FINANCIAL PLANNING FOR LIBRARIES

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Chapter V - **BUDGET DESIGN**

Budgets are classified in a number of ways: by expenditure character, by the user, by who is responsible for preparation, by time span or by some other category. The expenditure character, with which we are concerned here, classifies the document according to whether it is an operating budget, a capital budget, an emergency budget, or some form of extraordinary financial plan. Budgets can also be classified according to the comprehensiveness of their coverage-that is, whether they are general budgets for the entire library, special budgets for departments, or financial plans for special purposes. They can further be differentiated by degree of internal breakdown.

The major distinction is that between expenditures for current operation and those for capital improvements. The former are treated in the present chapter and the latter in the chapter that follows. The general types of operating plans most often discussed are the traditional line-item budget, the program and the performance budget. Zero-based budgeting enjoyed some popularity during the late 1970s but because of the complexity inherent in its preparation, its use has declined and all but disappeared.' Despite this, many of the planning elements of zero-based budgeting are useful and for this reason it is discussed here. This breakdown furnishes the outline for the present chapter.

Budgeting, as has been stressed, is a goal-setting activity, a selection of clearly defined ends and of means to achieve those ends. The purpose and function of the budget have changed over the years from a means of control by the funding agency or by the executive to becoming an integral part of the planning process. Formats and systems of budgeting have changed as well, developing from formats with ease of executive control (line-item) to formats with an emphasis on planning and with built-in mechanisms for accountability (program, performance, zero-base, etc.)

BUDGET SCHEDULE

Typically, budgets are prepared for one fiscal year but may be part of a long-term budget planning cycle. The fiscal year for which budgets are prepared varies widely. In designing a budget for a public library, it is not uncommon to plan on the basis of a local government fiscal year beginning January 1, anticipate state funding based on a fiscal year beginning July 1, and federal funding for programs on a year beginning October 1. This variation in beginning dates of fiscal years affects the budgeting activities of all types of information services, although the impact on those that are part of larger organizations is likely to be less than upon agencies such as the public library that are directly dependent on allocations from several government levels. The accounting and reporting cycles are also affected strongly by differences in fiscal years. There must be appropriate reporting to meet deadlines that occur throughout the year.

Most publicly supported agencies operate on an annual budget cycle, with little or no opportunity to carry over funds from one year to another. There is increased pressure in a number of agencies to plan and budget on a long-term cycle. Many programs are long-term and funding them on an annual basis produces uncertainty on the part of those carrying out the programs, as there may be no assurance that funding will continue for the life of a

program. With an increasing emphasis on long-range planning, the budgeting aspects of the planning process have become more carefully developed. The long-range budget covering several years may be outlined in a tentative fashion, with annual budgets more carefully developed. Although the long-range budget, like the long-range plan, is subject to review and revision, it does provide a direction and a means of projecting costs for activities that extend beyond the fiscal year.

BUDGET DEFINITION

Budgets are defined by the nature of their expenditures. Operating budgets are annual budgets that outline the cost of operating an agency and its programs for a fiscal year. They include personnel costs, costs of maintaining the physical plant, or purchasing supplies and similar operating costs.

An emergency budget may be necessary in the case of unusual or unforeseen circumstances. If tax revenues have fallen well below anticipated levels or if some other financial crisis has occurred, an emergency budget which reallocates operating expenditures may be required. If there has been a major internal problem, such as fire or water damage which makes the library building inoperable, emergency funds from the funding agency may be provided. Emergency budgeting is usually a one-time activity designed to meet an unexpected critical need. If it is not in response to fiscal crises, it is in addition to the operating budget and the two are kept separate but used in parallel by the administrator.

Budgets can also be defined by the sources of revenue. In most not-for-profit services, funding comes from tax revenues or contributions from citizens. These vary according to the level of government and whether the funds are general purpose or for a special purpose. Contributions vary from membership fees to bequests or other gifts.

Budgets differ in comprehensiveness. The general or overall budget covers the operating costs of the entire library. There also may be special-purpose budgets to meet specific needs. Departments will have their own budgets which are subsets of the general budget. Reference service, technical services, extension services, etc. usually have their own budgets. There are also budgets designed to meet the requirements of a federal or state grant or similar special project. Bequests may be part of the library's income and if they provide special-purpose funds, they may require separate budgeting and accounting.

Budgets can be defined according to the expenditure classifications that were emphasized in discussion of the planning process. They may be program-oriented, with goals and objectives as the basis of the planning process, or means-oriented with goals assumed or unexamined.

BUDGET FORMATS

Budgets are also differentiated in more general terms as to whether they are traditional line-item documents or program or performance, or whether they follow elements of the zero-based format. This classification serves as the basis of this and the following chapters. Each type of budget has been used or considered for use by library managers. Each has benefits and difficulties in implementation. Each is related to the other in certain respects and, to a degree, the newer budget formats have been built upon and are adaptations of earlier forms. Elements of one format are often incorporated into other formats.

The format selected by a library is in large measure a reflection of what was done the previous year or what is being done by other agencies of the institution or government. If other libraries are reviewing and using newer budget formats or if there is local pressure to change, the library may consider changing its format. If there is no pressure and if the library manager is not particularly enthusiastic about change, more traditional formats are likely to be followed. There is almost always one constituency that prefers the status quo and another desirous of change.

In budgeting for the 1990s the major consideration is to provide the services expected by various constituencies in an environment of reduced financial resources. In the continuous improvement environment, library customers expect to be involved in determining the ways in which services are provided, and in some cases which services are provided. They often want additional services or augmented services despite the reduction in financial resources. As library customers become sophisticated in the use of the electronic highway, their expectations rise further.

