United States Port Development Expenditure Report

March 2003

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INTRODUCTION

This report is the twelfth in a series that continues the capital expenditure survey of U.S. public ports first begun by the Port Authority of New York and New Jersey in 1956. Subsequent reports were published by the American Association of Port Authorities (AAPA) and currently by the U.S. Maritime Administration (MARAD).

In 1991, MARAD published the United States Port Development Expenditure Report, which summarized the findings of the earlier expenditure efforts as well as several AAPA capital expenditure surveys. That report provided a 44-year history of the expenditure pattern of the U.S. public port industry from 1946 through 1989. Since that report, MARAD has produced annual reports covering the industry's current expenditures and proposed 5-year capital expenditures.

This report analyzes the results of the AAPA capital expenditure survey for 2001. The survey included the capital expenditures for 2001 and proposed expenditures for the period 2002 through 2006 along with the funding sources used to finance these expenditures.

The survey data were obtained by AAPA from its U.S. corporate membership. Their U.S. members, public port agencies, represent virtually all the major deep-draft coastal and Great Lakes ports. This year's survey included responses from 54 (62%) of the 87 U.S. members. Those port agencies responding to the 2001 survey included 22 out of the top 25 2001 U.S. container ports. The respondents also included 18 out of the top 25 ports handling U.S. foreign and domestic waterborne cargo for 2001. Public port agencies own approximately one-third of the U. S deep-draft marine terminal facilities.

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CAPITAL EXPENDITURES FOR U.S. PUBLIC PORT DEVELOPMENT

From 1946 through 2001, the U.S. public port industry invested $23.6 billion in capital improvements to its port facilities and related infrastructure. The investments made over the past five years account for 29 percent of the historical expenditures. These investments cover expenditures for the construction of new facilities and the modernization and rehabilitation of existing ones. Table 1 summarizes the historical expenditures by coastal region. During this 56-year period, the South Pacific region accounted for approximately one-third (32.2%) of these expenditures. Other regions with substantial investments include the Gulf (17.6%), the North Atlantic (17.1%), the South Atlantic (14.6%) and the North Pacific (11.5%).

Table 1
U.S. Public Port Capital Expenditures for 1946 - 2001
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	$4,050,710	17.1%
South Atlantic	$3,460,132	14.6%
Gulf	$4,174,545	17.6%
South Pacific	$7,637,037	32.2%
North Pacific	$2,711,889	11.5%
Great Lakes	$567,225	2.4%
Non-contiguous*	$894,043	3.8%
Guam, Saipan	$193,242	0.8%
Total	$23,688,823	100.0%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

CAPITAL EXPENDITURES - 2001[1]

This section analyzes the U.S. public port capital expenditures for 2001. The public port industry's annual capital expenditures exceeded the one billion-dollar mark for the seventh consecutive year. The 2001 expenditures totaled $1.7 billion--up 64.5 percent over last year, which was the lowest investment level since 1994. The previous record was $1.5 billion set in 1997. Over the last five years, the public port industry averaged nearly $1.4 billion in capital improvements. This level of investment reflects the public port industry's efforts to address the increasing demands being placed on waterborne transportation through improvements to their marine terminal facilities and related land and waterside connections, as well as meeting today's need for enhanced port security. Appendix A contains a list of the 54 ports that responded to the 2001 expenditure survey. Of those responding, 49 ports provided expenditure data.

[1] In comparing annual data, it should be noted that there was some variation in the survey respondents from year to year.

Table 2 shows the annual expenditures from 1997 to 2001 broken down by region. For 2001, the South Pacific continued as the leading region with $981.5 million (56.4%). Compared to 2000, the region's relative share and the dollar value rose dramatically. The South Atlantic region was second with $220 million (12.6%) showing an increase in dollar volume and a decrease in relative share. It was followed by the North Atlantic region with $176.3 million (10.1%). Other regions with significant levels of expenditures include the Gulf with $169.8 (9.8%) and the North Pacific with $117.9 million (6.8%). The total investments by the Pacific Coast regions exceeded one billion dollars and accounted for 63.2 percent of the public port industry's 2001 expenditures.

Table 2
U.S. Public Port Capital Expenditures for 1997 - 2001
(Thousands of Dollars)

Region	1997		1998		1999		2000		2001	
	Expenditure	Pct.	Expenditure	Pct.	Expenditure	Pct.	Expenditure	Pct.	Expenditure	Pct.
North Atlantic	$95,151	6.2%	$126,486	8.9%	$50,893	4.6%	$233,186	22.0%	$176,315	10.1%
South Atlantic	212,721	13.8%	306,620	21.7%	245,634	22.0%	192,567	18.2%	220,027	12.6%
Gulf	233,462	15.1%	193,101	13.7%	265,054	23.8%	233,160	22.0%	169,823	9.8%
South Pacific	683,749	44.3%	457,309	32.3%	454,614	40.7%	263,030	24.9%	981,534	56.4%
North Pacific	231,937	15.0%	244,612	17.3%	95,160	8.5%	130,461	12.3%	117,967	6.8%
Great Lakes	10,792	0.7%	28,871	2.0%	4,325	0.4%	5,046	0.6%	1,000	0.1%
Non-contiguous*	25,529	1.7%	50,306	3.6%	-	-	-	-	73,468	4.2%
Guam, Saipan	49,113	3.2%	7,092	0.5%	-	-	203	-	-	-
Total	$1,542,454	100.0%	$1,414,397	100.0%	$1,115,680	100.0%	$1,057,653	100.0%	$1,740,134	100.0%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Capital Expenditures - by Facility Type

Table 3 provides a break down of capital expenditures by type of facility. Each of the five cargo type categories includes expenditures for pier or wharf structures, storage facilities, and handling equipment. Infrastructure expenditures cover improvements, such as roadways, rail, and utilities that are located on or off-terminal property. Dredging consists of local port expenditures associated with the dredging--deepening and/or maintenance--of Federal and non-Federal channels, connecting channels, and berths as well as the local costs for land, easements, rights-of-way, and disposal areas. The "other" category includes those structures and fixtures not directly related to the movement of cargo, such as maintenance and administrative facilities.

