

Rate Analysis Full Cost Recovery

*Seward Small Boat Harbor
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Problem Statement. The Harbor Enterprise Fund is not generating enough revenue to meet Administrative, Operational and Capital Replacement costs.

Background.

In January 2000, I prepared a State of the Harbor report (the Report) giving the overall assessment of the state of the Seward Small Boat Harbor, the issues facing the harbor and recommended courses of action. One of the essential components of this report is generating enough revenue to cover expenses of the operation and providing for infrastructure replacement when needed. There is neither a philosophy nor a rate plan in place that ties the cost of administration, overhead and infrastructure to the moorage rate plan.

In the Report, I identified the costs of operating the harbor based upon the budget for Fiscal Year 2000. I analyzed the revenues and expenses based upon the current rate plan and revenue generation. I have included the following information from the Report for background, with revisions where appropriate.

Revenue/Expense Analysis from the Report

◆ Revenues. (City of Seward FY2000 Operating Budget)

<i>Revenue Source</i>	<i>Amount</i>	<i>Per Cent of Total</i>
Assessments	\$5,000	0.3%
Moorage	\$912,000	60.8%
Wharfage	\$45,500	3.0%
Boat Lift Fees	\$90,000	6.0%
Power Sales	\$150,000	10.0%
Rents and Leases	\$190,000	12.7%
Miscellaneous	\$98,700	6.6%
Interest Income	\$9,000	0.6%
Total	\$1,500,200	

◆ Expenses. (FY2000 Operating Budget)

Since Seward Harbor uses the lineal foot standard, the costs below, based on the FY2000 budget, will be compared with that standard. There is 18,383 lineal feet of moorage available within the small boat harbor.

<i>Expense Category</i>	<i>Cost</i>	<i>Per Cent of Total</i>
Salaries	\$360,000	24.0%
Benefits	\$162,500	10.8%
Purchased Services	\$277,500	18.5%
Power for Resale	\$120,000	8%
Supplies and Maintenance	\$84,500	5.6%
General and Administrative	\$374,000	24.9%
Interest Expense	\$10,000	0.7%
Operating Transfers (Leases)	\$113,000	7.5%
Total	\$1,501,500	

The costs for basic harbor services include wages and benefits, purchased services, supplies and maintenance and general and administrative. The traditional thinking is that moorage fees offset these costs, with a portion set aside for capital improvements. As shown below, reality differs markedly from the perception. (Electrical costs are not included since the revenues generated from power sales, not moorage revenue, is applied to these expenses.)

◆ Expense Comparison per Lineal Foot.

<i>Expense Category</i>	<i>Cost</i>	<i>Cost/Lineal Foot</i>
Wages and Benefits	\$522,500	\$28.42
Purchased Services	\$277,500	\$15.10
Supplies and Maintenance	\$84,500	\$4.60
General and Administrative	\$374,000	\$20.34
Total	\$1,258,500	\$68.46

The charge per lineal foot of moorage today is \$30.83. Since the budget is "balanced" and involves no cash transfers from other funds, this indicates subsidies of more than \$37 per foot exists within the fund. The source of some of these subsidies is identified below.

<i>Subsidy Source</i>	<i>Amount</i>	<i>Amount/Lineal Foot</i>
Leases	\$100,000	\$5.44
Wharfage	\$45,500	\$2.48
TraveLift	\$26,000	\$1.41
Waitlist	\$10,000	\$.54
Fuel License	\$15,000	\$.82
Showers	\$15,000	\$.82
Launch Ramp	\$25,000	\$1.36
Transient Moorage	\$240,000	\$13.06
Total	\$476,500	\$25.92

The remaining subsidy of \$215,000 or approximately \$11.70 per lineal foot comes from other miscellaneous revenue sources such as late fees, interest, collection on doubtful accounts, and fees for services. Premiums on quarterly (45% of annual) and semi-annual (60% of annual) moorage fees also generate extra revenue for moorage versus annual moorage payments.

◆ **Recommended Action Items.** Cost centers should generate enough revenue to support the facility in the cost center. Until a pricing policy for moorage is adopted, the funds generated by these individual cost centers will continue to subsidize the moorage facility and not address maintenance concerns of the cost center itself.

