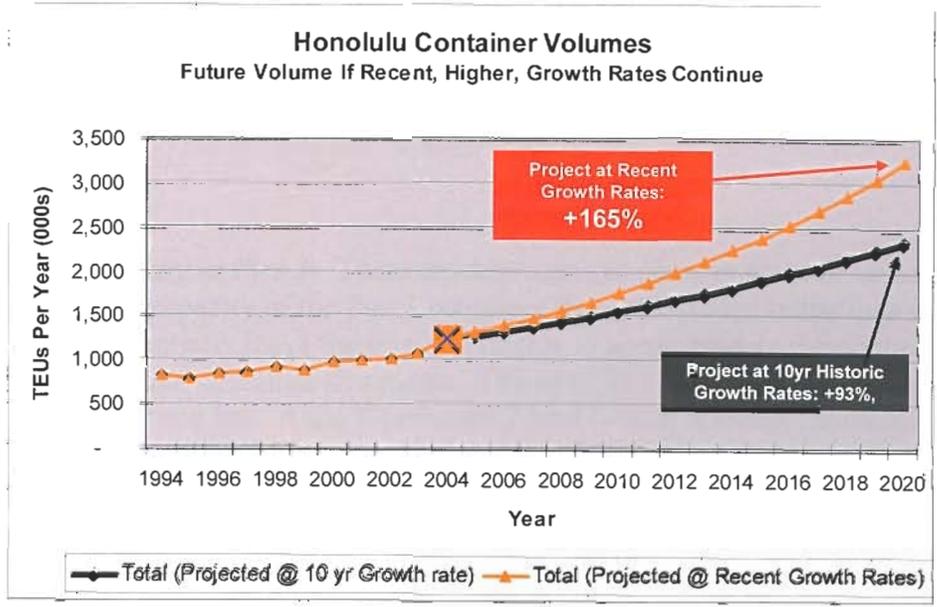


Source: Hawaii DOT, MTG

If future volume grows at the pace of the last 4 years, volumes will be considerably higher than what is shown in Figure 11. Under this more aggressive, although clearly not unprecedented, growth scenario, volume would be **up 43% by 2010** (5 years from now), **up 94% by 2015** (10 years from now), and **up 165% by 2020**. Future volumes under each of these scenarios are illustrated in Figures 11 and 12⁸.

⁸ Finally, we mention that continuation of growth at the rates experienced over the last two years would lead to a 50% TEU increase in just 4 years, and the doubling of volume in just six years. If these potential growth scenarios are laid alongside the historic timelines for development of new container facilities in Hawaii, the need to move projects forward promptly becomes clear.

Figure 12 – Honolulu Container Traffic Thru 2020
Future Volume Under Assumption That Growth Rates of Last 4 Years Continue



Source: Hawaii DOT, MTG

A likely long-term growth rate is probably somewhere between the 10yr and 4yr historical rate. These two scenarios bracket a range of possible outcomes, either of which would far outstrip the capacity of existing and currently planned Honolulu facilities.

5. Key Operating and Capacity Issues For Hawaiian Harbors

The Mercator team interviewed key managers at each of the Hawaii Users Group member companies and discussed in some detail the operations of each company at each of the key Hawaiian harbors. The key issues at each Harbor are described in this section.

Honolulu Harbor

Reduction of Capacity at Pier 1: There are development plans in place or under study to reduce the size and capacity of the Pier 1 container terminal. These reductions in capacity would potentially leave the terminal unable to accommodate the continuing growth in international container shipments. The specific potential capacity losses to Pier 1 include the permanent loss of the Warehouse 3 land (which is slated for inclusion in the OHA's development of the adjacent parcel) and the loss of Pier 1 land that would occur if Punchbowl Street is extended to connect with Ilalo Street. The expansion of the Pier 2 security perimeter has already reduced the operating areas behind Pier 1. Although precise figures for the amount of space loss are not available, it is estimated that the effective land area of the Pier 1/2 terminal could be reduced from 29 acres to about 25, with a corresponding capacity reduction of about 20%.

Pier 1 is one of the deepest berths in the harbor (at 40 ft), and represents an important and unique resource that should certainly be preserved for the handling of breakbulk and containerized cargo. Retaining this facility, even after the development of KMR, must remain a top priority for port and city planners. In the meantime, a reduction in Pier 1/2 container handling capacity at the same time that overall container volumes are growing, and with high utilization at other terminals in the harbor, creates a situation where service failures and cost impacts to carriers, stevedores and shippers can be expected. These impacts would fall hardest on the construction industry (which relies on Pier 1 for bringing in critical materials), but would also adversely impact exports such as the Keahole water.

Lack of a Bulk Material Barge Unloading Facility in Honolulu: Bulk shipments of sand have increased substantially in the last year (to about 2 sailings per week) in response to strong construction demand. This activity was shifted from Pier 34 to Pier 20 when the PASHA calls commenced at Pier 31. Sause Bros., which transports the sand on behalf of Hawaiian Cement and Ameron, faces yet another "eviction" once the Superferry operation gets underway early next year. There is talk of shifting this cargo to KBPH, but berth availability there is limited, and since that harbor is further from where the sand is required, the shift would increase transportation costs by about \$2.4 million per year.

Need for Improved Inter-Island Terminal Facilities: Young Brothers' inter-island barge departures from Honolulu have increased 22% in the last 3 years, from 675 in 2001

to 828 in 2004. Under the current YB schedule, 2005 departures will exceed 900, for a combined 33% increase since 2001. Although container volume in 2004 was 38% more than in year 2000, YB's operating area has not increased since they moved in to the terminal in 1998 (which even then was 4 years later than the original planned occupancy date). YB is already now operating at above the State's own target throughput levels and absorbing the extra costs of doing so. To operate effectively and manage growing volumes, it is clear that YB needs additional land areas and another barge berth and loading position suitable for the use of heavy lifting equipment. Reconfiguration of the YB facility to accommodate increased container traffic coming from the Sand Island terminals (and to move that traffic off of the already congested Nimitz Highway) is also required.

Capacity of Container Handling Facilities: Matson and Horizon each report that they are incurring excess costs as a result of land constraints at their Sand Island terminals. Both carriers / terminal operators list the need for increased terminal areas as top priorities.

In 2004, Matson handled slightly more than 660,000 mainline vessel TEUs as well as about 146,000 TEUs to or from barges through a facility of 107.9 total acres. Horizon handled 296,000 mainline vessel TEUs through its facility of 38.5 total acres.

After deducting about 20 acres that are used for auto processing, the calculated throughput per acre at Sand Island terminals is about 8800 TEU/acre, which is the highest of any North American terminal. At USWC ports, throughput per acre figures typically fall in the range of 3,000 – 6,000 TEUs per acre per year. In 2002, the ports of Los Angeles and Long Beach, which are considered highly congested, handled an average of 4250 TEU per terminal acre, or roughly half of what is being handled per acre at Sand Island. By any measure, the throughput per acre at Sand Island is extremely high.

The quick delivery / short dwell time characteristics of the domestic cargo moving through the Honolulu terminals facilitate the high throughput density for the Sand Island container operations, although it is nonetheless clear that the terminals are operating at very high density levels, which requires ground-stacking and multiple handling of some containers. Compared to a purely wheeled operation, which both carriers would prefer, they each now incur extra handling costs under their mixed wheeled / grounded operations, and must do extra work and incur incremental costs in order to maintain good service levels for customers even at existing cargo volumes.

At Pier 1/2, total activity was about 60,000 TEUs through a facility of about 28 acres, or about 2100 TEU/acre. The lower throughput per acre is partly attributable to the longer dwell time of the foreign cargo and lower-valued domestic cargo handled at the terminal. This segment of the container traffic at Honolulu, however, is growing the fastest, with certain carriers at Pier 1/2 reporting growth rates on the order of 30% p.a.

Growth in domestic volumes at Sand Island Terminals that are already operating at high utilization levels, combined with growth of international volumes occurring at the Pier 1

facility, lead to an expected shortfall in total container handling capacity in the coming years.

Sand Island Access Road Improvements: At the entrances to the Sand Island container terminals there is no space on Sand Island Access Road for trucks to queue while waiting to enter. This requires Matson to allow trucks to queue up on the terminal property inside the gate while waiting to be checked in, which interferes with operations and creates potential security problems.

Kalaeloa Barbers Point Harbor

Arrangement of Berths and Shore Connections: The only available pipeline connections for loading oil products at KBPH are located behind Pier 5B, which is directly in front of the paved storage area at KBPH and adjacent to the berth that Sause Bros. must use for unloading mainland cargo into the warehouse and stacking areas that it uses. The berth length available to Sause is too short for Sause to bring both of its tandem barges alongside the berth at once, and so must shift them during the call, which adds costs and delays cargo. Because fuel barges are in port nearly every day, Sause is unable to work around them with its service calling once every two weeks.

An additional issue for Sause is that even when operating at Berth 5A, the travel distance to the warehouse is 300-400 feet (as compared to about 30 feet at Pier 2 in Honolulu), which requires use of a shuttle truck, slows the discharge process and increases costs. While the extra travel distance is a real concern for Sause, the location of the shed some distance back from the pier does, however, improve the flexibility of the pier for other uses and is not inconsistent with current practice of not locating sheds right on the pier.

Berth Availability: Cargo activity (including dry bulk, break bulk and liquid bulk) at KBPH has increased to the point that berth availability is a limiting factor for operations. Sause, Tesoro and HSI all reported that scheduling calls at KBPH is extremely difficult. Scheduling berths at KBPH is doubly difficult because these calls must, in the case of fuel barges, be coordinated with the limited available berth windows at the neighbor islands. The lack of a statewide berth scheduling system makes it difficult to optimize inter-island barge scheduling and leads to inefficiency in the system

Commencement of waste shipments will increase berth demand starting in 2006, and further reduce berth availability and scheduling flexibility.

Disruption and Damage From Ocean Swells: Surge within the KBPH basin is occasionally a problem. Due to the surge (which can generate as much of 8' of vertical movement) the fixed bulk unloading equipment has been damaged from contact with vessels. Surge-related motion of barges also creates problems for the Sause operation.

Access Channel Limitations: The depth, width and protection from cross currents in the approach and entrance to KBPH remain problems which restrict certain vessels from entering the harbor and are a particular problem for a carrier wishing to operate a liner service with regular, fixed sailing schedules. Even with the addition of improved lighting in the last several years, arrival and departure is still limited to daylight hours only.

Kahului Harbor

There are a number of critical facility capacity and access issues at Kahului, including the following:

Creating A Terminal Facility For HSF: The currently planned location for the HSF terminal (on Pier 2B) will significantly impact the ongoing operation of Young Brothers unless a variety of other improvements in facilities and adjustments to operations are made at the port. The principal HSF-related issues that must be addressed include access to Pier 2 for ferry users, and berth availability for existing users once Pier 2b is no longer available.

Pier 2 Berth Availability: Pier 2A is the only berth at which propane and cement can now be delivered to Maui. At present, YB is given priority at Pier 2A only for its 3 "PUC" barge calls, requiring YB to occasionally work barges at Pier 2B (this occurred about 13 times during the 12 months ending in March 2005, but is expected to increase now that YB is typically operating 5 or 6 barges per week to Kahului). YB will lose this flexibility once the offshore end of Pier 2 is developed for HSF⁹. Without Pier 2B available for cargo operations, the short-term solution is more intensive use of Pier 2A and Pier 3, including a requirement that certain shipments including propane, cement and possibly fuel oil be handle only at night¹⁰. The long term solution involves construction of additional berthing capacity at the port.

Pier Access Conflicts: It will be critical to both the HSF and YB operations that separate access onto Pier 2 is available for each, in order that ferry traffic does not shut down YB operations, and that YB operations do not prevent efficient ferry operations. The HSF Pier 2 improvement plan includes enhancements to the

⁹ It is also noteworthy that Pier 2B is already in need of repair and not suitable for the operation of YB's preferred heavy lifting equipment. Should the HSF terminal be developed in an alternative location, the condition of Pier 2B should be analyzed and improved.

¹⁰ The YB barge operations are not targeted for night operations because of the need for simultaneous receipt and delivery of cargo during the working of the vessel, and the fact that increasing night operations would be more disruptive for YB than for the cement or propane operations (who already do some operations at night.) Expanded night operations at USWC container ports is proving effective at relieving road and port congestion, and may be beneficial in Hawaii. Night operations come at a significant cost, however, and careful analysis of the costs, benefits and corollary impacts is required before they could be recommended.

roadways that serve the port, including the creation of a new and separate access to Pier 2B for ferry traffic that keeps ferry traffic from being co-mingled with the existing Young Brothers vessel stevedoring and customer pick-up and delivery activity at Pier 2. Co-mingling ferry and commercial traffic would disrupt and significantly impact the efficiency of the YB operation and create safety hazards for both YB and the ferry users, and for this reason the creation of the new landside access route prior to the commencement of ferry operations is considered essential.

Need For Expanded Operational Areas: In addition to the need to provide landside areas to replace the cargo areas being reallocated to support the ferry operation at Pier 2 and cruise operations at Pier 1, existing container and cargo operations are growing and need more space. Cargo vessel calls and cargo volume are both expanding (container TEUs have doubled in the last 10 years and will continue to grow). Although recently completed projects have improved facility capacity (including improvements to the Puunene Yard, the Ota Building yard, and Pier 2 Yard as well as the demolition of the Pier 2 shed), available landside space is presently contracting to provide security zones and access routes to cruise ships.

Cement Storage: YB intensively uses the Pier 2/3 landside areas, with barge calls nearly every day of the week. The presence of the cement storage tanks and the related truck traffic they bring through the YB cargo operations are both disruptive. The present location of the cement storage tanks within the YB operational area is not conducive to safe and efficient cargo operations. Cement storage should be relocated away from the pier so as to eliminate the traffic conflict involving cement trucks, container trucks and container handling equipment within the terminal.

Berth Shortage Related to Increased Cruise Vessel Calls: Cruise vessels will occupy Pier 1A for at least 6 days and 3 nights each week, significantly increasing overall berth utilization in the Harbor and in particular blocking the only location other than draft-limited Pier 3 at which fuel deliveries to the island can be accomplished as well as occupying the only berth served by the bulk sugar loading conveyor.

Lack of Cruise Passenger / Cargo Separation: Passenger and cargo operations share Pier 1 and create safety, security and operational problems for each other. This is a theme repeated at virtually all harbors across the Islands.

Inability to Handle Fully Laden Fuel Oil Barges: Pier 3 water depth is just 18 feet, which is significantly less than the requirements of the existing fuel barge *Hilo Bay*. This makes it necessary to operate large fuel barges (such as *Hilo Bay* or the new Tesoro barge) coming from KBPH only partially loaded, or to discharge part of the cargo at the Big Island prior to arriving in Kahului. Either way results in higher costs related to the sub-optimal usage of the vessel, a reduction in the flexibility operators have in order to solve the scheduling and cargo logistics problems that invariably arise, and possibly the need to accommodate more vessel calls within a tight berthing schedule.