As shown in Table 3, specialized general cargo facilities remained as the leading expenditure category. This category accounted for $1 billion (59.5%) of 2001 investments. This represents a sharp increase in the relative share--up 28.3 percent--and a tripling in dollar value compared to the 2000 figures. The South Pacific region accounted for $814.9 million (78.7%) of these expenditures followed by the South Atlantic region with $119.5 million (11.5%).

General cargo investment was the second leading cargo category with $179.6 million (10.3%) of the total expenditures. This represents over a 50 percent decline in relative share and a 25 percent drop in dollar value over 2000. The Gulf region remained as the leading region accounting for 35.5 percent of general cargo expenditures followed by the North Atlantic region with 27.4 percent and the non-contiguous region with 21.1 percent.

The passenger segment fell from 5.7 percent to 2.9 percent with the Gulf region totaling 50.4 percent of these expenditures followed by the South Atlantic with 32.3 percent. Bulk facilities, dry and liquid, represented 1.9 percent and 0.7 percent of the 2001 expenditures. The South Pacific and North Pacific regions accounted for 33.7 and 31.6 percent of the dry bulk expenditures. The South Pacific and Gulf regions accounted for two-thirds--35.9 and 30.7 percent--of the liquid bulk expenditures. "Other" expenditures declined by over 50 percent from 8.2 percent to 4.0 percent. Nearly, three quarters of these expenditures were located on the West Coast--South Pacific (43.8%) and North Pacific (29.8%).

Table 3
U.S. Public Port Capital Expenditures by Type of Facility for 2001
(Thousands of Dollars)

Region	Type of Facility									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	$49,270	$38,418	$279	$2,375	-	$351	$49,757	$140	$35,725	$176,315
South Atlantic	8,841	119,526	2,910	1,371	16,134	3,449	47,491	2,006	18,299	220,027
Gulf	63,791	19,916	8,099	3,451	25,156	12,462	15,671	1,096	20,181	169,823
South Pacific	12,666	814,937	11,329	4,031	276	30,299	43,083	10,762	54,151	981,534
North Pacific	7,043	19,054	10,631	-	2,788	20,520	5,597	45,561	6,773	117,967
Great Lakes	-	-	-	-	-	-	-	-	1,000	1,000
Non-contiguous*	37,989	23,774	350	-	5,510	1,893	1,064	461	2,427	73,468
Total	$179,600	$1,035,625	$33,598	$11,228	$49,864	$68,974	$162,663	$60,026	$138,556	$1,740,134
Percent by Facility Type	10.3%	59.5%	1.9%	0.7%	2.9%	4.0%	9.3%	3.4%	8.0%	100.0%

- Alaska, Hawaii, Puerto Rico, & Virgin Islands

Port infrastructure improvements were the second largest category overall with 12.7 percent of the 2001 expenditures--down from 16.7 percent in 2000. On-terminal expenditures accounted for 73 percent of the infrastructure investments. On-terminal investments were centered among three regions--North Atlantic with 30.6 percent, South Atlantic with 29.2 percent, and South Pacific with 26.4 percent. For off-terminal improvements, the North Pacific region expenditures accounted for 75.8 percent of the total. Dredging expenditures accounted for 8.0 percent of the total with the South Pacific (39.1%) and North Atlantic (25.8%) regions capturing two-thirds of the expenditures.

Table 4 provides a more detailed examination of the public port industry's infrastructure investments. The table breaks down the on and off-terminal infrastructure investments into four sub-categories--roadways, rail, utilities, and other. Rail expenditures accounted for 45 percent of the On-terminal infrastructure expenditures, while "Other" accounted for 82.9 percent of the Off-terminal investments.

Table 4
U.S. Public Port Capital Infrastructure Expenditures for 2001
(Thousands of Dollars)

Region	On-Terminal				Off-Terminal				Total
	Road	Rail	Utilities	Other	Road	Rail	Utilities	Other	
North Atlantic	$5,846	$27,016	$10,328	$6,567	$63	$77	-	-	$49,897
South Atlantic	306	5,233	4,080	37,872	1,768	89	-	149	49,497
Gulf	4,037	8,669	2,308	657	666	424	-	6	16,767
South Pacific	11,991	30,443	38	611	7,022	-	-	3,740	53,845
North Pacific	203	1,703	778	2,913	-	176	-	45,385	51,158
Non-contiguous*	388	-	-	676	-	-	-	461	1,525
Total	$22,771	$73,064	$17,532	$49,296	$9,519	$766	-	$49,741	$222,689
	13.9%	45.0%	10.8%	30.3%	15.8%	1.3%	-	82.9%	

- Alaska, Hawaii, Puerto Rico, & Virgin Islands

Capital Expenditures - New Construction vs. Modernization\Rehabilitation

Table 5 summarizes public port expenditures by type of expenditure--new construction and capitalized modernization/rehabilitation (M&R) and by type of facility. For 2001, expenditures for new construction accounted for two-thirds of the reported expenditures--same as past two years. Among the five cargo type categories, specialized general cargo facilities represented 70.2 percent of the new construction expenditures--up from 43.7 percent in 2000. The balance of the new construction expenditures was distributed primarily among the following categories--general cargo (9.4%), dredging (9.4%), and infrastructure (6.3%). The South Pacific region continued as the leader in new construction expenditures with $586.8 million (59.9%) followed by the South Atlantic region at $134.4 million (13.7%) and the Gulf region at $114.7 million (11.7%).

