

United States Port Development Expenditure Report

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INTRODUCTION

This report is the seventh edition in a series of reports that continues the capital expenditure survey 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 recent 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 yearly reports covering the industry's current and proposed capital expenditures.

This report analyzes the results of the AAPA capital expenditure survey for 1996. The survey included the capital expenditures for 1996 and proposed expenditures for the period 1997 through 2001 along with the funding sources used to finance these expenditures. The survey data were obtained from the corporate membership of AAPA. The format of this year's survey is unchanged from that of a year ago.

For further information or to obtain copies of this report, please contact William W. Dean or John M. Pisani, Director, Office of Ports and Domestic Shipping, Maritime Administration, 400 7th Street, SW, Washington, D.C. 20590 or telephone (202) 366-4357/FAX (202) 366-6988.

CAPITAL EXPENDITURES FOR U.S. PUBLIC PORT DEVELOPMENT

From 1946 through 1996, the U.S. public port industry has invested \$16.8 billion in capital improvements to its port facilities. This investment covers 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 51-year period, the industry's expenditures were centered in three regions--South Pacific (28.5%), North Atlantic (20.1%), and the Gulf (18.3%). Appendix A contains a list of the ports that responded to the 1996 capital expenditure survey.

Table 1
U.S. Port Capital Expenditures for 1996 - 1946
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	\$3,368,679	20.1%
South Atlantic	2,282,563	13.6%
Gulf	3,079,945	18.3%
South Pacific	4,796,801	28.5%
North Pacific	1,891,752	11.2%
Great Lakes	517,191	3.1%
AK, HI, PR, and VI*	744,740	4.4%
Guam, Saipan	136,834	0.8%
Total	\$16,818,505	100.0%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

CAPITAL EXPENDITURES - 1996

This section analyses the U.S. public port expenditures for 1996. Total expenditures exceeded the one billion-dollar mark the second consecutive year. The 1996 total of \$1.3 billion was down 7.4 percent from last year's record level of \$1.4 billion. For the past three years, the public port industry averaged \$1.2 billion--nearly double the investment level for the period from 1991 to 1993. This sharp increase in investments reflects the public port industry's efforts to meet the nation's growing transportation needs resulting from increasing trade, shipper requirements, and technological improvements.

As shown in Table 2, the South Pacific region continues to lead the nation with \$642.9 million (49.5%) in capital expenditures followed by the North Pacific with \$241.2 million (18.5%) and the South Atlantic and Gulf regions with \$140.9 (10.8%) and \$134.3 (10.3%) million, respectively. The Pacific Coast ports are responsible for nearly 70 percent of the total industry investment. Since 1994, the Pacific regions have accounted for more than 50 percent of the annual investment with the majority in the South Pacific region. The continued high level of investment in these regions is based on dramatic growth in projected traffic. The rate at which this growth is forecast has forced many ports to accelerate the implementation of their development plans.

Table 2
U.S. Port Capital Expenditures for 1996 - 1992
(Thousands of Dollars)

Region	1996		1995		1994		1993		1992	
	Expenditure	%	Expenditure	%	Expenditure	%	Expenditures	%	Expenditures	%
North Atlantic	\$96,357	7.4%	\$60,948	4.3%	\$70,299	7.6%	\$91,198	14.0%	\$112,190	16.7%
South Atlantic	140,944	10.8%	172,517	12.3%	124,853	13.4%	148,555	22.7%	123,065	18.3%
Gulf	134,311	10.3%	158,977	11.3%	109,297	11.8%	129,805	19.9%	145,358	21.6%
South Pacific	642,941	49.5%	673,497	48.1%	533,992	57.4%	139,275	21.3%	140,296	20.9%
North Pacific	241,254	18.5%	143,910	10.2%	40,628	4.4%	94,331	14.4%	45,632	6.8%
Great Lakes	245	-	1,970	0.1%	754	0.1%	22,938	3.5%	3,206	0.5%
AK, HI, PR, & V.I.*	45,100	3.5%	192,536	13.7%	35,420	3.8%	27,561	4.2%	102,021	15.2%
Guam, Saipan	-	-	-	-	14,377	1.5%	-	-	-	-
Total	\$1,301,152	100.0%	\$1,404,355	100.0%	\$929,620	100.0%	\$653,663	100.0%	\$671,768	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 the pier or wharf structure, storage facilities, and handling equipment. Infrastructure expenditures cover improvements, either on or off terminal property, such as roadways, rail, sewer, lighting, and parking. Dredging consists of local port expenditures associated with the dredging of Federal and non-Federal channels and berths as well as the local costs for land, easements, rights-of-way, and disposal areas (LERD). 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 continue as the leading expenditure category. The investment level increased significantly over 1995, both in relative terms and dollar value. This category accounted for 41 percent of total investments compared to 28.8 percent in 1995 with dollar value increasing by nearly 55 percent. The South Pacific region leads with 63.7 percent of these expenditures followed by the North Pacific region with 23.5 percent.