Vessel Traffic Management: The number and size of vessels calling at Kahului has increased to the point that a formal Vessel Traffic System may be necessary. The present system, under which vessel captains work out among themselves the order of arrival and departure through the harbor entrance, has generally been satisfactory. Nonetheless, possibly unsafe incidents were mentioned and cruise operators in particular indicated a desire for better traffic management.

Kahului Outlook

The harbor capacity situation on Maui is considered the most critical of all the neighbor islands. The combination of rising cargo volumes and increased passenger activity is bringing the island closer and closer to the point at which service breakdowns and delivery disruptions can be expected. Although the time when major disruptions will occur cannot be predicted precisely, small scale negative impacts of congestion involving increased costs and cargo delays at the port are probably already happening.

When major service disruptions occur, which could be sometime in the next several years if timely improvements are not made, the impact on the economic life of the island will likely be significant. These impacts may include shortages of gasoline and/or higher costs, a lack of coal and fuel oil for power generation; loss of off-island markets due to the inability to get local products to market in a timely and efficient manner, disruption in the supply of construction material and resulting impact to the construction sector, shortages of basic necessities and the loss of cruise ship calls. The severity of the problem and the magnitude of the consequences make creation of new port capacity on Maui one of the top strategic priorities for Hawaiian port development.

Hilo Harbor

Separation of Passenger and Cargo Operations: Cruise vessels presently call at Hilo Pier 1, and share the single port access gate with existing commercial freight traffic of Matson (working at Pier 1), YB (working at Pier 2) and others. The presence of cruise vessels in the midst of cargo operations results in frequent inter-mixing of cruise passenger arrival and departure traffic with both on-terminal tractors and lifting equipment, and road trucks that are making pickups and deliveries to the port. It is highly preferable from a safety and security perspective for these types of activities to be separated as much as possible.

Landside Access To The Port: All traffic presently enters and leaves Hilo Harbor facilities through the main gate on Kuhio Street. The mixing of cargo trucks and cruise activity creates delays and potentially unsafe conditions at the main gate. An alternative exit exists via Kaimanalo Street, behind Pier 1 and east of the harbor Master's office. Opening this gate would relieve congestion and improve safety at the main Kuhio Street gate, and so Matson is preparing a proposed plan for office and gate relocations to effect this change.

Pier Strength For YB Operations: The strength of the deck in the YB container yard limits the size and capacity of lifting equipment that can be employed and consequently limits YB to 3 or 4 high container stacks which reduces yard capacity and stacking flexibility.

Kawaihae Harbor

Paving: Some of the area within the cargo terminal remains unpaved, which limits the utility of the land (imposing limitations on machines that can be used) and creates dust and drainage problems under certain conditions.

Ocean Swell: The arrangement of the breakwater is such that the harbor has very poor protection from northwest ocean swells. Although at times affecting all of the berths, the problem is particularly acute at Pier 1, which is closest to the entrance to the harbor and the location designated for the HSF ferry terminal.

Mixing of Commercial Vessels and Pleasure Boats Within the Harbor: As mentioned in an earlier section, the Kawaihae Harbor basin is used by both commercial vessels and pleasure boats because the adjacent small boat harbor has not been completed. Collisions between commercial traffic and pleasure boats, which co-exist within the harbor in close proximity, have been reported on multiple occasions. Operating large commercial vessels and barges close to moored pleasure craft under difficult wind and swell conditions should clearly be avoided. Completion of the small craft harbor and relocation of the pleasure craft out of the harbor would appear to be an obvious solution to this problem.

Nawiliwili Harbor

HSF / Matson Berthing Conflict at Pier 1: HSF expects to call every day in Nawiliwili by 2007, and is planning to use Pier 1, which is the same berth location used by Matson. Berth conflicts will occur and schedules are currently being reviewed by Matson and HSF.

Cruise vessel and fuel barge conflict at Pier 2: Under its new deployment plan, an NCL vessel would be in Nawiliwili harbor 3 nights out every week and 6 or 7 days out of every week. In addition, to NCL vessels, another 55 cruise ships called, each with a port stay of about 10 hours. If NCL increases its scheduled calls as planned, and other lines simply maintain frequency, there would be a cruise vessel in Nawiliwili every day during much of the year.

The Pier 2 cruise vessel pier also serves as a fuel delivery pier for Kauai. In 2004, fuel deliveries were made about every 2 weeks. Fuel barge scheduling is further complicated by the fact that deliveries must be made to both Pier 1 and Pier 2 due to the arrangement of landside piping connections of specific receivers. With the increased utilization of Pier 2 by cruise vessels, the fuel delivery barges would have very limited opportunities to make deliveries. Although a single constraint by itself may not be onerous, the cumulative effect of many increased schedule constraints across the harbor network could significantly reduce the ability to maintain fuel supplies on Kauai and throughout the Neighbor Islands.

6. Overview of Harbor Improvement Spending During The Last 5 Years

Companies operating within the Hawaiian ports have expressed a concern that port development is not proceeding apace with requirements, that the priorities defined in the long range strategic plans for each port are not being addressed in a timely fashion, and that the funds collected from Harbor Users through rents and fees are not being adequately reinvested in port development. Mercator has tried to determine whether or not these concerns are well-founded by evaluating planning priorities in place for each port and comparing these written priorities with the de-facto priorities expressed by actual investment in the development and improvement of port facilities.

For each of the principal harbors, we will list the development priorities as expressed in the most recent long-range plan, along with a summary of facility development and improvement projects that have been undertaken during the last 5 years and as identified in the annual "Report to the Governor" submitted for fiscal years 1999 through 2003¹¹.

Honolulu Harbor and Kalaeloa Barbers Point Harbor

Oahu Commercial Harbors 2020 Master Plan – May 1997

Principal recommendations for expanded harbor facilities contained in the May 1997 Master Plan are summarized below in Table 3. In this table and the others that follow, we indicate with a "yes" or "no" whether a recommended project has actually been undertaken, and include comments from the Department of Harbors where appropriate.

¹¹ The oldest report available was from FY 1999, and the most recent report available was for FY 2003. The FY 2004 report was not yet available when this analysis was prepared.

Table 3 - Recommended Projects As Per Oahu- Master Plan of 1997

Project/ Recommendation	Completed	Phase	Status / Comments
In addition to maintaining the Pier 1 and Sand Island container facilities, develop a container facility on the Kapalama Military Reservation (KMR) to provide a total of six (6) container vessel berths.	No	Planning	Building T923 has been demolished to provide immediate space for cargo. The Harbors Division is seeking a consultant to provide planning assistance for KMR. A phase I environmental site assessment has been completed and follow-up with existing tenants is ongoing.
Develop a 2 barge / 1 vessel neo-bulk facility to complement the Pier 5 facility at KBPH	Yes	Construction	Completed
Develop a second bulk cargo unloading facility at KBPH (Pier 7)	Yes	Construction	Completed
Develop Pier 4 at KBPH as a liquid bulk facility	No	Planning	A project in 1995 to design and construct this pier was terminated based upon users request. The Harbors Division is seeking a consultant to provide planning assistance for fuel needs at KBPH but also for all harbors statewide.
Provide bunkering connections at Piers 28 and 29 to make Piers 31-34 available for cargo operations	No	User Project	Pipeline extensions are a User improvement and there has been no request from Users to install additional pipelines
Develop ro-ro / auto facilities at Pier 31-33	Yes	Construction	Completed
Develop four additional cruise ship berths with landside facilities, including 2 at Pier 2, and one at Pier 9 and one at Pier 19-20	No	Construction	Pier 2 is being constructed; Pier 19/20 awaiting ferry tenant.
Develop a finger pier at Pier 60 for bulk shipment of sand	No	Planning	A development plan and EA was completed for the area, but the high costs and limited return on investment resulted in low priority for this project
Reopen Kalihi Channel to deep sea vessels and provide 45' depth	No	Planning	Project did not provide sufficient FHWA benefit cost justification. Project was cancelled
Provide layberth for oil response vessels at Keehi lagoon	No	Planning	An EIS for this project was completed. However there are other higher priority projects and funding limitations.
Develop layberths in Keehi Lagoon for fishing vessels, barges and other vessels	No	Planning	An EIS for this project was completed. However there are other higher priority projects and funding limitations. Furthermore, the decline in foreign fishing vessels reduced the need for increase fishing berths
Many roadway improvements: Access road for KBPH, perimeter road for the port to relieve traffic on Nimitz Highway, a tunnel under the Kalihi Channel or high bridge to allow opening the channel to vessel traffic, turning and stacking lanes on access roads	No	Planning - Construction	KBPH internal roads constructed. Sand Island Tunnel project was terminated in the planning phase due to lack of justification. Entrance to KMR improved with signalization. Forrest Avenue has been realigned with South Street to provide easier access.
Improvement of KBPH access channel, breakwater etc. and deepening to 45'	No	Planning	The project is currently in the Planning phase and is a joint Federal- State project with the Army Corps of Engineers. Project is currently in the feasibility stage
Acquire and develop the Daishowa Property at Pier 40 and expand the interisland cargo terminal	No	User Project	Land has already been acquired and leasing of the property has been offered to Young Brother for expansion of operations
Develop Pier 36 into the Domestic Fishing Village	Yes	Construction	Completed
Develop an inter-island ferry terminal at Piers 26-27	Yes	Construction	Completed Location switched from Piers 26-27 to Pier 19-20
Develop the One Stop Shop cargo servies facility near the area of Pier 1, or some other area as may	Yes	Construction	Though not in a separate building, improvements for Foreign Trade Zone offices have been completed. Furthermore, improvements for Customs and Border Protection are under design for inclusion within the Pier 2 cruise terminal

Progress to Date:

As can be seen from the Table 3, a wide variety of projects have been undertaken. Some of them (those for which cost data are available) are summarized as follows:

Honolulu Harbor:

Table 4 – Projects Undertaken in Honolulu (1999-2003 Annual Reports)

Type	Location	Description	\$ mil	In Master Plan?
Safety Related	Pier 15	Fire Boat Facility	\$3 .9 m	No
Ferry Terminal:	Pier 19	Ferry Terminal	4.3	Yes
Cargo:	Pier 24-29	Demo, Paving, Lights	1.7	No
	Pier 32	Tank Farm demolition	1.3	Yes
	Pier 39-40	Improve pier & shed	12.9	Yes
	Pier 51	Various upgrades	1.7	No
Liquid Bulk	Pier 32	Pipeline (bunkering?)	0.6	??
Fishing:	Pier 36-38	Fishing Village	32.9	Yes
Office Building	Pier 10/11	Aloha Tower Offices	<u>0.9</u>	No
Total			59.3	

In addition to these projects, maintenance, repair and replacement (MR&R) project spending was \$13.1m and spending for various security projects was 0.9 million. New projects have been started since 2003, such as the conversion of the Pier 2 warehouse to a Cruise Terminal, however reports covering these more recent periods have not been issued.

Table 5 – Projects Undertaken at Kalaeloa Barbers Point Harbor (1999-2003 Annual Reports)

Type	Location	Description	\$ mil	In Master Plan?
Access Roads			\$0.4 m	Yes
Berth / Basin	Pier 5 extension & improvements		10.0	Yes
	Basin expansion & Pier 7		30.9	Yes
Navigation Lighting			<u>0.8</u>	Yes
Total			42.1 m	

In addition to these projects, MR&R project spending was \$0.5m.

Hilo and Kawaihae Harbors:

Hawaii Commercial Harbors 2020 Master Plan – August 1998

Principal recommendations for expanded harbor facilities contained in the 1998 long range plan are summarized in the table below. In this table, like the others that follow, we indicate with a “yes” or “no” whether a recommended project has been undertaken.

**Table 6 – Status of Projects for Hilo
(Recommendations From Master Plan of 1998)**

Project / Recommendation	Implemented?
Expand the Pier 1 Overseas Container Terminal to 20 acres	No
Create Pier 4 with 21 new acres for interisland cargo	Now in design phase.
Create Pier 5, with a new passenger cruise terminal	No
Reduce surge at Pier 1 (for example by installing wave energy absorbers)	No
Dredge waters adjacent to Piers 3 , 4 & 5 to 35’	No

**Table 7 - Status of Projects for Kawaihae
(Recommendations From Master Plan of 1998)**

Project / Recommendation	Implemented?
Pier 3 w/21 acres of yard	No
Pier 5-6 with 22 acres of yard	No
Create passenger terminal at new Pier 4	No
Add a new public liquid bulk terminal behind the coral stockpile	No
Dredge harbor to 40 ‘	Both in the planning phase. State has a project with the US Army Corp of
Construct jetties to attenuate harbor surge	Engineers to analyze navigational improvements.

Progress to Date:

Although none of the recommended harbor improvements from the Master Plan have been started in Hilo or Kawaihae, expenditures of \$3.7m have been made to expand facilities in the harbor, including \$1.1 million for paving additional yard area (Hilo) and \$1.6 million spent for the demolition of sugar storage facilities (Hilo). Both projects provided additional cargo area. An additional \$612,000 was spent at Hilo for water system improvements and \$369,000 for replacing timber fender systems at Hilo Pier 1.

In addition to these improvements, Harbors Division “project spending” included about \$700k for various maintenance and repair work during 1999-2003 period.

Nawiliwili Harbor and Port Allen Harbor

Kauai Commercial Harbors 2025 Master Plan – September 2001

Principal recommendations for expanded harbor facilities contained in the 2001 long range plan are summarized below:

**Table 8 – Status of Projects at Nawiliwili
(Recommendations From Master Plan of 2001)**

Project / Recommendation	Implemented?
Construct “Pier 0” on the Nawiliwili Harbor Jetty adjacent to Pier 1 to accommodate liquid bulk cargo	No
Extend Piers 2 and 3 west and north, respectively, so they meet, and provide facilities at Piers 1, 2 and 3 so each could accommodate passenger cruise vessels	There is an on-going project to extend Pier 3. This project will be going into construction shortly.

Progress to Date:

None of the recommended harbor improvements have been started in Nawiliwili. Between 1999 and 2003, Harbor’s Division project spending has been direct toward office development (\$2.1m) port access (\$1.4m), maintenance and repair (\$1.2m), miscellaneous (\$0.3m) and security (\$0.2m). No funds have been spent for improvements to berths or cargo or passenger facilities.

Kaunakakai Harbor, Molokai

2010 Master Plan For Kaunakakai Harbor – February 1998

The need for specific Kaunakakai Harbor improvements was not evident at the time of the 1988 study, and no particular developments or investments were recommended. The 1988 study called for re-evaluation of land area, berthing, lighting, and shed requirements in the future, including the need for strengthened pier structures to support heavier container lifting equipment, expanded berth areas and backup land areas.

Progress to Date:

Only maintenance and repair or safety projects have been undertaken during the 1999-2003 period. During this period, Harbor’s Division “project spending” has totaled to about \$0.5m.

