

Using the Benefits Continuum, Enterprise Funds, and Cost Finding to Implement Best Pricing Practices

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EXECUTIVE SUMMARY: The paper reports how best practices in pricing recreation and aquatic facilities and services suggested by the research literature were implemented in a city of 100,000. The process had three core elements.

First, in order to price each service at a level that was fair and equitable to both participants and nonparticipants, a benefits continuum was developed. This categorized each service into one of five categories. Services perceived to provide communitywide benefits were fully subsidized from taxes, so no price was charged for them. At the other extreme, when all benefits were perceived to accrue to users a price was set that covered all of its costs. The magnitude of spillover benefits that a community receives varies among services, so three position points were shown on the continuum reflecting services where benefits accrued primarily to the community (25% cost recovery), equally to users and the community (50%), and primarily to the users (75%).

The second element was the implementation of enterprise-like funds for all services that generated revenues. However, the technical definition of enterprise funds as being self-financing was qualified by the council, because it approved transfer of money from the general fund which was intended to subsidize economically disadvantaged users of the enterprise services.

Prices designed to produce revenues that achieve rationally derived cost-recovery targets and create viable enterprise funds are dependent upon there being reasonably accurate estimates of service costs, since revenue goals without accurately estimating costs are meaningless. Accordingly, a cost finding exercise was undertaken which involved taking available financial data and recasting and adjusting it to derive cost estimates. Full absorption costing was used that embraced four types of costs: citywide administration indirect costs, department indirect costs, division indirect costs, and direct variable costs. The resultant cost based prices were then adjusted to reflect the going rate for each service charged by other suppliers in the area.

The perceived advantages and challenges encountered in this process are discussed along with the managerial implications. Agencies tend to make price changes reactively in response to an emergent financial or political imperative. However, strategic pricing requires proactively developing a policy. This case study describes a proactive approach that provides strong conceptual scaffolding upon which to construct an effective pricing policy.

KEYWORDS: *Price, park and recreation services, benefits continuum, cost finding, enterprise funds*

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Most elected officials are under relentless pressure from their constituents to lower, or at least not to raise, taxes. The mantra that guided park and recreation agencies after the tax revolt in the last quarter of the 20th century was: Do more with less. This was pursued by robustly cutting costs. In most agencies, costs have now been pared to the bone. A complementary mantra that subsequently emerged was: Do more with more, which means raising prices to create more self-generated revenue so more services can be offered. This recognizes that support from elected officials for new services often is likely to depend on them being relatively self-sufficient (Crompton, 2016).

This generalized scenario is consistent with the author's experience as a multi-term councilman and the mayor pro tempore in a community of 100,000. There were seven members on the council; all were elected by the whole community (no districts); full-time staff numbered approximately 900; and the annual budget ranged between \$250 million and \$300 million.

This paper reports a process, led by the author, which was intended to strengthen efficiency, managerial accountability, and enhance transparency in the use of public funds that were invested in recreation and aquatic facilities and programs. The goal was to establish prices based on best practice suggested by the research literature. Its three center pieces were utilization of a "Benefits Continuum," establishment of "Enterprise Funds" for each service for which a price was charged, and development of a system for identifying the cost of delivering each service.

The Benefits Continuum

Elected officials frequently position themselves as "fiscal conservatives." They pledge to keep taxes low. A primary strategy for enabling them to meet that commitment, without reducing the quality of services, is to ensure that those who benefit from services pay for them. The Benefits Continuum is a vehicle for operationalizing, in monetary terms, the relationship between who benefits and who pays for sport and leisure services.

This elegant framework was first introduced by economists in the 1950s using the terms *public*, *merit* (or *mixed*) and *private goods* (Musgrave, 1959; Samuelson, 1954, 1955). It transitioned into the parks and recreation field in the early 1980s using the same nomenclature, but was adapted to provide cost-recovery targets (Crompton 1981a, 1981b). However, over time it became apparent that the economists' conceptualization and definitions of these terms, and the nomenclature they used, required modification to better fit the context and needs of the parks and recreation field. This resulted in the terms communitywide, spillover (or partial community) and user benefits being adopted (Crompton, 2007).

The positioning of services on the continuum defines the appropriate level of taxpayer subsidy and the proportion of costs that user prices should be designed to recover. Its purpose is to provide a target cost-recovery amount to guide the price that should be charged. If there is a gap between the desired and existing cost-recovery ratios, then a strategy for reducing costs and/or raising prices can be developed.

This process is the foundation upon which a user price is built. It is the point of departure. It is likely to be subsequently amended to reflect both the going rate in the marketplace and The Ability to Pay Principle, which recognizes a community's obligation to provide opportunities equally to all residents and directs that, as far as possible, no residents should be excluded from participating because they lack the funds to do so.

three position points are shown on the continuum reflecting services where benefits accrue primarily to the community (25% cost recovery), equally to users and the community (50%), and primarily to the users (75%).

The following was developed as the council's pricing policy for services where benefits were perceived to be confined exclusively to individual users:

While a primary mission of government is to satisfy community needs, many services solely benefit specific individuals. It is the general policy of the City Council that the public at large should not subsidize activities of such a private interest through general tax revenues. Therefore, the City has established user fees at a level that ensures those who use such a proprietary service pay for that service. With few exceptions, such as those services provided for low-income residents, fees have been set to enable the City to recover the full cost of providing those services.

It could legitimately be argued that all of the services listed as providing communitywide benefits in Figure 1, offer users increments of benefits that do not accrue to nonusers. Hence, they should more appropriately be positioned in one of the other four categories. For example, it is incontrovertible that those who use public urban parks benefit more than those who do not. However, urban parks are likely to be used by a larger proportion of residents than any other facility an agency operates; probably offer more community benefits than any other service; and have traditionally been free of charge, so any attempt to enclose them to restrict access and to charge admission would likely arouse contempt and outrage. These factors have resulted in urban parks almost universally being positioned as communitywide assets.

Sometimes services assigned to the zero-cost-recovery category are there by default. That is, it is recognized users do receive increments of benefit that do not accrue to the community, so the service should be assigned to one of the other four categories. However, it is impractical, too costly, or tradition is too strong to charge users. Even though a user price might be warranted both on equity and efficiency grounds, widespread public resistance to paying it may become the overriding consideration.

For example, in Figure 1, skateboard parks were assigned to the zero-cost-recovery category in my community, even though almost all stakeholders engaged in the positioning process believed benefits accrued exclusively to users, so 100% cost recovery should be the goal. However, a state law relating to skateboard parks mandated that the city had only nominal liability exposure if it was an open-access, free facility. However, if it was programmed, access restricted, or a price charged, then the city had a full "duty of care" obligation and no protection from liability. The cost of insurance in that case was sufficiently high that it could never be covered by user fees. Assigning it to the zero-cost-recovery strategy was the least-cost option for the city.