This Action Item is dependent upon the financial philosophy adopted by the City Council. This policy will directly translate into fee schedules for each cost center based on the pricing philosophy. It is possible to apply a different pricing philosophy for different cost centers, i. e. choosing to subsidize a particular cost center. If this approach is chosen, the subsidy source must be clearly identified and the subsidy amount determined. This amount should not be to the detriment of the subsidy source cost center or the pricing philosophy and financial structure fails.

◆ **General.** Expenses for a harbor generally fall into three categories; construction or replacement, operations and maintenance. Construction or replacement costs cover the expense of harbor expansion or, in the case of a new harbor, the initial construction of the basin and protective barriers such as breakwaters. Replacement costs involve renewing the infrastructure, typically a float system and, less frequently, barrier replacement or repair. This category of expense usually involves large capital replacement or investment projects. Operational costs include wages, benefits, some contracted services, office supplies and administrative services. Maintenance costs are the cost of supplies and equipment required to maintain the floats, buildings, vehicles and utility distribution systems.



Seward Harbor, as a result of the financial accounting philosophy of the City, has identified and maintains a detailed record of most of the real costs associated with operating a harbor facility. As a result, it is a fairly simple exercise to relate the actual cost of supplying a given unit of service. The traditional benchmark for a unit of service is one lineal foot of moorage. This standard is also the traditional, and somewhat obsolete, basis of revenue generation. *As the process for identifying true facility costs is refined and becomes more sophisticated, we find the lineal foot basis does not equitably distribute the real costs of operating, maintaining and improving a harbor facility.* The lineal foot basis puts more of the facility costs on the smaller boats and thus favors the larger boats, while the larger boats generally have a larger impact on the infrastructure. (Donald Williams Olmsted, 1997) Several in depth studies have been conducted concerning application of rates on a fair and equitable basis. Generally, the results of these studies favor a modified square foot charge, which includes shared costs of associated fairways, adjacent slip fingers and portions of main floats. *This method distributes costs equally and proportionally based on the size of the boat and the facility actually occupied and used.*

- ◆ **Pricing Policy.** As a public enterprise, ports and harbors are focused on stimulating business growth, creating jobs and generating tax revenue. Public harbors generally fall in to three main categories of pricing policy; subsidized, cost recovery and revenue producing. This is where operating a *public* harbor as a *business* stimulates the most debates. (Olmsted, 1997)

Alaskan harbors were created using the subsidized approach. They were generally funded and built to stimulate economic development that was not occurring privately. Pricing was kept low to maximize facility use when commercial fishing and transportation of goods by sea were important to the local economies. Since public dollars were used in construction and for a time in maintaining the facilities, all harbors were heavily subsidized. Most Alaskan harbors today maintain this subsidized method, whether they recognize it or not.

Seward Harbor more closely identifies with the cost recovery approach, but only half way. This method seeks to "break even" on revenue versus expenses of the facility. With detailed accounting, direct, and indirect cost allocation methods in place, a truer cost of operating and maintaining the harbor facilities is identified. Although most costs are identified, the rate schedule is not tied to "full" cost recovery, that is, funding asset replacement and capital objects such as breakwaters.

Profit pricing is normally adopted when there is sufficient demand in the market. This method of pricing includes fixed and variable costs in addition to a set rate of return. The approach normally includes an automatic price adjustment based on the Consumer Price Index for the preceding year. Two scenarios develop under this policy; market clearing (price creates vacancies) and revenue maximization (price approaches market clearing). (Olmsted, 1997) Since we are focusing on a "break even" approach and do not seek a profit margin, we will analyze the rate structure from that perspective. That is, recovering operational, administrative and capital improvement costs.

