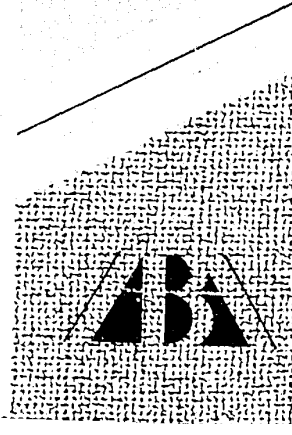
How to Implement Criminal Justice Standards for Prosecutions



HOW TO IMPLEMENT CRIMINAL JUSTICE STANDARDS FOR CORRECTIONS: AN ECONOMIC ANALYSIS

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PREFACE

The American correctional system is in the midst of a reassessment of its goals, objectives and the programs by which it seeks to foster change. Public concern with corrections' effectiveness in the face of tight budgets has produced a climate in which criminal justice standards are the benchmark by which the need for increased expenditures will be evaluated. Corrections, particularly, both programmatically and fiscally, is being carefully scrutinized.

Billy L. Wayson, Director of the American Bar Association Correctional Economics Center, and Gail Monkman, Assistant Director of the Center, suggest in the following pages how jurisdictions can estimate the cost of standards implementation so vital to rational decision making. While the frame of reference is research done on the corrections standards of the National Advisory Commission on Criminal Justice Standards and Goals, the techniques are applicable to standards in each segment of criminal justice. Both Wayson and Monkman note a number of concrete steps necessary to bring about efficient development of correctional programs. Their analysis of the steps necessary to do this serves equally well, however, when applied to other areas of standards implementation. This is a publication which persons seriously interested in improving the criminal justice system should find useful in gaining an appreciation of the fiscal impact of standards implementation.

In addition to this monograph, seven other pamphlets on criminal justice standards are also available at no charge from the American Bar Association Section of Criminal Justice offices, 1800 M Street, N.W., Washington, D.C., 20036. These brochures concern themselves with implementation of standards relating to police/bar cooperation, pretrial release and speedy trial. Additionally, other brochures address techniques for bringing about implementation, economic benefits of implementation, story ideas for journalists based upon criminal justice standards and guides for civic and religious leaders in working toward criminal justice improvement.

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Introduction

Government expenditures on criminal justice activities increased 202 percent in the decade from 1965 to 1975—outpaced only by public welfare (383 percent) and housing and urban renewal (246 percent).[1] Moving from a relatively small expenditure level of $4.61 billion, criminal justice improvement became the social priority seen as a means of solving the Nation's crime problem. Focusing public attention on crime at the same time other social programs were requiring more and more of the state and local dollar naturally contributed to a growing demand for demonstrated results from government expenditures. Professionals began to reassess a broad range of criminal justice issues from basic assumptions to detailed procedural changes for improving operational features of the police, courts and corrections. Some studies, for example, questioned the relevance of offender rehabilitation programs[2]; others examined the effectiveness of traditional police patrol methods[3] or recommended changes in the management and organization of courts.[4]

Vocal public concern and professional initative in the face of tight budgets produced a climate in which criminal justice standards would become the benchmark for evaluating the need for and results from increasing government's crime control expenditures. Corrections, perhaps more than other criminal justice components, has been subjected to careful fiscal and programmatic scrutiny. Halfway houses, work furloughs, diversion and other community-based activities have grown amid public debate over their comparative costs, relative effectiveness and impact on community safety; yet, until recently, there have been very few economic analyses of *existing* correctional alternatives, let alone those *proposed* by various professional groups, task forces, or commissions.

The material which follows, while based on formal, economic concepts, is derived from research experiences of the Correctional Economics Center, a project of the American Bar Association's Commission on Correctional Facilities and Services. The principal sources will be reports prepared by the Center in conjunction with an economic analysis of the National Advisory Commission's *Corrections* volume. The policy-related objective of this project was to analyze and estimate for decision-making purposes, the implementation costs of selected NAC Standards—halfway houses, probation, diversion, alternatives to arrest, comprehensive pretrial services and institutional-based programs. In order to

assist the implementation process generally and irrespective of criminal justice component, this monograph will confine itself to the *technical* objective of the Standards and Goals Project: to provide guidelines and estimation techniques for jurisdictions in assessing the cost impact of alternative policy options. Consequently, actual dollar estimates will be used only for illustrative purposes. Other sources will include the Center's technical assistance reports, particularly *The Cost of Jail Standards Compliance in Washington State* and *The Comparative Costs of State and Local Facilities.* Explaining estimation methods and techniques will require a brief discussion of economics and how its concepts relate to comparative costs, cost-effectiveness, and cost-benefit analysis. A series of steps will then be presented for estimating the implementation costs of standards with examples drawn from specific studies.

Economics

Economics is a study of the processes by which scarce resources are allocated among alternative wants, needs or desires.[5] Simply stated, this means there are many goals to be accomplished, but limited means to accomplish them: therefore, the individual, public administrator or legislator must always choose between or balance these competing interests. For the economist, then, cost becomes what is foregone or given up by deciding on one alternative or set of alternatives rather than another. This so-called opportunity cost may or may not be valued in dollar terms. For example, the "cost" of viewing the ballet is foregoing the opportunity to hear a concert scheduled at the same time when the admission to both is "free". It is because of this broad definition that economics has been called the study of decision-making and applied to such diverse social policy topics as public health, national defense, education, urban renewal, and crime control.[6] It is important to distinguish these applications from those which attempt to explain the etiology of criminal behavior.[7] While using the same basic postulates, the latter deals with explaining the decision to commit an illegal act in terms of a rational choice based on the expected net return for alternative income-producing opportunities (e.g., burglary, welding, hacking, etc.). This theory may imply certain types of policies, such as increasing the individual's direct costs (more severe punishment) or opportunity costs (improving legitimate job options); it does not, however, directly provide information for deciding how to increase severity or jobs.

In addition to multiple goals and scarce resources,

"externality" is another economic concept particularly useful in analyzing criminal justice. This idea requires that an economic analysis take into account the costs of or benefits accruing to individuals, firms, organizations other than those under study as a result of actions taken by those being analyzed. In practice, for example, this means that a diversion program's cost *includes* resources used by a community mental health center in servicing criminal justice clients. Alternatively, private security officers in a shopping center produce some prevention benefits to stores not paying for the service. The high degree of interdependency between criminal justice agencies makes externalities especially important to economic analysis in this field. A prosecutor's decision to increase convictions by negotiating pleas potentially will affect the costs of jails and prisons. Or, a judge's decision to reject bargained pleas may increase pretrial detention as well as prosecutor's costs.

Since economics is the newest social science in the game of criminal justice evaluation, some qualifying statements are in order. Magic answers to the difficult issues facing the field will not spring from the economist's wand. The tools described below should be used to supplement, not *supplant,* complementary views from law, criminology, public administration and other disciplines. Second, there is a persistent myth that numbers preceded by dollar signs have a greater concreteness and precision than other statistics. Even a passing acquaintence with something as relatively simple as budget analysis, however, will dispel this misconception. Interpreting the results of such studies requires the same careful attention to underlying assumptions, principles and logic as analyzing appellate court decisions. Finally, in its purest form economics is value free, even though economists are not. The analyst is not concerned with whether an agency's goals are "good" or "right", only that they be specified in measurable terms. Articulating "multiple wants, needs or goals" (in short, defining output), is a necessary pre-condition of economic analysis and is properly the responsibility of the executive, legislative and judicial branches as carried out through the legal and political processes. It is this requirement for output definitions that makes economics a logical complement to management by objectives.

COST ANALYSIS

The uninitiated may naively believe that "each action or service is costed by applying business office or auditor figures to each unit of action and service and totaling the

cost".[8] It is precisely because this is not the case that facile and wholely misleading comparisons frequently are made between, say, average daily prison costs in state X and state Y. Detailed knowledge of budget definitions, time periods, etc., is essential to comparative analysis but, also, is important to accurately estimating intraagency costs. Simply determining the costs of criminal justice activities is a non-trivial task due to the system's fragmentation but interdependence, the quality of accounting procedures and the nature of the budgeting process.

Information Sources

Within the budgeting process, there are three distinctions which must be made prior to any analysis, because they will affect the time period chosen for detailed study. Most public agencies report budgeted, obligated and expended dollar figures. The first is an agency's estimate of the dollar value of resources needed in some *future* time period (fiscal year, calendar year or several years). The amount of variation between what is budgeted and what is ultimately expended will depend, of course, on the agency's capability to predict future events; more important, however, are the differences between *sub*-components within the budget. A prison disturance, increased fuel charges or unusual crowd control needs, for example, may require an internal reallocation. In this case, using budgeted as opposed to expended, figures will give an inaccurate estimate of the relative amounts spent across budget categories (personnel, supplies, contractural services, equipment, etc.). Charges are sometimes made to a budget category (obligated) but not actually spent or the goods consumed during the time period under study. While this is a technical limitation on using dollar values as a measure of real resources (labor and capital), it is important in situations where there are unforseen budget surpluses and no incentive for cost savings.

Data availability, the level of accuracy desired and the purposes of the analysis will determine whether budgets, obligations or expenditures are used. Budgeted figures were used in one case,[9] where two jails had recently consolidated and actual operating costs were not available. In another,[10] "unpaid bills" of $64,400, while a cost in the next budget year, were charged to the current year, because the goods or services had actually been consumed. There may be situations in which the vagaries of budget estimates are acceptable simply because the most recent "costs" are wanted.[11] The inaccuracies inherent in using budgeted figures can be mitigated by comparing

budget sub-components with prior years' expenditures to determine if there are significant departures which would bias the analysis. However, deciding on the best data sources for the period under study is only a necessary *first* step in agency cost analysis.

Types of Costs

Costs can be categorized by:

- object-of-expenditure (supplies, contracts, etc.);
- activity (pretrial detention, trial, apprehension);
- cost center within an activity (police investigation, crime lab);
- direct and indirect (detectives and crime information systems);
- internal and external (police department and psychiatric services);
- public and private (criminal justice agencies and witness expenses); and,
- capital and labor (physical plant and contracted personal services).

These categories are not mutually exclusive (i.e., there may be an indirect, capital cost borne by a private organization), but the relative emphasis in any particular instance will depend on the objectives of the analysis. The study of NAC Standards relating to corrections, for example, emphasized direct, criminal justice system expenditures because one objective was to provide criminal justice officials with implementation costs. The analysis reported in *The Cost of Jail Standards Compliance in Washington State*, on the other hand, was principally interested in capital and non-capital resource needs.