Positioning services in one of the three spillover benefit categories (25%, 50%, 75% cost recovery) recognizes it is practical to levy a user price for them, but users should be subsidized to the extent that benefits to the whole community occur. If the user price is set too high, then individuals may choose to make less use of the service than is considered desirable by the community. If the price is too low, there will be a consumer surplus and an unnecessarily high level of tax support.

Positions on the continuum are not identified by an objective formula, rather they are socially constructed. This creates a challenge, not only in identifying spillover benefits, but also in measuring their magnitude, which is a subjective task. Since perspectives and values differ both among and within communities, it is inevitable that a given service will be positioned differently on the continuum by different communities and by the same community at different points in time. For example, a tennis facility in a high-income neighborhood may be perceived as having exclusively user benefits so the cost-recovery target is 100%, while an identical tennis facility in a low-income, high-crime neighborhood may be perceived as benefitting the whole community through alleviating deviant behavior, and so is fully subsidized. The subjectivity of positioning services suggests the process

should periodically be reviewed, (say) every three years. During this period, changes in political leadership and philosophy and/or changes in economic conditions may result in a desire to adjust some of the programs' positions on the continuum.

Implementing Enterprise Funds

Enterprise funds are fiscal entities that are self-financing. They are independent of the general fund and ideally they receive no tax support. They can be viewed as businesses engaged in by a jurisdiction that closely mirror how private companies would operate, or as subsidiary companies of a parent company, that is, the governmental entity.

However, the technical definition of enterprise funds as being self-financing was qualified by the council, because it approved transfer of money from the general fund, which was intended to subsidize economically disadvantaged users of the enterprise services.

In most government entities, appropriated dollars from the general fund are the primary source of funding for park and recreation services, and elected officials usually require self-generated revenues to be deposited there. The result is a "disconnect" between money spent and money earned making both the concepts of revenue maximization and cost control abstract, rather than a fiscal imperative. Enterprise funds restore the link between suppliers and users of services.

An enterprise fund provides a "closed-loop" mechanism, whereby those paying for a service can see the direct benefits that arise from their payments. This is consistent with prospect theory (Kahneman & Tversky 1979), because fees that are directed to a jurisdiction's general fund are likely to be perceived by users as a total loss, since there is no direct nexus between their payments and provision of the service. In contrast, if their resources are directed to an enterprise-type fund, then they are likely to perceive a direct gain from their payments.

It has been long been recognized that "Consumers are more likely to support user fees when such fees are used to maintain and improve the resource at which they are collected" (McCarville & Crompton, 1987, p.288). A substantial body of empirical research supports this conclusion (Fedler & Miles, 1988; Leuschner, Cook, Roggenbuck, & Oderwald, 1987; McCarville, Reiling & White, 1996; Reiling, McCarville & White, 1998; Ostergen, Solop & Hagen, 2005; Steele, 1989; Winter, Paluki & Burkhart, 1999)

Council Rationale for Enterprise Funds

The council believed the enterprise fund approach provided an economic incentive for those staffing a facility or program to be diligent about collecting fees. If those revenues go into a general fund or elsewhere, then field staff at a park, for example, may elect not to man entrance stations to collect the fees. This would be a logical decision from their myopic perspective because while the staffing cost would be funded from the park's operating budget, the park would not receive any of the revenue. Consider the following case:

Many of the federal National Wildlife Refuges had established special recreation fee accounts which enabled them to retain revenues collected from such activities as wildlife tours conducted by staff, hunting blind rentals, camps along trails, and primitive cabins. When Congress ruled those fees could no longer stay in the refuges and had to be conveyed to a central fund for support of all activities authorized by that fund, two changes occurred. First, in the first year the change was implemented, one-third of those refuges quit collecting fees, since they lacked the economic incentive to do so. Second, many of the services were contracted out to local nonprofit "friends of refuge" groups, who were able to retain the funds and reinvest them in the refuges (Baldacchino, 1984).

Financing "small-scale" facility renovations was a challenge. In the case of athletic fields, for example, this may include lighting, irrigation, shade structures, backstops, bleachers, windscreens, goals, bases and drinking fountains. The effective life span of such items is likely to be much shorter than 20 or 25 years, so it is inappropriate to fund

them with long-term bonds because future taxpayers would be paying for assets that no longer existed. At the same time, their cumulative cost is likely to be too great for them to be consistently financed out of regular operational budgets. This led my city to impose a surcharge on all teams using athletic fields to pay for both the replacement of items that have deteriorated as a result of their use, and for any improvements in the existing standard of facilities the participants would like to have.

To establish the appropriate fee, a 10-year schedule was prepared that projected the annual renovations and improvements required at each athletic field complex. The costs of implementing the 10-year program were calculated, with allowances made for likely future cost increases, and divided into equal annual amounts. This is a rolling schedule that is updated annually. The surcharge is fixed at a level that is sufficient to pay user groups' prorated share of the fields' annual renovations and improvements. The revenues are retained in a separate enterprise fund for each athletic field complex, and are used exclusively for renovating or improving that complex.

Representatives from the athletic groups are involved in both setting the fee and in authorizing disbursements from the fund. If the fee is set too low and there are insufficient funds to pay for the renovations, then the athletic groups have to accept responsibility for the deteriorated facilities since they failed to make adequate provision to retain the desired standard.

Table 1 illustrates the city's 10 year rolling projection of small item replacement costs for the 9 softball and 10 soccer fields at its main athletic park. It shows that during the next 10-year period the softball field renovations are projected to cost almost \$245,000, while those for soccer are estimated at almost \$187,000. Based on projections of the number of teams per year using the fields and the number of players per team, it was estimated these costs could be met by a surcharge of \$5 per player on every team. There was widespread acceptance and no resistance to this surcharge.

In addition to this potential for strengthening staff's commitment to generating revenue and producing relevant high quality services, the enterprise vehicle has three other advantages. First if, for example, golf courses are removed from the general fund to an enterprise fund, then it undercuts lobbying efforts by golfers to resist price increases and retain subsidies; or to upgrade the quality of facilities or to build additional amenities with taxpayers' money rather than with golfers' money. Absent an enterprise fund, they may be abetted in these lobbying efforts by an agency's golf course staff who may perceive they have a vested interest in supporting such efforts to enhance "their empire." In contrast, a true enterprise fund is subject to real budget constraints that are not malleable. It is the only source of funds for operations, maintenance and capital renovations, so if prices are set too low then facilities will deteriorate.

The second advantage is that the "closed-loop" mechanism provides incentives to both participants and managers. For participants it means those paying for a service can see the direct benefits from their payments, which it was believed would reduce resistance to price increases.