- ◆ **Public versus Private Facilities.** Public facility managers are constrained from operating in a business-like manner and in setting rates that yield a profit by public and political pressure to keep rates steady and low. In contrast, private facility managers set their pricing based on what the market will bear. Such is the case with the Puget Sound area, our nearest competitor for moorage. The users in that area are accustomed to this philosophy and have both public and private facilities from which to choose. Private facilities in that market drive the market rate and force public facilities to match pricing in order to fairly compete. Similarly, when geographically adjacent harbors within this state have vastly different pricing policies, unfair competition and pricing occurs. Seward attempts to move from the cost recovery approach to full cost recovery and even revenue producing, while nearby harbors maintain the subsidized approach. As an example, Kodiak Island Borough contributes one per cent of their sales taxes to capital improvements in their port and harbor, a cost normally passed on to the user. Whittier and Homer have had much lower rates until recent rate studies have shown a need for dramatic price increases, bringing them more in line with Seward pricing.

Unfortunately, the price of moorage still bears little resemblance to actual pricing required for full cost recovery, even when we exclude capital improvement costs. More than 50% of the harbors surveyed in a State report indicated their annual revenue was less than annual expenses and an average increase of \$21 per lineal foot was necessary. (DOT&PF, 1994)

- ◆ **Recommended Action Items.** Adoption of a clear financial objective is required in order to efficiently and effectively operate the harbor. This policy decision must be made at the City Council level and directed by a policy statement to the administration and harbor department. This policy decision must be clear on pricing philosophy and the desired result. If a subsidized philosophy is adopted, it must be clear at what level and from what source the subsidies will be derived and how capital improvements will be funded. If the decision is to adopt a less than cost recovery philosophy, the policy decision must identify and allow for capital improvements and their funding from other sources, since cost recovery does not provide for major improvements. This funding must be specific and time-oriented and an improvement schedule followed in order to be successful. If a full cost recovery philosophy is selected, a phased increase in moorage rates over time is required until the full cost recovery rate is attained. This phased plan should be no less than three years and no longer than five and should include coinciding facility renewal to improve services and facilities used by the customer.

Re-defining fair distribution of the costs of the facility is paramount to the financial success of the harbor. The time-honored standard of the lineal foot basis worked well in its time, but no longer meets the test of fairness. A modified fee schedule based on amount of facility used and other factors is becoming the standard of the industry. This method of assessment distributes costs evenly to all users, regardless of boat size or location. This method is what this report recommends.

Full Cost Recovery Rate Plan

This method of allocating cost to facilities used and equally allocating operational and administrative costs ties the actual cost to the rate plan. Without this direct analysis and connection, the adopted rate plan becomes subjective, distributes the costs unfairly and may not recover all the costs necessary for the long-term health of the harbor. The time is right for this type of analysis since we are replacing about 2/3 of the float system and have accurate, current costs of the new float system to use in a moorage plan.

At the most basic analysis of costs, there are three categories; Administrative/Operational, Capital Equipment and Infrastructure. These are a refinement of the categories in the Report and the excerpt above, which are listed as Construction or Replacement, Operations and Maintenance. One assumption in this analysis is the costs are calculated based on the initial cost of the item, not the replacement cost. This has the effect of slightly understating costs initially in the Administrative/Overhead and Capital Equipment components, but these costs are covered in arrears when the items are replaced and the new lifecycle costs are calculated to update the plan. Given the long-term life cycle of the float and related infrastructure, it is difficult to accurately forecast replacement cost. The presumption is the harbor users would pay for the infrastructure as built and the replacement fund would be used periodically to replace different portions of the floats. This decreases the effect of inflation and provides for a systematic approach to infrastructure renewal.

In the Report from last year and the excerpt at the beginning of this document, transient moorage is listed and considered as a subsidy to the reserved moorage rates. In this rate analysis, all lineal moorage is transient moorage and considered as one slip for every 32 feet of lineal dock space. For the purposes of this study, there are 659 “slips” in the harbor. This maintains the concept from the Report that transient fees subsidize reserved slip holders and effectively reduces the cost factors for the slip holder. Without this inclusion, transient moorage would be considered separately under a more complex rate plan and the Admin/Ops and Capital Equip cost factors would increase for the reserved slip holders. Since most of the transient moorage is paid in advance, that is monthly, quarterly, semi-annually or annually, these “guests” will have their rates calculated based on the pro-rated share of the established rate plan and bear their share of the costs of the facilities, admin/ops and equipment. For daily guests, the pro-rated calculation of the slip length nearest or equal to the length of the boat would be used, depending upon what facility they use; improved or unimproved.