Inflation reduces the value of the dollar and the ability of the library to maintain an existing level of service. Increased taxes or higher prices tend to anger the constituencies paying for the service. Citizens expect good service but in many cases will not or cannot provide the dollars that will insure adequate service. One is in a position similar to that which caused Louis Brownlow in 1933 to comment that ". . . one tries to look into the future and see what is ahead for cities. He can hardly fall to see that the immediate task ... is that of making buckle and tongue meet."2

Budgeting consists of three broad activities: planning, allocating and reporting. Much of the emphasis in earlier chapters has been in the planning function; later chapters will emphasize the reporting function. The emphasis here is on the allocation function as it reflects the planning process that has gone on before. Four major budget formats--line-item, program, performance, and zero-base-- will be emphasized, the latter more as an example of the relationship among planning, budgeting and accountability than as a format that is currently in use. Other formats such as lump sum and formula-based budgets will be mentioned briefly but are not as widely used or as useful.

LINE-ITEM BUDGET

The line-item or object of expenditure budget is the most common form and has been used for many years. Based entirely on line-item accounting, it lists those items necessary to conduct an activity, such as personnel, equipment, supplies, and books, usually in a standard format that does not vary from year to year or from agency to agency. (See Fig. 1 at end for example) Continuity is thus provided and the new budget can be constructed from the previous year's document by listing the same line items and by varying amounts to be spent depending upon recent experience. Little planning is necessary in developing this type of budget, as cost figures can simply be increased to meet inflationary factors.

If careful accounts are kept, the spending picture for each item indicates the extent to which the budgeted amount for that item was appropriate. An item for telephone costs might be well under budget because of the installation of a new system, while the utility costs may be well over the allocated amount because of unusually cold weather. Adjustments to reflect changed expenditures in certain items plus an inflationary factor constitute the new budget proposal.

This type of budget is closely related to incremental budgeting under which whatever is in the budget is to an extent frozen and tile new budget is developed based on increments to the base figures. These types of budget-- line-item and its incremental variation-are easy to prepare as they are based on previous action, and are easy to control in that variations in each line item for the agency can be plotted and reviewed over a number of years. It is possible to determine the extent to which salaries or the supplies necessary to run a library have increased. The relative cost of one agency can be compared to that of running other similar agencies within the overall governance structure, or to the cost of running a similar activity in other universities, urban governments or industries. Budget development and accounting are both simple, following a standard form and practice.

The major problem in line-item budgeting, and it is a fundamental problem, is that there is no requirement for planning. The budget can be developed independently of what occurs in the library. It would be an extreme case to have a line-item budget prepared with no consideration of library activities, but it is possible. Line items identify the ingredients of a program, but not the product. Books, work stations, staff and space are funded rather than, for example, reference service. The service must conform to the budget dollars allocated for its various ingredients. A planned program places emphasis on what is done or will be done, and then the resources needed to carry out the

plan are itemized. In the line-item format, a set of resources is identified and the task is to put them together as best one can to form a program.

PROGRAM AND PERFORMANCE BUDGET

Program budgeting and performance budgeting seem to be interchangeable terms, depending on which authority one cites. This is particularly evident when one tries to follow writings on library applications of the two.

Program budgeting was first recommended by the Hoover Commission in the late 1940s and was adopted by the federal government in 1949. Performance budgeting came along a decade or more later. Young3 asserts that performance budgeting and program budgeting are not interchangeable terms but reflect different budget approaches. The United Way of America Service Identification System (UWASIS) defines the two as being interchangeable. This conflict in definition causes difficulty when one attempts to describe or explain these systems.

According to Young, "Program budgeting emphasizes the services that have been developed and assesses the dollar allocations in serving the needs of the clientele. Program budgeting usually requires the presentation of alternative ways of providing necessary services at different funding and priority levels.-4 He describes performance budgeting as "activity budgeting" that is efficiency-oriented and places emphasis on the work to be done and its unit cost; examples would include providing a film service, providing service to a nursing home, or circulating books to users. Here the program budget will be defined in accordance with the earlier UWASlS view of it as program- or function-oriented; this in fact reflects Young's definition of a performance budget. The performance according to some other definitions is output-oriented and assesses the success of dollar allocations.

It was this concern for what is done rather than the resources for doing it, this change in emphasis, that served as the catalyst in the development of budgeting systems based on planning. In the twentieth century there has been a steady move on the part of governing bodies toward planning for services rather than simply reacting to existing crises and deciding how to use available resources to meet them. The past four decades have been a period of increasing professionalization in the ways in which institutions, both public and private, have gone about using resources to meet people needs. The key has been planning; planning ways to best utilize resources. Planning encompasses a wide variety of activities, one of which is budgeting.

The planning process, as we have seen, is based on a series of steps that include:

1) an agreement on the broad goals or mission of the institution

2) selection of specific objectives from a variety of possible objectives

3) gathering and analysis of data in order to determine appropriate objectives

4) selection of the most appropriate means of achieving the objectives

5) development in detail of the way in which the objectives are to be achieved. This is the programming step and the point at which specifics are turned into budget items.

Program planning precedes the development of a program budget. In the planning stage, specific objectives are established and the activities the information service is responsible for carrying out are selected. The budgeting activity is the placing of dollar figures next to the programs. What the agency is to do has been determined. The next step is to determine the cost of the programs to be funded.