General cargo investment remained as the second leading cargo category with 14.7 percent of the total expenditures versus 22.2 percent last year. The South Pacific region accounted for 43.7 percent followed by the Gulf region with 20 percent and the South Atlantic region with 16.7 percent. Bulk facilities, dry and liquid, represent 5.9 percent and 0.5 percent, respectively. The Gulf (42.1%) and South Pacific (34.2%) regions were the focus of the dry bulk expenditures with the South Atlantic and Gulf regions accounting for 54.9 and 38 percent of the liquid bulk expenditures. The passenger segment declined slightly to 2.7 percent with the South Atlantic region totaling 77.2 percent. "Other" expenditures amounted to 4.8 percent with the North Pacific and Gulf regions accounting for 43.2 and 32.7 percent of these investments.

Table 3
U.S. Port Capital Expenditures by Type of Facility for 1996
(Thousands of Dollars)

Region	Type of Facility									Total
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	
							On-Terminal	Off-Terminal		
North Atlantic	\$3,027	\$13,226	\$928	-	\$535	\$1,956	\$37,792	\$3,757	\$35,136	\$96,357
South Atlantic	32,183	29,489	15,298	3,282	26,881	3,430	10,440	4,126	15,815	140,944
Gulf	38,381	13,503	32,222	2,273	3,559	20,216	12,958	8,433	2,766	134,311
South Pacific	84,041	340,150	26,220	214	2,278	9,052	60,978	34,287	85,721	642,941
North Pacific	5,250	125,543	1,845	-	121	26,683	16,984	63,288	1,540	241,254
Great Lakes	195	-	-	-	-	-	-	-	50	245
AK,HI,PR, & VI*	28,821	11,737	-	208	1,366	468	714	593	1,193	45,100
Total	\$191,898	\$533,648	\$76,513	\$5,977	\$34,740	\$61,805	\$139,866	\$114,484	\$142,221	\$1,301,152
Percent by Facility Type	14.7%	41.0%	5.9%	0.5%	2.7%	4.8%	10.7%	8.8%	10.9%	

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Port infrastructure improvements represent the second largest overall category with 19.5 percent of the 1996 expenditures. The on-terminal segment totaled 55 percent of the infrastructure investments. The South Pacific region accounted for 43.6 percent of the on-terminal

expenditures. For off-terminal improvements, the North Pacific region investments accounted for 55.2 percent of the total. Dredging expenditures amounted to 10.9 percent of the total. Dredging activity was concentrated in the South Pacific with 60.3 percent of the expenditures followed by the North Atlantic (24.7%) and the South Atlantic (11.1%) regions.

Capital Expenditures - New Construction vs. Modernization\Rehabilitation

Table 4 summarizes the public port expenditures by type of expenditure--new construction and modernization/rehabilitation (M&R)--and by type of facility. For 1996, expenditures for new construction amounted to 78 percent of the total expenditures. Among the five cargo type categories, specialized general cargo facilities represented 46.8 percent of the new construction expenditures--up from 33.7 percent in 1995--followed by general cargo with 17.1 percent. The balance of the new construction expenditures was distributed among the remaining categories with dredging and infrastructure leading this group at 13.1 percent and 9.7 percent, respectively. The South Pacific region continued to lead new construction expenditures with \$528.5 million (55.2%) followed by the North Pacific region at \$141 million (14.7%).

Within the specialized general cargo category, the South Pacific region accounted for \$277.8 million (62%) followed by the North Pacific region at \$114.8 million (25.6%). The South Pacific region was also the focus of general cargo investments with \$81.5 million (49.9%) followed by the Gulf and South Atlantic regions with \$32.3 million (19.8%) and \$29.2 million (17.9%), respectively. The South Pacific also led the dredging and infrastructure expenditures with \$84.3 million (67.4%) and \$58.8 million (63.1%).

For M&R expenditures, infrastructure expenditures accounted for one-third of the \$270 million invested. Other significant M&R expenditure categories include specialized general cargo at 31.6 percent, "other" at 11.8 percent, and general cargo at 10.6 percent.

The South Pacific region led total M&R expenditures with \$114.3 million (42.3%) followed by the North Atlantic region at \$56.1 million (20.8%), the Gulf region at \$28.9 million (10.7%), and the South Atlantic region at \$26.8 million (9.9%). For the infrastructure segment, the North Atlantic and South Pacific regions accounted for the majority of the expenditures with \$38.2 million (42.6%) and \$36.4 million (40.6%). The South Pacific region accounted for the majority of the specialized general cargo improvements with \$62.2 million (73%). General cargo expenditures were centered in the non-contiguous region with \$11.9 million (41.7%). The majority of the dredging activity was located in the North Atlantic (68.4%) region.