Within the specialized general cargo category, the South Pacific region accounted for $541.9 million (78.8%) followed by the South Atlantic region with $91.6 million (13.3%). The Gulf region remained as the focus of general cargo investments with $54.4 million (59.1%) followed by the North Atlantic and non-contiguous region with $16.3 million (17.7%) and $16 million (17.4%). The South Pacific region captured 45.1 percent of the dredging activity with the South Atlantic at 17.3 percent, the Gulf at 15.6 percent, and the North Atlantic at 13.1 percent. The South Atlantic and North Atlantic regions accounted for the majority of the total infrastructure expenditures with $21 million (33.9%) and $20.8 million (33.6%). For bulk investments, the Gulf region captured 78.6 percent of the dry bulk with North Atlantic accounting for 94.2 percent of the liquid bulk expenditures. The Gulf region was the focus of the passenger facility investments with $24.4 million (85.9%).

Table 5
U.S. Public Port Capital Expenditures by Type of Expenditure and Facility for 2001
(Thousands of Dollars)[2]

Region	New Construction									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	$16,383	$16,645	-	$2,070	-	-	$20,758	$64	$12,040	$67,960
South Atlantic	3,056	91,604	1,021	-	510	1,215	19,564	1,521	15,925	134,416
Gulf	54,444	11,876	3,754	128	24,421	442	4,455	824	14,399	114,743
South Pacific	-	541,997	-	-	14	81	1,160	2,143	41,405	586,800
North Pacific	2,088	12,349	-	-	2,037	7,229	4,476	6,428	5,570	40,177
Non-contiguous*	16,084	13,354	-	-	1,474	1,586	506	-	2,427	35,431
Total	$92,055	$687,825	$4,775	$2,198	$28,456	$10,553	$50,919	$10,980	$91,766	$979,527
Percent by Facility Type	9.4%	70.2%	0.5%	0.2%	2.9%	1.1%	5.2%	1.1%	9.4%	

Region	Modernization/Rehabilitation									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	$32,887	$21,773	$279	$305	-	$351	$28,999	$76	$23,685	$108,355
South Atlantic	5,785	27,922	1,889	1,371	15,624	2,234	27,927	485	2,374	85,611
Gulf	9,347	8,040	4,345	3,323	735	11,006	4,192	272	5,782	47,042
South Pacific	12,666	125,053	11,329	4,031	262	29,840	11,436	8,619	120	203,356
North Pacific	4,955	6,705	883	-	751	13,291	1,121	46	1,203	28,955
Great Lakes	-	-	-	-	-	-	-	-	1,000	1,000
Non-contiguous*	21,905	10,420	350	-	4,036	307	558	461	-	38,037
Total	$87,545	$199,913	$19,075	$9,030	$21,408	$57,029	$74,233	$9,959	$34,164	$512,356
Percent by Facility Type	17.1%	39.0%	3.7%	1.8%	4.2%	11.1%	14.5%	1.9%	6.7%	

- Alaska, Hawaii, Puerto Rico, & Virgin Islands

For M&R expenditures, specialized general cargo expenditures replaced general cargo expenditures as the leading category with $199.9 million (39%) of the $512.3 million invested in M&R. General cargo expenditures M&R was the second leading category with $87.5 million (17.1%) followed by infrastructure with $84.1 million (16.4%) and "Other" at $57 million (11.1%). The South Pacific region led total M&R expenditures with $203.3 million (39.7%) followed by the North Atlantic region at $108.3 million (21.1%) and the South Atlantic region at $85.6 million (16.7%).

2 Excludes $248,251,000 in expenditures that were not broken down by type of construction.

Within the specialized general cargo segment, the South Pacific region accounted for 62.5 percent of these expenditures followed by the South Atlantic with 14 percent and North Atlantic with 10.8 percent. The North Atlantic led the general cargo improvements with $32.8 million (37.5%) with the non-contiguous region second with 21.9 million (25%). Infrastructure investments were concentrated on the East Coast with the North Atlantic region at $29 million (34.5%) and the South Atlantic at $28.4 million (33.8%). The South Pacific captured just over half of the "Other" expenditures. The North Atlantic captured 69.2 percent of the dredging activity. The South Atlantic accounted for 72.9 percent of the passenger facility M&R. The South Pacific region accounted for 59.5 percent of the dry bulk improvements and 44.4 percent of the liquid bulk expenditures.

Capital Expenditures - Comparison of Annual Expenditures 1988 - 2001

Table 6 provides a comparative summary of the relative expenditures by category type for the period 1988 through 2001. In comparing the 2001 expenditures against the 10-year average, we can see a number of changes in the overall expenditure pattern[3]. The 2001 relative share for specialized general cargo expenditures accounted for 59.5 percent of the total industry expenditures--23 percent above the 10-year average for this category. This sharp increase resulted in all other categories falling below their 10-year average share. For 2001, total bulk and "Other" expenditure levels were more than 50 percent under their 10-year average share. Similarly, general cargo expenditures were 42 percent below the average, with passenger expenditures 37 percent below, infrastructure 28 percent below, and dredging 13 percent below. The investment pattern is consistent with the public port industry’s focus on specialized general cargo and general cargo business.

3 As noted in previous reports, the additional detail contained in the surveys beginning in 1992 makes it difficult to determine the significance of the relative shift in general cargo and specialized general cargo expenditures that occurred in 1992 without knowing how the infrastructure, dredging, and "other" expenditures were allocated in prior surveys.