Capital Costs

In fact, the failure to make this last distinction in public sector accounting is probably the major source of error in deriving accurate cost estimates. Assigning a dollar value to capital use is a difficult (but absolutely essential) task, because most financial information systems confound some subtle, but important distinctions:

1. Some capital costs are not assigned to *any* government agency. There is an opportunity cost associated with public use of land, for example. One correctional institution was found to have 190 acres of fallow land zoned "rural residential" and valued at approximately $950,000. Not only could the jurisdiction realize a windfall of almost $1 million by selling, but could also benefit from future tax revenues if the land were privately held.

2. External costs, such as interest on bonds, are reported as a government but not an agency cost. A $10 million facility financed with 30-year, eight percent bonds will accrue another $17 million in interest charges alone. So, the annual capital cost is nearer $1 million annually, not the $330,000 implied on first examination.
3. Even the capital costs which are reported by an agency may confuse net additions to capital stock (e.g., a new building) and maintenance of existing stock. And, in the latter case, maintenance contracts are classified in one budget category, repair parts in another and maintenance personnel in still a third.
4. Even if different capital or capital-related costs can be identified, new equipment, structures or land should not be charged to a single year's operating expenditures but depreciated over the expected useful life of the item. Excluding additions to stock or an imputed annual charge for capital use will understate an agency's operating costs; including them as a lump-sum, one-time expenditure will inflate costs in the year being analyzed. These effects become particularly important when comparing year-to-year changes or agencies in a given time period.

One related issue requires a special note on dealing with start-up costs of new programs. The concept of capital is not limited to simply buildings, machines, and acreage, but is broad enough to include "human" capital as well.[12] Consequently, training to improve the knowledge or specific skills of a new program's staff, which they will use over some future period of years, is properly a "capital" cost in this definition. While it is nearly impossible (and probably not necessary) to depreciate this investment, it is important to isolate it in new programs from annual operating costs, particularly when comparisons are being made.

Joint Products and Hidden Costs

Decisions on the gross budget categories—capital/non-capital, public/private, direct/indirect, internal/external, cost center, and activity—most appropriate for a particular study are necessary before a detailed cost analysis can be made at the sub-agency level. The task then becomes one of adding and subtracting to derive all relevant costs, recategorizing them in a form consistent with these decisions, and resolving questions of cost allocation between agency sub-functions.

One study[13] of a county-operated correctional institution revealed annual operating expenditures *28 percent greater* than reported, because many costs incurred externally were not formally included in the organization's approved budget or accounting reports. Excluding the kinds of costs described below is not unique to this jurisdiction and, in fact, is a result of local accounting practices rather than any intent to deceive.

Organizations frequently are not charged for services provided by other government agencies, e.g., payroll and accounting, staff recruitment and training, central purchasing or other support services. Yet, these are real costs associated with doing business and some means should be found to distribute them. Ideally, workload analysis of the relevant support agencies would be used to determine the proportion of their costs allocatable to the study organization(s). Alternatively, the House of Corrections overhead was estimated to be directly proportional to its share (8 percent) of the total county budget.

Grants, revenue sharing monies, donations and other non-appropriated funds are another external cost usually not included in routine accounting and budgeting reports. Over 10 percent of the House of Corrections' budget was derived from grant funds. (Since grant periods and fund flows are seldom co-extensive with budgeting cycles, selecting the time period to be covered by the analysis—discussed above under "Information Sources"—is especially critical when adding external and appropriated funds.) Actual operating costs are sometimes understated by excluding the value of donated goods or services and bartered items. In this case, it is necessary to impute a value by assigning a market price.

Costs incurred by other government organizations in providing services to criminal justice or its clients should be included in the estimates of total costs. For example, while employment diversion at the pretrial stage typically costs the criminal justice system between $1,034 and $1,403 per "successfully" terminated client, vocational training to which these persons are referred costs from $2,000 to $2,400 per participant in 1974 dollars.[14] Alcohol treatment costs range from over $171 per day for inpatient care at a general hospital to slightly under $16 daily as an outpatient from a neighborhood alcoholism center.[15] Other criminal justice activities may incur similar external costs: Probation departments use community mental health centers; juvenile courts refer persons to schools.

Cost Allocation

Once total agency costs have been estimated and assigned to appropriate budget categories, analyzing agency sub-functions will require a second set of cost allocation decisions. Again, the level of detail and accuracy required depends on the purpose of the study. A mayor's budget office may be interested in broad policy issues such as the dollar value of services rendered to criminal justice clients by the health department. A local sheriff on the other hand may want to know the resources devoted to pretrial as opposed to post-sentence functions. Allocations in the latter case may be made in terms of certain agency *goals* (e.g., providing services to the courts, assuring appearance at trial, rehabilitating sentenced offenders), organizational *activities* (e.g., custody and care) or *sub-functions* necessary to carry out these activities (e.g., booking, perimeter security, quarters supervision, feeding, sanitation, etc.).

Cost allocation estimates are theoretically complicated (but technically solvable) because two phenomena occur simultaneously: The first is called "joint products" which simply means that the process of producing one thing also produces another. Lamb chops and wool, wheat and straw, steel and smoke are common examples. More germane, incarceration results (presumably) in both improved public safety in the short run, specific deterrence in the long run and (sometimes) such "products" as higher education levels. "Factor indivisibility" refers to the fact that certain resources cannot be added in small increments. For example, one either hires a full time court administrator or does without. A prison facility represents a large fixed cost (once the decision to build has been made) and portions of it cannot be run efficiently. On a more practical level, a sheriff may serve both as chief law enforcement officer and chief jailer; his night clerk may dispatch deputies and supervise prisoners; the chief judge may oversee court management and the probation department. When analyzing organizational subunits, the problem becomes one of how to divide costs. Actual workload studies or a proportional allocation (based on the relative number of employees, prisoners, square footage or some other unit) are commonly used. The House of Corrections, in the study cited above, also included a jail holding pretrial detainees; therefore, it was necessary to estimate the proportion of costs assignable only to the House for personnel performing joint functions (e.g., chief security officer, hospital administrator, training officer). Utilities charges in a county building housing courts, jails, tax assessors, etc., can be distributed in proportion to the square footage used by each function.[16]

Besides joint products and factor indivisibilities, other allocation problems arise because financial data are categorized by objects-of-expenditure rather than cost centers or functions. The new dishwasher appears as an equipment purchase, not a food service cost. An officer funded by the police department may serve as the Mayor's chauffeur. Seventeen jail staff at $121,000 annually worked in the House of Corrections.[17] Identifying and assigning these costs requires an intimate familiarity with how the agency operates in fact, not as reported in budget documents and staffing charts.

Selecting the unit of analysis, defining cost categories, identifying data sources and allocating costs are all intended as intermediate steps toward the real goal of *total* cost estimates for the agency, program or function which will improve decision-making.

Straightforward cost analysis certainly does not have the analytical force or decision-making significance of comparative analysis, cost-effectiveness or cost-benefit. Nevertheless, it is non-trivial because it requires a consequential resource expenditure, is a necessary precursor to these more sophisticated techniques and (properly done) improves on the quality of information available for decision-making.

Theoretically, at least, using total cost estimates (rather than partial ones) should improve the quality of decisions. Although the proof is too complicated for presentation here, it is generally the case that understating the production costs of any enterprise will result in a suboptimal resource allocation, i.e., inefficiency. If capital charges are excluded from prisons' operating expenses, the cost of "producing" whatever it is they are supposed to will result in a higher incarceration rate per conviction than would otherwise have been the case. The real world evidence for how more complete information will affect public choice is seen in states and localities where citizens successfully have used high cost arguments (among many others) in opposition to new construction. Communities may still choose to build but with full cognizance of what they must pay. (It would be interesting, for example, to include the costs of alternative dispositions in pre-sentence reports.)

Even if the quality of decisions is not improved, however, it is possible to *at least* add cost data to such unmeasurable abstractions as "public safety", "domestic tranquility", and "justice", assuming there is some reasonable assessment of and agreement on what contrib-

utes to these states of mind. Identifying the resources associated with these conditions simply supplements the ethical, legal, political and other (sometimes more subjective) decision criteria. Only the most parochial economist would argue that cost information should be given more credence than these equally important values. But, it was 1972 before one could even begin to answer, "what price, justice?",[18]; whether it is "too much" or "too little" is a matter for collective choice; one must first know what it is before comparisons with other social priorities can be made.

Cost Definitions

Many of the above difficulties and pitfalls of cost analysis discussed can be minimized by beginning with a comprehensive, internally consistent set of cost definitions. Allocation discussions will still be required, but they are eased by a clear understanding of a cost typology. While, in part, arbitrary, any cost typology should be workable within the accounting and budgeting formats at hand and relevant to the objectives of the study. The defintions used in the House of Corrections study, for example, were not identical with those used in Washington State or the Standards and Goals Project. The initial distinction in the first study was non-capital and capital with the latter further sub-divided into "operating" (repair parts) and "new" capital (sewer main). In Washington, only new capital was of interest but non-capital costs were broken-out into staff, operating supplies, office supplies and contractural services. Standards and Goals made its first distinction between criminal justice system costs and those external to the system, then public or government expenditures and private ones, and, finally, direct and indirect or overhead.[19] In each case, the study objectives, data sources, and types of information were different, so the analytical typology was designed accordingly. For example, an important cost of employment diversion is vocational training—so *external* costs become crucial[20]; foregone contribution to national output (productivity) results from incarceration and opportunity cost is introduced[21]; leisure services to halfway houses residents may be privately or publically borne.[22]

COMPARATIVE COST ANALYSIS

There are two generic forms of comparative cost analysis: "cross-sectional" analysis examines the costs of two or more agencies, programs or activities at *some point in time;* "time series" compares costs of one or more organizations during two or more time periods. Each type may focus still further on cost-effectiveness (CE) or cost-benefit (CB). The guidelines and potential pitfalls for cost analysis, discussed earlier, are applicable to these more complex techniques, but there are unique features as well.