For managers, the "closed-loop" means they are directly responsible for covering their costs with revenues, so they will tend to add services that cover costs and eliminate those that do not. In contrast, when services are mostly funded by taxes, such economic realities can be ignored. When managers are asked to generate revenues that go to the general fund, then inefficient decisions are likely. For example, they may close a campground to "save" money even though its revenues exceeded its costs, because the revenues went elsewhere while the costs came out of their budget.

A third advantage is that revenues retained in an enterprise fund can be carried forward to future fiscal years. This facilitates the reinvestment of surplus revenues to improve programs and services.

Two potential downsides to enterprise funds were recognized. First, is the danger that the emphasis on revenue generation and the imperative to attain full-cost recovery results in a reduced focus on an agency's core mission. If this occurs, then the original purpose that a service was intended to serve is lost to the new imperative of fiscal self-sufficiency.

Second, the advantages of using an enterprise fund will dissipate if surplus revenues that exceed the target cost-recovery ratio are either returned to the general fund, or if tax support for the following year is reduced by the surplus amount. There is no escaping the natural tendency for elected officials to yield to this temptation. However, if they do, then the enterprise fund will lose much of its potency to enhance efficiency, since it will be disheartening to managers and discourage them from committing to robust revenue generation.

Identifying Costs

Prices designed to produce revenues that achieve rationally derived cost-recovery targets and create viable enterprise funds are dependent upon there being reasonably accurate estimates of service costs. If a pricing decision is based on a goal of 50% cost recovery or aims to cover operating costs, if the costs are not accurately identified, then the goals are meaningless. Prices intended to avoid subsidy for services delivering exclusively user benefits, or to fix an appropriate subsidy for those with spillover benefits can only be established if costs are known. Many agencies unintentionally subsidize services because of an inaccurate "guesstimate" of costs. Once elected officials and managers know the true costs and magnitude of subsidies involved, they often decide some of the subsidy levels are inappropriate.

In previous eras, there was no imperative to have such information. Prices were relatively nominal; tax-supported budgets were expanding so prioritizing resource allocation among services was less urgent, and evaluating the cost efficiencies of outsourcing was not a common practice. This has changed. Knowledge of costs has emerged as central to decisions in multiple contexts. While pricing decisions are the most compelling reason for having cost information, it has become salient in at least three other decision contexts. First, it is usually central in debates as to whether or not routine, unskilled labor tasks such as mowing and garbage collection in parks should be undertaken by department employees or outsourced.

Second, decisions relating to prioritizing resource allocations or determining which services should be terminated in response to requests to provide new services or budget reductions require ratios, such as subsidy per user, that need accurate cost information.

Related to this is a third imperative, which is to enhance transparency and accountability to the public. The public increasingly insist that elected officials widely publicize the cost of services to demonstrate accountability for all tax expenditures they authorize. This extends beyond those services positioned as having user or spillover benefits, to those having communitywide benefits where no price is charged. In these cases, they require that two cost-based performance ratios be disseminated. First, cost per unit of output (e.g., cost per acre of grass mowed), so once a performance standard is identified, inefficiencies become apparent. The second ratio is cost per resident of the communitywide services, so residents can form an opinion as to whether a service is good value for their tax money.

Understanding and identifying costs is probably the most challenging aspect of pricing. Traditionally, government accounting systems were designed to focus on corruption control and to demonstrate compliance with mandated financial rules and regulations. They were not designed to meet managers' information needs and, hence, did not provide cost information.

Details of the intricate processes and complex rules of how to define and apportion costs appropriately are beyond the scope of this paper. The intent here is limited to describing broad principles that were adopted.

How detailed the development of a system for identifying costs needs to be is likely to be influenced by factors such as size of the agency, degree of accuracy desired, and magnitude of resources allocated to services. There are two approaches. The most ambitious is cost accounting. It involves extensive detailed cost-tracking, often using relatively complex formulas, so costs are meticulously assigned and accurately distributed among all the services delivered. This is the "deluxe" model, but operationalizing it is likely to be tedious, cumbersome, frustrating and time consuming. Further, complexity is no assurance of accuracy. If the agency lacks the resources to meet the input requirements of a model then the result will be a malfunctioning and misleading system.

Table 1
Illustration of 10 Year Rolling Cost Estimates for Renovations in an Athletic Field Enterprise Fund

Athletic Field	Current Estimated costs	Replacement Year										10 Year Total
		Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	
SOFTBALL FIELDS												
TurfInfield (15 Yrs)	Year 0	\$12,000.00										
Shade Structures (12 Yrs)	Year 0	\$180,000.00				\$204,206.00			\$17,730.00			
Bleachers	Annually	\$1,000.00	\$1,050.00	\$1,100.00	\$1,200.00	\$1,260.00	\$1,325.00	\$1,390.00	\$1,460.00	\$1,535.00	\$1,610.00	\$1,690.00
Bases	Annually	\$420.00	\$440.00	\$460.00	\$510.00	\$535.00	\$560.00	\$590.00	\$620.00	\$650.00	\$685.00	\$720.00
Windscreens	Annually	\$35.00	\$140.00	\$150.00	\$160.00	\$170.00	\$180.00	\$190.00	\$200.00	\$210.00	\$220.00	\$230.00
TOTAL	Annually		\$1630.00	\$1,705.00	\$1,870.00	\$206,170.00	\$2,065.00	\$2,170.00	\$2,010.00	\$2,395.00	\$2,515.00	\$2,640.00
SOCCER FIELDS												
TurfInfield (15 Yrs)	Year 0	\$31,500.00							\$46,540.00			
Goals (15 Yrs)	Year 0	\$2,000.00							\$2,955.00			
Drink Fountains (10 Yrs)	Year 0	\$5,000.00		\$5,790.00								
Bleachers	Annually	\$1,000.00	\$1,050.00	\$1,100.00	\$1,200.00	\$1,260.00	\$1,325.00	\$1,390.00	\$1,460.00	\$1,535.00	\$1,610.00	\$1,690.00
Irrigation	Annually	\$1,000.00	\$1,050.00	\$1,100.00	\$1,200.00	\$1,260.00	\$1,325.00	\$1,390.00	\$1,460.00	\$1,535.00	\$1,610.00	\$1,690.00
Nets	1/2 Annually	\$850.00	\$895.00	\$940.00	\$985.00	\$1,035.00	\$1,085.00	\$1,140.00	\$1,200.00	\$1,260.00	\$1,325.00	\$1,390.00
1/3 Annually	\$5,285.00	\$5,600.00	\$5,930.00	\$6,275.00	\$6,640.00	\$7,020.00	\$7,420.00	\$7,840.00	\$8,280.00	\$8,745.00	\$9,230.00	\$9,720.00
Lights	Annually	\$3,280.00	\$3,740.00	\$16,005.00	\$10,710.00	\$11,245.00	\$11,810.00	\$12,400.00	\$62,515.00	\$13,675.00	\$14,255.00	\$15,070.00
TOTAL	Annually											\$886,805.00

Given that the resources allocated to this task should be proportionate to the likely benefits accruing from it, the council had to ask: Are the costs and effort associated with the high level of accuracy offered by an elaborate cost accounting system justified by the purposes for which the information will be used? The objective is not to arrive at an absolutely correct allocation of costs, but to assign to each service an approximate “fair share” of the agency’s overheads. The council concluded cost accounting was a less viable option than the alternative approach, which is cost finding. This was defined as: A less formal method of cost determination or estimation undertaken on a periodic basis. There will be no formal accounting entries during the year to record costs incurred in delivering specific services. Instead, cost finding will involve taking available fund financial data and recasting and adjusting it to derive the cost data or estimate needed.