Table 4
U.S. Port Capital Expenditures by Type of Expenditure and Facility for 1996

(Thousands of Dollars)¹

Region	New Construction									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	-	\$12,092	-	-	-	\$1,152	\$3,269	-	\$23,427	\$39,940
South Atlantic	29,276	20,998	15,284	3,270	23,240	2,620	5,574	847	12,987	114,096
Gulf	32,304	12,713	30,211	-	2,322	8,340	11,265	6,632	1,538	105,325
South Pacific	81,564	277,884	24,713	61	-	1,153	55,305	3,539	84,361	528,580
North Pacific	3,284	114,831	710	-	93	13,936	5,057	1,562	1,540	141,013
Great Lakes	-	-	-	-	-	-	--	-	-	-
AK,HI,PR, & VI*	16,914	9,870	-	-	-	35	243	-	1,193	28,255
Total	\$163,342	\$448,388	\$70,918	\$3,331	\$25,655	\$27,236	\$80,713	\$12,580	\$125,046	\$957,209
Percent by Facility Type	17.1%	46.8%	7.4%	0.4%	2.7%	2.8%	8.4%	1.3%	13.1%	

Region	Modernization/Rehabilitation									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total
							On-Terminal	Off-Terminal		
North Atlantic	\$3,027	\$1,134	\$928	-	\$535	\$559	\$34,462	\$3,757	\$11,709	\$56,111
South Atlantic	2,907	8,491	14	12	3,641	810	4,866	3,279	2,828	26,848
Gulf	6,077	790	2,011	2,273	1,237	11,876	1,693	1,801	1,228	28,986
South Pacific	2,477	62,266	1,507	153	2,278	7,899	5,673	30,748	1,360	114,361
North Pacific	1,966	10,712	1,135	-	28	10,405	1,300	1,061	-	26,607
Great Lakes	195	-	-	-	-	-	-	-	50	245
AK,HI,PR, & VI*	11,907	1,867	-	208	1,366	433	471	593	-	16,845
Total	\$28,556	\$85,260	\$5,595	\$2,646	\$9,085	\$31,982	\$48,465	\$41,239	\$17,175	\$270,003
Percent by Facility Type	10.6%	31.6%	2.1%	1.0%	3.4%	11.8%	17.9%	15.3%	5.3%	

* Alaska, Hawaii, Puerto Rico, and Virgin Islands

Capital Expenditures - Comparison of Annual Expenditures 1996 - 1988

¹ Excludes \$73,940,000 in expenditures that were not broken down by type of construction.

Table 5 provides a comparative summary of the relative expenditures by facility type for the period 1996 through 1988. Beginning in 1992, there was a significant increase in relative general cargo expenditures and a decline in specialized general cargo. This new pattern remained relatively constant through 1995, even with the recent sharp increase in annual expenditures. In 1996, there was a change in this pattern. While their combined relative share remained similar to previous years, their individual shares shifted. General cargo investments declined from 22.2 percent in 1995 to 14.7 percent with specialized general cargo increasing from 28.8 to 41 percent. This new pattern is virtually identical with that of the projected 1997-2001 expenditures for these two categories (see Table 10). This change may reflect a new emphasis by the port industry in specialized general cargo. For the other expenditure categories, there were only minor changes. Specifically, bulk expenditures (6.4%) remained

Table 5
Comparison of Annual Expenditures by Type of Facility for 1996 - 1988

Year	Type of Expenditure										
	General Cargo	Specialized General Cargo	Bulk			Passenger	Other	Infrastructure		Dredging	Total Expenditures ² (000)
			Dry	Liquid	Total			On-Terminal	Off-Terminal		
1996	14.7%	41.0%	5.9%	0.5%	6.4%	2.7%	4.8%	10.7%	8.8%	10.9%	\$1,301,152
1995	22.2%	28.8%	3.0%	0.9%	3.9%	4.7%	8.2%	18.0%	3.1%	11.1%	\$1,203,455
1994	22.8%	34.8%	5.6%	0.3%	5.9%	4.7%	7.3%	15.1%	6.0%	3.4%	\$686,620
1993	24.5%	27.6%	4.5%	1.7%	6.2%	5.6%	11.9%	11.6%	3.6%	9.0%	\$653,663
1992	23.9%	31.8%	4.8%	0.2%	5.0%	7.5%	9.5%	9.0%	3.8%	9.5%	\$671,768
1991	12.1%	48.3%	N.A.	N.A.	7.6%	N.A.	31.9%	N.A.	N.A.	N.A.	\$679,744
1990	13.6%	51.4%	N.A.	N.A.	7.4%	N.A.	27.6%	N.A.	N.A.	N.A.	\$653,174
1989	20.4%	53.2%	N.A.	N.A.	6.2%	N.A.	20.2%	N.A.	N.A.	N.A.	\$606,234
1988	18.8%	54.0%	N.A.	N.A.	5.6%	N.A.	21.7%	N.A.	N.A.	N.A.	\$499,963

within historical ranges with passenger (2.7%) and “other” (4.8%) investments slightly below historic patterns. Infrastructure (19.5%) and dredging (10.9%) expenditures approached the peak levels reached in 1995.