Table 6
Comparison of Public Port Annual Expenditures by Type of Facility for 1988 - 2001

Year	Type of Expenditure												
	General Cargo			Bulk			Passenger	Other	Infrastructure			Dredging	Total Expenditures[4] (000)
	General Cargo	Specialized	Total	Dry	Liquid	Total			On-Term.	Off-Term.	Total		
2001	10.3%	**59.5%**	69.8%	1.9%	0.7%	2.6%	2.9%	4.0%	9.3%	3.4%	12.7%	8.0%	$1,740,134
2000	**22.8%**	31.2%	54.0%	3.5%	**0.8%**	4.3%	**5.7%**	8.2%	8.0%	**8.7%**	16.7%	**11.1%**	$1,057,653
1999	11.5%	**39.2%**	50.7%	**5.2%**	**1.4%**	6.6%	**6.4%**	**9.0%**	8.8%	**8.6%**	17.4%	**9.9%**	$1,115,680
1998	10.9%	35.8%	46.7%	**6.4%**	0.2%	6.6%	1.9%	**15.7%**	7.1%	**11.2%**	**18.3%**	**10.8%**	$1,414,397
1997	14.8%	35.5%	50.3%	**8.3%**	0.1%	8.4%	3.8%	8.5%	**14.0%**	**6.7%**	**20.7%**	8.3%	$1,542,454
1996	14.7%	**41.0%**	55.7%	**5.9%**	0.5%	6.4%	2.7%	4.8%	10.7%	**8.8%**	**19.5%**	**10.9%**	$1,301,152
1995	**22.2%**	28.8%	51.0%	3.0%	**0.9%**	3.9%	**4.7%**	8.2%	**18.0%**	3.1%	**21.1%**	**11.1%**	$1,203,455
1994	**22.8%**	34.8%	57.6%	**5.6%**	0.3%	5.9%	**4.7%**	7.3%	**15.1%**	6.0%	**21.1%**	3.4%	$686,620
1993	**24.5%**	27.6%	52.1%	4.5%	**1.7%**	6.2%	**5.6%**	**11.9%**	**11.6%**	3.6%	15.2%	9.0%	$653,663
1992	**23.9%**	31.8%	55.7%	4.8%	0.2%	5.0%	**7.5%**	**9.5%**	9.0%	3.8%	12.8%	**9.5%**	$671,768
1991	12.1%	48.3%	60.4%	N.A.	N.A.	7.6%	N.A.	31.9%	N.A.	N.A.	N.A.	N.A.	$679,744
1990	13.6%	51.4%	65.0%	N.A.	N.A.	7.4%	N.A.	27.6%	N.A.	N.A.	N.A.	N.A.	$653,174
1989	20.4%	53.2%	73.6%	N.A.	N.A.	6.2%	N.A.	20.2%	N.A.	N.A.	N.A.	N.A.	$606,234
1988	18.8%	54.0%	72.8%	N.A.	N.A.	5.6%	N.A.	21.7%	N.A.	N.A.	N.A.	N.A.	$499,963
10-year Ave. 1992-2001	17.8%	36.5%	54.3%	4.9%	0.7%	5.6%	4.6%	8.7%	11.2%	6.4%	17.6%	9.2%	

Note: Bolded numbers indicate that the figure exceeds the 10-year average for the period from 2001 to 1992.

4 Excludes expenditures that were not broken down by type of facility:
1995 - $200,900,000 1994 - $243,000,000 1991 - $2,295,000
1990 - $14,919,000 1989 - $82,984,000 1988 - $184,800,000

Capital Expenditures - Leading Port Authorities

Table 7 shows the leading U.S. public port authorities based on total 2001 capital expenditures. These ten organizations accounted for over seventy-five percent of all capital expenditures by the public ports surveyed. The Port of Los Angeles was the leading port with annual investments of $550.6 million. Of the top 10 port authorities listed, five were located on the East Coast, one on the Gulf Coast and four on the West Coast.

Table 7
Leading Port Authorities for 2001
By Total Capital Expenditures
(Thousands of Dollars)

Rank	Port Authority	Expenditures
1	Port of Los Angeles	$550,680
2	Port of Long Beach	219,926
3	Port of Oakland	191,378
4	Port Authority of New York/New Jersey	99,300
5	South Carolina State Port Authority	69,029
6	Maryland Port Administration	57,283
7	Port of Tacoma	48,835
8	Jacksonville Port Authority	45,285
9	Port of Houston Authority	45,219
10	Georgia Ports Authority	39,229
	Total Top Ten Ports	$1,366,164
	Total Expenditures	$1,740,134
	Percent of Total	78.5%

Capital Expenditures - Distribution Pattern

The distribution of the 2001 capital expenditures is shown in Table 8. The table includes the 49 ports that submitted expenditure data. The data continue to reveal the high degree of concentration in terms of how the expenditures are distributed among the ports responding to the AAPA survey. As shown, the top three ports (6.1%) accounted for 55.3 percent of the public port industry's 2001 expenditures--up from 38.6 percent last year. The top six ports (12.2%) represented 68.3 percent of the expenditures while the top 15 ports (30.6%) accounted for 87.9 percent. Compared to 2000, the overall distribution pattern showed an increase in the concentration of expenditures among the top ports. These ports were involved in developing major new terminal facilities, improving related infrastructure, or dredging projects or combinations of these activities.

Table 8
Distribution of 2001 Public Port Capital Expenditures

Annual Investment (Millions of Dollars)			Public Ports		Percent of 2001 Expenditures
			No.	Pct.	
=/ >$100			3	6.1%	55.3%
$75	To	<$100	1	2.0%	5.7%
$50	To	<$75	2	4.1%	7.3%
$25	To	<$50	9	18.4%	19.6%
$10	To	<$25	6	12.2%	5.0%
$5	To	<$10	11	22.5%	4.6%
$1	To	<$5	13	26.5%	2.4%
$0	To	<$1	4	8.2%	0.1%
Total			49	100.0%	100.0%

PROPOSED CAPITAL EXPENDITURES - 2002 TO 2006

The 2001 AAPA capital expenditure survey included proposed expenditures for 2002 through 2006. Table 9 summarizes these expenditures by coastal region. During this five-year period, public port expenditures are projected to reach a record level of $10.6 billion--an increase of 12.8 percent compared to last year's projections. Appendix A contains a list of the 54 survey respondents of which 49 provided information on proposed expenditures.