Related Management Techniques

Simple cost analysis concentrates on "inputs". To move beyond this requires a specification of measurable "output", leaving aside important, but analytically uninteresting, non-quantifiable objectives. The addition of an output consideration allies cost-effectiveness and cost-benefit closely with the management systems of performance measurement and management by objectives (MBO). The relevant aspect of MBO for our purposes is "its focus . . . on solving problems and obtaining results—*not* on the activities which lead to these results".[23] The activities (or "production function" in the economist's jargon) *are* important, of course, in estimating the cost or input side of the equation, and this feature distinguishes CE and CB from MBO, per se. By requiring quantifiable output measures, the MBO process greatly facilitates and is a natural antecedent to better economic analysis. McConkie, for example, illustrates an acceptable and unacceptable goals within an MBO system:

> *"ORIGINAL GOAL: The major goal of the Division of Rehabilitation services is the treatment and training of inmates to enable them to take their place in society as law abiding citizens upon release."*[24]
>
> *"REVISED GOAL: Within the existing budget, to reduce by 20% the number of releasees who are returned to confinement during the prison year ending December 31, 1976."*[25]

The original goal is too nebulous, uses undefined terms such as "law abiding citizens", and focuses on activities ("treatment and training"). While the revision may still be difficult to measure, it introduces a time and budget constraint and specifies the level of change anticipated. Any economic analysis is greatly simplified when the organization or even an activity within the organization has a mutually agreed to set of objectives. More typically, however, the analyst is confronted with a vague request to evaluate the costs and benefits of an activity as it approaches refunding consideration. In this case, an additional (and sometimes time consuming) effort is required to develop not only a clearer specification of

ambiguous, manifest goals but also a statement of the unwritten, latent goals.[26] (The potential for questioning the results of any CE or CB study will be reduced to the degree program managers and executives are involved in articulating and agree to the restated objectives.)

Performance measurement is closely related to MBO but may be slightly different, also.[27] Measuring goal attainment is a logical step following goal articulation, and, in fact, much of the goal setting effort is devoted to solving the measurement problem. Nevertheless, a useful performance measurement system can be designed which is less stringent than MBO in focusing on end products. Some performance budgeting systems[28], for example, include *process*-oriented measures (e.g., number of pre-sentence investigations) which have only a second order relation to agency end products. In-process variables are important monitoring devices or checkpoints in the period before the end product is attained, (say, between admission to halfway house and release from parole supervision). Caution must be exercised, however, that these checkpoints do not come to be construed as the activity's ultimate purpose.

Cross-Sectional Analysis

In general, as the analysis adds variables (time, organizations, and analytical components, in this case), different problems arise, the more difficult (time consuming) it becomes, and the greater the potential for estimation errors. Anaylzing the costs of one organization during two different time periods is the simplest comparison, but it is a form of time series analysis to be discussed later. The second level of difficulty, however, is comparing costs of two organizations cross-sectionally.

In addition to all the requirements of simple cost analysis in one organization, the analyst must consider other factors when comparing two or more. The distinction between budgeted, obligated and expended figures is critical to knowing whether or not one is comparing the *plans* of agency A with the *actual* resources used by agency B.

It is important to use the *same time period* to the degree possible in order to control (indirectly) for cost determining factors external to the organization. For example, a rapid price increase resulting from heating oil shortages could make a 3-month variation in time periods critical. Here, higher costs do not reflect higher quality services or inefficiency but simply changes in the price of inputs. Even if the same period is chosen, there is a need to be alert to unusual events which may have produced short-run cost distortions. A natural disaster with attendant looting can increase police and detention expenditures; or, one program may be new, another several years old and the former experienced start-up costs not properly allocatable to a single time period.

More basic, however, is to compare what is comparable! Certainly, probation and incarceration are alternative sentencing dispositions and can be compared grossly, but there is a substantial difference in the quantity of services provided the offender. Rather than ten minutes monthly with a counselor, the prison inmate has much greater access to (and probably utilization of) similar services; housing and subsistence are a large part of incarceration costs but are not even provided the probationer. In each of these examples, the question is one of the cost *distribution* between the individual and government. (See the cost-benefit section for a discussion of how to structure an analysis to handle these questions.) The method of delivering services can affect comparability. A halfway house relying on volunteers costs between $12.60 and $19.63 per client day[29]; whereas one providing the same services with employees costs between $14.18 and $22.26 daily.[30] One activity (e.g., alcohol treatment) may use donated services extensively (e.g., Alcoholics Anonymous) and another paid staff (paraprofessional counselors), but both deliver the same quality and quanity of service.

Not only may total costs vary because of the above differences but the internal distribution between budget categories may be affected. A jail serving catered meals will report the expense as a "contractural service"; one with a food service will report employee salaries in one category, food purchases in another, equipment as a capital item and utilities in yet another category. Some of the variations in internal cost distributions reported in *The Cost of Jail Standards*, for example, was attributable to differences in service delivery. Similarly, start-up costs, treatment of administrative overhead, unusual events and capital budgeting practices may yield apparent differences between two organizations. As an illustration, it was necessary in comparing public and private halfway houses to assign a "rental equivalent" charge to government-operated houses to avoid unfairly understating their costs.[31]

Finally, comparing the costs of similar activities with similar budget structures delivering the same quality of services in a given time period may be complicated because of regional price variations reflecting different demand and supply conditions in the market. The Sam-

ple Budget method described later, which collected data from all areas of the United States, includes a "high average" and "low average" cost estimate. Since standard deflators of government-purchased goods and services are not estimated discretely enough to distinguish, say, Kansas City from St. Louis, costs (*after* being made comparable) below the median yielded a "low" mean cost; those above a "high" mean cost. The Washington Study constructed a wage index using the state-wide, average costs of a jail manyear, increased or decreased each jail's personnel costs based on how it compared to this average, and only then compared relative efficiency.[32] The assumption underlying each of these techniques is that price differences do *not* reflect qualitative differences but only vairations in local labor market demand and supply conditions.

Cross-Sectional Cost-Effectiveness

Comparisons between organizations at a point in time usually begin to raise questions about their respective outputs or work units. Cost-effectiveness analysis may be either cross-sectional or time series, but the detailed analytical components and steps will be discussed here and only complications which result from introducing more time periods presented in subsequent sections. The technique involves relating costs to some physical measure of an activity's output *without necessarily placing a dollar value on that output*. The analysis may compare alternative ways of performing and producing results within one organization or several. Interorganizational comparisons must in addition to costs and output consider the factors discussed above. The alternatives may be actual ones with a cost and performance history, one actual and one hypothetical or two recommended, but not implemented, possibilities. The accuracy of the estimates, of course, will vary with the availability of data generated from operating experience.

The role of cost-effectiveness analysis in managerial decisions is to provide information about the level of resources required to create a (previously) specified level of results using feasible alternative methods. As with all evaluations of effectiveness, a clear statement is required of a program's objectives in measurable terms, such as those discussed with regard to MBO. The performance measures and, in turn, the objectives they relate to, will determine what units of analysis are selected and, ultimately, the way benefits are valued. For example, recidivism is variously measured in practice by revocation of community supervision, rearrest or reincarceration. Even

if these measures are considered an accurate reflection of a program's effectiveness, the same one must be used for each one being evaluated. This may seem trite, but it is not uncommon to find a jurisdiction reporting a "recidivism rate" of 60 percent where they mean a recommitment to an institution *under their jurisdiction;* of course, this rate is not comparable to one based on rearrests which ignores guilt or innocence. The *type* of measure will affect measures of performance and their valuation. As defined above, "recidivism" is a dichotomous measure, i.e., the individual is either rearrested, reconvicted or recommitted or he is not; it is a yes/no outcome. On the other hand, the measure may be one that has much finer gradations or is "continuous" such as man months free in the community or decreasing seriousness of crime (e.g., armed robbery *vs.* bad checks). A further refinement—to be discussed also in the context of benefit distributions among different entities—is to introduce a hierarchy of measures. A police-community relations program, for example, may have many objectives:[33]

General Criteria:
- crime rate
- reported crime
- clearance rate

Community Criteria:
- attitude of people toward police
- improved communications between community and police

Police Department Criteria:
- officers' attitudes and understanding
- reductions in complaints on officers
- attitude of police toward the plan.

Different measures will obviously have to be devised, if possible, for objectives as divergent as these. Allocating costs associated with each, however, is another question.

The joint products phenomenom discussed earlier with respect to distributing costs is equally troublesome in cost-effectiveness evaluation, particularly when organizational sub-activities are being studied, and the decision to allocate among them must be based on the principal objectives of the activity. An officer stationed in a prison school does render security services, but for the *purpose* of producing some educational result, (not a custodial one) and is a cost assignable to the schooling function.

Not only may the objectives and related measures themselves affect how costs are allocated but the *type* of services being measured may also. One categorization[34]

of human service delivery, where a program's response is structured to the *individual's* needs (rather some standardized *category* of client), distinguishes types of output according to the duration and frequency of services:

One-time, short-term services, once started, are always carried to completion, so there is no need to account for undelivered services when estimating cost per unit of output.

Long-term, fixed duration services include the option for eligibility status changes which requires a separation of enrollments, drop-outs and completions. Fixed costs are allocated to all enrolees, but variable costs are adjusted by distributing the cost/participant of the basis of percentage of a service completed. Training is usually a long-term, fixed duration activity.

Long-term services with behavioral objectives have a duration that cannot be estimated at any particular point in the process, even though progress can be measured post facto. Enrollments are distinguished from service delivery; then, costs are estimated functionally by administrative and treatment services. There is a constant administrative cost per client over a given time period and a variable cost associated with different types of services (e.g., group, individual, family counseling) which can be aggregated for each client.

Terminal services are provided irrespective of individual progress but are expected to continue indefinitely. There are probably few (if any) of this type in corrections, but Alcoholics Anonymous is a general example. Here, the cost analysis implication is the measurement of administrative costs annually per client rather than per enrollment.

The effect of these distinctions on cost-effectiveness analysis can be illustrated simply: Assume two nonresidential, drug treatment programs (A and B) deliver reasonably comparable services of the long-term variety and "graduate" an equal number during some time period, but one (organization A) permits voluntary "drop-out" to re-enroll; therefore, if the administrative costs of enrollment are not separated from service delivery costs, organization A will show higher costs per "successful" completion when examined in the aggregate, because it requires *more resources to carry out the admission function.*

An example of cost-effectiveness analysis, involving a trade-off between capital and labor is correctional education, where a comparison is made between the costs of improving certain basic skills with teaching machines and classroom instructors. The latter may be more costly but result in greater improvement. Motorscooters and police cars may have the same response time, but the former costs less.