² 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

Given the additional detail contained in the surveys beginning in 1992, it is difficult to determine the significance of the relative shift in general cargo and specialized general cargo expenditures without knowing how the infrastructure, dredging, and "other" expenditures were allocated in prior surveys. Notwithstanding, it appears that the public port industry is refocusing its investments in the development and modernization of specialized general cargo, infrastructure improvements, general cargo, and dredging.

Capital Expenditures - Leading Port Authorities

Table 6 shows the leading U.S. public port authorities based on total capital expenditures in 1996. These ten organizations accounted for 79.8 percent of all capital expenditures by the public ports surveyed. The Port of Los Angeles continued as the leading port with annual

Table 6
Leading Port Authorities for 1996
by Total Capital Expenditures
(Thousands of Dollars)

Rank	Port Authorities	Expenditures
1	Port of Los Angeles	\$407,099
2	Port of Long Beach	179,690
3	Port of Seattle	144,817
4	Port Authority of New York/New Jersey	60,619
5	Port of Tacoma	57,625
6	Alabama State Docks	46,842
7	Port of Oakland	45,269
8	Port of Miami	37,120
9	Hawaii DOT	32,222
10	Georgia Ports Authority	27,659
Total Top Ten Ports		\$1,038,962
Total Expenditures		\$1,301,152
Percent of Total		79.8%

investments exceeding \$400 million. Of the top ten port authorities listed, five were located on the West Coast, three on the East Coast, one on the Gulf Coast, and one non-contiguous.

Capital Expenditures - Distribution Pattern

Table 7 shows the distribution of the 1996 capital expenditures. The table reveals the high degree of concentration in terms of how the expenditures are distributed among the ports responding to the AAPA survey. As shown, three ports (6%) accounted for over half of the public port industry's 1996 expenditures. The top five ports (10%) represented 65.3 percent and the top 11 ports (22%) accounted for 81.9 percent. In general, these ports were involved in developing major container facilities, improving infrastructure, or dredging projects or combinations of these activities.

Table 7
Distribution of 1996 Capital Expenditures

Annual Investment (Millions of Dollars)	Public Ports		Percent of 1996 Expenditures
	No.	Pct.	
>\$100	3	6.0%	56.2%
>\$50 to <\$75	2	4.0%	9.1%
>\$25 to <\$50	6	12.0%	16.6%
>\$10 to <\$25	8	16.0%	11.1%
>\$5 to <\$10	8	16.0%	4.5%
>\$1 to <\$5	12	24.0%	2.2%
>\$0 to <\$1	8	16.0%	0.3%
\$0	3	6.0%	-
Total	50	100.0%	100.0%

PROPOSED CAPITAL EXPENDITURES - 1997 TO 2001

The 1996 capital expenditure survey also included proposed expenditures for 1997 through 2001. Table 8 summarizes these expenditures by coastal region. During this 5-year period, these expenditures are forecasted to reach a record total of \$6.5 billion. Appendix A contains a list of the respondents, who provided information on proposed expenditures.

The South Pacific region continues to lead future investment activity with proposed expenditures of \$2.5 billion (38.8%). Four other regions are projecting significant investments--the South Atlantic at \$1.2 billion (19.1%), the Gulf at \$941.1 million (14.3%), North Atlantic at \$787.6 million (12%), and the North Pacific at \$746.9 million (11.3%). From a coastwise perspective, the West Coast is projecting to invest over \$3.3 billion (50.1%) with East Coast expenditures at \$2 billion (31.1%) and the Gulf at \$941.1 million (14.3%).

Table 8
U.S. Port Capital Expenditures for 1997 - 2001
(Thousands of Dollars)

Region	Expenditures	Percent
North Atlantic	\$787,602	12.0%
South Atlantic	1,258,341	19.1%
Gulf	941,160	14.3%
South Pacific	2,554,149	38.8%
North Pacific	746,966	11.3%
Great Lakes	20,785	0.3%
AK, HI, PR, & VI *	275,235	4.2%
Total	\$6,584,238	100.0%

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Capital Expenditures - by Facility Type

Table 9 shows the proposed expenditures by type of facility. Specialized general cargo remains as the leading category with \$2.6 billion (40.3%) of the expenditures. The South Pacific region is expected to capture approximately half (48.8%) of the proposed expenditures in this category with \$1.2 billion. The South Atlantic and North Pacific regions follow with \$582.1 million (21.9%) and \$507 million (19.1%).