This form of budgeting has a number of names-- functional budgeting, performance budgeting, or program budgeting. It is based on the concept of functional accounting, which requires that agencies report their financial

activities in terms of the programs and services they provide rather than in terms of line items. Within each function a line-item reporting system is then used. This was recommended in 1949 by the Hoover Commission as a means of focusing attention on the work to be done by various agencies. The Commission gave the name performance budgeting to what had formerly been called budgeting by function. It also used another term-program budgeting-to denote similar activity. "Performance budgeting is management oriented: its principal thrust is to help administrators to assess the work efficiency of operating units by (1) casting the budget in functional terms, and (2) providing work cost measurements to facilitate the efficient performance of prescribed activities."5

Although budgets are contracted for a year's expenditures, the activities of the funded agency are ongoing and the planning for the agency is on a long-term basis. The current year's budget is part of a continuum of long-term planning. That planning takes place within the context of the mission and goals of the agency and is implemented through the methodology of program analysis. Harry and others have described this methodology as consisting of eight steps:

1) define the problem
2) identify relevant objectives
3) select evaluation criteria
4) specify client groups
5) identify alternatives
6) estimate costs of each alternative
7) determine effectiveness of each alternative
8) present findings. 6

The major issue in the planning process is the effective allocation of resources. The above systems-analysis approach provides a means of clarifying objectives in a quantitative fashion rather than basing them on experience or on unsupported assumptions.

The budget cycle of planning, preparation, submission, approval, execution and audit is part of the overall planning cycle. That the annual sequence is part of a long-range planning cycle becomes particularly apparent as one develops program budgeting systems where ongoing and long-term programs as well as short-term ones are part of the process. The current budget plan is to an extent the result of decisions made in earlier budget years. Long-range planning is useful in helping to insure that those earlier decisions were and are sound.

The budget is developed by departments within a library and in time becomes a single integrated budget. If there is competition among departments for funding, each departmental program may be developed, not as part of the overall budget, but as a program statement of one unit designed to compete with other units. This creates or has the potential for creating a politicized environment in which competition for dollars may be more active than program integrity. Strong, centralized managerial control is necessary to integrate departmental programs and resource requests into an overall program. "If program budgeting and systems analysis are to be done effectively, the bureaucrats in the lower echelons of government who have day to day responsibility for the operation of specific programs must have some self interest in the application of these techniques."7

Program budgeting in its planning mode requires involvement by trustees, administrators and staff. The development of community analysis and planning guides have provided us tools which place emphasis on the user and ways in which the library's clientele can be represented in the planning/budgeting process. An early tool was The Planning Process, published in 1980 by the Public Library Association of the American Library Association.8 It has been followed by a series of tools and guides to assist in bringing together library planning and customer expectations. The development of total quality management techniques has also provided tools to assist in the process of assuring that the services provided mesh with consumer wants. From these tools and techniques, both basic planning data and priorities for service as expressed by various constituencies can be retrieved.

The library's objectives come from a meshing of community needs by the funding agency. These may be in some conflict and negotiation is often necessary to identify those information needs that will be met. Once the objectives and services of the information agency are agreed upon, a long-range plan can be put in place to meet them. At the same time that this is being done, it is necessary to determine the resources that are and probably will be available to carry out the objectives. Budgeting, by definition, is the allocation of scarce resources to the carrying out of objectives.

The next step in the planning process after objectives have been established and resources identified is to collect data to support the program that emerges. For any program, there will be personnel costs, costs of material and supplies, overhead costs, etc. In this budget format those costs are grouped around the program or function. For example, let us assume that the reference department has agreed that it will provide an on-line search service to small business. Staff would collect all cost figures for the program. The first and most expensive cost is that of personnel. This will include the salary of the individual during the time they are negotiating questions, conducting the actual search, sharpening their searching skills, or engaging in any other activity directly related to the searching activity. If supervision or training is required, the cost of the amount of time spent will also be calculated. If clerical support is needed this too will be added to the cost according to time spent. As direct salary costs are only about two-thirds of the actual cost of staff, benefits must be added in at the appropriate rate for each level of employee. The total of these factors will be the actual personnel costs. Cost of work station purchase or lease and the cost of thesauri or other search supports are included, as is the cost of paper for printouts and the cost of any additional supplies required to conduct the task. The cost per square foot of space used to house the activity is included as well. Overhead costs, which include the cost of heating, cleaning and insuring the space used, plus the administrative costs of managing the overall library service, may be included for each program or may be called an administrative program, with all such costs identified together rather than being broken down for each program.

If the decision by the library administration is to absorb the cost of searches, then the cost of connect time and data base use would also have to be included in the program. A figure for the cost of an average search would be calculated and the number of searches in a particular time frame would be estimated. This calculation would not be necessary if the direct cost of the searching is passed on to the user; only if it becomes library policy to subsidize the service in whole or part.

The program resulting from the data collection for on-line searching might look as follows:

Department: Reference

Program: On-line search service

Description: To provide in-depth on-line bibliographic search service to small business.

Anticipated accomplishments: To provide small business enterprises with quality searches at reasonable cost.

Workload Indicators: Use statistics to be maintained.

Positions:
Professional
Non-professional
Benefits

Equipment
Work stations
Printers

Thesauri

Supplies: List of all forms, paper and other consumable supplies needed to perform search services.

Contractual

Rental or lease of equipment
Costs of data base use
Telephone communication

If the overhead costs are broken out into a separate program, it is not necessary to list them here. From the above collection of data for this program, a cost figure will be derived. Other examples of such financial development are given in Figure 2.

Fig. 2 - The Program Budget9

Administration

Personal Services
Salaries
Personal Benefits
Training and Conferences

Interdepartmental Services
Auditing
Insurance
Automobile Expenses
Building and Grounds Maintenance
Printing and Reproduction

Contractual Services
Rental of Space
Telephone
Utilities
Equipment Rental
Maintenance Service
Membership and Dues

Supplies and Materials
Office Supplies
Postage
Maintenance Supplies
Janitorial Supplies

TOTAL ADMINISTRATION

Circulation Services (Sample Narrative)

Description: Record all loan transactions; maintain circulation and registration records; generate required statistics; keep collection, card catalog, and other collection access tools in order.