The South Pacific region remains as the focus of future investment activity with proposed expenditures of $3.0 billion (28.6%). Four other regions are projecting investment levels in excess of $1 billion--the North Atlantic at $2.1 billion (20.3%), the Gulf at $1.9 billion (18.1%), the South Atlantic at $1.8 billion (17.3%), and the North Pacific at $1.1 billion (10.9%). From a coastwise perspective, the West Coast is projecting to invest over $4.2 billion (39.5%) with East Coast expenditures at $4.0 billion (37.6%) and the Gulf at $1.9 billion (18.1%).

Table 9
U.S. Public Port Capital Expenditures for 2002 - 2006
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	$2,173,227	20.3%
South Atlantic	1,848,828	17.3%
Gulf	1,929,661	18.1%
South Pacific	3,054,361	28.6%
North Pacific	1,160,971	10.9%
Non-contiguous *	468,119	4.4%
Guam, Saipan	50,000	0.4%
Total	$10,685,167	100.00%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Comparison of Historical Projected Expenditures Versus Actual Expenditures

Table 10 provides information comparing the public port industry's projected 5-year expenditures against what they actually spent for those periods. The available data permit an analysis of the projections contained in the 1992 through 1996 AAPA surveys. The 1996 survey contained projections of $6.5 billion for the period 1997 to 2001. The actual expenditures amounted to $6.8 billion, which exceeded projections by 4.3 percent. The results of the 1992 through 1995 surveys produced similar results with actual expenditures exceeding the projected expenditures.

Table 10
Comparison of Projected Public Port Capital Expenditures
(Thousands of Dollars)

Survey Year	5-Year Projections	Projected Expenditures	Actual Expenditures	Percent Change
1996	1997 - 2001	$6,584,238	$6,870,318	(+) 4.3%
1995	1996 - 2000	$6,036,051	$6,431,336	(+) 6.5%
1994	1995 - 1999	$4,691,257	$6,778,038	(+)44.4%
1993	1994 - 1998	$5,871,408	$6,591,978	(+)12.3%
1992	1993 - 1997	$5,525,360	$5,831,244	(+) 5.5%

Capital Expenditures - by Facility Type

Table 11 shows the proposed expenditures by type of facility. Specialized general cargo is the leading category with proposed expenditures of $4.9 billion. Compared to last year's projections, the dollar volume increased by 19.2 percent and the relative share increased from 44.4 percent to 46.8 percent. The South Pacific region is expected to account for 39.2 percent of the proposed expenditures in this category with $1.9 billion. Other regions with significant expenditures include

Table 11
U.S. Public Port Capital Expenditures by Type of Facility for 2002 - 2006
(Thousands of Dollars)

Region	Type of Facility									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure On-Terminal	Infrastructure Off-Terminal	Dredging	Total
North Atlantic	$157,342	$817,719	$2,000	-	$22,031	$60,821	$304,912	$33,514	$774,888	$2,173,227
South Atlantic	127,629	815,481	7,341	43,191	325,075	44,841	205,356	41,716	238,198	1,848,828
Gulf	373,402	769,777	84,922	21,948	184,728	103,161	108,103	84,073	199,547	1,929,661
South Pacific	302,677	1,956,687	32,578	5,133	4,959	22,809	150,867	412,591	166,060	3,054,361
North Pacific	187,435	550,869	2,628	-	-	202,884	14,600	87,650	114,905	1,160,971
Non-contiguous*	178,026	84,061	13,871	7,871	114,353	48,281	9,781	5,742	6,133	468,119
Guam, Saipan	12,500	2,500	4,500	7,500	1,000	5,000	10,000	-	7,000	50,000
Total	$1,339,011	$4,997,094	$147,840	$85,643	$652,146	$487,797	$803,619	$665,286	$1,506,731	$10,685,167
Percent by Facility Type	12.5%	46.8%	1.4%	0.8%	6.1%	4.6%	7.5%	6.2%	14.1%	

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

the North Atlantic with $817.7 million (16.4%), the South Atlantic with $815.4 million (16.3%), the Gulf with $769.7 million (15.4%), and the North Pacific with $550.8 million (11%).

General cargo expenditures will account for $1.3 billion (12.5%) of the proposed investments with the dollar volume up significantly from last year's projections of $929 million. General cargo development is centered in the Gulf region with $373.4 million (27.9%) and the South Pacific with $302.6 million (22.6%). Dry and liquid bulk facility expenditures represent 2.2 percent of future investments with dollar value up by approximately $40 million over last year's figures. The Gulf region is projected to capture the majority of dry bulk expenditures (57.4%) with the South Pacific at 21.9 percent. Liquid bulk expenditures are focused in the South Atlantic (50.4%) and Gulf (25.6%) regions. The investment in passenger facilities is expected to account for 6.1 percent of the total with the South Atlantic (49.8%) and Gulf (28.3%) regions continuing to be the center of development.

Projected infrastructure investments are the third largest category of expenditures and are expected to total over $1.4 billion (13.7%) with on-terminal expenditures accounting for 54.7 percent. The South Pacific and North Atlantic regions are projected to capture 38.4 percent and 23 percent of these investments with the South Atlantic region at 16.8 percent. Table 12 provides a detailed break down of the proposed infrastructure expenditures by region.

Dredging expenditures, second largest category, will account for 14.1 percent of the projected total with the North Atlantic accounting for 51.4 percent of the $1.5 billion followed by the South Atlantic (15.8%), and Gulf (13.2%) regions.