Kahului Harbor

Kahului Commercial Harbor 2025 Master Plan – September 2000

Principal recommendations for expanded harbor facilities contained in the September 2000 long range plan are summarized below:

**Table 9 – Status of Projects at Kahului –
(Recommendations From Master Plan of 2000)**

Project / Recommendation	Completed	Comments
Expand Pier 1 yard by 5 acres to 21	Yes	
Expand Pier 2-3 by 4 acres to 21; strengthen more land for heavy lifting equipment	Yes	
Create new Pier 5 at west end of harbor for cruise vessels	No	This item was studied, although continuation would require the Army Corps of Engineer's participation. USACE has no budget for the project.
Create new Pier 2 C for ferry operations	No	Pier 2C was proposed but met with opposition from recreational users of the harbor and by commercial users themselves.
Create new Pier 4, an angled extension of Pier 3 toward Pier 1	No	
Dredge Pier 3/4 to 27'	No	
Extend east breakwater seaward	No	These navigational improvements were also studied in cooperation with the US Army Corps of Engineers. USACE participation is needed going forward,
Enlarge harbor entrance	No	
Modify turning basin to accommodate new piers	No	
Dredge to allow maximum drafts	No	however it has no budget for the project.

Progress to Date:

The first two recommended harbor improvements have been completed at Kahului. At a cost of \$9m, Pier 1 was extended by 300' and subsequently a breasting dolphin was installed beyond the extension to allow simultaneous berthing of a Matson or Pasha cargo vessel and a 950' cruise ship¹². At a reported cost of \$13.5, the inter-island cargo terminal at Pier 2/3 has been expanded and pier structures reinforced to allow at least limited use of high capacity lifting equipment.

In addition to the two Master Plan projects that have been completed, about \$1.0m in improvements have been made to the Pier 1 shed in order that it may function as a passenger cruise terminal, and about \$3.0m has been invested in improvements to the Wharf Street cargo shed that serves the inter-island cargo terminal. Although not specifically listed in the master plan, they are clearly consistent with the objectives of the plan. Other recommendations from the year 2000 study have not been implemented.

¹² This project was promoted strongly by Matson, who financed and directed the work in order to expedite its completion.

Summary of Port Development Projects

Project spending reported for this 5-year period is summarized in Table 10.

Total spending, excluding maintenance and repair projects, totaled \$143 million, for an average of \$28.6 million per year. Most of the spending has been on Oahu, with Honolulu and KBPH receiving \$61.3 and \$42.1 million, respectively, with Kahului receiving \$26.4 million, and the remaining \$13.2 million distributed among the other harbors.

Table 10 - Recap of Harbors Division Project Spending – 1999-2003

Harbors Division Projects
Project Spending By Location and Type, 1999-2003
USD millions

Project Type / Purpose	Hilo	Honolulu	Kahului	Kaunakakai	Kawailae	KBPH	Kewalo	Multiple	Nawiliwili	P. Allen	Grand Total
Access	1.0					0.4			1.4		2.8
Berth Constr.			9.0			10.0					19.0
Cargo	1.0	12.9	16.4		3.7	30.9					64.8
Container		1.7									1.7
Demolish Old	1.8	3.0									4.8
Ferry		4.3									4.3
Fishing		32.9									32.9
Liquid Bulk		0.6									0.6
M&R	3.3	13.1	3.1	0.4	0.7	0.5	5.8		1.2	0.9	29.0
Navig/Channels						0.8					0.8
Offices		0.9							2.1		3.0
Other		0.1		0.1				1.4	0.3		1.9
Passengers			1.0								1.0
Safety		3.9						0.0			4.0
Security	0.3	0.9	0.1						0.2		1.5
Grand Total	7.4	74.4	29.5	0.5	4.3	42.6	5.8	1.4	5.2	0.9	172.0

Source: Hawaii Department of Transportation, *Report to the Governor*, 1999, 2000, 2001, 2002, 2003

Compiled by Mercator Transport Group

Total, Excl. M&R	4.0	61.3	26.4	0.1	3.7	42.1	0.0	1.4	4.0	0.0	143.0
Avg \$\$ per Year	0.8	12.3	5.3	0.0	0.7	8.4	0.0	0.3	0.8	0.0	28.6

Project Spending In Relation To Long Range Master Plans

Harbors Division capital spending has generally been directed toward projects that were identified in the respective Master Plans, although a great many of the Master Plan projects have not been addressed. There is also an issue related to the effectiveness with which development funds have been spent. For example, the commercial fishing village project in Honolulu remains unused several years after completion, and is apparently not delivering the benefits that were expected when the project was undertaken.

The Master Plans did not attach any indication of priority for particular projects, and so there is likely to be disagreement as to what projects should have been completed and what should be completed in the future.

In the next section of this report, we will list and describe the project priorities as identified by the key Harbor Users and compare these priorities with current development efforts.

Project Spending In Relation to Available Funds

Recent Harbors Division financial information is summarized in Table 11. Over the last 6 years since FY 1999, annual revenue from port user fees, facility rents and other sources has averaged \$67.5 million per year. Operating expenses for the Harbors Division have averaged \$27.9 million, depreciation \$11.5 million, non-operating expense \$5.9 million, for average annual net income of 21.9 million.

Table 11 - Harbors Division Financial Information

State of Hawaii, Department of Transportation - Harbors Division
Statement of Revenues, Expenses and Changes in Net Assets

Source: Harbors Division Audited Financial Statements, Fiscal Years 1999-2004

	Fiscal Year Ending:					USD, 000s	Average
	1999	2000	2001	2002	2003 (restated)	2004	
Operating Revenues							
Services	37,299	39,871	42,132	43,049	47,577	48,658	
Rentals	22,001	21,659	23,280	21,995	25,123	25,125	
Others	1,680	1,075	1,326	1,122	905	985	
Total	60,980	62,605	66,738	66,166	73,605	74,768	67,477
Operating Expenses							
Personal services	9,859	8,570	8,110	9,453	10,630	10,757	
Harbor operations (net of OHA pmnts)	829	1,844	2,119	2,049	2,403	2,760	
Payment to OHA for Ceded Lands	5,199	5,519	5,459	-	11,681	6,517	
Maintenance	4,214	2,047	4,029	4,492	6,350	2,915	
Fireboat	1,529	1,258	1,086	1,606	1,308	1,705	
State central services allocation	1,845	1,872	2,388	2,342	1,906	2,766	
General administration	299	1,612	4,743	2,381	1,876	1,421	
Dept. of Trans, gen'l admin expense	962	1,067	978	1,011	963	734	
Subtotal; operating Expenses	24,736	23,789	28,912	23,334	37,117	29,575	27,911
Income from operations, before depreciation	36,244	38,816	37,826	42,832	36,488	45,193	39,567
Depreciation							
On assets acquired w. own funds	8,818	9,594	10,737	11,591	13,367	13,766	
On assets acquired fr. contributions	484	551	557				
Subtotal, depreciation	9,302	10,145	11,294	11,591	13,367	13,766	11,578
Income from operations	26,942	28,671	26,532	31,241	23,121	31,427	27,989
Nonoperating Income (Expense)							
Interest income	4,823	7,400	9,690	5,783	5,043	3,900	
Interest expense	(12,895)	(13,055)	(12,629)	(11,374)	(10,991)	(11,091)	
Loss on disposal of assets	(98)	(25)	(123)	(18)	(707)	(12)	
Other, net	286	206	270	181			
Subtotal nonoperating income	(7,884)	(5,474)	(2,792)	(5,428)	(6,655)	(7,203)	(5,906)
Refund of Wharfage Fees			(1,025)				
NET INCOME Before Contributions	19,058	23,197	22,715	25,813	16,466	24,224	21,912
Capital Contributions			-	932	2,542	737	
Increase in net assets			22,715	26,745	19,008	24,961	
Net assets at beginning of year (previous rpt)			455,694	478,409	505,154	534,162	
Adjustments - Dept. of Budget & Finance					10,000		
Net assets at beginning of year			455,694	478,409	515,154	534,162	
Net Assets at end of fiscal year			478,409	505,154	534,162	559,123	

Funds available for capital investment is a function of cash flows, which requires including in the analysis the amount already being spent each year for construction and acquisition of capital assets and the amount of principal paid against existing bonds. Table 12 shows a simplified cash flow summary for Harbors Division.

Table 12 - Harbors Division Cash Flow Summary

Simplified Cash Flow Summary	Fiscal Year Ending:						USD, 000s Average
	1999	2000	2001	2002	2003	2004	
NET INCOME Before Contributions	19,058	23,197	22,715	25,813	16,466	24,224	21,912
Add-back depreciation	9,302	10,145	11,294	11,591	13,367	13,766	11,578
Principal Payments on Bonds	(4,270)	(3,713)	(8,828)	(7,353)	(7,907)	(8,000)	(6,679)
Govt. Grants For Construction					2,921		2,921
Acquis & Constr of Capital Assets	(19,097)	(21,518)	(35,344)	(33,839)	(15,894)	(14,721)	(23,402)
Net Cash Flow	4,993	8,111	(10,163)	(3,788)	8,953	15,269	3,896

Source: Audited Annual Financial Reports of HDOT/Harbors Division

This analysis shows that over the last six years, average net cash flow was about \$3.9m per year. This represents an additional amount that, theoretically, could have been invested in additional capital projects. This level of net cash flow demonstrates that over this period the Harbors Division has reinvested the majority of the funds that have been generated from port operations.

Mercator has attempted a rough “sources and uses of funds” analysis, and collected information on payments made to HDOT / Harbors by key users of the port system. The information that has been received is presented in Appendix 5. Because information has not been received by a number of significant users including, foreign operators of ro-ro, bulk, tanker & container vessels) the totals in Appendix 5 do not match HDOT’s reported figures. As expected, however, the domestic container and inter-island general cargo carriers are making the largest payments, with significant and growing payments coming from the cruise sector.

7. Development Priorities For The Hawaiian Port System

Working closely together, MTG and the major harbor users (who are organized as the Hawaii Harbor Users Group, or HHUG), have identified the following development requirements that need to be addressed in the next several years.

The cost for completing these projects has not been firmly determined, although some rough “order of magnitude” estimates have been created by Mercator and the HHUG members. Based on the analysis in the previous section of recent HDOT project spending and available funds, and the magnitude of investment needs identified, it seems likely that the cost of completing these projects will exceed the available resources of the State DOT / Harbors Division. To close the gap and bring funding in line with project requirements, it will probably be necessary to consider alternative funding mechanisms (such as privatization) or larger and more frequent increases in port usage tariffs. The issue of funding will be addressed in Section 8.

In this section, we first describe each “priority project” on a geographic port-by-port basis, and then categorize them as being a) short-term “do now” projects with limited cost and high returns; b) medium term projects with larger spending requirements and in some cases longer lead times¹³ (although some of these projects such as ferry terminal improvements are actually already programmed for action in next year), and c) long term/strategic projects .

Table 13 - Development Priorities For Honolulu

Honolulu Harbor	
Category	Description
Bulk Cargo	Develop a suitable location in Honolulu Harbor for handling bulk shipments of sand arriving by barge where high speed unloading equipment could be installed. MEDIUM TERM
Container	Develop new container facilities to ensure there will be sufficient capacity to serve growing international and long-haul domestic container volumes. Based on available alternatives, development of the Kapalama Military Reservation into a container terminal is viewed as the preferred means to meet this requirement. STRATEGIC
Container	Preserve container handling capacity at Pier 1 by limiting any further loss of operational area to neighboring parcels or to road reconstruction. STRATEGIC, and immediate.
Container	Provide immediate relief to space constraints on the existing Sand Island facilities by acquiring the DLNR property located makai of Sand Island Road and making it operationally part of the Sand Island terminals. DO NOW

¹³ Some projects like ferry terminal development projects for HSF are listed as medium term but in practice are required within the next 1-2 years and so are already being fast-tracked by HDOT.

Container	To improve the utility of the DLNR land and enhance the efficiency of operations, re-route Sand Island Road to makai of the DLNR property and incorporate the DLNR property as part of the main Sand Island terminal operating areas. MEDIUM TERM
Container	Reconfigure Sand Island Access Road in front of the terminals to provide increased truck queuing areas. MEDIUM
Ferry	Complete berth and landside improvements at Pier 19/20 on time to facilitate service starting in 2007. MEDIUM
Inter-Island Cargo	Develop the Daishowa property and incorporate the added space into an improved inter-island cargo terminal with main container gate on Libby Street to facilitate delivery of containers coming from Sand Island / KMR terminals. Reinforce Pier 40E to create an additional barge loading position (to be suitable for using 40t lift equipment). MEDIUM TERM

Table 14 - Development Priorities For Kalaeloa Barbers Point Harbor

Kalaeloa Barbers Point Harbor (KBPH)	
Category	Description
Access Channel	Improve channel width / depth and breakwater arrangement to facilitate access by larger vessels and during adverse sea conditions (USACE Has Lead Responsibility)
Berth Capacity	Expand berth capacity of KBPH to accommodate increasing levels of demand. STRATEGIC
Liquid / General Cargo	Extend the pipeline system to create more locations (possibly a dedicated location) where fuel barges can load, to increase the flexibility and capacity for loading fuel barges and to make the main KBPH berth (Pier 5a, 5 and 6) available to serve increasing general cargo operations. MEDIUM TERM

Table 15 - Development Priorities For Kahului

Kahului Harbor	
Category	Description
General	Develop West Beach area on the opposite side of the harbor from existing piers as possible so as to ease berth and yard congestion within the existing port areas. The view of the Harbor Users is that cruise and ferry activity fits best on this site, with cargo activity to be located in the existing port. STRATEGIC
General	Take immediate steps to plan and implement development at Kahului, before facilities are so constrained and over-taxed that disruptions related to construction itself cannot be accommodated. DO NOW

General	Establish a formal vessel traffic management system to coordinate harbor traffic and improve vessel safety DO NOW
Barge Berthing	Provide a 24' deep berth for fuel barge operations and expand the number of berths available within the existing port. This could be accomplished by rebuilding Pier 3 in deeper water makai of the present location and extending it to meet Pier 1 or by adding an angled "Pier 4" between 3 and 1. Expanding the extent of fuel transfer piping may also be worth consideration. MEDIUM TERM
Cruise	Enhance the cruise passenger facility to improve the ability to "turn" a vessel on Maui so as to offer 3-4 day cruises. MEDIUM TERM, but subject to deferral with progress being made on West Beach development.
Ferry	Provide a new access route to Pier 2B from Pu'unene Street so ferry traffic does not come through YB operational areas; Complete this and other facility improvements conceived for Pier 2b/c on time to facilitate ferry service start up in 2007. MEDIUM TERM / DO NOW
Interisland Cargo Terminal	Make improvements to the Pier 2 landside areas: a) Move the cement tanks out of Pier 2; b) Close Ala Luina street and incorporate into an expanded Inter-Island Cargo Terminal all the land between the existing container yard and Ka'ahumanu Street, including the 4 acres owned by A&B. MEDIUM TERM

Table 16 - Development Priorities For Hilo

Hilo Harbor	
Category	Description
Interisland Cargo	Complete as soon as possible the planned Pier 4 cargo facility. MEDIUM TERM
Cruise	Relocate cruise vessels to Pier 2 / 3 to separate cruise activity form the overseas cargo operations and improve the cruise facilities MEDIUM TERM
Overseas Cargo	Open the existing (but as-yet unused) gate to the container operations area behind Pier 1 to relieve strain on the main Kuhio Street gate and assist with separation of passenger and cargo traffic. DO NOW

Table 17 - Development Priorities For Kawaihae

Kawaihae Harbor	
Category	Description
General	Enhance / modify the breakwater to improve protection from ocean swells (USACE Has Lead Responsibility)
General	Complete development of small-boat harbor facilities and relocate pleasure boats out of the main commercial harbor DO NOW
Container / Inter-Island	Pave the remaining un-paved areas of the terminal to reduce dust, enhance efficiency, and expand operational capacity to support cargo growth such as the expansion of bottled water exports. DO NOW
Ferry	Complete berth and landside improvements on time to facilitate start of service in 2008. MEDIUM TERM

Table 18 - Development Priorities For Nawiliwili

Nawiliwili Harbor	
Category	Description
Cruise	Add breasting dolphin in line with Pier 3 (to the north) to increase the effective length of the berth and create an alternative cruise ship berth. DO NOW
Ferry	Complete berth and landside improvements on time to facilitate start of service in 2007. MEDIUM TERM

Table 19 - Development Priorities For Kamalapau

Kaumalapau Harbor, Lanai	
Category	Description
General	Rebuild the breakwater, which has failed (USACE Has Lead Responsibility)
General	Rebuild the pier face and strengthen and rebuild the pier structure. Current structure cannot support lifting machines and is sufficient only for ro-ro cargo operations. MEDIUM TERM

Table 20 - Development Priorities For Port Allen

Port Allen Harbor, Kauai	
Category	Description
General	Repair and upgrade the pier MEDIUM TERM

Table 21 - Development Priorities For Kewalo Basin / Kaunakakai

Kewalo Basin (HNL) and Kaunakakai Harbor (Molokai)	
Category	Description
	No critical issues identified.