Administrative/Operational

The table below illustrates the Cost Centers associated with the Harbor Enterprise Fund. The first column shows the total cost per object code for the entire fund, while the columns across the page allocate these costs to the appropriate cost center. Only the expenses listed under "Floats" are considered in this analysis, since they are the direct and indirect costs associated with moorage in the harbor. Harbor General and Harbor Administration indirect costs are an average of these allocated costs, since these numbers change from year to year.

Table 1
Administration/Operations

Operating Expenses	Total Fund	Floats	Wharves	50ton	Electric	General	Admin
Personnel	\$ 552,000	\$ 77,000	\$ 34,000	\$ 28,000	\$ 1,000	\$ 210,000	\$ 202,000
Advertising	\$ 7,000		\$ 1,000			\$ 5,000	\$ 1,000
Subscription/Dues	\$ 2,000						\$ 2,000
Travel/Subsistence	\$ 7,000						\$ 7,000
Communications	\$ 10,000						\$ 1,000
Education/Training	\$ 3,000						\$ 3,000
Legal	\$ 50,000						\$ 50,000
Utilities	\$ 85,500	\$ 40,000	\$ 5,500			\$ 40,000	
Power for Resale	\$ 120,000				\$ 120,000		
Heating Fuel	\$ 3,000					\$ 3,000	
Insurance	\$ 58,550	\$ 25,000	\$ 6,800	\$ 1,500	\$ 250	\$ 21,000	\$ 4,000
Maintenance and Repair	\$ 34,000	\$ 4,000	\$ 4,000	\$ 6,000	\$ 2,000	\$ 16,000	\$ 2,000
Contracted Services	\$ 69,000	\$ 4,000	\$ 2,000	\$ 3,000	\$ 10,000	\$ 20,000	\$ 30,000
Operating Supplies	\$ 23,500	\$ 4,000	\$ 1,000		\$ 1,500	\$ 8,000	\$ 9,000
Gas and Lube	\$ 10,000			\$ 2,000		\$ 5,000	\$ 3,000
Small Tools, Furniture, Equip	\$ 13,000	\$ 3,000	\$ 2,000			\$ 3,000	\$ 5,000
Janitorial Supplies	\$ 9,000					\$ 9,000	
Postage, Freight	\$ 9,000	\$ 2,000	\$ 1,000	\$ 1,000	\$ 1,000	\$ 2,000	\$ 2,000
Equipment Rental	\$ 2,000						\$ 2,000
Motorpool	\$ 21,000					\$ 16,000	\$ 5,000
Depreciation	\$ 399,000		\$ 36,000		\$ 14,000	\$ 44,000	
Harbor General	\$ 812,000	\$ 200,000	\$ 80,000	\$ 21,000	\$ 18,000	\$ (386,000)	\$ (329,000)
Harbor Admin	\$ (716,000)	\$ 200,000	\$ 69,000	\$ 16,000	\$ 2,000		
Bad Debt Expense	\$ 45,000		\$ 19,000	\$ 1,000			
Govt Admin Fee		\$ 110,000	\$ 40,000	\$ 16,000	\$ 20,000		
Payment in Lieu of Taxes	\$ 125,000	\$ 66,000	\$ 16,000	\$ 7,000	\$ 13,000	\$ 23,000	
Customer Records, Collection	\$ 4,500						\$ 4,500
Interest Expense							
Miscellaneous	\$ 6,000						\$ 6,000
Equipment	\$ 12,000		\$ 3,000	\$ 3,000		\$ 3,000	\$ 3,000
Total	\$ 1,776,050	\$ 735,000	\$ 320,300	\$ 105,500	\$ 202,750	\$ 42,000	\$ 12,500
	Cost/Slip/Year	\$ 1,115					
	(659 slips)						

Of the total Harbor Enterprise Fund Budget, there is \$735,000 per year allocated to the float system. These expenses are basically fixed, but may vary slightly from year to year based on actual expenses. The allocated indirect costs will decrease as direct expenses are identified and those direct expenses will show up in another line item of the budget as an increase. For instance, if Travel and Subsistence can be accurately expensed *directly* to the float cost center, the expense would show up in that discreet line item and the indirect cost would decrease.