This approach takes advantage of Pareto’s Principle. That is, it is likely to provide approximately 80% of a cost accounting system’s benefits while requiring only 20% of the time, effort, and monetary resources needed to implement it. Once a cost finding exercise has been undertaken, it need not be replicated for a number of years because its findings are likely to remain reasonably accurate for a period of time.

Types of Costs

Often, when agencies claim to be adopting a policy of full-cost recovery in providing a service, further analysis reveals that this is not so because some elements of costs are omitted. Figure 2 identifies five types of costs that should be incorporated when calculating the full cost of delivering a service. These elements differ in one respect from those that would be included by private sector organizations in that they would have to incorporate the cost of debt into their pricing structure, along with a profit margin to reflect return on the owner’s investment. However, in the public sector, capital expenditures for land acquisition and facility development are usually excluded unless they are financed through revenue bonds or some other self-financing mechanism. There are two reasons for this.

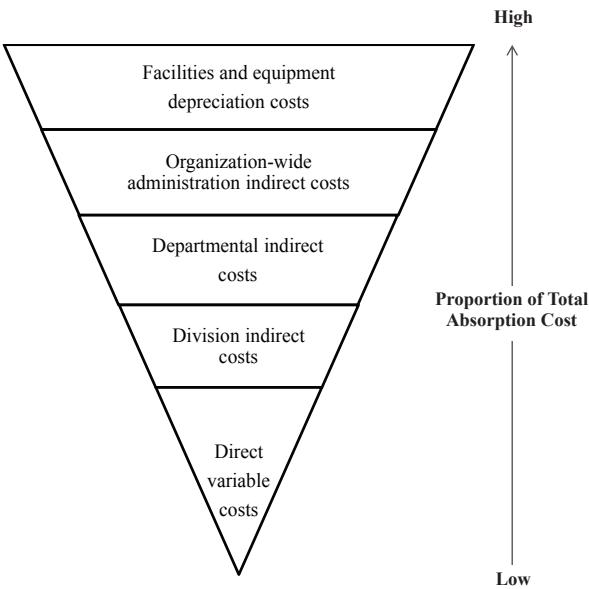


Figure 2. Elements Constituting Total Absorption Cost

First, most park and recreation facilities are funded with general obligation bonds, which have to be approved by voters at a referendum. Since voters are aware the borrowed money will be redeemed with taxes, there is ipso facto recognition that such facilities provide communitywide benefits, so there is no rationale for expecting users to meet these costs. Similarly, if the facilities were financed by intergovernmental transfers or other grants, then users should not be charged because such financing is not a direct burden on local taxpayers.

Second, capital expenditures are sunk costs, (i.e., they cannot be recovered once they have been incurred). A facility cannot be "unbuilt," and there is little likelihood of public recreation facilities being sold for another purpose to recover their costs because in most cases another public referendum would be required to approve this action. Hence, irrespective of how much some voters may regret the investment or what use is made of the facilities, these are historical costs and the money has gone. The only costs that can be controlled are those associated with operation of the facility.

While the original capital costs should usually be excluded from price structures, the use of a facility or major equipment will result in the asset deteriorating. Periodic renovation of facilities and replacement of equipment is inevitable. It has been argued in a private sector context that depreciation should also be regarded as a sunk cost:

Because depreciation costs reflect past decisions, they are irrelevant for pricing and other planning decisions. Unfortunately, they are often lumped in with other fixed costs and become a part of the cost that price is expected to recover. Depreciation costs should be separated from other period expenses for the purpose of pricing (Monroe, 2003, p. 266).

However, in the public sector, this assumes funds will be forthcoming from tax sources to replace these assets when they wear out. That is a precarious and optimistic assumption, so a depreciation cost to cover these eventualities should be included. Unfortunately, this is not required in most U.S. governmental accounting systems.

A second source of fixed costs is indirect or overhead costs. These are not directly incurred by a service, but are necessary for the functioning of the agency. They should be apportioned among all the park and recreation services offered to cover the costs of supporting them. They remain relatively constant or "fixed," regardless of the level of program participation or facility usage.

Figure 2 shows three levels of indirect costs: Organization-wide administration, departmental, and division. In my city, the organization-wide administration supported park and recreation programs by providing human resource, payroll, legal and internal audit assistance. The costs apportioned at department level included the agency's support staff (for example, department head, office secretary, computing technical assistance) and materials such as office supplies, promotional expenses and utilities. For example, if 15% of the department's water bill and 10% of its phone charges were associated with adult softball, then these amounts were part of adult softball's cost structure.

At the division level, the superintendent of athletics, for example, his secretary, and the playing field ground crews were all indirect overhead costs. Thus if 20% of their time was associated with softball, then 20% of their salaries (including fringe benefits) were attributed to the softball program.

The lowest level shown in Figure 2 is direct variable costs, which are the specific expenses associated with operating a given program. They vary according to the number of people using a service. For example, direct variable costs in an adult softball program may include: officials' salaries, equipment (softballs, bases, field striping materials, etc.), athletic field lighting, trophies, score keepers, field maintenance staff, garbage pickup, minor equipment and other expenses which can be directly attributed to the operation of the program. These costs will increase with increases in the number of participants.

Figure 3 illustrates fixed costs, variable costs, and total costs, which are an aggregation of fixed and variable costs. As the number of services or participants using a given fixed asset or indirect cost center increases, then costs per service or participant decrease because

they are spread among more services or participants. This is illustrated in the next section of the paper in Table 4, where an increase of members at a fitness center from 500 to 600 results in a decrease in fixed costs per person and in the break-even membership fee from \$564 to \$477.