A general project that would improve operations at harbors on all islands is the development of a statewide-wide berth management system. The primary objective of such a system should be to coordinate the assignment of berths on all islands so as to facilitate more efficient scheduling of vessel voyages between islands. An additional objective should be to review the structure of the berth reservation system which presently allows large blocks of berth time to be reserved well in advance and often in excess of an operator's actual needs, which appears to create inefficiencies in berth usage. The berth scheduling process should be designed to efficiently meet the needs of users with schedules that are inherently unpredictable, as well those users whose schedules are not flexible and need to be established years in advance.

Summary of Project Priorities: Short . Medium and Long Term

Working with the HHUG, Mercator has grouped the high priority projects into three categories in order that attention and resources can be properly focused and action taken in a timely manner. The three categories for project prioritization are as described below:

- Strategic Long Term Projects:
 - Strategically very important
 - Complex and expensive, and may require special funding vehicles
 - Require broad community consensus which will take time to develop
 - Have long decision making cycles and therefore require planning attention long before construction can begin

- Medium Term:
 - Important projects that should be addressed in the next 1-5 years
 - Significant investments that must be carefully programmed, although on a relatively more modest scale than the strategic investments

-
- Short Term - Projects to Be Done Now:
 - Simple projects with immediate benefits that should be done as soon as possible and in any case completed within the next year.
 - Relatively easy to accomplish, with low spending requirements that can very likely be accommodated within normal or existing budgets

Table 22 - Long Term Strategic Development Priorities For Hawaiian Harbors

Strategic Priorities

Location	Project	Est. Cost \$ millions
HNL	Kapalama Terminal Development	300+ ?
HNL	Preserve Container Handling Capacity at Pier 1	0 ?
KAH	West Harbor Development	150+ ?
KBPH	Pier 8 construction	50+ ?
		500+ ?

Included in this list is a “project” that does not involve any specific construction of port facilities, but rather the protection for current and future use of existing facilities and port lands. Given the difficulty of acquiring new lands for maritime use, the retention and careful stewardship of the currently available facilities must be considered a strategic priority, as well as a matter that requires immediate attention.

Table 23 - Medium Term Development Priorities For Hawaiian Harbors

Priority Medium Term Projects

Location	Project	Est. Cost \$ millions
HNL	Re-route Sand Island Access Road - DLNR	10-15
HNL	Pier 40 Improvements	8-10
HNL	Pier 19 Ferry Terminal	8-10
KBPH	Fuel pipeline system expansion	??
KAH	Inter-Island Terminal Expansion	13-15
KAH	Pier 3 deepening	??
KAH	Pier 2b Ferry Terminal	8-10
Hilo	Pier 4 Inter-Island Terminal	45
Hilo	Pier 2-3 Passenger Improvements	??
KAW	Ferry Terminal development	8-10
NAW	Ferry Terminal development	8-10
Lanai	Pier rebuilding	??
Pt. Allen	Pier rebuilding	??
Subtotal		110-125

Table 24 - Short-Term Development Priorities For Hawaiian Harbors

"DO NOW" - Immediate Benefits, Limited Spending

Location	Project	Est. Cost \$ millions
HNL	Pier 1 warehouse demolition	1-2
HNL	Develop Sand Island DLNR Land	3-4
HNL	Pier 1 lighting improvements **	*
HNL	Sand Island container yard deck hardening **	*
Hilo	Open Pier 1 container gate	1
KAW	Complete small boat harbor	2-3
KAW	Paving	1
NAW	Pier 3 Dolphin	1-2
Subtotal		9-13

* These projects are understood to already be programmed for 2006.

Not included in these lists are the harbor channel and breakwater projects at KBPH, Kawaihae and Kaunapali for which the US Army Corps of Engineers has lead agency responsibility. Although the State Harbors Division is not actually responsible for completing these projects, they will almost certainly not happen without the strong support of the state. Consequently, Harbors Division need to keep up its support of these projects and be prepared to pay its share of the costs when the time comes.

8. Financing Development Projects

The estimated cost of the priority projects described above exceeds \$600 million, a very significant sum which is more than the book value of the existing asset base of the Harbors Division. If project spending continues at the recent pace of \$25-30 million per year, it would take 25 or more years to complete these projects, during which time more requirements would no doubt arise. Tackling these significant projects will thus clearly require some new approaches to paying for port infrastructure.

Although evaluating the feasibility and benefits of alternative port financing schemes was outside the scope of the present study, a few comments about several alternatives may help guide future discussion and evaluation of the subject.

Increasing Rates For Cargo Wharfage and Passenger (Dis)Embarkation:

It would appear that there is room for these fees to be increased as a means to increasing funds available for development. Port users advise that the rates have not been increased since 1987, and so it appears that development funding could be significantly enhanced imposing a modest “catch up” increase along with additional annual or bi-annual increases to ensure a steady and rising flow of funds to support capital investment in harbors facilities. Users have indicated their willingness to support such increases provided that the increased revenue is channeled back to fund critically important projects, with at least some clear relationship between the sources of funds (in terms of commodity or type of operation generating them) and the uses to which the funds are put.

A re-structuring of user fees to relate payments to land area occupied should also be considered. This would provide a means of directing increases to those sectors utilizing the most port resources while providing a means to reward operators who most intensively utilize the limited available land.

Pursuing Mixed-Use Development To Spread Development Costs

Harbors has teamed with the Aloha Towers Development Corporation (ATDC) to explore options for development that include in addition to maritime uses other uses of port land as a means to spread out the development cost and provide additional sources of revenue. This may be an effective strategy for promoting development, but it will not clear until the options are better defined. Given the scarcity of port lands suitable for maritime uses, it may be that the best long term strategy is to not diminish the available maritime land resource base, but to protect it and preserve it.

Introduction of Private Equity

Private equity is now often used to finance port development in both the US and elsewhere around the world. A common model involves shared investments by governments or port authorities creating partnerships between public and private interests. Under this approach, private investors would provide investment capital for infrastructure development and would manage the asset created in exchange for fixed or variable payment streams from the users of the asset. Such a solution is not without complications, of course, such as how to manage existing public assets that would possibly be in competition with new, privately financed assets. Solutions to such problems can be found, but might require a major overhaul to current practices. Nonetheless, the introduction of private equity could be a practical solution for the development of KMR, for example, and like the other options mentioned above, given a careful analysis and consideration.

Mercator’ recommendation, made jointly with the HHUG members, is that the Harbors Division immediately consider increases in the wharfage rates in order to increase the cash flow available now and to build a reserve fund to be used for undertaking the significant “medium term” capital projects required during the next 1-5 years. At the

same time new money is being raised, commitments should be made to invest these funds in harbor development, and a plan for doing so on a priority basis should be established. It is also recommended that The Harbors Division undertake more specific analysis of the quantity of funds that could be raised under each of these alternatives (or others that may be developed) and test the feasibility of successfully completing one or more significant port infrastructure development projects under each approach.

Appendices

- 1 Summary of port calls, Apr 2004 – Mar 2005
 - a. Barge calls

- 2 Cargo and Passenger Data for Hawaiian Harbors
 - a. Container volumes
 - b. Bulk Cargo
 - c. Passengers
 - d. Vehicles

- 3 Berth Window Occupancy Diagram for Hawaiian harbors

- 4 Harbor System Revenues From Key Users

- 5 Photos and Layouts of Hawaiian Harbors
 - a. Honolulu
 - i. Pier 1 Container terminal
 - ii. Pier 2 Container terminal (now being converted to cruise)
 - iii. Piers 5-11
 - iv. Piers 12-18
 - v. Piers 19-29 Ferry terminal location
 - vi. Piers 31-35 Ro-Ro and General cargo
 - vii. Piers 36-38 Fishing Village
 - viii. Piers 39-45 (Inter-Island Cargo Terminal)
 - ix. Piers 51-53 (Sand Island)
 - b. Kalaeloa Barbers Point Harbor
 - c. Kahului
 - d. Hilo
 - e. Kawaihae
 - f. Nawiliwili
 - g. Kaunakakai
 - h. Kaunalapau

- 6 Aerial Photos of Ports
 - a. Hilo Harbor
 - b. Kawaihae Harbor
 - c. Honolulu Harbor
 - d. Kahului Harbor
 - e. Kalaeloa Barbers Point Harbor
 - f. Kaunalapau Harbor
 - g. Kaunakakai Harbor
 - h. Nawiliwili Harbor

Appendix 1 - Berth Occupancy at Oahu Marine Terminals
 Container & General Cargo Terminals

Count of Vessel Calls

Port	Count of Vessel Name		Berth	Vsl Type				Grand Total
	Terminal	Horizon Total		Barge	Cargo	Private Fish	Tank	
HNL	51A	14	16	1	15	105	151	
	51B	170	163				333	
	51C	175	339	164			518	
	52A	15	14	89			118	
	52B	24	23	77			124	
	53A	41	53A	40	77		158	
	53B	1					1	
	53C	1					1	
	Matson Total	427	406	166			999	
	Pier 1 Terminal	01A	20	4	2	4	17	103
	Pier 1 Terminal	01B	34	6	1	3	28	13
	Pier 1 Terminal Total	54	10	3	7	2	45	116
	Pier 29	29-	28	28	36	236	49	264
	Pier 29 Total	29 A	6	1	1	8	15	15
	Pier 31-34	32	9	49	1	47	22	139
Pier 31-34	33	29	1	10	1	28	69	
Pier 31-34	34	75	1	11	2	80	170	
Pier 31-34	31-	23	26	28	2	25	107	
Pier 31-34	31 A	1				1	2	
Pier 31-34 Term Total	39	137	50	2	94	32	487	
YB HNL Term	39	1				6	487	
YB HNL Term	39-1A	16				17	33	
YB HNL Term	39A	265	210	475			745	
YB HNL Term	39B	112		66			178	
YB HNL Term	39D	52		55			107	
YB HNL Term	39E	89		143			232	
YB HNL Term	40A	262		226			488	
YB HNL Term	40B	63		45			108	
YB HNL Term Total	860	860	674				1534	
HNL Total	1546	96	3	97	56	5	11	1561
Grand Total	1546	96	3	97	56	5	11	1561

Liquid Bulk & Dry Bulk Terminals

Port	Count of Vessel Name		Berth	Vsl Type				Grand Total
	Terminal	BPM Total		Barge	Cargo	Fish	Tank	
HNL	BPM	102	102				103	
	BPM Total	102					103	
	Chevron	30	82	5	3	96	186	
	Chevron Total	23	82	5	3	96	186	
	Dry Bulk/Grain	2	2	1	1	2	7	
	Dry Bulk/Grain Total	2	2	1	1	2	7	
	OPA	OPA(A)	1				3	
	OPA	OPA(B)	1	2	1		3	
	OPA	OPA(C)	2	67	8	1	78	
	OPA	OPA(D)	2	47	4	1	54	
	OPA Total	5	1	116	12	2	1	23
	Propane	38	35	432		34	501	
	Propane Total	38	35	432		34	501	
	HNL Total	119	6	433	223	13	7	132
	Grand Total	119	6	433	223	13	7	132

Sum of Berth Occupancy - Ft-Hrs (000s)

Port	Sum of Berth Ft-Hrs(000s)		Berth	Vsl Type				Grand Total
	Terminal	Horizon Total		Barge	Cargo	Private Fishing	Tanker	
HNL	51A	134	334	4	52	3302	3827	
	51B	1168	410				1577	
	51C	1693	555				2248	
	52A	141	44	3242			3427	
	52B	101	33	134			134	
	53A	545	179	2283			3007	
	53B	10	4	14			14	
	53C	12	4	16			16	
	Matson Total	3670	1229	5525			10424	
	Pier 1 Terminal	01A	166	65	7	19	11	40
	Pier 1 Terminal	01B	684	241	0	15	25	4
	Pier 1 Terminal Total	850	306	0	22	44	16	19
	Pier 29	29-	620	229	949	87	2251	3522
	Pier 29 Total	29 A	60	71	39			171
	Pier 31-34	32	153	301	12	272	38	16
Pier 31-34	33	326	18	74	17	89	524	
Pier 31-34	34	1107	35	76	26	34	346	
Pier 31-34	31-	614	259	725	22	295	154	
Pier 31-34	31 A	12				16	29	
Pier 31-34 Term Total	2212	319	47	680	789	16	140	
YB HNL Term	39	5				827	204	
YB HNL Term	39-1A	1098				99	1157	
YB HNL Term	39A	3769				954	4723	
YB HNL Term	39B	2035				243	2278	
YB HNL Term	39D	1098				292	1391	
YB HNL Term	39E	1019				221	1240	
YB HNL Term	40A	2484				698	3182	
YB HNL Term	40B	1040				110	1150	
YB HNL Term Total	12548	2579				1	15127	
HNL Total	20322	1575	47	702	1238	43	159	
Grand Total	20322	1575	47	702	1238	43	159	