General cargo expenditures will account for \$861.9 million (13.1%) of the proposed investments with the activity concentrated in the Gulf (32.1%) and South Pacific (27.9%) regions. Dry and liquid bulk facility expenditures represent 3.9 percent of future investments with dry bulk representing 82.9 percent of the bulk category. Dry bulk expenditures are centered in the South Pacific (49.1 %) followed by the South Atlantic (18%) and Gulf (17.8%) regions. The South Pacific will account for 53.4 percent of the proposed \$44.6 million investment in liquid bulk facilities. Passenger facility investment is 4.8 percent of the total with the majority of the investment in the South Atlantic (80.4%) region, which includes the world's leading cruise port, Miami.

Table 9
U.S. Port Capital Expenditures by Type of Facility for 1997 - 2001
(Thousands of Dollars)

Region	Type of Facility									
	General Cargo	Specialized General Cargo	Dry Bulk	Liquid Bulk	Passenger	Other	Infrastructure		Dredging	Total ³
							On-Terminal	Off-Terminal		
North Atlantic	\$44,455	\$42,073	\$1,129	-	\$600	\$4,209	\$507,627	\$11,263	\$176,246	\$787,602
South Atlantic	100,095	582,129	38,804	6,127	251,952	69,629	85,524	15,075	109,006	1,258,341
Gulf	277,011	165,410	38,455	14,758	37,972	56,744	118,727	80,976	151,107	941,160
South Pacific	240,547	1,294,557	105,910	23,810	1,013	122,817	316,169	253,676	194,650	2,553,149
North Pacific	47,432	507,084	17,470	-	-	47,218	92,483	30,400	4,879	746,966
Great Lakes	6,460	-	14,000	-	-	-	-	-	325	20,785
AK,HI,PR, & VI*	145,949	62,000	-	-	21,750	1,000	36,450	-	8,086	275,235
Total	\$861,949	\$2,653,253	\$215,768	\$44,695	\$313,287	\$301,617	\$1,156,980	\$391,390	\$644,299	\$6,583,238
Percent by Facility Type	13.1%	40.3%	3.3%	0.6%	4.8%	4.6%	17.6%	5.9%	9.8%	

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Projected expenditures for infrastructure investments are expected to exceed \$1.5 billion (23.5%)-a 48 percent increase over last year's projection for 1996 to 2000. The South Pacific and North Atlantic regions are projected to capture 36.8 percent and 33.5 percent of these investments with the Gulf region at 12.9 percent. On-terminal expenditures will account for nearly three-quarters of the category total. Dredging expenditures represent 9.8 percent of the total with projected expenditures distributed among the South Pacific (30.2%), North Atlantic (27.4%), Gulf (23.4%) and South Atlantic (16.9%) regions.

³ Excludes expenditures of \$1,000,000 for which there was no breakdown.

Capital Expenditures - Comparison of 1996 and 1997 - 2001

Table 10 provides a comparison of the relative investment levels by facility type between the actual 1996 expenditures and those proposed for 1997-2001. Unlike previous reports, the relative expenditure patterns are nearly identical for the major investment categories. Specialized general cargo remains as the major area of investment with almost no change in relative investment. Future infrastructure expenditures show a 4 percent gain over current investment levels. General cargo and dredging showed relatively small declines. The remaining categories all had investment levels less than 6 percent with fluctuations ranging less than +/- 3 percent.

Table 10
Comparison of Current and Projected Expenditures

Expenditure Type	1996 Expenditures	1997 - 2001 Expenditures
General Cargo	14.7%	13.1%
Specialized General Cargo	41.0%	40.3%
Dry Bulk	5.9%	3.3%
Liquid Bulk	0.5%	0.6%
Passenger	2.7%	4.8%
Other	4.8%	4.6%
Infrastructure	19.5%	23.5%
Dredging	10.9%	9.8%
Total	100.0%	100.0%

Capital Expenditures - Leading Port Authorities

Table 11 lists the leading U.S. port authorities based on the projected capital expenditures for the 1997-2001 period. These ten ports account for \$4.5 billion (69.8%) of the proposed \$6.5 billion in capital expenditures. Of the top ten port authorities listed, five were located on the West Coast, three on the East Coast, and two on the Gulf Coast.