The basic assumption in this table is that every slip requires as much overhead to manage as the next, so these costs are apportioned evenly throughout the harbor. \$735,000 evenly distributed amongst 659 slips comes out to \$1,115 per slip per year to cover Administration/Operations. This is the first portion of the moorage rate plan.

Capital Equipment

The second portion of the moorage rate plan is Capital Equipment. This includes vehicles, boats, and large tools, the harbor building and similar items. As this list becomes more comprehensive, more costs are added to this element. Similarly, if items are no longer needed or replaced with a less expensive item, these costs will decrease. Each item is identified by description, expected useful life, cost to replace and other factors. The cost is amortized over the expected useful life of the item, multiplied by a factor, which indicates percentage used for the Float Cost Center and equally applied to every slip.

Table 2
Capital Equipment

	In Service	Life Cycle	Age	Replace Date	Replace Cost	Cost/Year	Factor	Cost/Slip/Year
Harbor Building	1964	30	37	1994	\$ 500,000	\$ 16,667	0.5	\$ 13
Computers	1998	5	3	2003	\$ 7,000	\$ 1,400	0.7	\$ 1
Radios	1998	7	3	2005	\$ 20,000	\$ 2,857	0.2	\$ 1
Software Application	1995	7	6	2002	\$ 25,000	\$ 3,571	0.7	\$ 4
Furniture	1995	5	6	2000	\$ 15,000	\$ 3,000	0.2	\$ 1
Breakwater, S	1964	50	37	2014	\$ 2,500,000	\$ 50,000	1	\$ 76*
Breakwater, E	1964	50	37	2014	\$ 5,000,000	\$ 100,000	1	\$ 152*
Dredging	1964	30	37	1994	\$ 2,000,000	\$ 66,667	1	\$ 101*
Snow Throwers	1999	5	2	2004	\$ 5,000	\$ 1,000	0.8	\$ 1
Snow Plows	2000	5	1	2005	\$ 5,000	\$ 1,000	0.8	\$ 1
Fire Extinguishers	1998	5	3	2003	\$ 5,000	\$ 1,000	0.8	\$ 1
Welder	1995	7	6	2002	\$ 7,000	\$ 1,000	0.7	\$ 1
Pressure Washer	1999	5	2	2004	\$ 2,000	\$ 400	1	\$ 1
Tractor	1990	10	11	2000	\$ 25,000	\$ 2,500	0.7	\$ 3
Vehicles #65	1999	7	2	2006	\$ 28,000	\$ 4,000	0.7	\$ 4
Dpty #62A	1995	7	6	2002	\$ 28,000	\$ 4,000	0.7	\$ 4
Utility #61	1988	7	13	1995	\$ 28,000	\$ 4,000	0.7	\$ 4
Fuel #62	1993	7	8	2000	\$ 28,000	\$ 4,000	0.5	\$ 3
Flatbed #66	1999	7	2	2006	\$ 30,000	\$ 4,286	0.5	\$ 3
Crane #67	1987	7	14	1994	\$ 50,000	\$ 7,143	0.7	\$ 8
BW21 #68	1988	15	13	2003	\$ 30,000	\$ 2,000	1	\$ 3
BW25 #64	1988	15	13	2003	\$ 85,000	\$ 5,667	1	\$ 9
Trailer #64A	1988	15	13	2003	\$ 10,000	\$ 667	1	\$ 1
Vacuum #59	1996	12	5	2008		\$ -	1	\$ -
B Fish Cleaning Station	2001	30	0	2031	\$ 250,000	\$ 8,333	1	\$ 13
J Fish Cleaning Station	2001	30	0	2031	\$ 250,000	\$ 8,333	1	\$ 13
E Trestle/Ramp	2001	30	0	2031	\$ 150,000	\$ 5,000	1	\$ 8
F Trestle/Ramp	2001	30	0	2031	\$ 150,000	\$ 5,000	1	\$ 8
J Trestle/Ramp	2001	30	0	2031	\$ 150,000	\$ 5,000	1	\$ 8
G Float	2001	30	0	2031	\$ 707,000	\$ 23,567	1	\$ 36
								Cost/Slip/Yr (659 slips) \$ 151

* Not included in the final total as explained below.