Port	Sum of Berth Ft-Hrs(000s)		Berth	Vsl Type				Grand Total
	Terminal	BPM Total		Barge	Cargo	Fishing Tanker	Bulk	
HNL	BPM	4310	10				4320	
	BPM Total	4310					4320	
	Chevron	30	1510	112	1775		3554	
	Chevron Total	23	1510	157	112	1775	3554	
	Dry Bulk/Grain	18	185	69	162	4	439	
	Dry Bulk/Grain Total	18	185	69	162	4	439	
	OPA	OPA(A)	35	5	32	3	26	
	OPA	OPA(B)	13	1620	207	16	2	
	OPA	OPA(C)	20	1864	107	10	22	
	OPA	OPA(D)	67	5	3517	313	18	
	OPA Total	38	2066	2326	154	10	67	
	Propane	38	2066	2326	154	10	67	
	Propane Total	38	2066	2326	154	10	67	
	HNL Total	3595	253	2331	7984	382	302	
	Grand Total	3595	253	2331	7984	382	302	

Appendix 1 - Berth Occupancy at Oahu Marine Terminals

Passenger/Cruise/Ferry Terminals Count of Vessel Calls

Count of Vessel Name		Sum of Berth Ft-Hrs(000s)													
Port	Terminal	Berth	Vsl Type		Barge	Cargo	Private	Fishing	Tanker	Bulk	OthSH	Cruise			Grand Total
			Ft-Hrs	000s								Tug/Wrk	/Pass	Cont	
HNL	Cruise	02A	10	11	32	3	7	1	2	4	34	114	197	3	24
			41	8	1	9	1	7	37	1	2	5	112	5	112
			29	3	2	5	1	7	24	23	2	1	97	2	97
			32	1	2	6	33	1	5	80	1	5	80	1	80
		Cruise Total	144	15	4	11	15	4	21	136	138	5	14	510	
		HNL Total	144	15	4	11	15	4	24	136	138	5	14	510	
		Grand Total	144	15	4	11	15	4	24	136	138	5	14	510	

Sum of Berth Occupancy - Ft-Hrs (000s)

Count of Vessel Name		Sum of Berth Ft-Hrs(000s)													
Port	Terminal	Berth	Vsl Type		Barge	Cargo	Private	Fishing	Tanker	Bulk	OthSH	Cruise			Grand Total
			Ft-Hrs	000s								Tug/Wrk	/Pass	Cont	
HNL	Cruise	02A	10	11	618	15	68	12	9	74	157	1688	2640	96	341
			1879	80	29	109	2	221	138	0	12	218	2688	12	218
			332	8	70	119	7	73	84	656	49	35	1433	49	35
			734	24	18	39	261	269	226	1571	39	261	1571	269	226
		Cruise Total	3728	127	88	129	240	18	406	687	2344	330	576	8673	
		HNL Total	3728	127	88	129	240	18	406	687	2344	330	576	8673	
		Grand Total	3728	127	88	129	240	18	406	687	2344	330	576	8673	

Misc Tug & Barge Facilities

Count of Vessel Name		Sum of Berth Ft-Hrs(000s)														
Port	Terminal	Berth	Vsl Type		Barge	Fish	Tank	OthSH	Tug/Wrk	/Pas	Cont	Grand Total	Cruise			Grand Total
			Ft-Hrs	000s									Tug/Wrk	/Pas	Cont	
HNL	Tug/Barge/Layb	14-14 end	13	19	13	78	2	133	1	1	1	226	2	133	1	226
			22	22	11	30	1	66	1	66	1	1	123	1	123	
			20	59	2	62	603	2	603	2	2	2	603	2	603	
			21	22	1	1	1	2	2	2	2	2	2	2	2	
			24	9	10	19	19	19	19	19	19	19	19	19	19	
			25	2	2	4	4	4	4	4	4	4	4	4	4	
			26	2	2	32	2	36	36	36	36	36	36	36	36	
			14-14 end	2	2	15	313	1	330	330	330	330	330	330	330	
			27-27 end	1	1	147	148	148	148	148	148	148	148	148	148	
			40D	1	1	3	3	3	3	3	3	3	3	3	3	
		Tug/Barge/Layberth Total	111	79	2	61	1307	1	1	1	1562	1	1307	1	1562	
		HNL Total	111	79	2	61	1307	1	1	1	1562	1	1307	1	1562	
		Grand Total	111	79	2	61	1307	1	1	1	1562	1	1307	1	1562	

Count of Vessel Name		Sum of Berth Ft-Hrs(000s)														
Port	Terminal	Berth	Vsl Type		Barge	Fishing	Tanker	OthSH	Tug/Wrk	/Pass	Cont	Grand Total	Cruise			Grand Total
			Ft-Hrs	000s									Tug/Wrk	/Pass	Cont	
HNL	Tug/Barge/Layberth	14-14 end	13	19	649	535	45	1616	28	42	2845	45	1616	28	42	
			20	20	1826	5	269	202	28	2371	28	2371	28	2371		
			21	21	1217	40	435	1692	3623	1692	3623	3623	3623	3623		
			22	22	0	0	3	3	3	3	3	3	3	3		
			24	24	1292	192	192	1485	192	1485	1485	1485	1485	1485		
			25	25	66	21	86	86	86	86	86	86	86	86		
			26	26	163	1947	3	2114	3	2114	2114	2114	2114	2114		
			14-14 end	53	306	2201	2	2560	2	2560	2560	2560	2560	2560		
			27-27 end	9	658	667	29	667	29	667	667	667	667	667		
			40D	13	13	29	29	13	13	13	13	13	13	13		
		Tug/Barge/Layberth Total	5288	540	40	2568	8985	28	42	17489	28	42	17489			
		HNL Total	5288	540	40	2568	8985	28	42	17489	28	42	17489			
		Grand Total	5288	540	40	2568	8985	28	42	17489	28	42	17489			

Appendix 1 - Berth Occupancy at Oahu Marine Terminals
Other Locations

Count of Vessel Calls

Port	Terminal	Berth	Count of Vessel Name			Cruise			Grand Total	
			Barge	Private Fish	OthShip	Tug/ Wrk	Ship	Wk		Pass
HNL	Fireboat	15			28				28	
	Fishing	16		28					28	
		17		533					533	
		37		139					139	
	36DH		3	261	53	2			319	
	36EWA		1	40	2				43	
	Oahu District-P17 Moc			1					1	
	Fishing Total		1	3	1002	55	2		1063	
	NOAA	44-45		31	105	1	23		160	
	NOAA Total			31	105	1	23		160	
	Pilotboat	18		17					17	
	Pilotboat Total			17					17	
	S. I.	S. I.		2	1	1	141		144	
	S. I. Total			2	1	1	141		144	
	Shipyard		41	31	1	110	4	2	3	155
			42	1	1	14	8		24	
	42EWA		14	1	5	10			30	
	Shipyard Total		19	33	1	129	22	2	3	209
	Spill Response	35		3	2	75	1		81	
	Spill Response Total			3	2	75	1		81	
	Tour Boat	9		19	35	14	1	7	76	
	07DH								7	
	07EWA					6			6	
	40F					1495	4		1499	
	Tour Boat Total			19	35	1515	5	7	1588	
	AT&T					5			5	
	AT&T Total					5			5	
HNL Total			23	55	1088	1914	32	9	174	3295
Grand Total			23	55	1088	1914	32	9	174	3295

Kalaieoa Barbers Point Harbor

Count of Vessel Calls

Port	Terminal	Berth	Count of Vessel Name			Cruise			Grand Total			
			Barge	Cargo Fish	Tank Bulk	Ship	Wk	Pass				
KBPH	BP-1	BP-1	63	1					212			
	BP-1 Total		63	1					212			
	BP-7	BP-7	40	1	1	17	4	161	224			
	BP-7 Total		40	1	1	17	4	161	224			
	Ferry Pier	BP-FP	19			2	24	3	48			
	Ferry Pier Total		19			2	24	3	48			
	Shipyard	Big Mike						1	1			
		BP-DD	2					1	3			
		BP-DD(A)	2		3	1	7	29	1	45		
		Compete	2					6	1	9		
		Lil Perris	3					3	6			
	Shipyard Total		9	3		1	7	40	1	64		
	BP-5/6	BP 5A	80		3	7	161		252			
		BP-5	219		26	1	60	473	779			
		BP-6	242		18	12	1	508	781			
	BP-5/6 Total		541		47	13	68	1142	1812			
KBPH Total			653	2	22	48	31	81	1515	5	3	2360
Grand Total			653	2	22	48	31	81	1515	5	3	2360

Sum of Berth Occupancy - Ft-Hrs (000s)

Port	Terminal	Berth	Sum of Berth Ft-Hrs(000s)			Cruise			Grand Total		
			Barge	Private Fishing	OthShip	Tug/Wrk	Ship	Wk		Pass	
HNL	Fireboat	15			738				738		
	Fishing	16		385					385		
		17		10077					10077		
		37		3732					3732		
	36DH		221	3536	490	8			4255		
	36EWA		0	568	4				572		
	Oahu District-P17 Moc			1					1		
	Fishing Total		0	221	18299	494	8		19022		
	NOAA	44-45		2	1877	14	1194		3087		
	NOAA Total			2	1877	14	1194		3087		
	Pilotboat	18		380					380		
	Pilotboat Total			380					380		
	S. I.	S. I.		73	1	8236			8310		
	S. I. Total			73	1	8236			8310		
	Shipyard		41	799	344	12	1178	5	200	46	2585
			42	257	0	1145	104			1507	
	42EWA		2056	8	23	62			2150		
	Shipyard Total		3112	352	12	2347	172	200	46	6241	
	Spill Response	35		190	3239	27			5463		
	Spill Response Total			190	3239	27			5463		
	Tour Boat	9		360	560	147	0	197	1265		
	07DH								2603		
	07EWA					211			211		
	40F					2668	8		2675		
	Tour Boat Total			360	560	3026	8	2603	197	6754	
	AT&T					3337			3337		
	AT&T Total					3337			3337		
HNL Total			5119	932	19444	15130	230	2803	9674	53332	
Grand Total			5119	932	19444	15130	230	2803	9674	53332	

Sum of Berth Occupancy - Ft-Hrs (000s)

Port	Terminal	Berth	Sum of Berth Ft-Hrs(000s)			Cruise			Grand Total			
			Barge	Cargo Fishing	Tanker Bulk	OthShip	Wk	Pass				
KBPH	BP-1	BP-1	236	12				101	349			
	BP-1 Total		236	12				101	349			
	BP-7	BP-7	764	21	18	2178	1	125	3108			
	BP-7 Total		764	21	18	2178	1	125	3108			
	Ferry Pier	BP-FP		855		24	12	0	880			
	Ferry Pier Total			855		24	12	0	880			
	Shipyard	Big Mike						0	0			
		BP-DD	36					0	36			
		BP-DD(A)	89		8	50	473	284	66	95	1065	
		Compete	378					57	82	517		
		Lil Perris	420					0	421			
	Shipyard Total		923	8	50	473	341	66	177	2039		
	BP-5/6	BP 5A	1250		84	13	147	352	1846			
		BP-5	2800		262	42	24	554	2142			
		BP-6	2511		187	1589	2	374	4663			
	BP-5/6 Total		5021		533	1630	39	1075	352	8651		
KBPH Total			6945	33	863	551	3858	537	1655	419	177	15038
Grand Total			6945	33	863	551	3858	537	1655	419	177	15038

Appendix 1 - Neighbor Island Vessel Calls & Berth Occupancy

Count of Vessel Calls

Count of Vessel Name		Berth		Barge		Cargo		Private		Fish		Tank		Bulk		hp		OthS		Tug/		Cruise		Grand			
Port	Terminal	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count		
Hilo	Hilo Anchorage		2																						2		
	Hilo Pier 1		127		15		26		1		4		2		130		125		10						4	444	
	Hilo Pier 2		125		34				1		29															189	
	Hilo Pier 3		207		10		2		1		214		14													451	
Hilo Total		460		15		72		3		5		4		373		139		10							1087		
KAU	KAU Pier		168											714		181										1064	
KAW	KAW-Barge Dock		144		2				8		39															195	
	KAW-Overseas Dock		183											182												312	
KAW Total			327						8		221															567	
	NAW	Nawiliwili Pier 1		134		1								119												259	
		Nawiliwili Pier 2		25		3								27													184
		Nawiliwili Pier 3		179		1				1		134		15													331
			338		4				1		1		280		142											774	
Port Allen	Port Allen Pier		28										30												29		
Port Allen Total		28											30												29		
Grand Total			1321		19		3		72		4		5		727		1085		282							3579	

Count of Vessel Calls

Count of Vessel Name		Berth		Barge		Cargo		Tank		Bulk		hp		OthS		Tug/		Cruise		Grand						
Port	Terminal	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count					
KAH	Kahului Pier 1		60		8									65		65									200	
	Kahului 1A		1					4																	5	
	Kahului 1B		163		28			2						164		22									379	
	Kahului 1C		224		36			6						229		65									594	
Kahului Pier 2 Total			263					2						249											514	
			13											121											137	
Kahului Pier 2 Total			277					2						395											682	
			2											2											4	
Kahului Pier 3 Total			202											4		166									370	
			703		36			2		6		4		792		65										1640
Grand Total			703		36			2		6		4		792		65										1640

Sum of Berth Occupancy - Ft-Hrs (000s)

Vsl Type		Barge		Cargo		Private		Fishing		Tanker		Bulk		OthShip		k		Tug/W		Cruise		Grand		
Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	
	23																							23
	512		121		164		15		112		3		197		1160		68		39					2390
	59		278								5		49											392
	827		95		26		86		0		333		137											1575
	4																							4
	1402		121		560		41		199		8		579		1297		68		110					4385
	408										911		138		9									1466
	408										911		138		9									1466
	70		3								105		41											219
	486										182													680
	556		3								105		223											899
	402		4										115											562
	104		70										44		1920									2157
	633		31		4		4				2		192		103									965
	1140		74		31		4		4		2		352		2023									3684
	99												57											176
	99												57											176
	3604		195		34		560		45		199		1026		1348		3330		68		203			10811

Sum of Berth Occupancy - Ft-Hrs (000s)

Vsl Type		Barge		Cargo		Tanker		Bulk		OthShip		k		Tug/W		Cruise		Grand						
Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count	Type	Count					
	296		193																					2304
	0										141													141
	704		223		69						239				174									1408
	1000		416		210						374				1672									3853
	909		18								326													1252
	58										451				21									530
	0										69				17									87
	967		18								845				39									1869
	7										3													9
	755										118				252									1125
	762										118				255									1134
	2729		416		18		210		118		1475				1672									6856
	2729		416		18		210		118		1475				1672									6856

Details of Barge Calls

Commodity														Grand Total
Bulk Cargo	Bunker	Cement	Cont	Deck Cargo	Deck House	Diesel/Gas	Fuel	Marsh all IS	Propane	Ro-Ro Feeder	Sand	Spec/Proj	Ukn	