Table 11
Leading Port Authorities for 1997 - 2001
by Total Capital Expenditures
(Thousands of Dollars)

Rank	Port Authorities	Expenditures
1	Port of Los Angeles	\$1,079,182
2	Port of Long Beach	866,200
3	Port of Oakland	520,000
4	Port Authority of New York/New Jersey	498,663
5	Port of Seattle	391,483
6	Port of Houston	291,628
7	Georgia Ports Authority	263,840
8	Maryland Port Administration	237,147
9	Port of New Orleans	226,260
10	Port of Tacoma	221,798
Total Top Ten Ports		\$4,596,201
Total Expenditures		\$6,584,238
Percent of Total		69.8%

Capital Expenditures - Distribution Pattern

Table 12 shows the distribution of the proposed 1997-2001 capital expenditures. Similar to Table 7, the results show a high degree of concentration in terms of how the expenditures are distributed among the ports responding to the AAPA survey. As shown, three ports (6%) accounted for 37.5 percent of the public port industry's proposed expenditures. The top seven ports (14%) represented 59.4 percent and the top 17 ports (34%) 87.5 percent. The proposed investments by these ports are focused on developing major new container facilities, improving infrastructure, or dredging projects or combinations of these activities.

Table 12
Distribution of 1997 - 2001 Capital Expenditures

Annual Investment (Millions of Dollars)	Public Ports		Percent of 1997-2001 Expenditures
	No.	Pct.	
>\$1000	1	2.0%	16.4%
>\$500 to <\$1000	2	4.0%	21.1%
>\$250 to <\$500	4	8.0%	21.9%
>\$100 to <\$250	10	20.0%	28.1%
>\$50 to <\$100	7	14.0%	7.4%
>\$25 to <\$50	6	12.0%	3.3%
>\$10 to <\$25	5	10.0%	1.2%
>\$1 to <\$10	8	16.0%	0.6%
>\$0 to <\$1	1	2.0%	-
\$0	6	12.0%	-
Total	50	100.0%	100.0%

METHODS OF FINANCING CAPITAL EXPENDITURES

The 1996 expenditure survey also included information on the methods used by the U.S. public port industry to finance their 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 1996 expenditures and the proposed methods for the projected 1997-2001 expenditures. Table 13 provides a basis for comparing the changes in the primary financing methods used by the public port industry. The table highlights the shift in financing methods that occurred between the 1973-1978 and 1979-1989 surveys. The significant change was the decline in the use of GO bonds and the corresponding increase in port revenues. The funding pattern for surveys conducted in the 1990s remains consistent with this shift. In the 1990s, the relative use of "all other" methods has increased steadily. This suggests that ports are seeking funding alternatives or supplements to port revenues through increased usage of loans, grants, special trust funds, and appropriations.

Table 13
Comparison of Financing Methods for 1996 - 1973
(Thousands of Dollars)

Financing Method	1973-1978 Survey	1979-1989 Survey	1990-1996 Surveys
	Percent	Percent	Percent
Port Revenues	26.7%	47.7%	39.6%
GO Bonds	30.6%	14.8%	10.5%
Revenue Bonds	29.1%	27.0%	28.7%
All Other	13.6%	10.5%	21.2%
Total	100.0%	100.0%	100.0%
Total Expenditures⁴	\$876,326	\$3,992,897	\$5,900,764

Funding Sources - 1996

⁴ Excludes expenditures for which there was no information on funding source.
1990/1996 - \$409,926,000 1979/1989 - \$1,643,175,000

Table 14 presents a comparative summary of financing methods used during the 1996-1992 period. The combination of port revenues and revenue bonds continue to account for the majority of 1996 funding with 74.3 percent. During this five-year period, port revenues and revenue bonds ranked either first or second among the six funding methods, except 1994 when revenue bonds fell to fourth. The combined use of port revenues and revenue bonds ranged from a high of 88.3 percent in 1988 (not shown in table) to a low of 50.2 percent in 1994. By comparing the annual percentage fluctuations that occur between and among the various funding types shown in Table 14 with the historical averages shown in Table 13, one can see the variable nature of port expenditure financing.

For 1996, revenue bonds replaced port revenues as the principal funding source accounting for \$529 million or 42.6 percent of the public port financing. The relative share increased from 26.9 percent in 1995 and the dollar volume was up 44 percent. For the first time since 1991, port revenues dropped from first to second. Both dollar volume and the relative share had significant declines. It is the only funding source used by all coastal regions. "Other" is the third leading funding source with 12.7 percent. This method is desirable from a port's perspective, because it includes state trust funds, appropriations, and tax revenues. However, these sources are generally limited in amount and availability.