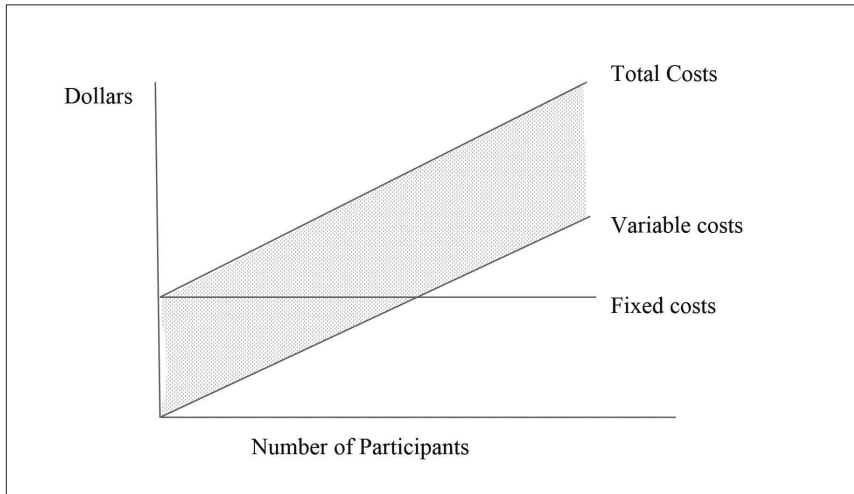


Figure 3. Fixed costs, Variable Costs, Total Costs and the Potential Contribution of Discounts to Cost Recovery. *Note:* Hatched area is the price range, at which revenue exceeds variable costs and so makes a contribution to fixed costs

When all five sources of costs in Figure 2 are incorporated into a price structure, it is termed “absorption costing.” This is the preferred approach. If costing comprises only an estimate of variable costs and a “fudged guesstimate” of (say) 30% for overhead, then a price set to recover a given percentage of costs does not, rendering the process meaningless. Purposeful pricing that is policy driven requires that absorption costing be adopted.

Managerial Implications

Table 2 shows the city’s annual budget for recreation and aquatic programs. The council elected not to incorporate depreciation costs into its pricing structure, but it does include the other four sources of costs shown in Figure 2. Indirect costs in Table 2 include apportioning 42% of the department’s central administration costs including personnel to these activities, and 100% of all the recreation division’s overhead costs including personnel and utilities. Apportionment of field maintenance cost is shown as a separate item. The “G&A” stands for general and accounting charges, which are the costs associated with the central functions of the city (i.e., payroll, human resources, budget, purchasing, etc.). As a result of its cost-finding exercise, the city determined the most expeditious way to allocate these central costs was to charge them as 7% of the direct costs of each program.

The data in Table 2 can be used to illustrate the consequences of using different costing measures. For example, the first activity shown, adult softball, anticipates a loss of \$135,042, a recovery rate of 55.76%, and a per-participant subsidy of \$24.14. However, if only direct costs are used a very different and misleading picture emerges since the recovery and subsidy rates then become 92.6% and \$2.43, respectively.

Table 2
City Budget – Recreation Programs

PROGRAM	PARTICIPANTS	REVENUE	DIRECT COST	INDIRECT COST	FIELD COST	G&A	TOTAL COST	% OF REV RECOVERY	SUBSIDY	SUBSIDY COST/PART.
Adult Softball	5,595	\$ 170,225	\$ 183,826	\$ 57,574	\$ 51,000	\$ 12,868	\$ 305,267	55.76%	\$ (135,042)	\$ (24.14)
Adult Volleyball	1,030	\$ 21,500	\$ 40,935	\$ 17,179	-	\$ 2,865	\$ 60,978	35.26%	\$ (39,478)	\$ (38.33)
Youth Basketball	1,000	\$ 53,200	\$ 65,702	\$ 17,179	-	\$ 4,599	\$ 87,479	60.81%	\$ (34,279)	\$ (34.28)
Youth Football	372	\$ 18,600	\$ 41,244	\$ 29,856	\$ 17,250	\$ 2,887	\$ 91,237	20.39%	\$ (72,637)	\$ (195.26)
Youth Volleyball	500	\$ 25,000	\$ 41,595	\$ 17,179	-	\$ 2,912	\$ 61,685	40.53%	\$ (36,685)	\$ (73.37)
Adult Kickball	1,005	\$ 20,000	\$ 28,127	\$ 27,743	\$ 6,800	\$ 1,969	\$ 64,639	30.94%	\$ (44,639)	\$ (44.42)
Challenger Sports	80	\$ 1,200	\$ 30,426	\$ 21,023	\$ 920	\$ 2,130	\$ 54,498	2.20%	\$ (53,298)	\$ (666.23)
Tennis	225	\$ 16,875	\$ 40,934	\$ 17,179	-	\$ 2,865	\$ 60,977	27.67%	\$ (44,102)	\$ (196.01)
No-Fee Programs	3,200	-	\$ 24,231	\$ 362,670	\$ 256,200	\$ 1,696	\$ 644,797	0.00%	\$ (644,797)	\$ (201.50)
TOTAL SPORTS	13,007	\$ 326,600	\$ 497,016	\$ 567,580	\$ 332,170	\$ 34,791	\$ 1,431,557	22.81%	\$ (1,104,957)	\$ (84.95)
Xtra Ed	1,600	\$ 80,000	\$ 186,291	\$ 31,979	-	\$ 13,040	\$ 231,310	34.59%	\$ (151,310)	\$ (94.57)
TOTAL INSTRUCT	1,600	\$ 80,000	\$ 186,291	\$ 31,979	-	\$ 13,040	\$ 231,310	34.59%	\$ (151,310)	\$ (94.57)
SW Pool	40,000	\$ 86,400	\$ 224,602	\$ 12,593	-	\$ 15,722	\$ 252,917	34.16%	\$ (166,517)	\$ (4.16)
Thomas Pool	20,000	\$ 44,000	\$ 172,080	\$ 12,593	-	\$ 12,046	\$ 196,718	22.37%	\$ (152,718)	\$ (7.64)
Adamsen Lagoon	70,000	\$ 255,900	\$ 444,310	\$ 12,593	-	\$ 31,102	\$ 488,005	52.44%	\$ (232,105)	\$ (3.32)
CSISD Natatorium	-	\$ 9,000	\$ 56,835	\$ 8,589	-	\$ 3,978	\$ 69,403	12.97%	\$ (60,403)	\$ -
Splash Pads	5,000	-	\$ 20,534	\$ 11,258	-	\$ 1,437	\$ 33,230	0.00%	\$ (33,230)	\$ (6.65)
Swim Lessons	2,500	\$ 110,000	\$ 111,872	\$ 15,262	-	\$ 7,831	\$ 134,964	81.50%	\$ (24,964)	\$ (9.99)
Water Fitness	20	\$ 1,500	\$ 14,861	\$ 8,589	-	\$ 1,040	\$ 24,490	6.12%	\$ (22,990)	\$ (1,149.51)
Swim Team	209	\$ 23,000	\$ 19,693	\$ 12,593	-	\$ 1,378	\$ 33,664	68.32%	\$ (10,664)	\$ (51.02)
Stroke Clinic	110	\$ 5,500	\$ 10,750	\$ 11,258	-	\$ 752	\$ 22,761	24.16%	\$ (17,261)	\$ (156.91)
TOTAL AQUATICS	137,839	\$ 636,300	\$ 1,079,535	\$ 105,329	-	\$ 75,287	\$ 1,256,151	42.61%	\$ (720,851)	\$ (5.22)
SW Center-Teen	300	\$ 29,500	\$ 134,364	\$ 12,884	-	\$ 9,405	\$ 156,653	18.83%	\$ (127,153)	\$ (423.84)
SW Center-Senior	180	\$ 10,600	\$ 105,058	\$ 11,549	-	\$ 7,354	\$ 123,961	8.55%	\$ (113,361)	\$ (629.79)
Lincoln Center	900	\$ 47,100	\$ 366,345	\$ 20,891	-	\$ 25,644	\$ 412,880	11.41%	\$ (365,780)	\$ (406.42)
TOTAL CENTERS	1,380	\$ 87,200	\$ 605,767	\$ 45,324	-	\$ 42,404	\$ 683,496	12.57%	\$ (606,295)	\$ (439.34)
Conference Center	-	\$ -	\$ 314,948	\$ 21,333	-	\$ 22,046	\$ 358,327	0.00%	\$ (358,327)	\$ (358.327)
TOTAL CONF CTR	-	\$ -	\$ 314,948	\$ 21,333	-	\$ 22,046	\$ 358,327	0.00%	\$ (358,327)	\$ (358.327)
TOTAL	153,826	\$ 1,029,100	\$ 2,679,567	\$ 771,545	\$ 332,170	\$ 187,569	\$ 3,970,841	25.92%	\$ (2,941,741)	\$ (19.12)