Anticipated Accomplishments: Convert charging system to a new automated format.

Workload Indicators: Annual circulation statistics for three prior years, and a projection for budget year based on the past year's experience.

Positions
Professional
Nonprofessional
Clerical
Benefits

Equipment
Charging Equipment
Card Catalog Unit
Book Truck

Supplies
Listing of all paper, forms, record-keeping supplies to circulation service

Contractual
Rental of Copy Machine
Printing
Binding
Collection Rentals

Similar descriptions, anticipated accomplishments, workload indicators and resources will be listed for each of the following:

Reference Services
Children's Services
Audiovisual Services
Bookmobile
Outreach
Branches
Special Services (e.g., federal grants to be administered are recorded here with grant funding reported under income)

TOTAL

Fig. 3 -- Operating Budget Performance Budget Format 10

Input	Service	Program Objective	Output Totals	Cost per Output
$84,430	General	Provide library materials and equipment	187,650	$ .45

	Service			
63,570	Circulation Service	Lend materials to public	298,460	.29
35,280	Reference Service	Provide readers advisory and reference service	33,601	1.05
36,000	Bookmobile Service	Provide circulation and services to patrons in remote locations	4 bookmobiles	9,000.00
6,960	Outreach Service	Provide materials for physically handicapped and institutionalized	12 stations	580.00
14,640	Records Service	Maintain records of use and users for statistical reports and planning input, overdues sent, etc.	11,340 persons	1.29
15,860	Special Services	SDI, special research projects to individuals or groups	463 services	34.26
1,300	Public Relations Service	Publicize library resources and programs	104 programs	12.50

Once a program budget is in place, usually replacing the line-item format, there will have been a major change in the planning/ budgeting scheme. The emphasis has been shifted from "What do you need to provide information service, people, materials, space?" to "What is the purpose of information service, what are its goals and objectives, and what programs are necessary to meet those goals?" Only after those inquiries are answered does the question of what is necessary to meet objectives arise. Resources are scarce and must be allocated with care. Allocating them according to a plan of programs to be implemented places the emphasis on what is done rather than on the inputs necessary to get the job done. In this format there is accountability both in terms of fiscal responsibility and in the extent to which program objectives are achieved. Pol16cally, the move toward this second kind of accountability can provide strong support for library programs. Those who were never sure what a library was about can gain some insight. The other side of the coin is that once the funding agencies are made aware of the cost of certain programs, they may decide that they are too costly and recommend their elimination.

Programs should be subject to continuous review to permit adjustment to meet changing conditions. Regardless of the governance structure within which the library is located, in the overall program format it is a program labeled LIBRARY. Within the university structure that program competes with instruction, research, and housing. Within local government it competes with health services, social services and emergency services; and in the industrial environment it is often part of the research program, the public information program or some other larger activity. The format that the library's budget takes is determined by that of the larger governance structure and must be in conformity with it.

A further refinement of the program budgeting system is PPBS, the Planning Programming Budgeting System or Performance Budgeting. It builds on the same techniques and philosophy as the program budget but carries it a step further to include an evaluative element. Where the program budget identifies goals and programs to carry them out, the performance budget includes a measurement factor to respond to the question, "How are we doing-are we meeting our objectives and to what extent?"

Much of the literature and review of program budgeting and performance budgeting has combined the two in such a way that it is often difficult to distinguish one from the other. In fact, the latter is a continuation of an existing system rather than a completely new system. Its emphasis is on the determination of the purpose of a library or other institution, a clarification of its objectives, and the development of programs to carry out the objectives. In PPBS there is a greater emphasis on measures of program effectiveness and the opportunity for decision-making based on the extent to which programs are meeting objectives. According to Young,11 PPBS facilitates decisions because of the analytical data bearing on objectives that it generates. He emphasizes that purely economic factors are not sufficient for decision-making, that social and political inputs are also essential.

The emphasis of PPBS is on planning to meet objectives, and it is in the planning steps that the greatest amount of change and new learning will take place. Conclusions can be reached as to what priorities actually exist and changes then made if that is desirable. Choices are next made as to which of a number of alternative methods is best for implementing the agreed priorities. To carry this out there is need for a decision-analysis unit-- a person or group competent to review data and provide cost figures for programs and alternatives.

Principal types of output indicators are: number of items circulated, people registered as borrowers, individuals attending a program, and similar data. These can be collected for varying time spans depending on the availability of data and the planning needs. Some activities are not quantifiable and there is no point in trying to force quantification. This is particularly true in the case of the many service-related functions of an information center. The number of reference questions answered is no measure of quality or of user satisfaction. It should be remembered that volume indicators serve as a guide to how much the library is doing rather than how well it is doing. They do provide a guide to the size of clientele and help to allocate resources in response to use. Sudden changes in volume indicators also help to alert planners to areas requiring attention.

When selecting output indicators, it is important that they meet certain criteria:

1) The measure selected should be directly relevant to the program for which it is used. Circulation data are inappropriate as a measure for reference service and on-line user measures are appropriate only to one facet of reference service.

2) Select the fewest and the simplest measures which will describe the program adequately. For bookmobile use, no more than circulation and number of patrons served may be necessary. The number of miles traveled, age of patrons, and other interesting data are less informative and, although they may be useful for other purposes, are not the best measure of the program. The measures should be easy to collect and readily available. They serve to measure a program already in place and are used to monitor its performance. Although it would be managerially convenient to have measures for every activity, quantifiable and easy to produce, this is often not the case.