The basic assumption in this table is that every slip in the harbor benefits equally from the use of the capital equipment, so each slip is apportioned an equal share of the cost of these items. *Note the sunk cost for the breakwaters is not included in this figure.* As a matter of policy, these items would likely be deleted with the notion that federal funds would repair/replace these structures should the need arise. The figures are shown in red but not included in the total. The additional cost per slip is \$151, which is the second portion of this moorage rate plan.

Infrastructure

The third and final component of this rate plan is the cost of infrastructure. This is the cost of the facility actually used by the boat, which is the slip. Each slip shares a slip finger and a portion of the main walkway float, except that lineal moorage only uses the main float frontage. Common areas such as G Float and the ramps, trestles and fish cleaning stations are included in the previous component.

The recent North Harbor Float Replacement Project provides exact costs for each part of the project. When materials, engineering, construction, utilities and so forth are calculated, with a deduction for the cost of the new trestles, ramps, G Float and fish cleaning stations (these are common areas whose cost is applied to every slip), and divided into the square footage of floats installed, the cost per square foot is \$120. This is the actual cost of the facility as installed today. As mentioned earlier, this cost does not include inflationary factors for future costs of floats, but assesses the actual cost of the facility to the user of that facility. When the floats are replaced in the future, some thirty years hence, the actual cost of the slip will be recalculated to reflect the actual cost of replacement. This provides that each user of the facility will pay for the cost of the facility used as installed, not for any future costs or the cost of any other facility other than the one used today.

The cost of replacing E, F, H and J floats is \$6,300,000. Amortized over 30 years, the cost per year is \$210,000. The total square footage of floats replaced is 50,860. Dividing the cost per year by the square feet of float replaced gives a figure of \$4 per square foot per year. The following table shows the square footage of each new slip and applies the cost per square foot for the base rate of infrastructure.

*Table 3
Cost of Infrastructure*

Slip	SQFT	SQFTx\$ 4
E90	564	\$ 2,256
E75	474	\$ 1,896
E150	900	\$ 3,600
*E50	294	\$ 1,176
F50	270	\$ 1,080
H40	198	\$ 792
J32	173	\$ 692
(\$3/SQFT) X32	192	\$ 576

* 50 foot slips on E float are attached to a wider main float and have a larger square foot total.

In order to calculate the moorage rate for a given slip, the figures from Table 1, Table 2 and Table 3 are combined to form the rate under this plan. For example, the rate for a 40-foot slip in the new section would be \$1,115 (Admin/Ops) plus \$151 (Capital Equip) plus \$792 (Infrastructure) for a total of \$2098 per year. The current rate plan would have this slip rate be \$1,233 for an increase of \$865 per year. Note there is a difference in the cost of a 50-foot slip on E Float and the cost for a 50-foot slip on F Float. This is because the main walkway of each float is a different width. Again, as mentioned earlier, this rate plan ties the cost of the facility used to the rate, so this difference follows that logic. For moorage on X Float, this rate structure would be similar to the new rate structure, except the facility cost would be calculated based on the cost of that six-year old float. X Float is 750x12 (9000SQFT) and cost \$900,000. Over thirty years, this equates to a facility cost of \$3 per square foot.



Impact on Rates and Revenues

The impact of this rate plan on moorage rates is significant. Rates would increase *on the new floats* anywhere from 6% to 102%, depending upon the size of the slip. Since there is a substantial increase for many customers, this rate plan would be phased in over a 3-5 year period. For this analysis, we will assume a five year phased approach, increasing the rate 20% per year until the full cost recovery rate is reached. This will reduce the actual cost recovery by a small margin, but it is fair and will not cause the business to fail. For customers occupying fully depreciated floats, the moorage rate will be the combination of components one and two (Admin/Ops and Capital Equip) only. The total impact on revenues at year five is detailed below.