A Related Consideration

There may be cost-savings or economies of scale which arise because of an organization's size. Probably only a full-time halfway house director can be hired, but the person can just as effectively manage the operation whether there are five or twenty residents. Unit costs in the latter will be lower because overhead is spread over a larger number. Similarly, reducing a jail's population by 10 percent will not reduce costs 10 percent. Block[35] showed that the cost of an additional inmate (or marginal cost) to Folsom in the period 1948–64 was only 21 percent ($268) of the average annual cost ($1,279) in 1967 dollars.

Time Series Analysis

The preceding sections on cross-sectional analysis assumed only the methods varied by which a particular output was produced. Another complexity can be added, however, by placing a price on service units delivered.

Perhaps the most obvious effect of time on the results of any cost analysis are price changes. Costs ten or even two years ago cannot be compared to those today, because a policeman, guard or probation officer will command a higher salary in monetary terms, even though no more qualified. Comparative analysis requires the *real* costs of an activity rather than current, inflated costs which only reflect price changes. For example, if personnel duties and qualifications remain unchanged, but salaries increase 20 percent from 1973–75, those personnel services are still only worth their 1973 price and should be stated in those terms. If inflation caused prices to rise 20 percent over, say, a two-year period, then current prices or costs must be revised *downward* by 20 percent to yield comparable figures. In other words, if an agency's personnel budget rises by 20 percent and salaries rise by 20 percent, no *new* personnel services are being "produced".

Cost-Benefit Analysis

While cost-benefit is not uniquely time series analysis, the discussion has been delayed because certain of its critical features are related to time.

"Cost-benefit analysis" is fortunately not the most frequently used phrase, but it probably is the most abused. In theory, it is simply an attempt to apply economic criteria in deciding how to allocate scarce resources among alternative public programs when there is no market mechanism for doing so. In practice, it may become a confusion of untested hypotheses, arcane technique, subjective judgement and debate over the impossibilities of valuing, for example, national defense. Advancing to the level of cost-benefit analysis, however, requires translating vague costs and benefits into measurable units and applying a price.

Economic evaluation of public programs is complicated by the same reasons which motivated governmental intervention in the first place. Services such as police protection are such that it is not possible (or desirable) to charge for their use, i.e., no market exists to ration them among consumers. Education can be and is priced, but the student is not the sole beneficiary, so market price does not accurately measure education's value to society. In the case of highways or dams, only the government can undertake projects sufficiently large to make them efficient. Each example simply represents a situation in which market prices are either lacking or do not reflect the value society places on them; thus, the absence of the one factor which distinguishes cost-benefit from cost-effectiveness—output price—is precisely why there was government initiative in the first place. Almost by definition, then, the analyst is chasing what is technically called a "shadow price".

The distribution and comprehensiveness of costs and benefits is important if the analyst is to engage in meaningful comparisons. Benefit-cost ratios are derived by dividing total dollar benefits (per unit time) by total dollar costs. A ratio of 2.0 means that the benefits appear to be twice as great as costs; a ratio of .75 means the costs exceed the benefits. Such ratios, while informative, should be viewed with caution. For example, a diversion program may produce little or no averted court costs, but produce real value to the participants in terms of employment and education. Using averted systems costs as the only benefit measure (see below) might have resulted in an (incorrect) unfavorable benefit-cost ratio. Similarly, not including the costs of possible additional crimes committed by releasees would understate the cost side. Also, there may be truly non-quantifiable reasons for undertaking a program with an "unfavorable" ratio (see below). Finally, given that two activities with the same outcome have different cost-benefit ratios, the "best"

may not necessarily be selected because of the distribution of costs and benefits, e.g., it may be desirable to maximize community benefits rather than benefits to the offender. First, however, a program's benefits *and* costs must be identified and catalogued.

We have seen that an activity such as police-community relations may have several levels of objectives: general (crime rate, clearance rate), community (citizen attitudes) and departmental (reduction in citizen complaints). So, too, the categorization of benefits and costs can be viewed from several perspectives. For example, the costs of crime to the offender include the lost income while incarcerated; criminal justice system costs are borne by society as a whole; and the victim may experience uncompensated property losses. Benefits can be similarly classified. These perspectives are not mutually exclusive, but the point is to determine who pays and who benefits.

Benefit Measures

While it is not possible to discuss in detail the technical aspects of estimating the price of criminal justice benefits, the more commonly used measures will be summarized.[36]

Averted system costs are probably the most common benefit measure in criminal justice, particularly in evaluating pretrial programs. These essentially are the court, prosecution and corrections resources which are saved because an offender is not processed through the system.

To the extent criminal justice activities reduce future illegal behavior, there is a *"recidivism" benefit* in the form of reduced system and victim costs. These would include averted system costs since non-recidivists are by definition not processed through the system. Feelings of fear and actual dollar costs to potential victims are reduced.

Programs which enable offenders to have a higher employment rate (level) produce more *earnings* and, thereby, benefit the individual and society. In broadest terms, national product rises when the employment rate is higher, and individuals benefit by maintaining an income stream.

Other benefits may result from educational activities which lead to higher worker productivity as measured by earnings. Finally, reduced welfare payments to offenders and their families—while not technically an *economic* gain—yields a "taxpayer" benefit by enabling the government to redistribute a fixed amount of resources. Many benefits are "transgenerational" in that they do

not occur immediately upon undertaking of a project. It is necessary, however, to articulate these benefits and assign values as possible.

Translating benefits into "dollar terms" makes it possible to compare programs whose physical results may be dissimilar. Cars, for example, cannot be compared to a Bermuda vacation except in terms of their relative prices. This is not to imply, however, that a dollar value must or can be assigned to all benefits; in fact, benefits which are non-quantifiable in dollar terms should be included as well, if they are important to the policy decision.

Discounting

The flow of benefits and costs may not be uniformly distributed throughout each year of a project, but a single number is needed for each side of the benefit-cost ratio. This is accomplished by expressing all *future* costs and benefits in terms of *present* dollars, i.e., discounting to the present. While there is an overabundance of technical literature on the arcane aspects of discount rates, the concept is intuitively straightforward: One dollar tomorrow is worth less than a dollar today, i.e., most persons prefer present to future consumption and, therefore, must be paid a price (interest) to forego satisfaction now. Alternatively, to receive $100 next year one would be willing to invest only $92.60 today at 8 percent. The process involves estimating future costs and benefits of a project in each year, applying some discount rate and summing the results. Because of this time preference, the timing of benefits and costs from alternative projects is important to the final cost-benefit ratio.

FIVE STEPS TO IMPLEMENTION COSTS

STEP 1: Categorize the Standards

The first step requires categorization of standards in a way that is relevant to both cost analysis *and* program decisions. Standards frequently are a combination of desirable principles:

". . . offender should maintain all rights of an ordinary citizen, except those expressly or by implicition taken from him by law".[37]

general philosophy:

"Each institution should . . . develop . . . counseling programs . . . to provide a social-emotional climate conducive to the motivation of behavioral change and interpersonal growth".[38]

and procedures:

"(Disciplinary hearings) should be held as quickly as possible, generally not more than 72 hours after charges are made".[39]

As such, there often is not a systematic relationship between them, much less a clear direction for categorization and action. At the very least, then, one must look behind "black letter" standards to the supporting commentary for insight and examples which will assist in establishing the necessary comparability and clarity. This process will also enable an agency to relate standards to its individual goals: for example, a "community-based" emphasis may necessitate associating certain pre-trial standards with corrections rather than with the courts. *A priori* categorization permits recognition and organization of all relevant standards.

There are at least two methods of categorizing standards which have been developed and employed by the Correctional Economics Center in its work with the NAC Standards and with jail standards. These were derived after exploring and rejecting other possible organization schema. For example, attempting to organize standards according to "themes" of the NAC Standards ("minimize penetration"; use "least drastic means"), results in a structure too ambiguous for agency action. For the Standards and Goals Project (NAC Standards), a two-tiered classification system was chosen.[40] This approach first grouped the standards by the *type* of change (programmatic or systemic) occasioned by implementation of standards and then by *stages* of the criminal justice process (pretrial, institutions, probation, parole and other community programs).

Categorization by Types of Change

Programmatic—Changes of a programmatic nature affect the activities within one stage of the criminal justice system; e.g., pretrial, probation, etc. Examples of programmatic change advocated by the NAC Standards include:

- development of a full range of alternative activities within a program area (for example, educational, vocational, and counseling services in institutional-based programs);
- flexibility in assigning persons within any one program to the various available activities;
- administrative improvements within each program, including the recognition of offenders' rights; and,
- improved services for persons served by or working

in the program (for example, manpower training for prison guards).

Recommendations may be program-specific or apply to more than one program simultaneously. Table 1 provides examples of program-specific recommendations for each stage of the criminal justice system, with the attendant NAC *Corrections* Standards. Table 2 displays programmatic changes recommended by the *Corrections* Report which transcend single-program categorization. For example, improvement in staff recruitment (Standard 14.1) applies to every stage of the criminal justice system. Offenders' rights to court services apply to community as well as institutional-based programs.

Systemic—Systemic change may occur in two ways. The first involves the program effect of altering the flow of persons through the criminal justice system. To the extent that standards implementation changes the pattern by which individuals may move through the criminal justice system (e.g., pretrial diversion) or the rate of flow (e.g., speedy trial, shorter sentences), certain downstream effects may be expected. Implementation of standards on pretrial diversion will affect the number of candidates for community corrections. Greater utilization of community corrections may alter the size and composition of the institutional population. Such change is more than academically relevant if cost-effective planning is to be developed and savings from underutilized areas channeled into busier programs.

The second kind of systemic change is not uniquely concerned with a single program area, but affects two or more program areas simultaneously. Research, planning, use of presentence reports are NAC-recommended activities which have implications for several stages of the system. Table 3 provides examples of NAC Standards which suggest systemic change.

Since some standards incorporate both systemic and programmatic change, some overlap appears in the tables. Standard 4.4, involving use of alternatives to pretrial detention, affects the pretrial program area but also implies a change in the number of persons entering the criminal justice system.

Categorization by Stages of the Criminal Justice System

This second categorization involves grouping the standards according to stages of the criminal justice system. These stages and their associated areas of change are also displayed in Table 1 and include:[41]

Pretrial Programs—These include standards relating to decriminalization, alternatives to arrest, citation and summons, diversion, alternatives to detention (ROR, bail assistance), detention (rights of detainees to legal process, education, counseling) and speedy trial.