These program data feed into the long-term plan for the entire institution, broken down by administrative and service units. The plan will have been devised based on the purpose of the library, the environment within which it is located, the clientele it serves, and the resources available to provide services. Early versions of the plan reflect what the current level of service is, and development of it gradually encompasses change in clientele and in direction to reflect changing need. Although in theory a plan should derive from needs alone and provide the best means of meeting goals and objectives for the benefit of clients, in reality the planning process is tied to resources and moves at the rate at which resources become available. In many instances program-oriented budgeting may exist side by side with other budgeting systems as managers work their way from one system to another.

The early versions of the program plan will be based on the best estimates of the departments providing service. To assure the most useful, albeit still rough planning data, projected expenditures should reflect the present and projected size of the inflation factor. Comparable levels of service should be the basis of all estimates. Some generally agreed upon decisions will help to provide comparability of data among the various departments of the

library. The initial plan is comprised of the best set of decisions for the next year and has a tentative quality. As data are collected on performance, decisions will be modified.

Actually two plans come into place-the program plan and the financial plan. Although they may cover the same time span, the program plan will include a number of long-range projections that go beyond the time span of the financial plan. The program plan includes current and long-term objectives; the financial plan emphasizes current operations to a greater degree. Both have to be regularly reviewed and updated, based on changes in purpose, in activities and in resources.

Indicators of output provide an ongoing performance measure. They are not in themselves an evaluation but serve as a monitor to alert the decision-makers to areas needing attention. The plan is a guide and the indicators show how the plan is implemented.

Most agencies dependent upon public monies are tied to annual financial budgets. They may have to plan resource allocations on an annual basis. However, the purposes of the agency are usually long-term and ongoing. Long-range plans which, within the context of the legal authority and responsibility of the agency, direct the way in which that agency carries out its responsibility are necessary. The major asset of a planning system tied to budgeting is that there is a link between plans and resources and this is set with a long-range time frame. Earlier line-item formats emphasized the short-term aspects of funding and although the manager may have had a general long-range direction for the library in mind, it was not formalized and often was a personal rather than an institutional plan.

ZERO-BASE PLANNING

A decade after the arrival of the performance budget, a variation and extension of budgeting and planning appeared. Zero-base budgeting was first heralded in print in a 1970 article by Peter Phyrr which appeared in the Harvard Business Review. The first implementation of a system that could be called zero-base was in 1964 at the U.S. Department of Agriculture. By the end of the 1970s a number of state governments and private industries had experimented with it, with varying degrees of enthusiasm and success.

"Zero-base budgeting (ZBB) is a planning and budgeting process that involves decision making at all levels of management, starting with a zero base for budgeting and justifying the entire budget request in detail. It requires that all programs and operations at all levels be identified in decision packages, evaluated, and ranked in priority order."12 It starts from the belief that every enterprise must periodically justify its existence. The concept of zero-base budgeting is of an operating, planning, and budgeting process that requires each manager to justify every request for budget funds in detail; the burden is on the manager to prove the need for funds. (See Fig. 4 at end for example)

The general steps in this system, as in program budgeting, begin with the clarification of organizational goals and objectives, and proceed to a careful examination of the existing structure, functions and activities. Decision units are identified. These are subdivisions of the organization that have responsibility for implementing particular allocations. They may include department heads, a program director, or other officers or subdivisions. Once the decision units have been identified, decision packages are prepared. A decision package is a statement of objectives, current operations, alternative actions, and possible funding levels of a unit. The decision packages are reviewed and ranked and, from this, an overall budget is prepared.

Those who advocate the system aver that it results in greater efficiency, better management, and wiser use of financial resources. Those who are not advocates point to the complexity and time-consuming aspects of the process. As with many innovations, it has often been oversold and poorly applied, and is usually not well understood. It is a complex system, not one to be learned quickly and not one to be applied without the advice and consultation of someone comfortable with the process. Although a survey of academic budgeting activity conducted

in 1992 showed zero-base budgeting to be among those least often used,13 the elements of the process continue to be useful tools for planning and budgeting.

In looking at planning and spending in the zero-base way, one uses many of the same tools of cost accounting and performance measurement that are used in other budgeting systems. The planning aspects of this system are extended and expanded beyond those of other systems. Zero-base budgeting places emphasis on projected results: what is to be accomplished, at what level, and the way in which it is to be accomplished. Before dealing with these questions, the primary question is whether the activity should be conducted at all; whether it has lost its importance to the organization or whether it is still viable. In theory, in justifying expenditures managers will sort out those programs that no longer merit high priority, and these will receive reduced or zero funding. In practice, few programs have so little support that they can be easily eliminated.

The zero-base technique is highly evaluative because, in addition to justifying the existence of a program, one must also justify the level at which it should be funded and gauge the results to be anticipated from the agreed-upon funding level. The manager determines objectives for each organizational entity and establishes operational and then expenditure guidelines. To do this requires an evaluation of operations, proposed courses of action for achieving objectives, cost and results of expenditures at several levels of funding as well as recommended priorities for activities. Top management reviews the managers' reports, revises priorities to bring them into line with overall objectives and allocates resources accordingly. Once questions concerning the purpose of a library or information service' its objectives and the directions the service will take have been answered, planning and funding decisions will follow.

The first step in zero-base budgeting is to examine the current budget structure and define each budget unit. In a sense, this is an organization chart built along lines of responsibility for spending money. It will, to a large degree, conform to the standard organization chart, but there may be some variations. Once this is done, each service increment is defined and analyzed. This is the smallest possible unit of service and includes such things as the operation of a public library branch, a current awareness service for researchers, or a series of film programs. It is a basic assumption that even if an activity merits funding, it can be funded at a level below the current level, and the service less than the current level can be offered. The question is then asked, "What levels of service are technically feasible?" Beginning with the lowest possible provision of service, several levels are identified. The lowest level of service is the survival level, where only the most important activities at the lowest possible levels are provided.