Table 14
U.S. Port Capital Expenditures by Type of Financing Method for 1996 - 1992⁵
(Thousands of Dollars)

Method	1996		1995		1994		1993		1992	
	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent	Amount	Percent
Port Revenues	\$392,408	31.7%	\$621,703	45.6%	\$309,703	35.3%	\$297,925	50.6%	\$196,956	34.0%
GO Bonds	116,508	9.4%	115,859	8.5%	90,059	10.3%	67,720	11.5%	73,492	12.7%
Revenue Bonds	529,015	42.6%	366,701	26.9%	130,860	14.9%	134,271	22.8%	156,100	26.9%
Loans	13,734	1.1%	12,077	0.9%	140,496	16.0%	4,534	0.8%	21,795	3.8%
Grants	31,383	2.5%	41,078	3.0%	24,142	2.8%	24,781	4.2%	28,957	5.0%
Other	157,485	12.7%	205,369	15.1%	181,175	20.7%	59,978	10.2%	102,283	17.6%
Total	\$1,240,533	100.0%	\$1,362,787	100.0%	\$876,435	100.0%	\$589,209	100.0%	\$579,583	100.0%

The use of GO bonds rose slightly from 8.5 in 1995 to 9.4 percent with dollar volume virtually unchanged. The use of grants and loans remained largely unchanged from 1995 levels accounting for 2.5 percent and 1.1 percent of the 1996 funding sources.

⁵ Excludes expenditures for which there was no information on funding source: 1996 - \$60,619,000
1995 - \$41,568,000 1994 - \$53,185,000 1993 - \$64,454,000 1992 - \$92,185,000

Table 15 examines the distribution of 1996 funding sources by coastal region. Port revenues were the primary financing method in five coastal regions with revenue bonds leading in the two remaining regions.

The South Pacific region continues to be the principal user of port revenues with \$161.4 million (41.2%) followed by the North Pacific region at \$84.2 million (21.5%). The North Pacific region was the major user of GO bonds with \$80.6 million (69.2%).

Table 15
U.S. Port Capital Expenditures by Type of Financing Method for 1996⁶
(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	\$8,189	2.1%	-	-	\$27,549	5.2%	-	-	-	-	-	-	\$35,738
South Atlantic	57,181	14.6%	24,593	21.1%	22,625	4.3%	13,734	100.0%	18,591	59.3%	4,220	2.7%	140,944
Gulf	56,686	14.4%	11,155	9.6%	44,083	8.3%	-	-	8,327	26.5%	14,060	8.9%	134,311
South Pacific	161,436	41.2%	-	-	386,380	73.1%	-	-	125	0.4%	95,000	60.3%	642,941
North Pacific	84,263	21.5%	80,690	69.2%	27,756	5.2%	-	-	4,340	13.8%	44,205	28.1%	241,254
Great Lakes	175	-	70	0.1%	-	-	-	-	-	-	-	-	245
AK, HI, PR, VI*	24,478	6.2%	-	-	20,622	3.9%	-	-	-	-	-	-	45,100
Total	\$392,408	100.0%	\$116,508	100.0%	\$529,015	100.0%	\$13,734	100.0%	\$31,383	100.0%	\$157,485	100.0%	\$1,240,533
Percent by Funding Source	31.7%		9.4%		42.6%		1.1%		2.5%		12.7%		

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

Revenue bond usage was centered in the South Pacific region with \$386.3 million (73.1%). The South Atlantic region accounted for all of the \$13.7 million in loan funding. The South Atlantic and Gulf regions were the principal grant beneficiaries with \$18.5 million (59.3%) and \$8.3 million (26.5%). The South Pacific region was the primary user of "other" sources with \$95 million (60.3%).

⁶ Excludes expenditures of \$60,619,000 for which there was no information on funding source.

Funding Sources - 1997 to 2001

Table 16 shows the anticipated funding sources for the U.S. public port industry's proposed 1997-2001 capital expenditure program. Revenue bonds and port revenues continue as the chief funding sources accounting for 74.6 percent of the overall funding. Revenue bonds are

Table 16
U.S. Port Capital Expenditures by Type of Financing Method for 1997 - 2001⁷
(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	\$47,301	2.5%	-	-	\$241,638	9.1%	-	-	-	-	-	-	\$288,939
South Atlantic	326,510	17.3%	90,400	12.3%	425,330	16.1%	25,000	98.3%	259,764	61.8%	131,337	36.3%	1,258,341
Gulf	351,564	18.6%	365,477	49.7%	54,400	2.1%	-	-	60,388	14.4%	103,950	28.7%	935,779
South Pacific	746,165	39.5%	1,263	0.2%	1,716,425	64.7%	421	1.7%	89,875	21.4%	-	-	2,554,149
North Pacific	266,207	14.1%	276,475	37.6%	73,318	2.8%	-	-	4,000	1.0%	126,966	35.0%	746,966
Great Lakes	3,925	0.2%	1,160	0.2%	9,812	0.4%	-	-	5,888	1.4%	-	-	20,785
AK, HI, PR, VI*	148,035	7.8%	-	-	127,200	4.8%	-	-	-	-	-	-	275,235
Total	\$1,889,707	100.0%	\$734,775	100.0%	\$2,648,123	100.0%	\$25,421	100.0%	\$419,915	100.0%	\$362,253	100.0%	\$6,080,194
Percent by Funding Source	31.1%		12.1%		43.5%		0.4%		6.9%		6.0%		

* Alaska, Hawaii, Puerto Rico, & Virgin Islands

the principal source of funding with 43.5 percent followed by port revenues with 31.1 percent. Revenue bonds are projected to be the leading funding source in four coastal regions with GO bonds leading in two and port revenues in one region.