Institution-Based Programs—Improvement of facilities and services, development of prison industries, use of work and education furloughs, staff improvement and overall coordination of intake services represent some basic standards recommendations which fall into this category.

Probation—Manpower development, written policies, misdemeanant probation, statewide organization of probation and improvement of level and variety of probation services all imply changes in probation programs.

Parole—NAC Standards addressing parole include independent parole boards, staffing improvements, procedural change and increases in the level of services provided parolees.

Other Community-Based Programs—These include the establishment and greater use of halfway houses, restitution, fines, volunteer involvement and the redistribution of correctional manpower from institution to community-based programs.

Categorization by Function

Another method, used by the Center in analyzing compliance costs of 248 recommended standards for 45 jails in Washington State,[42] is categorization by function. In this case, the affected stage of the criminal justice system was given: local jails. Major functions or service areas considered crucial to jail management were identified. Plant (quarters), administration and staffing, admissions, discipline, health care, food, security and control, inmate services are some of the 18 areas finally culled from 38 general classes used by the Jail Commission of that state. Table 4 provides an example of two functions and their relevant standards. Certain functions were deliberately distinguished, for example, admission v. classification and security v. discipline, since the former imply changes in physical plant and facilities, while the latter require procedural changes. Obviously, there are varying numbers of functional areas, depending on analytical preference, which might be associated with programmatic change. The number selected should be large enough to permit distinctions as above between facilities and procedures, yet small enough to be manageable.

TABLE 1
Programmatic Changes Suggested by the *Corrections Report* Which are Program-Specific

Program Area	Programmatic Change Groupings, by Stage in the Criminal Justice Process: Change	Associated Standards in the *Corrections Report*
Pretrial	Implementation of Formal Diversion Programs	3.1
	Use of Alternatives to Arrest: —Citation Instead of Arrest —Summons Instead of Warrant	4.3
	Use of Alternatives to Pretrial Detention, e.g., Release on Recognizance (ROR), Assuring Appearance at Trial with Fewest Possible Restrictions	4.4
	Recognition of Pretrial Detainees' Rights To Appear Before a Judicial Officer and To Challenge His Detention	4.5
	Least Restrictive Confinement of Pretrial Detainees While Assuring Appearance at Trial	4.8
	Education, Recreation, Counseling and Treatment of Special Problems for Detainees	4.9
	Speedier Trials	4.10
	Decriminalization of Mental Illness, Drug Addiction, Alcoholism; Provision of Treatment Outside Criminal Justice System	9.7
	Development of ROR Programs by Probation Officers in Large Cities	10.5
Institutional-Based Corrections		
• Local Institutions	Central Coordination of Adult Intake Services	9.4
	Improvement in Staffing Patterns	9.6
	Changes in Visitation, Medical Services, Meals, etc.	9.7
	Improvement of Facilities and Services	9.8
	Use of Furloughs, Work and Study Release	9.9
• Major Institutions	Improvement of Facilities to: —If New Institutions Are Justified, Plan Them To Provide Services and Privacy	11.1
	—Modify Existing Institutions To Provide Services and Privacy	11.2
	—Improve Social Environment To Stimulate Behavioral Change	11.3
	Improvement of Services in: —Education and Vocational Training	11.4

TABLE 1
Programmatic Changes Suggested by the *Corrections Report* Which are Program-Specific *(Continued)*

Program	Programmatic Change Groupings, by Stage in the Criminal Justice Process: Change	Associated Standards in the *Corrections Report*
	—Religious Programs	11.7
	—Recreation Programs	11.8
	—Counseling	11.9
	—Prison Labor and Industries	11.10
	Use of Work and Study	11.4
	Furloughs	11.10
Probation	Implementation of Revised Probation Policies with Written Conditions and Revocation Procedures	5.4
	Statewide Organization of Probation	10.1
	Provision of Wide Range of Probation Services; Purchases of Other Services from Outside Agencies	10.2
	Use of Probation for Misdemeanor Convictions in All Appropriate Cases	10.3
	Development of Manpower for Probation Programs	10.4
Parole	Establishment of Parole Boards Independent of Correctional Institutions	12.1
	Improvement in Qualifications of Parole Board Members	12.2
	Implementation of Parole Hearing Procedures With Offender Participation, Prompt Decisions and Written Records	12.3
	Implementation of Revocation Hearing Procedures Providing Offender Rights to Counsel and to Challenge Allegations	12.4
	Improvement of Community Services for Parolees	12.6
	Reduction of Limitations on Parolees	12.7
	Improvement of Staffing in Parole Programs	12.8
Other Community-Based Corrections		
	Use of Community Corrections for: —Nonresidential Supervision —Residential Alternatives to Parole, Probation, and Incarceration —Prerelease —Reentry	7.1
	Establishment of Working Relationship for Corrections with Community Services in: —Employment —Education —Social Welfare	7.2

Source: Correctional Economics Center, *Plan for a Cost Analysis of the Corrections Report.*

TABLE 2
Programmatic Changes Suggested by the *Correction Report* Which Apply to More Than One Program

Change	Associated Standards in the *Corrections Report*	• Indicates Programs to Which Changes Are Applicable					
			Institutional-Based Corrections				Other Community-Based Corrections
		Pretrial[1]	Local	Major	Probation	Parole	
Recognition of Offenders' Rights to:							
• Courts	2.1		•	•			•
• Legal Services	2.2		•	•	•	•	•
• Legal Materials	2.3		•	•	•	•	•
• Protection from Physical Abuse	2.4		•	•			
• Healthful Surroundings	2.5		•	•			
• Medical Services	2.6		•	•			
• Reasonable Searches	2.7		•	•			
• Nondiscriminatory Services	2.8		•	•			
• Rehabilitation If Sentenced	2.9		•	•	•	•	•
• Retention or Restoration of Civil Rights, Including Employment	2.10		•	•	•	•	•
• Rules of Conduct Employing "Least Drastic Means"	2.11		•	•			
• Reasonable Disciplinary Procedures	2.12		•	•			
• Written Procedures for Non-Disciplinary Changes in Offender Status	2.11		•	•			
• Grievance Procedures	2.14		•	•			
• Free Expression and Association	2.15		•	•			
• Religious Freedom	2.16		•	•			
• Access to Public Through Mail, Visits and Media	2.17		•	•			
• Remedies for Violation of the Above Rights	2.18		•	•			
Train Professional Correctional Managers	13.1	•	•	•	•	•	•
Short-, Intermediate-, and Long-Range Agency Planning	13.2	•	•	•	•	•	•
Development of Labor-Offender-Management Negotiations	13.3	•	•	•	•	•	•
Plan for Agency Employee Strikes	13.4	•	•	•	•	•	•
Improvement in Staff Recruitment	14.1	•	•	•	•	•	•
Recruitment and Use of Volunteers	14.5	•	•	•	•	•	•
Revision of Personnel Practices to Retain Staff	14.6	•	•	•	•	•	•
Participation of Managers, Staff and Offenders in Agency Management	14.7	•	•	•	•	•	•
Implementation of Work-Study Programs as Attraction to Careers in Corrections	14.10	•	•	•	•	•	•
Implementation of Staff Development Plans	14.11	•	•	•	•	•	•

[1] Persons in the criminal justice system prior to trial are not "offenders."
Source: Correctional Economics Center, *Plan for a Cost Analysis of the Corrections Report.*

Once these areas are identified, standards generally can be easily grouped and the cost analysis begun.

STEP 2: Select Standards with Known Cost Implications

After categorization, the standards should next be examined for potential cost impact *and* the degree to which this cost impact will be capable of measurement. This is no small exercise, but the benefits may be substantial. In Washington State, the Center found (following its own analysis and additional meetings with three consultants) that 115 of the 248 recommended standards had no cost implications; e.g.:

- jail facility keys shall never be issued to a prisoner;
- prisoners shall not be deprived of their clothes, blankets or personal care items . . . ;
- facility rules shall not prohibit one prisoner from assisting another in the preparation of legal papers.[43]

The remaining standards may then be classified according to the *type* of cost associated with implementation and may be by accounting categories or factors of production. Basic accounting categories include personnel, office supplies, operating supplies, services and plant and equipment. Factors of production are, in the economist's parlance, land, labor and capital. Either typology, besides being an organizational tool, permits identification of types of expenditure as well. Improvement of plant and equipment may be financed through long-term bond issues, while staff increases and additional services will require changes in personnel budgets and contracts, respectively.

Again, depending on the project at hand, two different approaches are warranted. The "Survey" method employed by the more far ranging Standards and Goals Project selected standards for analysis based on their analytical feasibility and importance to correctional reform as rated on a five point scale by ten analysts and ten practioners. Project staff in their program analyses determined which costs could be estimated. In Washington State, again for a given set of standards for a specific program, the approach was to assess which standards had cost implications and the nature of that cost implication. Table 5 provides a sample of the application of this procedure. Standards are listed vertically, accounting cagegories (personnel, supplies, services, plant and equipment) horizontally. An "x" opposite a standard and underneath an accounting category denotes a cost implication in that category. Blank lines indicate no-cost standards. As

TABLE 3
Systemic Changes Suggested by the *Corrections Report*

Change	Associated Standards in the *Corrections Report*
I. *Systemic Changes Affecting Flows Trhough the Criminal Justice System*	
Change in Number Entering Criminal Justice System Due to:	
• Diversion Programs	3.1
• Decriminalization	3.1
• Use of Citations and Summons instead of Arrests	4.3
• Alternatives to Pretrial Detention	4.4, 10.5
• Increased Use of Fines When Appropriate	5.5
Change in Time Served Due to:	
• Use of Least Drastic Sentencing Alternatives for Nondangerous Offenders. Maximum Term, 5 Years.	5.2
• Maximum Term 25 Years for Persistent, Professional or Dangerous Offenders (excluding Murderers)	5.3
• Revision of Probation Policies with Written Statement of Conditions	5.4
• Maximums on Consecutive Sentences; Increased Use of Concurrent Sentences	5.6
• Appellate Review of Sentences	5.11
• Release of Offenders on Parole When First Eligible Unless Specific Conditions Exist	12.3
• Planning For and Use of Community Corrections	7.1, 14.8
• Use of Misdemeanant Probation	10.3
• Return to Institution as a Last Result of Parole Revocation	12.4
• Use of Furloughs, Work and Study Release From Local Institutions	9.9
• Building Moratorium on Major Institutions Unless System-Wide Analysis Justifies New Facility	11.1
II. *Other Systemic Changes Which Will Not Necessarily Affect the Flow Through the Criminal Justice System*	
Planning of Diversion Within Total System Planning	3.1
Judicial Visits to Institutions	5.10
Conducting Sentencing Institutes for Judges	5.12