In the case of the operation of a branch library, this might mean that the branch would be open only ten hours per week for circulation of materials in and out. No reference services or program activity would be available. The next higher level would add increments to the service and each addition would require justification in terms of its contribution to the achievement of organizational goals. In the case of the branch library, this might include the addition of hours of service, some new materials for circulation, and the availability of professional staff for reference services during part of the hours open.

Normally two or three levels of services are identified, each with added benefits justified in terms of the extent to which those benefits meet organizational objectives. Present levels of service are usually described at the third level of service. A level of service about the present would be the optimum level for achieving the objectives of the organization. Each level of service from survival to current and to optimal includes a description of activities and added costs. The decision-maker then selects the level for funding.

Each service within the library is identified and analyzed in tile above manner. The managers of each budget unit meet to discuss the relative merits of each service and its increments. The services are then prioritized. Typically there will be more demands for funds than funds available. The general manager funds the service increments in order of agreed priorities until all funds are allocated. This process is carried out within and among departments throughout the institution.

If the objective is to allocate funds rationally within an organization by prioritizing programs and service levels, this is a useful technique. The result can be a generally agreed-upon set of funding decisions, justified in cost/benefit terms, and accompanied by performance measures for each decision package. To reach this result takes planning, negotiation, and considerable effort.

Additional benefits accrue as management analyzes current practice and plans for future activity. The close review of each activity will reveal differences that may exist between practice and tile directives of the funding agency. A large and complex organization may be meeting its responsibilities at different levels in different parts of the organization. In addition, standardized formats and a fixed format for presenting budget information provide the manager with comparable information from various units.

In an organization in which planning and budgeting have been limited to a few individuals, the inclusion of line managers in the decision-making process may be stressful to those accustomed to more central control. Department heads and others responsible for programs are the ones who make initial decisions regarding levels of service and funding. Zero-base budgeting "is one means of involving lower management in decision making processes, of fostering initiative and of winning commitment." 14 Zero-base budgeting is more than a budget system. It is a management improvement strategy that eventually leads the organization to management by objectives, to long-range planning for programs and resource allocation and to tying inputs to outcomes.

Managers should be aware of potential drawbacks before becoming involved in zero-base budgeting techniques. It is a time-consuming activity. Because of the potential it has for realigning the decisionmaking process, it must receive full support of the board or other governing body. It is a complex process and is best developed with the help of guidelines and consultation with individuals who are experienced in working with it. As the process proceeds, employees may see the decision-making activities, particularly those that reduce current levels of service, as dangerous to their own livelihood and may resent the process. This method does not eliminate political considerations and interpersonal rivalry-indeed, it may intensify them. Although improved communication is often cited as a benefit of the process, the result can be a glut of paperwork which can hinder communication. After studying and experimenting with this system, one official indicated that he would recommend it only if the current budget system did not generate appropriate information. He stressed that this is no sure route to achieving budget reduction and re-emphasized its complexity." Although there have been more than two decades of experimentation with the zero-base process, most of the writing on the subject deals with how to do it rather than reporting experience in its implementation. Those articles reporting experience tend to applaud the planning process and the decision-making elements, but caution that the amount of time and effort necessary to implement the process may seem excessive.

The implication of the term zero-base is that if a program's existence cannot be justified within the mission and goals of the organization, it has zero justification for funding. In this way, non-relevant programs would cease to exist. Not surprisingly, managers can usually justify the existence and expansion of their own programs.

For those who wish to investigate the process, the following provides a general guide to implementation. The first specific step is to identify decision units within the institution. These are discrete activities that can be identified and analyzed. The organization chart of the library is a hierarchy of decision units, with each small unit part of a larger one, and so on up through the lines of authority. A decision unit may be a project such as the development of bibliographies, a service such as circulation of materials, or the activities of a group such as reference service. It always has a measurable output resulting from budget allocation and can be related to a function of library service. The decision units and those responsible for ranking their importance are the basis of the implementation structure.

Each activity must be described by a decision package which includes:

1) Objective, purpose and scope

2) What is to be done and how
3) Consequences of not doing the activity
4) Alternative methods
5) Alternative levels
6) Costs and benefits of recommended alternative methods and levels
7) Resources required 16

The package can be costed out at different levels of effort and with different benefits and consequences. The manager determines the level at which funding should take place.

Once all decision packages are prepared, they are then ranked in order of priority, in terms of their importance to the carrying out of overall objectives. This is done initially at the department level, and then all packages and departmental rankings are passed on to the higher administration for review and re-ranking in light of institutional objectives. Those ranking highest will be funded; those at lower rankings may be eliminated. In a non-political environment such a system has a chance of working, but problems of interpersonal and departmental rivalry often emerge in the ranking process. This has been recognized by those devising the system but no ready solutions are apparent.

There are a number of similarities between program and performance budgeting and zero-base budgeting. The former has never been particularly popular as it often assumed that there was one best way and level of achieving objectives. The zero-base approach has greater flexibility. The major difference between program budgeting and ZBB is in time. Program/performance is a long-range budgetary management system with the emphasis on planning. An environment is developed within which techniques such as cost-benefit analysis and systems analysis can be used. ZBB is a short-term technique within the planning context. Decisions are required concerning each program on an annual basis. In program/ performance budgeting, the overall program is reviewed, but not each year and not with an overt decision to fund or not to fund.

By the 1990s zero-base budgeting had come to be seen as collection of useful tools that can be applied to planning, prioritizing, investigating and reviewing operations. Although zero-base budgeting as a total process was officially abandoned by the federal government in 1981, and although of a number of the corporations using it some abandoned it, elements of the process have been retained and are seen as useful tools.