Table 4
Total Annual Revenue Change

Slip	SQFT	SQFTx4	Adj Cost/Slip/Yr	# of Slips	Yr 5 \$	Yr 4 \$	Yr 3 \$	Yr 2 \$	Yr 1 \$	Today
E90	564	\$ 2,256	\$ 3,522	12	\$ 42,264	\$ 40,470	\$ 38,677	\$ 36,883	\$ 35,090	\$ 33,296
E75	474	\$ 1,896	\$ 3,162	9	\$ 28,458	\$ 26,928	\$ 25,399	\$ 23,869	\$ 22,340	\$ 20,810
E150	900	\$ 3,600	\$ 4,866	1	\$ 4,866	\$ 4,818	\$ 4,769	\$ 4,721	\$ 4,673	\$ 4,625
E50	294	\$ 1,176	\$ 2,442	27	\$ 65,934	\$ 61,071	\$ 56,209	\$ 51,346	\$ 46,483	\$ 41,621
F50	270	\$ 1,080	\$ 2,346	26	\$ 60,996	\$ 56,813	\$ 52,629	\$ 48,446	\$ 44,262	\$ 40,079
H40	198	\$ 792	\$ 2,058	64	\$ 131,712	\$ 121,155	\$ 110,597	\$ 100,040	\$ 89,482	\$ 78,925
J32	173	\$ 692	\$ 1,958	41	\$ 80,278	\$ 72,312	\$ 64,346	\$ 56,381	\$ 48,415	\$ 40,449
X32	192	\$ 576	\$ 1,842	23	\$ 42,366	\$ 38,431	\$ 34,496	\$ 30,561	\$ 26,626	\$ 22,691
A23	0	\$ -	\$ 1,266	57	\$ 72,162	\$ 65,813	\$ 59,464	\$ 53,116	\$ 46,767	\$ 40,418
B32	0	\$ -	\$ 1,266	54	\$ 68,364	\$ 65,346	\$ 62,328	\$ 59,310	\$ 56,292	\$ 53,274
C32	0	\$ -	\$ 1,266	52	\$ 65,832	\$ 62,926	\$ 60,020	\$ 57,113	\$ 54,207	\$ 51,301
D42	0	\$ -	\$ 1,266	58	\$ 73,428	\$ 73,763	\$ 74,098	\$ 74,432	\$ 74,767	\$ 75,102
K32	0	\$ -	\$ 1,266	46	\$ 58,236	\$ 55,665	\$ 53,094	\$ 50,523	\$ 47,953	\$ 45,382
G17	0	\$ -	\$ 1,266	22	\$ 27,852	\$ 24,587	\$ 21,322	\$ 18,057	\$ 14,792	\$ 11,527
S17	0	\$ -	\$ 1,266	44	\$ 55,704	\$ 49,174	\$ 42,644	\$ 36,114	\$ 29,583	\$ 23,053
Annual Revenue					\$ 878,452	\$ 819,272	\$ 760,092	\$ 700,912	\$ 641,732	\$ 582,552
Annual Revenue Change					\$ 59,180	\$ 59,180	\$ 59,180	\$ 59,180	\$ 59,180	
Change From Existing Condition					\$ 295,900	\$ 236,720	\$ 177,540	\$ 118,360	\$ 59,180	

The impact per slip is detailed in Table 5. This analysis assumes the moorage rate for the old, wooden slips (floats A, B, C, D) includes only the Admin/Ops and Capital Equip components. As stated earlier, the concept is to pay for what facility is being used now and since the wooden floats (except X Float) are fully depreciated, the cost for Infrastructure is zero. When these floats are replaced, the cost for infrastructure will be recalculated and combined with the other two elements of the rate plan.