Change	Associated Standards in the *Corrections Report*
Regular Meetings of Judges To Advise Each Other on Sentencing	5.13
Use of Short and Long Form Presentence Reports; Verification of All Information	5.14
Informing Defendant of Presentence Report, Allowing Challenge, Representation by Counsel and Presentation of Own Evidence at Sentence Hearing	5.16
Keeping Official Records of Sentencing, Including Judges' Reasons for Particular Sentence	5.19
Comprehensive Needs Evaluation for Local Facility Planning	9.10
Gathering Information for and Developing Comprehensive Plan of the Pretrial Process	4.1
Consolidation of Institutional and Parole Field Service in State Department of Corrections	12.5
Development of State Correctional Information System and Data Base	15.1, 15.3, 15.4
Provision of Staff to Analyze Correctional Information	15.2
Success of Criminal Justice System Measured by Recidivism	15.5
Incorporation of Local Detention and Correctional Function Within State System	9.2
State and Local Cooperation in Planning Community Corrections	9.1
Reorganization of Correctional Personnel Among Jurisdictions	9.6
State Planning to Assure Academic Training of Correctional Personnel	14.9

Source: Correctional Economics Center, *Plan for a Cost Analysis of The Corrections Report.*

expected, many standards have more than one "kind" of cost implication. For example, implementation of Standard 293 (Provision of GED Courses) implies additional costs for personnel, operating supplies, services and physical plant.

Some additional cost-impact categorization may prove useful, both analytically and when funding is considered. The first cut merely involves making a distinction between capital and non-capital costs. Improvements to physical facilities and major equipment acquisitions are capital costs and are typically funded over time, e.g., through bond issues. Personnel, supplies, and provision of services are non-capital costs occuring in a single year.

TABLE 4

Standards by Cost Center Functions

187	11. *Security & Control:*	
188	General	All jails shall establish a positive means of identifying prisoners.
189		Perimeter security shall be maintained.
190		Security devices shall be maintained in proper working condition at all times.
191		No prisoner shall be permitted to have authority over other prisoners.
		Detention and correction facilities shall develop a system for taking & recording prisoner counts. This procedure shall be followed at shift changes & at other regular or irregular times.
192	Contraband	Any item or person entering or leaving a jail shall be subject to search.
193		When housed in a jail facility, work release prisoners & prisoners who have regular contact outside the jail shall not be permitted contact with other prisoner classifications or entrance to areas frequented by other prisoners.
194		There shall be irregularly scheduled searches for contraband in detention & correction facilities. Conspicuously posted signs shall display the statutory penalty for giving or arranging to give anything to a prisoner without official authorization.
195		Non-English speaking visitors shall be informed of the statutory penalty whether verbally or by posted signs in the appropriate language.
196	"Hot" Items	Weapons & Keys to weapon lockers shall not be permitted in confinement & booking areas.
197		Key regulations shall be established by the department of corrections or chief law enforcement officer & read & initialed by all staff.

TABLE 4
Standards by Cost Center Functions *(Continued)*

198		A control point shall be designated for key cataloging & logging the distribution of keys.
199		There shall be at least two sets of jail facility keys; one set in use & the other stored for use in the event of an emergency.
200		All keys not in use shall be stored in a secure key locker inaccessible to prisoners.
201		Emergency keys shall be "red tagged" & placed in the designated emergency section of the key locker.
202		Inside & outside keys shall be maintained on separate rings & no staff member shall carry both simultaneously.
203		Keys shall be accounted for at all times & the distribution certified at each shift change.
204		Jail facility keys shall never be issued to a prisoner.
205	Equipment	Protective equipment, tear gas & any other chemical suppressing agent shall be kept in a secure area, inaccessible to prisoners & unauthorized persons, but quickly accessible to officers of the facility.
206		All kitchen utensils & tools shall be marked for identification, recorded & kept in a secure place; also, toxic substances shall be kept in locked storage & use of toxic substances shall be strictly supervised.
207	Emergency Procedures	The department of correction or the chief law enforcement officer shall formulate comprehensive written emergency procedures relative to escapes, riots, rebellions, assaults, injuries, suicides or attempted suicides, outbreak of infectious disease, fire, acts of nature & any other type of major disaster or disturbance. The emergency plans shall outline the
		responsibilities of jail facility staff, evacuation procedures & subsequent disposition of the prisoners after removal from the area or facility. Such plan shall be formulated in cooperation with the appropriate supporting government units.
208		Emergency plans shall always be available to the officer in charge of the jail & all personnel shall always be aware of & trained in the procedures.
209		All serious incidents & emergencies shall be reported to the City & County Jail Commission on forms provided & at times prescribed by the Commission.
210		Only lawful & reasonable force to the person of a prisoner shall be used. Such force shall be used only after obtaining the prior approval of the senior jail officer on duty & a record of the event shall be made in the jail log. Only in cases of self defense, to prevent escape, to prevent injury to a person (including the prisoner himself) or to prevent the commission of a crime shall prior approval not be necessary for the use of such force. The extent of such force shall always be limited to the extent it is reasonably necessary to accomplish its purpose.
211	Deprivation of Personal Items	Prisoners shall not be deprived of their clothes, blankets or personal care items unless there is probable cause to believe that the prisoner will misuse such articles to damage property, inflict bodily harm (to himself or others) or substantially compromise the security of the jail. Such deprivation shall be used & continued only if there is no other practicable way to control the prisoner.

TABLE 4

Standards by Cost Center Functions *(Continued)*

	12. *Discipline:*	
212	Written	The department of corrections or chief law enforcement officer shall establish uniform rules & disciplinary sanctions to guide the conduct of all prisoners.
213	Posted	In addition to the oral orientation, printed rules & possible disciplinary sanctions shall be posted conspicuously throughout the jail. Non-English speaking prisoners shall be informed of the rules either verbally or by posted signs in the appropriate language.
215	Procedures	Minor violations of the rules may be handled informally by any staff member by reprimand, warning or minor sanction as defined by local rules. Such incidents may become part of the prisoners record only with the approval of the supervisor & verbal notivation to the prisoner.
214		All major infractions of the rules shall be reported in writing to the supervisor prior to shift change by the staff member observing or discovering the act. Such reports shall become part of the prisoners jail record.
216		Discipline Plan for Major Infractions are: [1] Disciplinary Hearing; and, [2] Procedures.
218	Sanctions	Non-punitive corrective action shall be the first consideration in all disciplinary proceedings.
219		When punitive measures are imposed, such measures shall be in accordance with law, appropriate to the severity of the infraction & based on considerations of the individual involved.

Source: Correctional Economics Center: *The Cost of Jail Standards Compliance in Washington State.*

Standards then may logically be grouped within these sub-categories.

The initial categorization of standards and the identification of cost impacts and their nature provide the backdrop for structuring an implementation time frame and method for proceeding. For example, procedural changes may require administrative action, while providing three nutritious meals a day will necessitate budgetary changes. Certain legal recommendations may dictate local legislative action and improvements to physical plant lead to a bond referendum. In other words, an implementation time spectrum can be established, ranging from immediate action to long term financing decisions.

STEP 3: Identify Data Sources

Before potential data sources are identified, it may be useful for the implementer/planner to prepare a *data source matrix.* An example of such a matrix appears in Table 6.[44] Basically, it provides a simple framework for associating information needs and data sources with specific correctional activities. In the example in Table 6, four headings are used: the stage of the criminal justice system, a description of the general data need, a breakdown of the particular informational units which will provide the data, and possible sources for the data. At the intake stage, processing costs must be determined. The relevant informational components include personnel and capital costs. Possible sources are excluded in the table but would include *published information,* both local and national. While caveats to using published data exist and were fully discussed in Section Two, such data can be highly useful in getting a "feel" for the level and type of expenditure associated with an activity. Salary data, for example, may be found in reports of county and municipal associations, chambers of commerce, city managers and other interest groups. Additional information can be found in author's reports, budget requests, revenue sharing applications and fee schedules. Physician's fee schedules, for example, were used by the Correctional Economics Center to estimate the maximum cost of providing adequate medical care to the 1,800 jail incarceratees of Washington State; whereas, minimum cost was estimated by assuming current staff would be trained as paramedics.[45] Studies and projects similar to the proposed implementation activity may be used to estimate the new costs. For example, in Washington State, King County Jail (the largest) had a highly organized, LEAA-funded, GED program. From published cost

TABLE 5
Cost Impact of Standards

Stds. #	Standards and Short Sub-Titles	Personnel BARS-10	Supplies		Services BARS-30	Plant BARS-62	Equipment BARS-64
			Office BARS-21	Operations BARS-22			
278	Assistants to Pris.						
	Religious Services:						
279	Services on Request						
	25+ = Weekly Services	X				X	
281	Right to Worship						
282	Voluntary Attendance					X	
	Counseling:						
283	Available	X			X		
284	Use Volunteers						
285	Prof. Supervision						
286	Written Recommendation						
287	Voluntary					X	
288	Released/Assistance	X		X	X		
289	Work Program	X					
	Ed./Training Corrections:						
290	Community Resources	X		X	X	X	
291	Staff Supervision	X					
292	Correspondence Courses						
293	Courses: GED	X		X	X	X	
	Detention:						
294	Courses: GED	X		X			
295	Community Resources						

TABLE 6
Data Source Matrix

State	Data Description	Informational Units Desired (Budget, Personnel Info., Records)	Possible Data Sources
Initial Division of Youth Services (DYS) *Intake and Evaluation*	1. Investigation Costs: All information needed to derive costs of processing new juvenile cases	1. Title and salary of person(s) who perform intake related tasks. 2. Salaries for additional personnel (secretarial, clerical) 3. Capital resources used	

information, the Center estimated per capita costs and applied these costs to the proportion of the remaining jail population in the State which might be expected to avail themselves of such services. Hence, an approximate cost for implementing educational standards was dervied.[46]

Project budgets (and even grant applications) of innovative correctional activities in other jurisdictions can yield useful information. A proposed halfway house will provide salary, services, supplies and, perhaps, capital cost figures. While care must be taken to assure comparability, such sources are valuable proxies for agencies contemplating change. Studies of correctional phenomena may provide useful information and a cross-check on agency findings. The Center's Standards and Goals Project report on *Alternatives to Arrest*[47], for example, drew on findings of another study of jail incarceration.[48] These findings not only permitted construction of model branching ratios following arrest, but provided confirmation of release rates calculated independently by the author.