OTHER BUDGET FORMATS

Formula budgeting has been applied to academic institutions. Although its reception has been mixed, a number of states adopted this technique as a part of the funding process for publicly supported institutions. Formula budgeting assumes that levels of funding can be calculated on the basis of number of students, size and level of academic programs and the level of publication of educational materials. The concern for the development of formulas for funding is strongest at the state level. More than a decade ago, it was apparent that "there is a trend toward statewide systems of academic libraries with co-orientated funding, planning and coordinated programs.... This trend is growing because of declining budgets, rising costs and space shortages. . . . Budgeting authorities are more willing to provide increased library funding ... if a statewide academic library development has been articulated and approved."17

A number of funding formulas have been devised. Perhaps the best known is the Clapp-Jordan formula developed in the mid-1960s and based on what the opening day basic collection should be. Using number of faculty, number of students, number of undergraduate major subject fields, number of master's fields and number of Ph.D. fields, a review of basic lists and subject bibliographies, plus professional experience and judgment, it was assumed that a minimal level of adequacy could be determined. This was not a budgeting formula and was not intended as such, but it has been used by some states and institutions for this purpose.18

The Washington State formula, used in the early 1970s and then phased out, is a modification of Clapp-Jordan and is in turn based on the plan devised for but not used by the University of California. The University System of Florida uses a formula based on the Washington model. This formula is based on existing book and journal resources, and staffing and binding. A currency factor (5%) to maintain an overall updated collection is used instead of reviewing titles for each field. An allowance for new program fields, a replacement factor, and an organized research factor are the criteria on which the formula is based. The total of the units of resources to be added in a fiscal year are converted into dollars using a standard dollar value per unit except for base-year periodical and serial commitments.'9 Library operations factors, including FTE (Full Time Equivalent) students at four levels of instruction, total FTE faculty, maintenance of current collections, acquisition, and basic staffing assumptions, are calculated. Binding is calculated on the basis of the number Of Current subscriptions, assumed to equal one binding year, plus a rebinding factor. The formula became too complex and in the state of Washington there was concern over the accuracy of library data and over the level and treatment of the currency issue. Other states, including Texas and North Carolina, designed formulas for funding but either did not use them or used elements of the formula.

Variations of formula funding have used calculations for levels of instruction, subject emphasis, and enrollment factors. Some are simple, but others, like the Washington Formula, die from their own complexity. After a trend toward ever more complex formulas, there has been a recognition in some areas that the formulas are too complex to be useful. Whatever formulas are used, they are rarely fully funded because of economic and political pressure. While academic libraries in the state university system of Florida are funded by formula, allocations are usually at a percentage of full funding. Efforts to vary the formula to take into consideration the different needs of mature university libraries and the libraries of the newer universities further complicate formula-based funding as it is applied in Florida.

Other budgeting formats, which in reality are not formats but an absence of form, are grouped around the general term "lump sum." This is at the opposite end of the spectrum from any planning approach. The library is given a sum of money and told to function on that amount of money for a period of time. Such a method can indicate primitive funding principles or a lack of interest in the library and its purpose. If the library director is alert, this can become an opportunity for the library to develop its own planning format and allocate the lump sum to program objectives. Except in poorly run situations, de Jure lump-sum budgeting is rare. It is less rare to impose a pro forma budget system, usually of the line-item variety, and then allocate a sum of money having little to do with the budget request: this results in a form of de facto lump-sum budgeting.

Each of the budget systems described here has differing levels of planning implications and each has economic and political implications as well. The one implemented by the individual library will depend largely upon decisions taken by the parent institution or government. Which format to follow is rarely a decision made by the library manager. Knowing the benefits and difficulties of the major budgeting systems is essential for managers, however. It may be possible to test aspects of program budgeting or devise zero-base decision packages as a way of reviewing aspects of the library program.

Despite several decades of discussion about budget formats and many recommendations for change, most libraries still follow a line-item format. A small but increasing number are adapting formats which emphasize the functions and programs of a library and allocate funds accordingly. The requirement of performance budgeting that measures of performance or output be identified-serves as a block to widespread acceptance of this approach, in large part because of the difficulty of devising generally acceptable performance measures for a service which is performed in a not-for-profit setting. As public demand for accountability increases, performance measures are being tested and incorporated into the planning budgeting cycle. Zero-base budgeting, after a flurry of experimentation in the mid1970s, is now used as a source of planning techniques but is regarded as too unwieldy to be used as a full budgeting system.

We are now able to look at a range of budgeting techniques, compare them, take pieces from one or the other and adapt them to specific needs. However simple or complex the system, the purpose is still to allocate scarce resources to meet stated objectives. When resources are most scarce, the tendency of political authorities is to opt for the simplest budget format. For the library planner, the lesson would seen to be that internal planning can be complex and detailed and the internal budget decision-making process carefully structured, but the end product that emerges for external consideration must be simple and easy to understand in its larger implications and should not appear too different from what the funding agency expects.