The data in Table 2 alerted managers and elected officials to potential policy issues. For example, in terms of equity, the per person subsidies raised two questions: Are large subsidies evidence that the Benefit Principle is being abused? And is it fair that some participants receive much larger subsidies than those in other activities? For example, those in youth basketball programs received a subsidy of \$34 each, while the per-participant taxpayer support for those in youth volleyball and youth football was \$73 and \$195, respectively. Similarly, in terms of efficient allocation of resources the question arose: Could the \$54,498 and the \$24,499 used to fund the 80 participants in "challenger sports" and the 20 participants in water fitness, respectively, be better used elsewhere?

The data also illustrate the importance of reviewing per person, rather than absolute, subsidies. For example, in aquatics "Adamson Lagoon's" annual subsidy is \$232,000 which is substantially higher than the subsidies at "SWPool" or "Thomas Pool." If budget reductions are needed, this may cause decision-makers to reduce its operating hours rather than those at the other two pools. However, this would be a mistake because the per person subsidies at the Thomas and SW Pools are 130% and 25% higher, respectively, than at Adamson Lagoon. Hence it would be most efficient to make the reductions at Thomas Pool.

Methods of Establishing a Price Based on Cost Recovery

The proportion of costs intended to be recovered by a price varies according to where on the Benefits Continuum (Figure 1) a service is positioned. If benefits are perceived to accrue exclusively to individual users, then the goal is full-cost recovery. If there are spillover benefits then the goal changes to either partial overhead cost recovery or recovery of only direct variable costs.

A full-cost-recovery price is intended to produce sufficient revenue to cover all the fixed and variable costs associated with the service. The formula for deriving it is shown in Table 3 (a).

Table 3 (b) shows how a price was determined that was intended to recover partial overhead costs. A price was established that met all direct variable costs and some proportion of fixed costs. The remaining proportion of the fixed costs that it was not intended to recover represents the tax subsidy for the particular service. The amount of subsidy was dependent on the extent to which communitywide benefits were perceived to accrue. As these increased, the proportion of fixed costs met by a subsidy rather than users increased (Figure 1).

It is important to note the anticipated per-person subsidy was built into the formula. This is a very different approach to the frequent practice of assigning, (say) a 20% overhead figure to direct variable costs without identifying all the sources of fixed costs, because that arbitrary process does not indicate the extent to which individuals are subsidized.

If variable cost-recovery pricing is used, the established price is equal to the average variable cost of providing a service. In this context, variable costs are direct operating and maintenance expenses. No attempt is made to contribute toward meeting fixed costs. Table 3 (c) shows how a price that was intended to recover direct variable costs was derived.

Because direct variable expenses can be relatively easily documented basing price decisions on them is tempting. This is a popular approach with many agency personnel, because when fixed costs are omitted a relatively low price can be charged and a larger client support constituency is likely to emerge.

When participants pay for a service, their receipt should itemize the costs involved in delivering it. If that is impractical, then this information should be prominently displayed at the entrance to a facility. In addition to demonstrating transparency, lack of awareness of the magnitude of costs, subsidies, and cost-recovery ratios is a primary reason why price increases are resisted. Controversy is invariably reduced when users are provided with service delivery information (Kyle, Kerstetter, & Guadagnolo, 1999; McCarville, 1991; McCarville, Crompton, & Sell, 1993; Reiling, Criner, & Oltmann, 1988).

Table 3(a)
Setting a Base Price to Recover Full Cost

	Full cost recovery = Average fixed cost + Average variable cost
Where:	Average fixed cost = $\frac{\text{Total fixed costs}}{\text{Number of users}}$
	Average variable cost = $\frac{\text{Total variable costs}}{\text{Number of users}}$
If:	Total fixed costs = \$3000
	Total variable costs = \$1000
	Projected number of users = 100
Then:	Price = $\frac{3000}{100} + \frac{1000}{100}$
Thus:	Price = \$40

Table 3(b)
Setting a Base Price to Recover Partial Overhead Costs

	Partial overhead recovery price = Average fixed cost + Average variable cost – Average subsidy
Where:	Average subsidy represents the amount to which each user is subsidized out of tax funds
If:	Average fixed cost = \$8
	Average variable cost = \$4
	Average subsidy = \$3
Then:	Partial overhead recovery price = \$8 + \$4 - \$3
Thus:	Program price = \$9

Table 3(c)
Setting a Base Price to Recover Direct Variable Costs

	Direct cost recovery price = $\frac{\text{Total variable costs}}{\text{Number of participants}}$
If:	Total variable cost = \$2000
	Projected number of participants = 200
Then:	Variable cost recovery price = \$10

When only partial direct variable costs are to be recovered, then a tax subsidy amount is subtracted from the full variable cost recovery price.

What About Marginal Cost Pricing?

It is an established tenet of economics that price should be set to recover the marginal cost of delivering a service, rather than the average cost which is used in Table 3, because in the short-term maximum economic efficiency is attained when price equals the marginal cost of provision. Marginal cost is the cost of servicing “one more” participant, class, or team (i.e., the incremental cost of the next unit of service). Each participant then pays the additional costs associated with his or her use of the service. Given that fixed costs remain constant, marginal cost is the direct variable cost of serving the next participant.