⁷ Excludes expenditures of \$504,044,000 for which there was no information on funding source.

The South Pacific region continues as the projected primary user of port revenues with \$746.1 million (39.5%) followed by the Gulf region with \$351.5 million (18.6%). The majority of the GO bond financing is in the Gulf and North Pacific regions with \$365.4 million (49.7%) and \$276.4 million (37.6%), respectively. The South Pacific also accounts for nearly two-thirds of the proposed revenue bond funding with \$1,716.4 million (64.7%).

The South Atlantic region accounts for nearly all of the loan category with \$25 million (98.3%). The South Atlantic region is the projected leader in the use of grants with \$259.7 million (61.8%). The "other" funding category is divided among three regions--South Atlantic with \$131.3 million (36.3%), the North Pacific with \$126.9 million (35%), and the Gulf with \$103.9 million (28.7%).

Funding Sources - Comparison of 1996 and 1997 - 2001

Table 17 compares the funding sources used to finance the port industry's 1996 expenditure program with those projected for 1997-2001. Similar to the comparison of expenditure patterns (see Table 10), the relative funding patterns are nearly identical for the major funding sources. Revenue bonds and port revenues are the primary funding sources with virtually the same percentage share. The use of GO bonds is anticipated to increase from the current

**Table 17
Comparison of Current and Projected Funding Sources**

Financing Method	1996 Expenditures	1997 - 2001 Expenditures
Port Revenues	31.7%	31.1%
GO Bonds	9.4%	12.1%
Revenue Bonds	42.6%	43.5%
Loans	1.1%	0.4%
Grants	2.5%	6.9%
Other	12.7%	6.0%
Total	100.0%	100.0%

9.4 percent to 12.1 percent. Loans are projected to decline slightly from 1.1 percent to 0.4 percent. Grants are expected to increase from the present 2.5 percent to 6.9 percent. "Other" decreases from the current 12.7 percent to 6.0 percent for projected expenditures.

Appendix A

1996 Capital Expenditure Survey Respondents

Respondent	1996 Survey	1997-2001 Survey
North Atlantic		
Albany Port District Commission	X	X
Maryland Port Administration	X	X
Massachusetts Port Authority	X	X
The Port Authority of New York & New Jersey	X	X
Philadelphia Regional Port Authority	-	-
Port of Richmond (VA)	X	X
South Jersey Port Corporation	-	-
South Atlantic		
Canaveral Port Authority	X	X
Georgia Ports Authority	X	X
Port of Miami	X	X
North Carolina State Ports Authority	X	X
Port Everglades Authority	X	X
Port of Palm Beach	X	X
South Carolina State Ports Authority	X	X
Virginia Port Authority	X	X
Gulf		
Alabama State Docks Department	X	X
Greater Baton Rouge Port Commission	X	X
Port of Beaumont	X	X
Port of Corpus Christi Authority	X	X
Port of Freeport	X	X
Port of Galveston	X	X
Greater Lafourche Port Commission	X	X
Mississippi State Port Authority at Gulfport	X	X
Port of Houston Authority	X	X
Port of New Orleans	X	X
Port of Pascagoula	X	X
Port of Pensacola	X	X
Port of Port Arthur	X	X
Tampa Port Authority	X	X
St. Bernard Port, Harbor & Terminal District	-	-
South Pacific		
Port of Long Beach	X	X
Port of Los Angeles	X	X
Port of Oakland	X	X
Port of Redwood City	X	X
Port of Sacramento	X	X
San Diego Unified Port District	X	X
Port of San Francisco	X	-
Port of Stockton	X	X

Respondent	1996 Survey	1997-2001 Survey
North Pacific		
Port of Bellingham	X	-
Port of Everett	X	X
Port of Longview	X	X
Port of Olympia	X	X
Port of Portland	X	X
Port of Seattle	X	X
Port of Tacoma	X	X
Port of Vancouver	X	-
Great Lakes		
Port of Milwaukee	X	X
Seaway Port Authority of Duluth	X	X
Non-Contiguous		
Hawaii Department of Transportation	X	X
Puerto Rico Ports Authority	X	X

(-) Indicates no expenditures or data not provided