Special surveys, undertaken separately or as part of a project, can supply additional information. In Washington State, correctional architects were employed to estimate costs for rebuilding and remodeling jails to meet recommended capital standards. "Model" new jail costs for capacities for 15, 32, 55 and 100 were calculated and appear at Table 7. These costs turned out to closely approximate nationwide estimates derived for the Standards and Goals Project and thus could be directly used by an agency. Table 8 provides some useful detail on the derivation of total costs in terms of structural components. Other estimates were made for the remodeling of specific subspaces within a jail, such as booking areas, living quarters, dining and educational facilities.

Other estimation techniques include proxy costs (e.g., using the price of a "T.V. Dinner" as a basis for estimating the costs of providing additional meals) and cost allocation. The need for cost allocation arises when several activities share a common facility or service. For example, if a jail is part of the county courthouse and utilities are paid as a lump-sum, the jail's "share" of these costs may be derived by using its proportion of the total square footage as a measure of its use of such services.

STEP 4: Determine Current Standards Compliance

This step is relevant when *improvement* of *existing* programs and activities is an agency goal. A newly contemplated activity, e.g., a pretrial diversion program, can be structured from the outset to follow the recommendations of the standards, and costs derived following Step 5 below. For ongoing programs, however, it is necessary to assess their relative position vis-a-vis a set of proposed standards. This survey of the activity, program or organization may be regarded as a costly undertaking but is necessary if full implementation costs are not to be *over*estimated.

The rate (or level) of compliance with a set of proposed standards is a technique developed and used by the Correctional Economics Center in its Washington State Jail Study. In this case, jails were evaluated according to 248 recommended minimum standards. The number of "deficients" weighted by the total standards yielded a percentage compliance rate. Greater information and detail was established by grouping the standards and rating jails according to their compliance with no-cost standards, personnel standards, capital standards and cost centers. Table 9 provides a sample of how 13 jails complied by cost center. Plant, or capital standards, were the area of greatest deficiency, while transportation standards generally were being met. Such an analysis is useful for evaluating individual activities and for comparative analysis.

The validity of this kind of analysis, however, depends on observable phenomena. Washington State Jail Commission Standard #32, "Staff shall be constantly alert to prisoner depression, dissension, family rejection, loneliness . . . ", is one for which compliance is probably impossible to determine. Care should be taken to "translate" seemingly vague standards into observable events.

The *purpose* of using compliance rates is to estimate the additional costs associated with compliance (i.e., standards implementation). Compliance rates reveal the most deficient and, therefore, highest priority areas, both in terms of cost estimation and implementation strategy. By distributing standards across cost and no-cost dimensions, and then reviewing compliance, policy recommendations following the suggestions below can be structured.[49]

No-Cost Standards

- High Compliance—obviously, no need exists for immediate action; however, there may well be long-run needs for program information and technical assistance to keep the jurisdictions abreast of changes in the field in order to maintain high compliance.
- Low Compliance—immediate action is implied for technical assistance, advisors, relevant materials,

TABLE 7
New Capital Cost Estimates for 17 Jails

Group	Jails	CAP	ADP	Capital DR	Replacement Design Capacity	Average Cost/ New Design Facility	Total Cost/ Group
I	Chelan	62	53	62.9			
	Thurston	54	65	92.0	100	$1,908,027	$3,816,054
II	Wenatchee	54	25	82.6			
	Whatcom	52	40	76.9			
	Whitman	52	9	70.8			
	Okanogan	48	25	80.0	55	1,270,696	8,894,872
	Skagit	41	22	78.3			
	Clallam	34	12	47.8			
	Benton	32	28	60.1			
III	Auburn	32	4	50.0			
	Walla Walla	30	11	60.1			
	Aberdeen	29	2	81.0			
	Toppenish	30	12	74.3	32	959,795	5,758,769
	Bellingham	26	7	68.2			
	Mason	22	9	80.8			
IV	Lincoln	16	6	96.9	15	565,726	1,131,452
Total—Groups I-IV							$19,601,147

Source: Correctional Economics Center: *The Cost of Jail Standards Compliance in Washington State.*

TABLE 8 Capital Cost Analysis (Population = 100)

	Capital Components				Total			Percent Of		
Cost Center Function	Basic Structure Sub Tot Cost	Special Equipment Sub Tot Cost	Mechan/ Electric Cost/ SQ Ft	Sub Tot Cost	Sq Ft	Cost	Cost Sq Ft	Grand Total Jail a Costs	Sub-Total Jail a Costs	Jail Space
A. *Jail Administration & Intake*	$73,350	$79,500	$ 32.52	$24,450	2,445	$177,300	$ 72.52	10.52	12.92	13.35
1. Supervision & Control Ctr	10,050	50,000	149.25	3,350	335	63,400	189.25			
2. Booking, Storage, Copying Waiting	12,900	10,000	23.26	4,300	430	27,200	63.26			
3. Holding Cell	5,250	4,200	24.00	1,750	175	11,200	64.00			
4. Safety Cell	2,400	3,800	47.50	800	80	7,000	87.50			
5. Public Toilet	1,500	2,000	40.00	500	50	4,000	80.00			
6. Personal Property Storage	7,050	3,500	14.89	2,350	235	10,900	46.38			
7. Search, Shower, Ident.	9,750	3,500	10.77	3,250	325	16,500	50.77			
8. Interview	4,200	—0—	—0—	1,400	140	5,600	40.00			
9. Release Area	1,500	500	10.00	500	50	2,500	50.00			
10. Female Bkng, Storage, Search	6,750	4,000	17.78	2,250	225	13,000	57.78			
11. Matron's Office	7,500	—0—	—0—	2,500	250	10,000	40.00			
12. Files Storage	4,500	—0—	—0—	1,500	150	6,000	40.00			
B. *Medical & Isolation Areas*	9,300	7,434	23.98	4,650	310	21,384	68.98	1.29	1.56	1.69
1. Screening & Examing Room	4,500	2,500	16.67	4,650	150	9,250	61.67			
2. Two Isolation Cells	4,800	4,934	30.84	2,400	160	12,134	75.84			
C. *Visiting Areas*	36,810	7,625	6.21	12,270	1,227	56,705	46.21	3.36	4.13	6.70
1. Counter and Waiting	6,000	2,000	10.00	2,000	200	10,000	50.00			
2. Professional Visiting	7,440	1,500	6.05	2,480	248	11,420		46.05		
3. Social Visiting/Booths	16,170	4,125	7.65	5,390	539	25,685	47.65			
4. Social Visiting/Family	7,200	—0—	—0—	2,400	240	9,600	40.00			

a Grand Total Jail Costs includes "non-assignable space;" subtotal excludes "non-assignable."

Source: Correctional Economics Center: *The Cost of Jail Standards Compliance in Washington State.*

with a long-run follow-up (once compliance is achieved) similar to the first case above.

Cost Standards

The cost of implementing these standards varies in magnitude; a further distinction may be made between operating cost standards and capital cost standards. Additionally, changes may increase operating costs at once and the results are immediate; capital improvements take time.

- High Compliance—again, while no immediate action is necessary, as in the case of high compliance, costless standards, jurisdictions need to be aware of changes in the field, whether in expectations or technology. This is true regardless of the "price" of the standard, since values or priorities are not being assigned here. From a pure cost perspective, there is obvious merit in maintaining quality. Jurisdictions also need to be aware of changing situations, such as arrests, incarceration rates, and population mix.
- Low Compliance—immediate action would seem to be warranted, since by definition such a facility, program or activity is providing substandard services to its clientele. Some rating of the "most important" may have to be derived, depending on the magnitude of non-compliance. Additionally, jurisdictions may wish to examine the various combinations of resources by which compliance may be achieved, e.g., in the case of jails, inadequate surveillance may be corrected by increasing staff or installing monitors.

STEP 5: Applied Methods of Cost Estimation

Overview

Several techniques have been developed for estimating and displaying the costs of proposed standards. Each method is tailored to available data, time constraints and other situational constraints. Specific procedures will be discussed in detail but summarized here.

The case study method was developed in conjunction with estimating implementation costs in 45 Washington State jails. Its key features including random selection of cases, isolating cost impact by function, standard and type of cost, comparing specific deficiencies of jails in the sample and population, case-by-case estimation of upgrading costs using expert opinion and extrapolation of total costs. This approach is most useful where there are a large number of organizational units and a high degree of accuracy.

TABLE 9
Total Personnel Compliance Costs, Method C

Type	Nos.	Jails	ADP	Rate	Personnel Compliance Rate	New Man Year	Average Annual Man Year Cost	Total Additional Staff Cost	Current Annual Personnel Costs	New Annual Personnel Costs
1	1	King	622	161	98	-0-	$15,927	$ -0-	$2,564,251	$2,564,251
		sample								
2	2	Pierce	96	22	66	8.1	13,686	110,851	301,084	411,935
	12	Yakima	100	21	56	10.1	8,152	83,335	171,198	254,533
	21	Kitsap	35	17	84	.3	9,193	2,753	156,286	159,044
	101	Tacoma	47	17.5	79	2.9	7,383	14,766	129,197	143,963
		Sample Total		77.5		20.5		$211,716	$ 757,765	$ 969,475
	3	Snohomish	64	43	90				474,993	
	4	Spokane	322	48	85	6.5	10,540	68,510	432,519	$1,278,540
	11	Clark	55	24	72				252,518	
		TOTAL		115		6.5		$ 68,510	$1,210,030	$1,278,541
SUBTOTAL: TYPE 2				19.5		27.		280,226	1,967,795	2,248,015
						[+14%]				[+14%]

Table 9 Cont.