Port Terminal Operator Count of Vessel Calls By Commodity / Barge Type

Port	Terminal	Operator	Bulk Cargo	Bunker	Cement	Cont	Deck Cargo	Deck House	Diesel/Gas	Fuel	Marsh all IS	Propane	Ro-Ro Feeder	Sand	Spec/Proj	Ukn	Grand Total	
Hilo	Hilo Pier 1	ACT				2											2	
		Aloha							1									1
		Matson Sause YB			51			30						34		3		85
	Hilo Pier 2	Sause YB			20			4	2									20
		YB							105									105
	Hilo Pier 3	Aloha Gas Co	HITI							25			24					25
Matson					7								11				18	
Sause											54					1		55
Smith											55							55
Hilo Total					20	60	34	107	26	140		24	45	4			460	
HNL	Chevron	HITI							7	1					1		1	
		Sause								73							8	
	Cruise	ACT				1	2									12		12
		Aloha								13							1	4
		HITI	1								17							13
		Sause					7								6			18
		Smith		54							8							13
		Weeks YB														1		5
	Dry Bulk/Grain	HITI									2							2
																		1
	Horizon	Smith		10														10
			Tesoro		4													
	Matson	Matson	Sause			256							13	147				403
			Smith		9													9
			YB					1										1
	Pier 1 Terminal	ACT	Aloha				17									1	7	1
			Sause							1								25
			Smith					3										1
			YB		11						4							
	Pier 29	Aloha Gas Co	HITI										12					1
Sause					1										19		12	
Pier 31-34 Term	ACT	Aloha				1										2	3	
		HITI							3	8							3	
		Sause								5				63			26	
		Smith		23							5							68
Propane	Gas Co	YB															28	
				3				5							1		1	
Shipyard	Weeks	YB															5	
																	3	
Spill Response	Tug/Barge/Layb	ACT				1											14	
		Aloha							16									1
YB HNL Term	ACT	HITI	3						1	36							16	
		Matson											3				40	
		Sause															3	
		Smith		10							1				5		6	
		Weeks									17							27
		YB														1		1
YB HNL Term	Gas Co	YB				15											1	
																	15	
HNL Total			4	160	1	291	154	708	62	181	13	63	150	93	53	10	1943	
KAH	Kahului Pier 1	ACT				1											1	
		Aloha								1							1	
		HITI									34						34	
						115							33			148		

Details of Barge Calls

			Commodity															
			Bulk Cargo	Bunker	Cement	Cont	Deck Cargo	Deck House	Diesel/Gas	Fuel	Marsh all IS	Propa ne	Ro-Ro Feeder	Sand	Spec/ Proj	Ukn	Grand Total	
KAH	Kahului Pier 1	Sause Smith								5					13		18	
									22								22	
	Kahului Pier 2	ACT Gas Co Sause Smith YB				6						18			1		6 18 39 2	
KAH	Kahului Pier 3	ACT Aloha HITI Matson Sause Smith YB				6	43	169		2							2 212	
			3						5	5			1			3	9 5 8 1	
										48	34			84			132 34 13	
KAH Total			3		38	128	53	172	6	150		18	34	98		3	703	
KAU	KAU Pier	Sause YB								13					2		15 153	
KAU Total										13					2		168	
KAW	KAW-Barge Doc	Sause YB			39												39 105	
	KAW-Overseas	Aloha Matson Sause Smith YB				100				1			63				1 163 11 6 2	
KAW Total					39	100	1	106	1	17			63				327	
KBPH	BP-1	Gas Co Sause Smith Weeks	0									55			2	3	3 55 2 1 2	
									1								2	
	BP-7	HITI Matson Sause Smith Weeks Tesoro	0	7										1		14		14 7 1 5 8 4
				2			1				3					8		4
	Shipyards	Sause Smith US Navy Weeks	0												1	5	1	5 1 1 1
KBPH	BP-5/6	Aloha Gas Co HITI Matson Sause Smith Weeks YB Tesoro	0							36		1		1		9	9 36 1 74 1 157 235 5 1 22	
			6						1	67			1		15		1	
				95	108		33			1	140					5		1
									1									1
				22														22
KBPH Total			13	124	108		34	1	37	212		56	2	18	47	1	653	
NAW	Nawiliwili Pier 1	Matson Sause YB				53								60			113 15 6	
							6										6	
	Nawiliwili Pier 2	Aloha Smith								1							1 24	
NAW	Nawiliwili Pier 3	Gas Co HITI Sause Smith Weeks YB	0									12			4		4 12 2 1 6 154	
			2							1					6		1	
							4	150										154
NAW Total					15	53	10	150	1	25		12	60		10		338	
Port Allen	Port Allen Pier	ACT Sause				1										1	2 26	
Port Allen Total						1										1	28	
Grand Total			22	284	221	633	286	1397	133	764	13	173	354	215	110	15	4620	

Details of Barge Calls

Port	Operator	Terminal	Commodity													Grand Total		
			Bulk Cargo	Bunker	Cement	Cont	Deck Cargo	Deck House	Diesel/Gas	Fuel	Marsh all IS	Propane	Ro-Ro Feeder	Sand	Spec/Proj		Ukn	
			Count of Vessel Calls															
Hilo	ACT	Hilo Pier 1				2												2
	Aloha	Hilo Pier 1							1									1
		Hilo Pier 3							25									25
	Gas Co	Hilo Pier 3												24				24
	HITI	Hilo Pier 3									31							31
	Matson	Hilo Pier 1					51									34		85
		Hilo Pier 3					7							11				18
	Sause	Hilo Pier 1						30							3			33
		Hilo Pier 2				20												20
		Hilo Pier 3									54				1			55
	Smith	Hilo Pier 3									55							55
	YB	Hilo Pier 1						4	2									6
		Hilo Pier 2								105								105
Hilo Total					20	60	34	107	26	140			24	45	4			460
HNL		0 Chevron														1		1
		Cruise														12		12
		Fishing														1		1
		Pier 1 Terminal														1		1
		Shipyards														7		7
		Spill Response														3		3
		Tug/Barge/Layberth														14		14
	ACT	Cruise				1	2										1	4
		Pier 1 Terminal					17									1	7	25
		Pier 31-34 Term					1										2	3
		Tug/Barge/Layberth					1											1
		YB HNL Term					15											15
	Aloha	Cruise								13								13
		Pier 1 Terminal								1								1
		Pier 29								1								1
		Pier 31-34 Term								3								3
		Tug/Barge/Layberth								16								16
	Gas Co	Pier 29													12			12
		Propane													35			35
		YB HNL Term													16			16
	HITI	Chevron							7	1								8
		Cruise	1								17							18
		Dry Bulk/Grain							2									2
		Pier 29									3							3
		Pier 31-34 Term								18	8							26
		Tug/Barge/Layberth	3						1	36								40
	Matson	Matson				256								147				403
		Tug/Barge/Layberth												3				3
	Sause	Chevron									73							73
		Cruise						7							6			13
		Matson														13		13
		Pier 1 Terminal						3										3
		Pier 29				1					1				19			21
		Pier 31-34 Term									5				63			68
		Tug/Barge/Layberth									1				5			6
	Smith	Cruise				54					8							62
		Horizon				10												10
		Matson				9												9
		Pier 1 Terminal				11					4							15
		Pier 29				4					2							6
		Pier 31-34 Term				23					5							28
		Tug/Barge/Layberth				10					17							27
	Weeks	Cruise														1		1
		Pier 31-34 Term														1		1
		Shipyards													10			10
		Tug/Barge/Layberth													1			1
	YB	Cruise								5								5
		Matson						1										1
		Pier 1 Terminal								1								1
		Pier 29								6								6
		Pier 31-34 Term								5								5
		Shipyards								2								2
		Tug/Barge/Layberth								1								1
		YB HNL Term						141	688									829
	Tesoro	Cruise				16												16
		Horizon				4												4
		Matson				1												1
		Pier 1 Terminal				8												8
		Pier 29				5												5
		Pier 31-34 Term				3												3
		Tug/Barge/Layberth				2												2
HNL Total			4	160	1	291	154	708	62	181	13	63	150	93	53	10		1943
KAH	ACT	Kahului Pier 1						1										1
		Kahului Pier 2						6										6
		Kahului Pier 3						6								3		9
	Aloha	Kahului Pier 1								1								1
		Kahului Pier 3								5								5
	Gas Co	Kahului Pier 2													18			18

Details of Barge Calls

			Commodity													Grand Total	
			Bulk Cargo	Bunker	Cement	Cont	Deck Cargo	Deck House	Diesel/Gas	Fuel	Marsh all IS	Propa ne	Ro-Ro Feeder	Sand	Spec/ Proj		Ukn
KAH	HITI	Kahului Pier 1															34
		Kahului Pier 3															5
	Matson	Kahului Pier 1					115										33
		Kahului Pier 3															1
	Sause	Kahului Pier 1															13
		Kahului Pier 2					38										1
Smith	Kahului Pier 3															84	
	Kahului Pier 1															22	
	Kahului Pier 2															2	
YB	Kahului Pier 3															34	
	Kahului Pier 2							43	169							212	
KAH Total			3		38	128	53	172	6	150	18	34	98		3	703	
KAU	Sause	KAU Pier														2	
	YB	KAU Pier						153								15	
KAU Total								153								153	
KAW	Aloha	KAW-Overseas Dock								1						1	
	Matson	KAW-Overseas Dock					100									63	
	Sause	KAW-Barge Dock					39									39	
		KAW-Overseas Dock														11	
	Smith	KAW-Overseas Dock														6	
	YB	KAW-Barge Dock							105								105
KAW-Overseas Dock							1	1								2	
KAW Total					39	100	1	106	1	17		63				327	
KBPH	0	BP-1														3	
		BP-7														14	
		Shipyards														5	
		BP-5/6														9	
	Aloha	BP-5/6								36						36	
	Gas Co	BP-1														55	
		BP-5/6														1	
	HITI	BP-7														7	
		BP-5/6					7									6	
	Matson	BP-7														1	
		BP-5/6														1	
	Sause	BP-1														2	
		BP-7							1							1	
		Shipyards														1	
		BP-5/6					108		33							15	
Smith	BP-1														1		
	BP-7														5		
	Shipyards														1		
	BP-5/6														235		
US Navy	Shipyards														1		
Weeks	BP-1														2		
	BP-7														8		
	Shipyards														1		
	BP-5/6														5		
YB	BP-5/6														1		
Tesoro	BP-7														4		
	BP-5/6														22		
KBPH Total			13	124	108		34	1	37	212	56	2	18	47	1	653	
NAW	0	Nawiliwili Pier 3														4	
		Nawiliwili Pier 2														1	
	Gas Co	Nawiliwili Pier 3														12	
	HITI	Nawiliwili Pier 3														2	
	Matson	Nawiliwili Pier 1														60	
		Nawiliwili Pier 1														15	
	Smith	Nawiliwili Pier 2														24	
		Nawiliwili Pier 3														1	
	Weeks	Nawiliwili Pier 3														6	
YB	Nawiliwili Pier 1														6		
	Nawiliwili Pier 3														154		
NAW Total			2		15	53	10	150	1	25	12	60		10		338	
Port Allen	ACT	Port Allen Pier														1	
	Sause	Port Allen Pier														26	
Port Allen Total																26	
Grand Total			22	284	221	633	286	1397	133	764	13	173	354	215	110	15	4620

Details of Barge Calls

		Commodity														
		Bulk Cargo	Bunker	Cement	Cont	Deck Cargo	Deck House	Diesel/Gas	Fuel	Marsh all IS	Propa ne	Ro-Ro Feeder	Sand	Spec/ Proj	Ukn	Grand Total
Operator	Vessel Name	Count of Vessel Calls														
	American Service														7	7
	Atlanta Bridge														2	2
	AWB140														12	12
	AWB82														1	1
	Barge 450-6														2	2
	Barge No. 1 (ex-Kaeo)														1	1
	BRM-Ferry														1	1
	Brusco 400														8	8
	HT39														15	15
	HT-40														1	1
	HT538														3	3
	Kalei														2	2
	MSRC 400														3	3
	Opu'ulani														5	5
	Spider														1	1
	The Big Digger														2	2
	USAKA 184														1	1
	Weeks 144														1	1
	Weeks 33														1	1
	YRBM-31														2	2
	YRBM-53														2	2
	ZB286														1	1
ACT	Alaska Trader (New)					5										5
	Aleutian Trader					33										33
	Bering Trader					7										7
	Bristol Bay Trader					1										1
	Chatham Provider						2							1		3
	Hawaii Trader					3										3
	J1340-2														10	10
	Malolo														4	4
	Western Carrier					2										2
Aloha	Noeau								104							104
Gas Co	Huki Kai I														115	115
	Pono Kai														58	58
HITI	Noa									202						202
	Nohi	22														22
	Tara							29								29
Matson	Haleakala					317										317
	Mauna Loa					265										265
	Waialeale											354				354
Sause	Bandon						15									15
	Hana						18									18
	Hanalei						11									11
	Hilo Bay								192							192
	Islander									13						13
	Kaala											215				215
	Pepeekeo								46							46
	Punapau			221												221
	Quinault						6									6
	Rogue						4									4
	Siuslaw						7									7
	Tazlina						13									13
Smith	Hui Mana								212							212
	Na Moku								72							72
	Namoku								40							40
	Nuuanu		219													219
US Navy	YD-121														1	1
Weeks	Weeks 142														1	1
	Weeks 143														1	1
	Weeks 190														16	16
	Weeks 243														2	2
	Weeks 253														1	1
	Weeks 544														6	6
	Weeks 554														7	7
	Weeks 570 (ex-YD115)														1	1
YB	Aukai								168							168
	Kahoku								177							177
	Kakela								127							127
	Kamaluhia								98							98
	Kukahi								312							312
	Makahani (ex-Billie K.)					106										106
	Makoa								91							91
	Malana								93							93
	Maukana								121							121
	Pacific Bear					104										104
	YB - Kakela?								52							52
	YB - Maukana								105							105
	YB - Malana								53							53
Tesoro	Ne'ena		65													65
Grand Total		22	284	221	633	286	1397	133	764	13	173	354	215	110	15	4620

Appendix 2a - Container Volume Data From HDOT System

Harbor	Full & Mty TEUs	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	CAGRs thru 2004				
														10yr	8yr	6yr	4yr
Honolulu HNL	Linehaul	649,246	617,732	653,550	664,021	709,063	660,953	738,837	746,359	768,662	793,778	902,080	3.3%	4.1%	4.1%	5.1%	8.3%
	Inter-Island	175,073	161,584	182,261	197,306	207,003	219,631	228,828	240,860	238,892	262,957	320,115	6.2%	7.3%	7.5%	8.8%	15.8%
	Total	824,319	779,315	835,812	861,326	916,065	880,584	967,665	987,218	1,007,554	1,056,735	1,222,196	4.0%	4.9%	4.9%	6.0%	10.1%
	Ann Growth		-5.5%	7.2%	3.1%	6.4%	-3.9%	9.9%	2.0%	2.1%	4.9%	15.7%					
Kahului KAH	Total TEU	66,448	61,078	71,704	81,066	86,350	94,706	94,265	102,311	98,848	109,880	117,101	5.8%	6.3%	5.2%	5.6%	8.8%
	Ann Growth		-8.1%	17.4%	13.1%	6.5%	9.7%	-0.5%	8.5%	-3.4%	11.2%	6.6%					
Hilo	Total TEU	48,555	44,706	49,335	53,048	56,189	54,525	57,747	58,321	54,956	58,795	65,506	3.0%	3.6%	2.6%	3.2%	9.2%
	Ann Growth		-7.9%	10.4%	7.5%	5.9%	-3.0%	5.9%	1.0%	-5.8%	7.0%	11.4%					
Kawaihae KAW	Total TEU	19,381	21,225	26,172	26,157	27,206	32,792	37,779	41,928	43,840	52,741	73,260	14.2%	13.7%	18.0%	18.0%	29.3%
	Ann Growth		9.5%	23.3%	-0.1%	4.0%	20.5%	15.2%	11.0%	4.6%	20.3%	38.9%					
Nawiliwili NAW	Total TEU	39,148	33,525	33,537	34,787	35,319	35,217	37,206	36,487	39,440	39,546	61,191	4.6%	7.8%	9.6%	13.2%	24.6%
	Ann Growth		-14.4%	0.0%	3.7%	1.5%	-0.3%	5.6%	-1.9%	8.1%	0.3%	54.7%					
Other	Total TEU	1,542	1,050	1,513	2,249	1,939	2,390	1,831	1,813	1,809	1,994	3,058	7.1%	9.2%	7.9%	13.7%	30.0%
	Ann Growth		-31.9%	44.1%	48.7%	-13.8%	23.3%	-23.4%	-1.0%	-0.2%	10.3%	53.3%					

Source: Hawaii DOT, Harbors Division; Compiled with adjustments by Mercator Transport Group
 Note: Inter-island volume at Honolulu assumed to be equal to sum of NI container volumes.