Table 12
U.S. Public Port Capital Infrastructure Expenditures for 2002-2006
(Thousands of Dollars)

Region	On-Terminal				Off-Terminal				Total
	Road	Rail	Utilities	Other	Road	Rail	Utilities	Other	
North Atlantic	$27,100	$204,255	$20,000	$53,557	-	$33,514	-	-	$338,426
South Atlantic	36,433	36,893	11,974	120,056	6,176	1,850	10,000	23,690	247,072
Gulf	36,216	15,549	14,190	42,148	43,099	2,800	4,020	34,154	192,176
South Pacific	67,096	73,194	2,070	8,507	351,442	1,000	-	60,149	563,458
North Pacific	3,385	2,635	6,580	2,000	922	85,728	1,000	-	102,250
Guam, Saipan	6,500	2,000	1,500	-					10,000
Total	$176,730	$334,526	$56,314	$226,268	$401,639	$124,892	$15,020	$117,993	$1,453,382
	22.3%	42.1%	7.1%	28.5%	60.9%	18.9%	2.3%	17.9%	

Capital Expenditures - Comparison of 2001 and 2002 - 2006

Table 13 provides a comparison of the relative investment levels by facility type between the actual 2001 expenditures and those proposed for 2002-2006. General cargo expenditures show a modest increase (2.2%) from actual to projected expenditures. For specialized general cargo expenditures, the projected figures declined by 12.7 percent over the actual 2001 expenditures. However, the projected level is still 10 percent above the 10-year average show in Table 6. Projected dredging expenditures showed the largest gain--6.1 percent--reflecting the continued need for improved channels. With the exception of passenger expenditures, which posted a 3.2 percent gain over actual, the remaining categories all showed modest changes ranging from -0.5 percent for dry bulk to a 1.0 percent gain for infrastructure expenditures.

Table 13
Comparison of Current and Projected Public Port Expenditures

Expenditure Type	2001 Expenditures	2002 – 2006 Expenditures	Relative Change 2001 vs. 2002-2006
General Cargo	10.3%	12.5%	+2.2%
Specialized General Cargo	59.5%	46.8%	-12.7%
Dry Bulk	1.9%	1.4%	-0.5%
Liquid Bulk	0.7%	0.8%	+0.1%
Passenger	2.9%	6.1%	+3.2%
Other	4.0%	4.6%	+0.6%
Infrastructure	12.7%	13.7%	+1.0%
Dredging	8.0%	14.1%	+6.1%
Total	100.0%	100.0%	

Capital Expenditures - Leading Port Authorities

Table 14 lists the leading U.S. port authorities based on the projected capital expenditures for the 2002-2006 period. These ten ports account for $7.4 billion (69.4%) of the proposed $10.6 billion in capital expenditures. The ports of New York/New Jersey, Long Beach, and Los Angeles are showing expenditure programs in excess on $1 billion. Of the top 10 port authorities listed, four were located on the East Coast, five on the West Coast, and one on the Gulf Coast.

Table 14
Leading Port Authorities for 2002 - 2006
By Total Capital Expenditures
(Thousands of Dollars)

Rank	Port Authority	Expenditures
1	Port Authority of New York/New Jersey	$1,694,547
2	Port of Long Beach	1,512,817
3	Port of Los Angeles	1,005,487
4	Port of Houston Authority	722,077
5	Port of Seattle	496,406
6	Port of Oakland	435,275
7	Port Everglades	427,245
8	Port of Tacoma	403,373
9	Maryland Port Administration	361,000
10	Port of Miami	356,418
	Total Top Ten Ports	$7,414,645
	Total Expenditures	$10,685,167
	Percent of Total	69.4%

Capital Expenditures - Distribution Pattern

Table 15 shows the distribution of the proposed 2002-2006 capital expenditures. Overall, the degree of concentration for the projected expenditures is similar to that exhibited for the actual 2001 expenditures (see Table 8). Although, the actual is somewhat more concentrated among the top three ports, it averages out by the time you reach the top 14 to 15 ports. As shown, the top three ports (6.1%) accounted for 39.4 percent of the public port industry's proposed expenditures. The top 14 ports (28.5%) represented 80.5 percent and the top 22 ports (44.9%) total 92.8 percent of these expenditures. The proposed investments by these ports continues to focus on developing major new marine facilities, improving infrastructure, or dredging projects or combinations of these activities.

Table 15
Distribution of 2002 - 2006 Public Port Capital Expenditures

Annual Investment (Millions of Dollars)			Public Ports		Percent of 2002-2006 Expenditures
			No.	Pct.	
=/>$1000			3	6.1%	39.4%
$500	to	<$1000	1	2.0%	6.8%
$250	to	<$500	10	20.4%	34.3%
$100	to	<$250	8	16.4%	12.3%
$50	to	<$100	6	12.2%	3.5%
$25	to	<$50	8	16.4%	2.5%
$10	to	<$25	7	14.3%	1.0%
$1	to	<$10	5	10.2%	0.2%
$0	to	<$1	1	2.0%	-
		Total	49	100.0%	100.0%

METHODS OF FINANCING CAPITAL EXPENDITURES

The 2001 AAPA expenditure survey also included information on the methods used by the U.S. public port industry to finance its capital expenditure programs. The survey utilized the following six funding categories to classify the financing sources: port revenues, general obligation bonds (GO bonds), revenue bonds, loans, grants, and "other". The "other" funding category includes all financing sources that were not described above, such as state transportation trust funds, state and local appropriations, taxes (property, sales), and lease revenue.

This section describes the financing methods used to fund the 2001 expenditures and the proposed methods for the projected 2002-2006 expenditures. Table 16 provides a basis for comparing the historical changes in the primary financing methods used by the public port industry. The table highlights the changes in financing methods that occurred over the last 29 years. Specifically, it provides a comparison of the relative usage of each financing method. The table contains annual data for the past thirteen years and two summary groupings for earlier survey data--1973 to 1978 and 1979 to 1989. In addition, there is 10-year average covering the period from 2001 to 1992.