The data in Table 4 illustrate the concept of marginal cost pricing. The table lists the projected annual operating costs of a new fitness center being considered by a community. The goal is for it to be self-sustaining. It will be funded by annual memberships and is projected to attract 500 members. Fixed costs are estimated at \$260,000 and variable costs at \$22,000.

Table 4
Annual Operating Costs of a New Fitness Center (Assuming 500 Members)

	Fixed Cost	Variable Cost	Total Cost
	\$	\$	\$
Equipment costs	60,000		60,000
Equipment maintenance	5,000	1,000	6,000
Equipment depreciation	6,000	1,000	7,000
Class instructors/personal trainers	60,000	18,000	78,000
Manager and assistant manager salaries	70,000		70,000
Front desk staff salaries	34,000		34,000
Supplies		2,000	2,000
Indirect administration	25,000		25,000
Total	260,000	22,000	282,000

Break-Even Price at Different Membership Levels

Number of members	Fixed Cost Recovery	Variable Cost Recovery at \$44 per person	Total Price
400	\$650 (260,000/400)	\$44	\$694
500	\$520 (260,000/500)	\$44	\$564
600	\$433 (260,000/600)	\$44	\$477

To achieve full-cost recovery, the price of an annual membership would be \$564 (\$282,000/500). If only 400 were attracted, then the break-even price would rise to \$694, while if 600 members joined, it would fall to \$477. However, if 600 were attracted, the marginal cost of servicing the additional 100 people would be only \$44 per person. The fixed costs do not change. The only additional cost incurred in servicing these extra 100 members is the variable cost.

Despite its advocacy by economists, marginal cost pricing is not a viable option for public park and recreation agencies because it would not be viewed as being equitable. If marginal cost pricing is adopted in the scenario in Table 4, then the first 500 members to enroll would pay \$564, while the last 100 participants would be charged only \$44. This would likely be regarded as outrageously unfair, and it is doubtful that any elected official would support it. The probable outcome is that the average cost price of \$477 for 600 members would be adopted.

The Contribution of Discounts to Cost Recovery

There are situations in which it is advantageous for leisure managers to offer discounts as part of their strategy for meeting a given cost-recovery goal. Those include encouraging access to economically disadvantaged groups, non-peak time users, and promotional prices intended to incentivize non-users to participate. In these cases the discounted price serves not only to operationalize the Ability to Pay Principle but also is intended to generate additional revenue by expanding the client base (Crompton, 2015).

For this strategy to work, the discounts must attract only people who were previously nonparticipants, and not permit existing users to switch from the more costly regular price to take advantage of the discount. The strategy is especially viable in situations where fixed costs constitute a high proportion of total costs. If spare capacity can be filled by participants paying a discounted price, then provided the price exceeds variable costs, it makes a contribution to fixed costs. This is shown in the hatched area on Figure 3. The additional net revenue will mean the number of participants paying the regular price to reach the cost-recovery goal will be lower than it would otherwise be. This can be illustrated by using the data in Table 4, where with 500 members, the annual full-cost-recovery price would be \$564. If an additional 100 residents who were economically disadvantaged should be enticed to join by discounting the price to \$240 (i.e., \$20/month instead of \$47/month), then it would yield \$19,600 [$\$24,000 (\$240 \times 100)$ minus variable costs of \$4,400] which would reduce the annual fee to the 500 regular users from \$564 to \$525.

Weaknesses of Cost-Based Pricing

Establishing a price derived from a desired level of recovery of costs yields a base price—the foundation platform upon which a final price structure is constructed. However, there are four potential limitations inherent in a cost-based price that need to be addressed, making it likely changes to this base price will be made.

First, prices based on recovery of costs ignore the Ability to Pay Principle, market conditions, and competitive suppliers. They assume client groups are willing and able to pay the proposed prices, whereas it would be purely fortuitous if this was the case. The more likely probability is that the cost-based price will be perceived by users as being too high or it will underestimate their willingness to pay and be too low. It is participants not agencies who determine price. The sequence of actions in cost based pricing is:



In contrast, rather than pricing “forward” from a cost-recovery ratio, the sequence for establishing a price that is grounded in the context of local market conditions moves “backwards” in the opposite direction starting with participants:



This recognizes the desired cost-recovery ratio will likely have to be compromised to reflect realities of the marketplace.

For example, if the partial overhead recovery price of \$9 derived in Table 3(b) was for admission to an aquatic facility at which the existing price was \$5, and there was a similar quality pool in a neighboring jurisdiction that also charged that price, it is likely many users would not pay the new cost-based \$9 price. For some, the inconsistency of the new price with their reference price would cause them to resist; some simply could not afford the new price; and others would consider it poor value for money and likely travel to the neighboring pool.

A second weakness relates to accurately projecting the number of service users. The price will only recover the level of anticipated costs if the estimated number of service users is accurate. This number may be relatively easy to estimate if historical records show a consistent pattern of participation in a given program over a period of years. However, for a new service there may be considerable error in the participation projection. If the projection is too high, then the agency will receive less revenue than it had anticipated.

For example, the membership price based on full-cost recovery at the new fitness center described in Table 4 was \$564, which was predicated on 500 people joining. If only

400 enroll at that price, then instead of breaking even the facility would lose \$56,400. Again, this illustrates the importance of the starting focus being on participants' willingness and ability to pay, rather than on costs to be recovered with the accompanying hope the requisite numbers needed to meet the goal will actually participate.

A third weakness of cost-based pricing is that it may encourage inefficiency. There is a danger that little concern will be given to controlling costs or requiring efficient management, since the costs would be directly passed on to client groups in the form of higher prices. Client groups have no interest in costs per se, only in price. The price they are willing to pay determines the costs that can be invested in a service. Using increases in costs to justify increases in price most of the time is unlikely to resonate, unless the costs are outside the control of the agency (Thaler, 1981). Failing to make what are frequently difficult decisions to control costs in the belief they will be absorbed by participants is hallucinatory.

The implications of this can be illustrated with the example in Table 3(a) where three-quarters of the \$40 price for (say) a basketball program is an apportionment of fixed costs. This may include the salaries and benefits of a manager and assistant manager of athletics that are spread across all athletic programs. If participants resisted \$40, but would accept \$30, then an option may be to consider terminating one of these managers if this would reduce the overhead apportionment by one-third from \$3,000 to \$2,000.

A fourth weakness is that cost-based pricing may encourage an irrational price structure and exacerbate a peaking problem. Consider the implications of the structure adopted by a year-round camp:

The camp sought to recover all of its costs. Most of the costs were fixed, so the cost of operating the camp was about the same all year round. The prices charged were \$200 per three-day weekend in the winter months and \$100 per three-day weekend in the summer months. These prices reflected the much higher occupancy rate at the camp in the summer months, which enabled the fixed costs to be spread over more users. However, the price structure had the effect of persuading more people to come in the summer than in the winter. Hence, there were long waiting lists for the summer, but the camp had very low winter occupancy rates.