Appendix 2b - Dry Bulk and Liquid Bulk Cargo History

Port	Type	Units	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Avg Annual Change			
															10 yrs	4 yrs	
HILO	Brk Bulk	EACH	10,723	9,733	2,996	(1)											
		TON	213,498	195,633	233,824	164,315	146,828	151,681	152,988	164,315	148,605	161,423	134,760	226,293	0.6%	10.3%	
	Dry Bulk	TON	220,417	202,189	166,214	102,987	107,152	81,639	102,916	102,916	106,097	78,942	130,275	93,010	-8.3%	-2.5%	
	Liq Bulk	BBL	3,167,639	3,186,636	3,207,892	3,153,317	3,580,803	3,433,431	3,684,438	3,873,338	3,974,327	4,001,866	4,826,340		4.3%	7.0%	
		GAL	18,326,000	13,962,048	10,469,000	7,998,000	7,969,000	11,104,100									
	Livestock	HEAD	2,427	15,656													
	Molasses	TON	51,647	17,842	20,500	1,420											
		EACH	17,628	15,619	5,456	(1)											
		TON	1,063,936	925,975	907,779	871,003	742,125	742,773	798,035	810,325	810,325	786,401	808,883	1,008,122	-0.5%	6.0%	
		TON	298,994	368,874	378,999	298,861	223,994	185,368	216,274	290,310	290,310	282,267	232,642	218,088	1%	0.2%	
	BBL	10,509,362	8,384,662	8,935,978	8,012,045	9,253,517	6,512,882	7,541,750	7,527,865	6,103,907	5,514,399	6,931,095		-8%	-2.1%		
	HEAD	2,045	2,150	2,043	1,448	2,527	1,432	1,391	1,323	1,391	1,488	1,404		-23%	-6.4%		
	TON	216,490	196,623	183,700	152,295	121,290	118,615	144,088	87,750	88,460	79,329	92,710		-8.1%	-10.4%		
	EACH	2,472	1,134	3,093	1,251	1,371	1,214										
	TON	31,582	26,530	24,989	23,820	25,308	24,866										
KAHALUI	Brk Bulk	EACH	3,764	3,225	1,349	(1)											
		TON	295,391	267,174	318,118	242,581	237,045	235,942	258,570	269,625	257,840	257,840	301,120		0.2%	3.9%	
	Dry Bulk	TON	477,126	525,250	583,269	578,438	507,290	441,081	472,366	510,490	430,575	509,997	560,286		1.6%	4.8%	
	Liq Bulk	BBL	3,528,214	3,511,431	3,694,714	3,749,424	4,497,055	4,198,152	4,790,123	4,673,814	4,868,102	4,597,884	5,767,538		5.0%	4.4%	
		HEAD	384	1,102	555	831	880	1,399	723	811					5.3%	-13.5%	
	Molasses	TON	67,563	55,125	69,770	70,797	85,543	85,157	92,763	63,467	59,322	67,759	67,572		0.0%	-7.6%	
	Brk Bulk	TON	122,791	144,387	164,739	156,714	93,896	129,642	138,828	181,898	156,906	20,506	212,135		5.6%	11.2%	
	Dry Bulk	TON	878,382	922,888	971,358	1,036,645	1,056,099	878,642	1,005,034	1,191,987	929,284	1,139,595	1,336,044		4.3%	7.4%	
	Liq Bulk	BBL	10,237,377	10,949,941	9,552,676	10,873,072	10,977,331	11,983,442	12,502,966	11,238,043	13,173,503	10,297,739	14,631,551		3.6%	4.0%	
		GAL			589,000												
Kaunakakai	Brk Bulk	EACH	1,026	1,067	725												
		TON	54,936	49,114	45,192	38,066	35,423	46,627	37,405	36,602	37,315	48,194	42,666		-2.5%	3.3%	
	Dry Bulk	TON	7,790	6,494	160	16,342	20,698										
	Liq Bulk	BBL	121,496	118,744	153,537	124,574	129,082	133,974	130,149	133,185	112,550	120,668	144,808		1.8%	2.7%	
	Livestock	HEAD	2,975	2,674	781	180	161	93	66	71					-33.3%	-10.2%	
	Brk Bulk	EACH	2,707	1,996	510												
		TON	115,885	94,666	109,894	100,087	105,638	94,928	97,473	113,086	110,419	110,599	143,977		2.2%	10.2%	
	Dry Bulk	TON	32,502	22,136	37,655	24,806	36,310	22,577	33,733	70,514	73,719	63,044	51,417		4.7%	11.1%	
	Liq Bulk	BBL	189,033	110,881	148,603	158,564	189,034	228,059	253,112	270,187	214,423	236,128	239,464		2.4%	-1.4%	
	Livestock	HEAD	1,384	4,933	1,168	481	3,516	8,976	10,211	14,894	11,471	10,978	18,918		29.9%	16.7%	
	TON	3,260															
Nawiliwili	Brk Bulk	EACH	385	443	251												
		TON	201,218	168,039	184,005	119,989	128,160	124,770	129,640	136,364	134,543	109,899	200,495		0.0%	11.5%	
	Dry Bulk	TON	194,282	120,657	197,618	139,069	152,677	125,403	119,543	103,011	60,963	77,306	85,800		-7.8%	-8.0%	
	Liq Bulk	BBL	429,330	353,466	444,507	393,928	440,843	456,248	521,001	462,145	446,993	478,341	695,976		4.9%	7.5%	
	Livestock	HEAD	91	106	127	238	249	237	346	248	154	187	443		17.2%	6.4%	
	Molasses	TON	39,967	40,011	49,431	43,895	36,742	42,376	32,489	25,426	13,693	13,372	19,523		-6.9%	-12.0%	
	Brk Bulk	TON			2,072												
	Dry Bulk	TON		6													
	Liq Bulk	BBL	1,086,433	954,191	998,593	1,020,847	1,077,573	1,046,644	1,163,855	1,180,548	1,285,659	732,636	1,767,135		5.0%	11.0%	
	Livestock	HEAD	1,471	1,598													

Source: State of Hawaii Dept. of Transportation, Harbors Division
 Compiled by Mercator Transport Group

Appendix 2b - Dry Bulk and Liquid Bulk Ca

Sum of TOTAL		Units	1994	2 yrs
Port	Type			
HILO	Brk Bulk	EACH	10,723	
		TON	213,498	18.4%
	Dry Bulk	TON	220,417	8.5%
	Liq Bulk	BBL	3,167,639	10.2%
		GAL	18,326,000	
	Livestock	HEAD	2,427	
	Molasses	TON	51,647	
HONOLULU	Brk Bulk	EACH	17,628	
		TON	1,063,936	13.2%
	Dry Bulk	TON	298,994	-12.1%
	Liq Bulk	BBL	10,509,362	6.6%
	Livestock	HEAD	2,045	0.4%
	Molasses	TON	216,490	2.4%
	Surcharge	EACH	2,472	
	TON	31,582	-63.5%	
KAHALUI	Brk Bulk	EACH	3,764	
		TON	295,391	8.0%
	Dry Bulk	TON	477,126	14.1%
	Liq Bulk	BBL	3,528,214	8.8%
	Livestock	HEAD	384	-9.4%
	Molasses	TON	67,563	6.7%
Kalaeloa BP	Brk Bulk	TON	122,791	16.3%
	Dry Bulk	TON	878,382	19.9%
	Liq Bulk	BBL	10,237,377	5.4%
		GAL		
Kaunakakai	Brk Bulk	EACH	1,026	
		TON	54,936	6.9%
	Dry Bulk	TON	7,790	
	Liq Bulk	BBL	121,496	13.4%
	Livestock	HEAD	2,975	-11.5%
Kawaihae	Brk Bulk	EACH	2,707	
		TON	115,885	14.2%
	Dry Bulk	TON	32,502	-16.5%
	Liq Bulk	BBL	189,033	5.7%
	Livestock	HEAD	1,384	28.4%
	Molasses	TON	3,280	
Nawiliwili	Brk Bulk	EACH	385	
		TON	201,218	22.1%
	Dry Bulk	TON	194,282	18.6%
	Liq Bulk	BBL	429,330	24.8%
	Livestock	HEAD	91	69.8%
	Molasses	TON	39,967	19.4%
Port Allen	Brk Bulk	TON		
	Dry Bulk	TON		
	Liq Bulk	BBL	1,086,433	17.2%
	Livestock	HEAD	1,471	

Source: State of Hawaii Dept. of Transportation, Harb
Compiled by Mercator Transport Group

Type Pass

Port	1994		1995		1996		1997		1998		1999		1999 Total	
	DATA2		DATA2		DATA2		DATA2		DATA2		DATA2			
	In	Out	In	Out	In	Out	In	Out	In	Out	In	Out		
HILO	Sum of DOMESTIC	3083	3088	2006	2006	4012	303	286	589	30309	30241	60550	46454	92805
	Sum of FOREIGN	9752	9301	12525	12594	25219	20352	20362	40714	2398	46039	48437	14778	60392
	Sum of INTER-ISLAND	5322	57414	19044	48169	67213	71	40507	40578	2398	46039	48437	14778	60392
	Sum of OTHER	335	335	335	335	335	335	335	335	335	335	335	335	335
	Sum of TOTAL	18167	70138	88305	62769	96444	20726	61155	81881	32707	76280	108987	61232	106743
HONOLULU	Sum of DOMESTIC	2022	2055	2236	2894	5130	90	90	180	22657	22445	45102	38859	37399
	Sum of FOREIGN	12571	12356	15281	15063	30344	18172	17437	35609	60437	58410	118847	59014	55116
	Sum of INTER-ISLAND	66561	69896	136457	68849	137548	44982	45159	88077	60437	58410	118847	59014	55116
	Sum of OTHER	81154	84307	165461	86806	173022	65087	58779	123866	83094	80855	163949	97873	92515
	Sum of TOTAL	1018	1015	2033	2374	4552	4541	9033	3895	3884	7779	6604	6595	13159
KAHULUI	Sum of DOMESTIC	3116	3104	1189	1185	2374	170	40638	40808	844	44568	45412	844	45968
	Sum of FOREIGN	7063	59964	67027	17006	27348	4756	994	1988	7448	51163	58611	9903	55007
	Sum of INTER-ISLAND	11197	64083	75280	18195	28533	46728	9078	13849	7448	51163	58611	9903	55007
	Sum of OTHER													
	Sum of TOTAL													
Kaunakakai	Sum of DOMESTIC													
	Sum of FOREIGN													
	Sum of INTER-ISLAND													
	Sum of OTHER													
	Sum of TOTAL													
Kawaihae	Sum of DOMESTIC													
	Sum of FOREIGN													
	Sum of INTER-ISLAND													
	Sum of OTHER													
	Sum of TOTAL													
Nawiliwili	Sum of DOMESTIC	682	680	1010	1010	2020	14950	14950	29900	27847	27855	55702	46098	92129
	Sum of FOREIGN	4938	4949	9887	9977	9958	67	39660	39727	2426	46038	48464	14796	60008
	Sum of INTER-ISLAND	5488	57426	62914	18696	43910	6333	67	39660	2426	46038	48464	14796	60008
	Sum of OTHER													
	Sum of TOTAL	11108	63055	74163	29883	54878	84561	15017	54610	30273	73893	104166	60894	106039
Total Sum of DOMESTIC		6815	6838	13653	5252	5910	383	376	769					
		30377	29710	60087	39072	36692	75764	57369	56633	87417	87136	174553	140470	138820
		84442	247107	331549	123445	188390	311835	47133	162057	66175	195080	261255	90810	224748
		335	335	335	335	335	335	335	335	335	335	335	335	335
		121634	283990	405624	167769	230992	398761	105889	220060	153592	282216	435808	231280	363568

Source: Wharfrage database, Hawaii Department of Transportation, Division of Harbor.