Table 16
Comparison of Public Port Financing Methods from 1973 - 2001
(Thousands of Dollars)

Year	Financing Methods					
	Port Revenues	GO Bonds	Revenue Bonds	Loans	Grants	Other
2001	**51.0%**	6.1%	**28.5%**	0.8%	6.0%	7.6%
2000	**48.1%**	9.1%	10.9%	**3.8%**	**16.0%**	**12.1%**
1999	**44.4%**	7.8%	21.4%	**6.6%**	**14.0%**	5.8%
1998	33.8%	6.6%	**40.9%**	1.1%	**10.4%**	7.2%
1997	30.4%	**10.0%**	**47.1%**	0.5%	**8.1%**	3.9%
1996	31.7%	**9.4%**	**42.6%**	1.1%	2.5%	**12.7%**
1995	**45.6%**	8.5%	26.9%	0.9%	3.0%	**15.1%**
1994	35.3%	**10.3%**	14.9%	**16.0%**	2.8%	**20.7%**
1993	**50.6%**	**11.5%**	22.8%	0.8%	4.2%	10.1%
1992	34.0%	**12.7%**	26.9%	**3.8%**	5.0%	**17.6%**
1991	**47.1%**	**15.8%**	20.5%	**4.2%**	5.1%	7.3%
1990	35.2%	8.8%	**40.1%**	1.5%	7.0%	7.4%
1989	**59.1%**	6.4%	18.6%	**8.0%**	1.1%	6.8%
1979-89	47.7%	14.8%	27.0%	2.5%	2.5%	5.5%
1973-78	26.7%	30.6%	29.1%	13.6%		
10-year Ave. 1992-2001	40.5%	9.2%	28.3%	3.5%	7.2%	11.3%

Note: Bolded numbers indicate that the figure exceeds the 10-year average for the period from 2001 to 1992.

The data reflects the variable nature of port financing. Looking at the past five years, port revenues have shown a steady increase in usage going from 30.4 percent to 51 percent. GO bonds have fluctuated in a fairly narrow band between 6 and 10 percent. Over this period, revenue bonds exhibited a steady decline from 47.1 percent to 10.9 percent in 2000 with a sharp rebound in 2001 when usage returned to the level of the 10-year average. With the exception of 1999 and 2000, loan usage stayed around the 1 percent level. Grants demonstrated steady growth moving from 8.1 to 16 percent in 2000 while dropping back to 6 percent in 2001. "Other" remained in the 4 to 8 percent range with the exception of 2000 when it reached 12.1 percent. The latter two funding methods are desirable from a port's perspective, because, besides grants, they include state trust funds, appropriations, and tax revenues. However, these sources tend to be limited in amount and availability.

Funding Sources - 2001

Table 17 provides a comparative summary of financing methods used during the 1997-2001 period. By comparing the annual percentages shown for the various funding types in Table 17 with the historical percentages in Table 16, one can see the variable nature of port expenditure financing.

For 2001, port revenues continued as the principal funding source accounting for $802.3 million or 51 percent of the public port financing. The relative share increased slightly from 48.4 percent in 2000 with the dollar volume increasing by 86.1 percent reflecting the sharp rise in the total expenditures for 2001. Revenue bonds usage rose to the second leading funding source after falling to fourth place in 2000. The relative share increased from 10.9 percent to 28.5 percent with dollar volume posting a 358 percent increase. The relative use of GO bonds declined from 9.1 percent in 2000 to 6.1 percent in 2001 with dollar volume increasing by 17.6 percent. As a group, the use of loans, grants, and "other" dropped from 31.9 percent in 2000 to 14.4 percent in 2001. Within this group, loan usage fell by 3.0 percent with grants declining by 10 percent, and "other" dropped by 4.5 percent.

Table 17
U.S. Public Port Capital Expenditures by Type of Financing Method for 1997 - 2001[5]
(Thousands of Dollars)

Method	1997		1998		1999		2000		2001	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Port Revenues	$449,862	30.4%	$457,565	33.8%	$472,978	44.4%	$431,265	48.1%	$802,331	51.0%
GO Bonds	147,643	10.0%	89,825	6.6%	82,879	7.8%	82,040	9.1%	96,478	6.1%
Revenue Bonds	696,090	47.1%	554,486	40.9%	228,187	21.4%	97,946	10.9%	449,088	28.5%
Loans	6,203	0.5%	15,435	1.1%	70,207	6.6%	34,477	3.8%	12,401	0.8%
Grants	120,376	8.1%	140,506	10.4%	149,665	14.0%	143,579	16.0%	94,453	6.0%
Other	58,012	3.9%	97,175	7.2%	62,245	5.8%	108,609	12.1%	119,005	7.6%
Total	$1,478,186	100.0%	$1,354,992	100.0%	$1,066,161	100.0%	$897,916	100.0%	$1,573,756	100.0%

5 Excludes expenditures for which there was no information on funding source: 2001 - $166,378,000
2000 - $159,737,000 1999 - $49,519,000 1998 - $59,405,000 1997 - $64,268,000 1996 - $60,619,00
1995 - $41,568,000 1994 - $53,185,000

Table 18 examines the distribution of 2001 funding sources by coastal region. Port revenues were the primary financing method in four regions with revenue bonds and "other" leading in the remaining two regions.

The South Pacific region remained as the principal user of port revenues with $574.7 million (71.6%) followed by the North Pacific region with 10.3 percent. The Gulf region continued as the primary user of GO bonds with $51.7 million (53.6%) followed by the South Atlantic at $21.3 million (22.1%) and North Pacific at $20.5 million (21.3%).

The South Pacific region was the principal user of revenue bonds with $374 million (83.3%). The non-contiguous region accounted for nearly half of the commercial loan financing--$6.1 million (49.2%). Three regions were the primary grant beneficiaries--the Gulf with $29.2 million (30.9%), the South Atlantic with $29.1 million (30.9%), and the South Pacific with $20.1 million (21.4%). The North Atlantic and Gulf regions accounted for nearly 70 percent of the "other" funding sources--the North Atlantic with $57.2 million (48.1%) and the Gulf with $25.24 million (21.2%).