Adjusting a Cost Based Price to Reflect the Going Rate

The parameters that govern price are shown in Figure 4. The price ceiling is the highest price participants are willing to pay, so consumers' surplus is minimized. The floor price is that which delivers the minimally acceptable cost-recovery ratio. If the ratio was lower, then the opportunity cost to the agency would be considered too high, so the service would be terminated and its resources either reallocated to another service that could deliver superior benefits or returned to the taxpayer. Within this range, the actual price charged is the result of interaction of counterbalancing forces. Downward pressure from the price ceiling emanates from concerns about ability to pay and being undercut by other suppliers of the service. Upward pressure from the price floor springs from the prevailing political imperatives to reduce subsidies and taxes, and avoid unfair competition with the private sector.

Adjusting the cost-based prices so they were consistent with what users were willing to pay was done by surveying the prices charged by other public and private suppliers of the service. The survey provided information on three of the elements in Figure 4: The highest price participants were likely to be willing to pay; and competitors' prices which reduced the risk both of being undercut by others and of engaging in unfair competition.

The survey established the range of prices that were likely to be acceptable to users. However, rarely were "apples being compared to apples." That is, services offered by other recreation suppliers and their target markets were likely to differ in format and quality, so the data needed to be interpreted and allowances made for the differences. Despite these nuances, there were substantial similarities so the results were valuable when addressing the three parameters of interest in Figure 4.

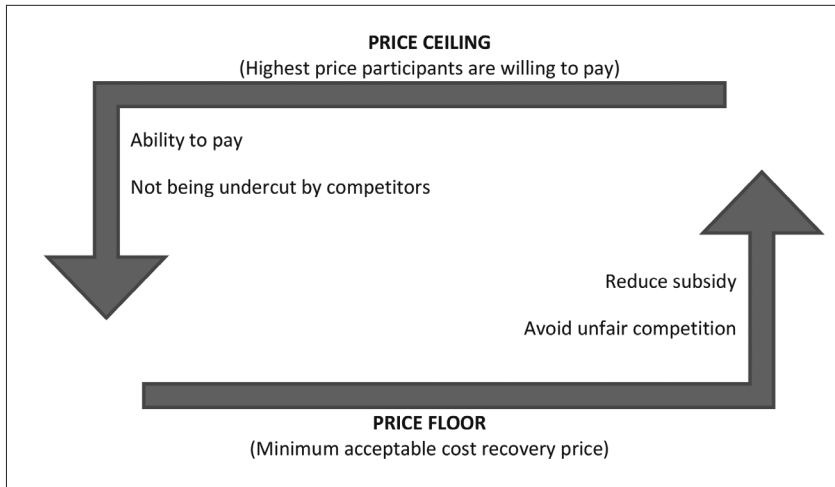


Figure 4. The Parameters that Govern Price

A further advantage of the survey was that the going-rate price range could be viewed as representing the collective wisdom of professionals and elected officials in other jurisdictions. For this reason, the council believed a price within the range would avoid controversy and be regarded by most stakeholders as fair.

Some may challenge the value of undertaking the considerable effort entailed in positioning services on the Benefits Continuum, identifying all sources of costs associated with each service, and calculating a cost-based price, if after all that investment of effort the base price is then amended so it is consistent with the prices of other suppliers. Why not skip the cost-based price and simply adopt a “ballpark price” somewhere in the range defined by others?

There are three responses. First, the going rate survey revealed that prices charged by others varied. Without a cost-recovery goal there was no guidance as to whether the agency’s program should be priced at the high or low end of the range. Second, the going-rate often bears little relation to the cost of a program. Knowledge of costs provided managers and elected officials with justifications for when they were challenged by either taxpayers concerned that subsidies are too generous, or users opining that prices are too high. Third, if knowledge of the magnitude of subsidy was unknown, then the agency would be incapable of purposefully trading-off the opportunity cost of one service compared to another.

Concluding Comments

Invariably, in public sector pricing debates there is tension between the desire to generate revenue in order to reduce tax subsidies and an agency’s primary mission. The central conundrum is how to reconcile pricing’s two guiding concepts optimally: the Benefit Principle (sometimes called the User Pay Principle) and the Ability to Pay Principle (Crompton, 2016). Consistent with anecdotal reports from elsewhere, elected officials in the author’s community frequently position themselves as “fiscal conservatives” and proclaim their intention to keep taxes low. The primary strategy enabling them to meet that obligation without reducing the quality of services is to ensure users pay for them rather than taxpayers. Hence, the Benefit Principle is the core of fiscal conservatism.

However, there is a danger that the ongoing pressure to increase revenues and decrease tax subsidies may result in abrogating the Ability to Pay Principle if revenue streams dictate and drive the mission instead of contributing to it. This may be manifested by subsidized services being reduced, ignored or terminated, while those which are self-

sustaining flourish, even though the former are more important to accomplishing the agency's primary mission.

The council was sensitive to this issue and responded in two ways. First, resources were allocated from the general fund to the enterprise funds to meet the costs of subsidies given to the economically disadvantaged. Second, by ensuring that managers' performance evaluations included metrics beyond subsidy reductions that held them accountable for serving less responsive clientele.

Pricing is one of the most technically difficult and politically sensitive areas in which park and recreation managers have to make decisions. Pricing decisions are influenced by myriad ideological, political, economic and professional arguments. Managers and elected officials are frequently required to justify price increases. This means the debate accompanying this diversity of perspectives should be focused on sound principles if they are to avoid exposing themselves to a backlash from self-inflicted wounds. In the past, when only relatively nominal prices were charged, the underlying rationale of a price structure was not as likely to be challenged. That has changed as prices have become more substantive and demands for greater transparency in government have grown.

Agencies tend to make major price changes reactively in response to an emergent financial or political imperative. Strategic pricing, in contrast, requires proactively developing a policy.

This case study describes a proactive approach that provides strong conceptual scaffolding upon which to construct an effective pricing policy. It embraces core elements from the impressive body of knowledge related to pricing that has emerged in the past three decades.

Unfortunately, this body of knowledge remains untapped by many park and recreation agencies. As a result, many good managers and elected officials make poor pricing decisions. Too often, their decisions are based on "the squeaky wheel" syndrome, or "the way we've always done it." Perhaps the most widespread approach is to raise (or not) prices by an arbitrary amount or percentage each year. This had been the traditional *modus operandi* of my council. Such incremental price increases imply the original price was appropriate. In this case this was a false assumption. Current prices were the cumulative result of arbitrary ad hoc decisions made from time to time over many years. Because the initial prices were arbitrarily derived, subsequent incremental increases led to the contemporary arbitrary prices that did not reflect either the agency's objectives or its clientele's best interests.

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