NOTES

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CITY OF GRAFTON

ANNUAL BUDGET

Activity No.	Department: Library	Division:	Section: Sub.	Fund: General

Acct. No.	Classification	Actual Expenditure 1980	Actual Expenditure 1981	Budgeted Expenditure 1982	Department Request 1983	Recommended by Manager 1983	Final Budget 1983
	PERSONAL SERVICES:						
11-01	Salaries						
011	- Full Time	$145, 724	$177, 224	$227, 537	$245, 737	$245, 730	
012	- Temporary				9, 406	9, 400	
013	- Part Time						
014	- Overtime						
015	- Sick Pay						
11-02	Social Security	8, 566	10, 400	14, 260	14, 799	14, 800	
11-03	Pension	7, 241	8, 690	12, 100	12, 274	12, 270	
11-04	Hospitalization	5, 765	6, 331	9, 540	9, 594	9, 600	
11-05	Life Insurance	486	493	730	790	790	
11-06	Longevity	2, 564	3, 144	3, 520	4, 052	4, 050	
11-07	Workmen's Compensation Ins.	-	-	70	514	520	
11-09	Payroll Contingency						
	TOTAL	$170, 346	$206, 282	$267, 757	$297, 166	$297, 160	
	SUPPLIES:						
12-01	Office	$ 3, 970	$ 4, 197	$ 5, 900	$ 9, 341	$ 9, 340	
12-02	Operating	44, 069	55, 948	113, 828	113, 828	93, 830	
12-03	Repair & Maintenance	1, 897	3, 493	5, 480	7, 296	7, 300	
	TOTAL	$ 49, 936	$ 63, 638	$125, 208	$130, 465	$110, 470	
	OTHER SERVICES AND CHARGES						
13-01	Professional Services	$ 5, 488	$ 2, 936	$ 8, 060	$ 8, 060	$ 8, 060	
13-02	Communications	-	2, 603	3, 830			
021	- Postage	2, 089	-	-	1, 664	1, 670	
022	- Telephone & Telegraph				2, 888	2, 890	
13-03	Transportation	-	7, 380	-			
031	- Travel & Training	7, 508	-	990	250	250	
032	- Equipment Rental	-	-	7, 000	6, 941	6, 940	
13-04	Advertising						
13-05	Printing & Binding						
13-06	Insurance	1, 462	1, 765	2, 620	5, 280	5, 280	
13-07	Public Utility Service	7, 233	7, 322	14, 900	18, 601	18, 600	
13-08	Repair & Maintenance	2, 777	2, 921	3, 740	4, 604	4, 600	
13-09	Rental	1, 554	1, 853	3, 200	3, 514	3, 520	
13-41	Miscellaneous	70	100	130	130	130	
13-42	Judgments & Losses						
13-43	Aid to Other Gov. & Agency						
13-51							
	TOTAL	$ 28, 181	$ 26, 880	$ 44, 470	$ 51, 932	$ 51, 940	
	CAPITAL OUTLAY:						
20-02	Equipment	$ 3, 901	$ 2, 724	$ 1, 100	$ 1, 071	$ 1, 070	
20-04	Land						
20-05	Buildings						
20-06	Improve. other than Bldgs.						
	TOTAL	$ 3, 901	$ 2, 724	$ 1, 100	$ 1, 071	$ 1, 070	
	GRAND TOTAL	$252, 364	$299, 524	$438, 535	$480, 634	$460, 640	

Figure 1 Line-Item Budget

DECISION UNIT SUMMARY

DECISION UNIT NAME: Interlibrary Loan

1. OBJECTIVE OF DECISION UNIT:

To manage interlibrary loan service so that all faculty, staff, graduate and undergraduate students receive satisfactory service, in terms of locating requested items and providing shortest possible delivery time.

2. CURRENT OPERATIONS AND DESIRED RESOURCES:

There is a head of interlibrary loan, two searchers, three clerks and student help equivalent to one full time subprofessional position.

3. LIST ALTERNATIVE WAYS THAT COULD ACCOMPLISH OBJECTIVE AND REASON FOR NOT USING

a. Purchase all items requested for loan -- limited acquisition budget, limited potential use of many requested items, delay caused by ordering materials usually greater than delay in borrowing.

b. Issue universal borrowing cards to borrowers so that they can visit holding institution and use items there -- limited number of potential holding institutions in area.

4. SUMMARY OF INCREMENTS . SERVICE PROVIDED						Work/load Performance Summary			
		Incremental		Cumulative		Quality		Quantity	
Current Level	Increment No.	Expense	Employees	Expense	Employees	Customer Complaints	Delay in Order Processing	ILL	New ILL
ILL Head, 2 Searchers, 1 Clerk, 5 FTE Stud.	1 of 4	53,620	4.5	53,260	4.5	9	8	4,000	600
Add 2 clerks	2 of 4	17,000	2	69,360	6.5	7	10	5,000	1,100
Add .5 Students FTE	3 of 4	3,120	.5	72,480	7	5	3	5,000	1,100
Add 1 Searcher	4 of 4	12,000	1	84,480	8	3	3	5,400	1,400
Forecast expense and employees				**55,600**	**5**	**5**	**3**	**4,400**	**900**

Sample Ranking Table

(1) Organizational Units being ranked Library		(2) Prepared by W. Prentice		(3) Date 6/9/80	(4) Page 1 of 1
(5) Decision Unit Increments		(6) 1981 Proposed	(7) 1981 Cumulative	(8) 1980 Forecast	(9) % Change 1981 - 1980 x 100
Rank	Increment Number	Expense	Expense	Expense	Expense
1. Interlibrary Loan	1 of 4	53, 260	53, 260	55, 600	
2. Online Searching	1 of 3	25, 000	78, 260	31, 600	
3. Bibliographic Instr.	1 of 3	42, 100	120, 360	49, 300	
4. Interlibrary Loan	2 of 4	17, 000	137, 360		
5. On Line Searching	2 of 3	16, 000	153, 360		
6. Interlibrary Loan	3 of 4	3, 120	156, 480		
7. Bibliographic Instr.	2 of 3	13, 400	169, 880		
8. On Line Searching	3 of 3	9, 500	179, 380		
9. Interlibrary Loan	4 of 4	12, 000	191, 380		
10. Bibliographic Instr.	3 of 3	6, 240	197, 620		
	of				
	of				
	of				
	of				
	of				
Total		197, 620	197, 620	136, 500	