Table 18
U.S. Public Port Capital Expenditures by Type of Financing Method for 2001[6]
(Thousands of Dollars)

Region	Facility Expenditures by Financing Method												
	Port Revenues	Pct.	GO Bonds	Pct.	Revenue Bonds	Pct.	Loans	Pct.	Grants	Pct.	Other	Pct.	Total
North Atlantic	$1,293	0.2%	-	-	-	-	-	-	$8,873	9.4%	$57,283	48.1%	$67,449
South Atlantic	45,265	5.6%	21,311	22.1%	63,878	14.2%	986	8.0%	29,163	30.9%	14,139	11.9%	174,742
Gulf	51,872	6.5%	51,740	53.6%	4,007	0.9%	3,771	30.4%	29,214	30.9%	25,275	21.2%	165,879
South Pacific	574,756	71.6%	2,852	3.0%	374,009	83.3%	-	-	20,186	21.4%	9,731	8.2%	981,534
North Pacific	82,562	10.3%	20,575	21.3%	-	-	1,541	12.4%	6,017	6.4%	5,452	4.6%	116,147
Non-contiguous*	46,583	5.8%	-	-	7,194	1.6%	6,103	49.2%	-	-	7,125	6.0%	67,005
Total	$802,331	100.0%	$96,478	100.0%	$449,088	100.0%	$12,401	100.0%	$94,453	100.0%	$119,005	100.0%	$1,573,756
Percent by Funding Source	51.0%		6.1%		28.5%		0.8%		6.0%		7.6%		

- Alaska, Hawaii, Puerto Rico, & Virgin Islands

Funding Sources - 2002 to 2006

Table 19 shows the anticipated funding sources for the U.S. public port industry's proposed 2002-2006 capital expenditure program. Port revenues and revenue bonds continue as the principal

[6] Excludes expenditures of $166,378,000 for which there was no information on funding source.

funding sources with projected use accounting for over 60 percent of the overall funding. Port revenues are the primary source of funding with 34.5 percent followed by revenue bonds with 27.2 percent. Port revenues and revenue bonds are each projected to be the leading funding source in two coastal regions with GO bonds and "other" leading in the remaining two regions.

The South Pacific remains as the primary user of port revenues with $1.3 billion (48.3%) followed by the Gulf region with $531.7 million (19.3%) and the North Pacific with $458.2 million (16.6%). The Gulf region will account for $638.6 million (66.1%) of the GO bond financing with the North Pacific at $286.3 million (29.7%). The South Pacific accounts for over half of the proposed revenue bond funding with $1.1 billion followed by the South Atlantic at $414 million (19.1%)

Table 19
U.S. Public Port Capital Expenditures by Type of Financing Method for 2002 - 2006[7]
(Thousands of Dollars)

Region	Facility Expenditures by Financing Method												
	Port Revenues	Pct.	GO Bonds	Pct.	Revenue Bonds	Pct.	Loans	Pct.	Grants	Pct.	Other	Pct.	Total
North Atlantic	$8,760	0.3%	-	-	-	-	-	-	$26,442	2.6%	$357,800	47.6%	$393,002
South Atlantic	329,291	12.0%	35,648	3.7%	414,084	19.1%	230,544	69.6%	345,898	34.4%	19,436	2.6%	1,374,901
Gulf	531,715	19.3%	638,698	66.1%	261,100	12.1%	24,300	7.3%	132,300	13.2%	199,698	26.6%	1,787,811
South Pacific	1,329,325	48.3%	3,800	0.4%	1,124,578	51.9%	76,689	23.1%	477,843	47.5%	17,433	2.3%	3,029,668
North Pacific	458,200	16.6%	286,303	29.7%	254,508	11.8%	-	-	3,000	0.3%	156,870	20.9%	1,158,881
Non-contiguous*	96,079	3.5%	1,200	0.1%	110,800	5.1%	-	-	20,000	2.0%	-	-	228,079
Total	$2,753,370	100.0%	$965,649	100.0%	$2,165,070	100.0%	$331,533	100.0%	$1,005,483	100.0%	$751,237	100.0%	$7,972,342
Percent by Funding Source	34.5%		12.1%		27.2%		4.2%		12.6%		9.4%		

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

The South Atlantic region continues as the principal user of loans with $230.5 million (69.6%). The South Pacific and South Atlantic regions are projected to account for over 80 percent of grants--South Pacific with $477.8 million (47.5%) and the South Atlantic region with $345.8 million (34.4%). The North Atlantic region accounts for the 47.6% of "other" funding with the Gulf region at 26.6 percent and the North Pacific at 20.9 percent.

[7] Excludes expenditures of $2,712,825 for which there was no information on funding source.

Funding Sources - Comparison of 2001 and 2002 - 2006

In Table 20, the funding sources used to finance the port industry's 2001 expenditure program are compared with those projected for 2002-2006. Port revenues are the primary funding source for both periods with a decline of 16.5 percent projected for the 2002-2006 period. GO bond usage is predicted to nearly double from 6.1 percent to 12.1 percent. The projected increase in the use of revenues bonds remains largely unchanged with a slight decline from 28.5 percent to 27.2 percent. Loans are projected to increase from 0.8 percent to 4.2 percent. Grant funding is projected to double to 12.6 percent with "other" showing a modest increase of 1.8 percent.

Table 20
Comparison of Current and Projected public Port Funding Sources

Financing Method	2001 Expenditures	2002 - 2006 Expenditures	Relative Change 2001 vs. 2002-2006
Port Revenues	51.0%	34.5%	-16.5%
GO Bonds	6.1%	12.1%	+6.0%
Revenue Bonds	28.5%	27.2%	-1.3%
Loans	0.8%	4.2%	+3.4%
Grants	6.0%	12.6%	+6.6%
Other	7.6%	9.4%	+1.8%
Total	100.0%	100.0%	