Appendix 2d - Vehicle Volumes From HDOT System

Port	Units	Commodity	Sum of TOTAL				CAGRs thru 2004 - Total In+Out						
			1994 Total	1996 Total	1998 Total	2000 Total	2002 Total	2004 Total	10yr	8yr	6yr	4yr	2yr
HILO	EACH	Vehicles, Other	18,686	10,166	12,215	8,138	13,038	21,821	1.6%	10.0%	7.5%	28.0%	29.4%
		Vehicles, Cont/Frame	4,642	3,939	3,460	3,994	2,584	1,655	-9.8%	-10.3%	-8.8%	-19.8%	-20.0%
	EACH Sum		23,328	14,105	15,675	12,132	15,622	23,476	0.1%	6.6%	5.2%	17.9%	22.6%
	TON	Vehicles, Trucks, Trailers	30,650	51,732	72,430	30,886	37,165	51,942	5.4%	0.1%	-4.1%	13.9%	18.2%
HONOLULU	TON Sum		30,650	51,732	72,430	30,886	37,165	51,942	5.4%	0.1%	-4.1%	13.9%	18.2%
	EACH	Vehicles, Other	89,243	50,142	37,428	44,679	43,503	80,439	-1.0%	6.1%	10.0%	15.8%	36.0%
		Vehicles, Cont/Frame	105,054	119,199	142,883	146,083	149,037	166,956	4.7%	4.3%	2.0%	3.4%	5.8%
	EACH Sum		194,297	169,341	180,311	190,762	192,540	247,395	2.4%	4.9%	4.0%	6.7%	13.4%
KAHULUI	TON	Vehicles, Trucks, Trailers	304,767	252,613	268,879	285,645	278,818	335,532	1.0%	3.6%	2.8%	4.1%	9.7%
	TON Sum		304,767	252,613	268,879	285,645	278,818	335,532	1.0%	3.6%	2.8%	4.1%	9.7%
	EACH	Vehicles, Other	35,314	33,614	32,595	38,564	35,965	45,833	2.6%	4.0%	4.4%	4.4%	12.9%
		Vehicles, Cont/Frame	8,688	4,052	4,031	5,563	4,599	6,255	-3.2%	5.6%	5.6%	3.0%	16.6%
Kaunakakai	EACH Sum		44,002	37,666	36,626	44,127	40,564	52,088	1.7%	4.1%	4.5%	4.2%	13.3%
	TON	Vehicles, Trucks, Trailers	62,151	49,141	58,407	69,869	61,508	64,927	0.4%	3.5%	1.3%	-1.7%	2.7%
	TON Sum		62,151	49,141	58,407	69,869	61,508	64,927	0.4%	3.5%	1.3%	-1.7%	2.7%
	EACH	Vehicles, Other	1,965	1,646	1,638	1,952	1,491	1,782	-1.0%	1.0%	1.1%	-2.3%	9.3%
Kawaihae		Vehicles, Cont/Frame	94	58									
	EACH Sum		2,059	1,704	1,638	1,952	1,491	1,782	-1.4%	0.6%	1.1%	-2.3%	9.3%
	TON	Vehicles, Trucks, Trailers	16,271	15,334	19,669	19,955	11,851	15,370	-0.6%	0.0%	-3.0%	-6.3%	13.9%
	TON Sum		16,271	15,334	19,669	19,955	11,851	15,370	-0.6%	0.0%	-3.0%	-6.3%	13.9%
Nawiliwili	EACH	Vehicles, Other	7,248	8,770	12,362	18,877	10,526	18,913	10.1%	10.1%	5.5%	0.0%	34.0%
		Vehicles, Cont/Frame	1,741	3,487	2,344	1,083	2,467	2,697	4.5%	-3.2%	1.8%	25.6%	4.6%
	EACH Sum		8,989	12,257	14,706	19,960	12,993	21,610	9.2%	7.3%	4.9%	2.0%	29.0%
	TON	Vehicles, Trucks, Trailers	55,810	52,535	108,860	84,951	37,840	55,669	0.0%	0.7%	-8.0%	-10.0%	21.3%
Kalaehoa BP	TON Sum		55,810	52,535	108,860	84,951	37,840	55,669	0.0%	0.7%	-8.0%	-10.0%	21.3%
	EACH	Vehicles, Other	13,873	12,901	17,663	14,149	11,659	24,152	5.7%	8.2%	4.0%	14.3%	43.9%
		Vehicles, Cont/Frame	2,992	2,379	1,086	5,213	2,723	4,793	4.8%	9.2%	20.4%	-2.1%	32.7%
	EACH Sum		16,865	15,280	18,749	19,362	14,382	28,945	5.5%	8.3%	5.6%	10.6%	41.9%
Kalaehoa BP	TON	Vehicles, Trucks, Trailers	63,454	33,026	34,437	37,290	43,816	54,195	-1.6%	6.4%	5.8%	9.8%	11.2%
	TON Sum		63,454	33,026	34,437	37,290	43,816	54,195	-1.6%	6.4%	5.8%	9.8%	11.2%
	EACH	Vehicles, Other	144	4		835	63	49	-10.2%	36.8%		-50.8%	-11.8%
	EACH Sum		144	4		835	63	49	-10.2%	36.8%		-50.8%	-11.8%
Kalaehoa BP	TON	Vehicles, Trucks, Trailers	5,970	200	1,021	731	130						
	TON Sum		5,970	200	1,021	731	130						

Appendix 3 - Berth Window Diagram

Location	Berth	Week 1							Week 2							Occ Count		% Occup.		2wk Pt. Call Count			
		Monday		Tuesday		Wednesday		Thursday		Friday		Saturday		Sunday		Day	Night	Day	Night		Day	Night	Comb.
		Day	Night																				
Kahului	1A	NCL (arr)	NCL (dep)	12	6	86%	43%	64%	6														
	1B	YB	6	5	43%	36%	39%	7															
	2A	YB	12	3	86%	21%	64%	16															
2006	2B	HSF	14	14	100%	100%	100%	28															
	3	Fuel	10	0	71%	0%	36%	10															
																		54	28	77%	40%	59%	67
Hilo	1A	(arr)	8	0	57%	0%	29%	8															
	1B	YB	5	3	36%	21%	29%	7															
	2	YB	14	14	100%	100%	100%	4															
Kawiliwili	3	Fuel	8	0	57%	0%	29%	8															
																		35	17	63%	30%	46%	27
	1	HSF	4	12	29%	86%	57%	16															
2006	2E (Mat)	YB	6	2	43%	14%	29%	8															
	2W (YB)	YB	8	0	57%	0%	29%	8															
																		18	14	43%	33%	38%	32
Mawiliwili	1	HSF	14	5	100%	36%	68%	19															
	2	NCL (arr)	NCL (dep)	14	6	100%	43%	71%	8														
	3	YB(i)	7	0	50%	0%	25%	7															
Honolulu	51a	TP1	8	10	57%	71%	64%	13															
	51b	YB	9	10	64%	71%	68%	8															
	51c	YB	4	6	29%	43%	36%	3															
Misc	Pier 1A	NYK	2	2	14%	14%	14%	2															
	Pier 1B	ACT	4	6	29%	43%	36%	3															
	Pier 29	YB	8	9	57%	64%	61%	6															
NCL	Cruise	YB	21	25	50%	60%	55%	34															
	Cruise	YB	4	2	29%	14%	21%	4															
																		2	2	14%	14%	14%	2
Young Brothers Hono.	Pier 39ab	KAH	14	2	100%	14%	57%	12															
	Pier 39de	NAW(i)	10	2	71%	14%	43%	8															
	Pier 40ab	KAH	10	4	71%	29%	50%	10															
"Outer" Berths		KAU	34	8	81%	19%	50%	30															
		KAU	6	6	43%	43%	43%	6															
		KAU	6	6	43%	43%	43%	6															
																		54	32	64%	38%	51%	

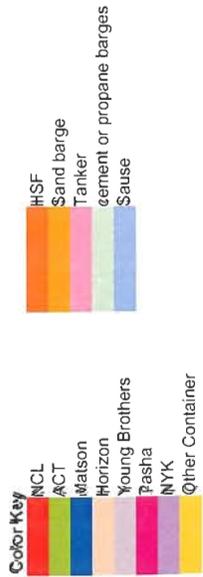
Other Services / Vessel Calls (not included above unless indicated)

HNL Matson Columbus Lines one shift every 3 weeks (included above as 1x per 2 weeks)
 HNL Matson MNC Marshall Islands Barge 13 calls per year, for 50-100 hrs per call; shares Berth 53 with a container vessel.
 HNL Horizon Fuel tanker 1 x per month, about - 30 hrs each call (included every other week)
 HNL Pier 1 PM&O once every 3 weeks (included above as 1x per 2 weeks)

Kahului Pier 1a Moku Pahu sugar barge 8 calls per year 32 hrs avg
 Nawiliwili Pier 2 Moku Pahu sugar barge 3 calls per year 31 hrs avg

KAH 2a Propane tank ship 2 Newmarket, Northern Snow avg 24 hrs port stay
 NAW 1 Propane tank ship 1 Newmarket avg 11 hrs port stay
 HILO 3 Propane tank ship 3 Newmarket, Northern Snow, Silver Lining avg 28 hrs port stay

KAH Non-NCL Cruise Vessels 5 per year (spread out across year)
 Hilo Non-NCL Cruise Vessels 62 per year 1-2 per week during Jan-May; 2-3 per week during Q4
 KAW Non-NCL Cruise Vessels 0 per year
 NAW Non-NCL Cruise Vessels 63 per year 1-2 per week during Jan-May; 2-3 per week during Q4
 HNL Non-NCL Cruise Vessels 61 per year 1-2 per week during Jan-May; 2-3 per week during Q4



Notes NCL's Norwegian Wind is on a 21d 2-loop schedule - makes 2 round-voyages every 3 weeks
 Day of the week alternates between voyages, except for Nawiliwili, which is always called on Wed.

Frequency of certain vessel calls is over-stated in the chart. Actual frequencies are compared to "nominal" frequency shown are as follows:

Barge Calls	Propane		Cement		Sand		Fuel		Misc / Other		Mat Ro-Ro		Mat LoLo		YB		Other		Total		
	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	Act.	Chart	
Hilo	24	26	20	26	4	0	166	182	0	0	45	52	58	52	105	104	2	0	424	442	18
KAW	0	0	39	52	0	0	18	26	0	0	63	78	100	104	107	208	0	0	327	468	141
NAW	12	26	15	26	0	0	26	26	10	0	60	78	53	52	160	104	12	0	348	312	-36
KAH	18	26	38	52	98	104	156	156	6	0	34	26	115	104	225	260	13	0	703	728	25
	54	78	112	156	102	104	366	390	16	0	202	234	326	312	597	676	27	0	1802	1950	148

YB's call schedule (and calculated occupancy and call frequencies) for KAH, and NAW includes 1 each additional call per week that is to be added as of 2006.

Check Port Calls Shown in Diagram Against HDOT Data

HDOT Data YE Mar 2005	As Shown on Diagram		Missing From Diagram		Explanation for variation...	
	Total	Net	Total	Net		
1087	139	373	575	11.1		
KAW	567	0	221	346	6.65	(fishing vessels not on diagram; - 72 per year / 1.5 per week - use Radio Bay moorage?)
NAW	774	142	280	352	6.77	(extra calls in diagram relate to expanded YB schedule - 4 per week)
KAH	1640	65	792	783	15.1	(impact of tandem low barges - HDOT shows both units of tandem, diagram shows just once...) OK

Appendix 4
Harbors Division Payments - 2004

Port User	Payment Type	HNL	KBHP	KAH	NAW	Hilo	KAW	Other UKN	Total
Matson	Rent	3,394,746		2,305	8,389	40,415	1,544		3,447,399
	Wharfage	15,420,645		1,477,960	906,677	535,949	736,355		19,077,585
	Dockage & Dues	1,311,663		113,417	19,375	40,897	36,850		1,522,201
	Other	1,074,868		214,306	327,960	591,589	107,323		2,316,046
	Subtotal	21,201,922	-	1,807,987	1,262,401	1,208,850	882,071	-	26,363,231
Horizon	Rent							635,000	635,000
	Wharfage*	7,908,000							7,908,000
	Port Entry								-
	Other**	501,000						1,059,000	1,560,000
	Subtotal	8,409,000	-	-	-	-	-	1,694,000	10,103,000
* Plus \$1.4 mil NI wharfage paid through YB									
** \$501k is HNL dockage; Plus \$60k NI dockage paid through YB; 1059k is storage, ag/cust fees									
YB / HTB	Rent								-
	Wharfage	2,990,852		1,867,584	931,365	2,041,867			7,831,668
	Port Entry								-
	Other	166,038						1,554,768	1,554,768
	Subtotal	3,156,890	-	1,867,584	931,365	2,041,867	-	1,554,768	9,386,436
Sause	Rent							13,677	13,677
	Wharfage							490,966	490,966
	Port Entry							137,458	137,458
	Other							176,501	176,501
	Subtotal	-	-	-	-	-	-	818,602	818,602
HI Stev.	Rent							795,595	795,595
	Wharfage								-
	Port Entry								-
	Other								-
	Subtotal	-	-	-	-	-	-	795,595	795,595
McCabe	Rent								-
	Wharfage								-
	Port Entry								-
	Other								-
	Subtotal	-	-	-	-	-	-	-	-
Tesoro	Rent								-
	Wharfage								-
	Port Entry								-
	Other								-
	Subtotal	-	-	-	-	-	-	-	-
The. Gas Co	Rent								-
	Pipeline Toll	656	15,732	11,480	7,433	18,260			53,562
	Port Entry	5,563	4,813	1,100	731	1,581			13,788
	Other (Dockage)	29,181	3,436	1,020	859	1,922			36,419
	Subtotal	35,400	23,981	13,600	9,024	21,764	-	-	103,768
Northland (ACT)	Rent	20,478							20,478
	Wharfage	488,381							488,381
	Port Entry	53,168							53,168
	Other	167,606							167,606
	Subtotal	729,633	-	-	-	-	-	-	729,633
NCL	Rent								-
	"Wharfage"/Pass Fees								-
	Port Entry								-
	Other							2,207,694	2,207,694
	Subtotal	-	-	-	-	-	-	2,207,694	2,207,694

**NCL's payments with a full schedule (including 3x US Flag vessels) are expected to grow to \$8.9 million per year.

**Appendix 4
Harbors Division Payments - 2004**

Port User	Payment Type	HNL	KBHP	KAH	NAW	Hilo	KAW	Other UKN	Total
AES	Rent								-
	Wharfage		525,000						525,000 est
	Port Entry								-
	Other								-
	Subtotal	-	525,000	-	-	-	-	-	525,000

Combined

Rent	3,415,224	-	2,305	8,389	40,415	1,544	1,444,272	4,912,149
"Wharfage"	26,808,534	540,732	3,357,023	1,845,475	2,596,076	736,355	490,966	36,375,162
Port Entry	1,211,196	4,813	85,292	10,706	27,041	20,639	137,458	1,497,144
Other	1,023,023	3,436	30,245	10,259	17,359	16,211	4,997,963	6,098,496
Subtotal	32,457,977	548,981	3,474,865	1,874,829	2,680,892	774,748	7,070,659	48,882,951

Revenues As Reported By Harbors Division

	year ending in June; \$000s						
	1998	1999	2000	2001	2002	2003*	2004
Services	39,169	37,299	39,871	42,132	43,049	47,576	48,658
Rentals	21,258	22,001	21,659	20,070	21,995	25,123	25,125
Other	1,128	1,680	1,075	1,326	1,122	905	985
Subtotal	-	61,555	60,980	62,605	63,528	66,166	74,768

Other Harbor Facility Users For Which Data Is Not Available:

Pasha	Foreign Cruise Ships
Columbus Lines	Foreign RoRo/Car Carrier Operators
PM&O	Cement Operators
NYK	Tanker Operators