*Table 5
Impact per Slip*

New Slips	SQFT	SQFTx4	Yr 5 \$	Yr 4 \$	Yr 3 \$	Yr 2 \$	Yr 1 \$	Today	Annual Increase	
E90	564 \$	2,256 \$	\$ 3,522	\$ 3,373	\$ 3,223	\$ 3,074	\$ 2,924	\$ 2,775	\$ 149	
E75	474 \$	1,896 \$	\$ 3,162	\$ 2,992	\$ 2,822	\$ 2,652	\$ 2,482	\$ 2,312	\$ 170	
E150	900 \$	3,600 \$	\$ 4,866	\$ 4,818	\$ 4,769	\$ 4,721	\$ 4,673	\$ 4,625	\$ 48	
E50	294 \$	1,176 \$	\$ 2,442	\$ 2,262	\$ 2,082	\$ 1,902	\$ 1,722	\$ 1,542	\$ 180	
F50	270 \$	1,080 \$	\$ 2,346	\$ 2,185	\$ 2,024	\$ 1,863	\$ 1,702	\$ 1,542	\$ 161	
H40	198 \$	792 \$	\$ 2,058	\$ 1,893	\$ 1,728	\$ 1,563	\$ 1,398	\$ 1,233	\$ 165	
J32	173 \$	692 \$	\$ 1,958	\$ 1,764	\$ 1,569	\$ 1,375	\$ 1,181	\$ 987	\$ 194	
Old Slips										
X32	192 \$	576 \$	\$ 1,842	\$ 1,671	\$ 1,500	\$ 1,329	\$ 1,158	\$ 987	\$ 171	
A23	0 \$	-	\$ 1,266	\$ 1,155	\$ 1,043	\$ 932	\$ 820	\$ 709	\$ 111	
B32	0 \$	-	\$ 1,266	\$ 1,210	\$ 1,154	\$ 1,098	\$ 1,042	\$ 987	\$ 56	
C32	0 \$	-	\$ 1,266	\$ 1,210	\$ 1,154	\$ 1,098	\$ 1,042	\$ 987	\$ 56	
D42	0 \$	-	\$ 1,266	\$ 1,272	\$ 1,278	\$ 1,283	\$ 1,289	\$ 1,295	\$ (6)	
K32	0 \$	-	\$ 1,266	\$ 1,210	\$ 1,154	\$ 1,098	\$ 1,042	\$ 987	\$ 56	
G17	0 \$	-	\$ 1,266	\$ 1,118	\$ 969	\$ 821	\$ 672	\$ 524	\$ 148	
S17	0 \$	-	\$ 1,266	\$ 1,118	\$ 969	\$ 821	\$ 672	\$ 524	\$ 148	

The actual annual increase per slip category is from 0% to 28% with the average being about 11%.

Conclusion.

This method of developing a rate structure actually ties the rate to tangible benefit. It is a logical and analytical approach and does not tie moorage rates to the length of the boat, a somewhat arbitrary determination of cost/benefit as we have shown. This method of allocating costs and assessing fees for the facility use is the fairest and best method for determining rates. It distributes common and indirect costs to all slips evenly and provides for actual cost of the infrastructure used. Theoretically, as long as the infrastructure remains in place, the cost factor per square foot does not change. Adjustments are easily made to Admin/Ops and Capital Equipment factors and may be tied to Consumer Price Indexes or similar factor. When applied over the entire facility, the additional cost for additional services or equipment is direct, easily identifiable and may be segregated out for discussion of need versus costs. Boards and Commissions, City Council, user groups and customers can then decide easily if the cost of additional services is worth the additional expense. If new slips are added as in the East Harbor Expansion Project, the Admin/Ops and Capital Equip cost factors will be spread over a larger customer base, effectively lowering the rate for everyone. An expansion in the harbor will include additional costs for Admin/Ops and Capital Equip, but not to the extent that a separate, new facility would. Most of the costs of operating a facility are in place now and would not change appreciably, if at all. That means the Admin/Ops and Capital Equip cost factors are spread over 959 slips, not 659 for a general reduction of 30% in those two cost factors. For example, if the harbor building were replaced now at a cost of \$500,000, the Capital Equip cost factor does not change. If the harbor expansion occurs and adds 300 new slips, the Capital Equip factor for this item becomes \$9 instead of \$13, for an overall reduction of \$4 per slip per year.