Type	Nos.	Jails	ADP	Rate	Personnel Compliance Rate	Average Annual New Man Year	Man Year Cost	Total Additional Staff Cost	Current Annual Personnel Costs	Estimates New Annual Costs
		sample								
3	23	Whatcom	40	7	67	6.8	12,283	83,524	86,052	169,586
	33	Chelan	53	3.5	71	10.3	8,187	84,326	31,911	116,237
	34	Grant	18	6	82	1.0	13,241	13,241	79,445	92,686
	36	Lewis	29	10	70	2.2	10,709	23,560	107,058	130,618
	37	Skagit	22	6.5	29	5.2	12,023	62,520	78,148	140,668
	41	Clallam	12	1.5	61	3.1	7,086	21,967	10,629	32,596
	44	Kittitas	20	6	57	6.7	10,882	72,909	65,294	135,203
	46	Okanogan	25	5.5	65	5.2	10,766	59,213	59,217	118,430
	105	Olympia	5	1.5	76	1.1	7,961	8,757	11,942	20,699
		Sample Total		74.5		41.6		$ 430,017	$ 529,695	$ 959,713
	22	Thurston	65	9	73				89,881	
	32	Benton	23	6.5	86				63,815	
	35	Gray's Harbor[1]	32	12	74				115,608	
	38	Walla Walla	11	3.5	65				24,626	
	42	Franklin	33	8	82	31.7	9.211	291,989	72,362	820,910
	43	Island	9	6	79				38,997	
	45	Mason	9	5.5	68				58,068	
	47	Whitman[1]	9	2.5	65				22,469	
	102	Bellingham	7	3	81				27,188	
	107	Auburn	4	1.5	76				15,907	
		TOTAL		57.5		31.7		$ 291,989	$ 528,921	$ 820,910
SUBTOTAL: TYPE 3				104.5		73.3		722,006	1,058,616	1,780,623
						[+70%]				[+63%]
		sample								
4	52	Asotin	3	1	61	6.1	11,996	73,176	11,996	85,172
	54	Klickitat	10	1	56	10.2	8,301	84,670	8,301	92,971
	55	Pacific	4	1.5	81	4.6	12,140	55,844	18,202	74,046
	62	Lincoln	6	1.5	69	4.6	7,388	33,985	11,082	45,067
	73	Skamania	4	4	71	1.1	9,231	10,154	35,557	45,711
	84	Wahkiakum	2	3	67	4.6	9,054	41,648	17,534	59,132
	114	Kent	6	1.5	67	3.1	7,709	23,989	11,564	35,462
	122	Toppenish	12	3	49	5.7	8,471	48,285	25,414	73,699
	126	Forks	5	2	71	1.5	7,859	11,789	15,717	27,596
		Sample Total		18.5		41.5		$ 383,449	$ 115,367	$ 538,816
	51	Adams	4	1	72				10,020	
	53	Douglas	2	4.5	56				39,067	
	56	Stevens	18	4	67				34,101	
	61	Jefferson	4	3	69				30,535	
	71	Columbia	2	1	71	29.6	9,334	276,286	12,072	491,968
	111	Lynnwood	6	5	83				43,650	

Table 9 Cont.

Type	Nos.	Jails	ADP	Rate	Personnel Compliance Rate	New Man Year	Average Annual Man Year Cost	Additional Staff Cost	Total Current Annual Personnel Costs	Estimates New Annual Costs
	112	Aberdeen	2	1					8,710	
	113	Wenatchee	25	3.5		74			28,656	
	125	Omak	6	1		73			8,870	
	TOTAL			24		86				
						29.6		$ 276,286	$ 215,681	$ 491,661
SUBTOTAL: TYPE 4				42.5	[+16%]	71.1		659,735	371,048	1,030,786 [+178%]
GRAND TOTALS FOR TYPES 1-4				500.5	1	171.4		$1,661,967	$5,961,711	$7,623,678

Increase in number of personnel (man/years): 34% [without King County: 50%]
Increase in annual costs: 27% [without King County: 49%]

[1] Number of staff and average annual salaries not available. Salary figure entered is average for type. Number of staff was interpolated by dividing total salary costs by average salary.

Source: Correctional Economics Center: *The Cost of Jail Standards Compliance in Washington State.*

Sample Budgets were used to summarize cost data collected nationally from operating organizations which most nearly approximated recommended models. This requires a detailed program description to determine concurrence with model features, selecting a structured sample, relying on published budgets, and interviews with project directors to resolve budget ambiguities or inconsistencies. This Sample Budget is a method of concisely presenting information from diverse sources and minimizing the need for primary data collection.

The Model Budget was a device created for situations where proposed standards departed so much from current practice that there was no operating experience from which to derive cost estimates. The basic procedure involves a precise description of the functions comprising a project or organization choosing a "typical" scale of operation, estimating the resources (e.g., time, staff, facilities, etc.) needed to support these functions at this level based on subactivities within an operating organization. While more hypothetical than other methods, the model budget can yield relatively accurate cost ranges as well and identify *all* of the cost elements which must be included.

The Differential Method is more finite than the above in that the unit of analysis is a set of procedures, not agency functions or individual projects. While limited to *comparing* cost variations between sets of existing and proposed procedures, it may simplify analysis to the degree these sets overlap and common procedures can be assumed to be of equal cost.

Case Study Method

This approach is used to estimate standards implementation costs in existing programs or activities for which improvement is desired. When the number of units under study is relatively small, a case study may be performed for each unit; with many units, a sample may be taken and the results extrapolated to the total population. The sample should be as large and as representative of the total population as possible. Correcting for unavoidable differences will still be necessary and is discussed below.

Once the sample is selected, each unit should be surveyed for its level of compliance with standards. Deficiencies should be grouped along the dimensions of functional areas and then examined for the types of costs which will be warranted by standards implementation (capital, operating and the kind of operating cost). For example, inadequate nutritional quality of meals will

require additional food costs. Complying with same-sex standards for prisoner supervision will necessitate hiring additional staff, as will provision of in-service training. Providing educational, vocational and recreation programs will require additional staff, supplies purchases and possible modifications or additions to physical plant (capital).

Once deficiencies and cost impact area have been established for each (sample) unit, the necessary improvements to each functional area are costed out. It is suggested that capital cost estimates be made separately, preferably by a correctional architect, since this is a field of specialized expertise and because of the likelihood that capital improvements take time and expenditures for them tend to be financed over a longer term. Since extrapolation is slightly different for capital costs, the following discussion will make this distinction as well.

Operating Costs

To determine increases in opportunity costs necessary to remedy deficiencies, the necessary changes in each functional area should first be estimated in *unit* terms, i.e., one-half of an additional staff member, six hours of physician services, forty-five hours of GED classes, forty hours of visitation and so on. This analysis should involve consultation, if necessary, with persons familiar with the field and with the particular unit under study. Some examples from Washington State may clarify this procedure. In-service training for jail staff was a recommended standard—at five days annually. If a jail had existing staff of thirteen persons, providing five days of training would require additional coverage of 65 days (13x5) or an additional one-fourth manyear. If 24-hour surveillance of prisoners by persons of the same sex is required, a minimum manpower complement of ten (4.5 men, 4.5 women, and 1 supervisor) is required.[50] Units necessary to achieve compliance are the difference between current staffing and this complement. Providing three hours of visitation weekly *per inmate* requires additional staff: 3 hours x average daily population yields maximum weekly hours for which additional supervision will be necessary. Providing programs requires staff supervision.

The advantages of expert consultation are two-fold and both control for the problem of overestimating costs. First, in many cases, current staff is adequate to handle the additional duties associated with standards compliance and only a reordering is necessary. Second, there is a cumulative effect which operates in programs where, for example, staff have multiple duties (guard-counselor, supervisor-cook). In the example of staff training, an additional one-fourth manyear was recommended. If in some cases persons can only be hired full or half-time, it would seem that a decision to over-hire or remain understaffed would have to be made. However, as each functional unit is assessed, other fractions of necessary additional persons or supplies become evident. The cumulative effect occurs as the requirement for one-fourth manyear in one area, one-third in another, results in the need for a new, full-time staff member. The combination of consultation with the whole-unit functional area analysis avoids zealous over-recommendation or the under-recommendation that might appear to be warranted in a more piecemeal approach.

Once the additional units of personnel, supplies and services are determined, they can be costed out by applying the appropriate market price. Average salaries, physician's hourly fees, current per-meal costs may all be used. The result is the additional cost or reallocation (e.g., enough staff, improperly distributed) necessary to implement operating standards.

If all activities or programs have been analyzed, the total implementation cost is the sum of these units. If a sample was used, however, it will be necessary to extrapolate to the unsurveyed population. If the population is nearly identical to the sample, a more or less straight line projection may be made. In Washington State, jails were grouped by size, which meant that differences in staff complement and compliance rates existed. For improvements involving supplies and services, this presented no problem since estimates could be made individually. For staffing, however, adjustments were necessary to control for jails possessing sufficient staff to remedy deficiencies and for jails exhibiting a higher rate of standards compliance than the sample. (This latter was likely to be the case since very deficient jails were selected for in-depth analysis in order to obtain as much information as possible about upgrading.) To avoid this problem of overestimating staff complements (and costs), index numbers which compared average staff complements and average compliance rates of the sample to the remaining population were used. For example, a straight line projection from the sample to the population for the larger jails (Type 2) would have resulted in 14.1 additional manyears being recommended. Adjusting for higher compliance and current staff reduced this figure to 7.5 manyears. Additionally, since the population had not been surveyed in depth, these manyear figures were applied as a

lump-sum to the balance of the jails, not to individual jails. Table 9 displays the manyear recommendations, the additional costs and the total new operating costs for Washington's jails as derived using the formula described above. Agencies may select their own weighting systems; it only matters that differences are noted and incorporated into the analysis.

Capital Costs

Capital cost estimates take two forms: new facilities and improvements to or remodeling of facilities. New facility estimates for jails of varying capacity appear in Table 7 and provide a range of estimates suitable for the needs of most agencies. Remodeling cost estimates can again be arrayed by facility size. However, since it may be assumed that different facilities have different deficiencies and that funding sources may consider some capital improvements more immediately necessary than others, a breakdown by functional area is desirable. Table 10 displays such a breakdown for the jails in Washington.

Correctional architects visited a sample of jails of various sizes and supplied cost estimates for improving each functional area. These estimates were then applied, on a case-by-case basis, to the remaining jails. In this way, only the improvements necessary for *any particular* jail entered the cost calculations and over-estimation was again avoided.

Sample Budget Method

This technique may be used when existing organizations resemble models recommended by the standards which an agency is desirous of implementing. The selection and survey of these existing programs requires careful comparison of ongoing activities with model features to assure that all the implications of standards implementation are taken into account. For example, a combination residential-non-residential halfway house already operating in jurisdiction A might only comply with the standards of jurisdiction B (the jurisdiction planning for standards implementation) in its residential activities. It might then be necessary to examine another jurisdiction for information on non-residential activities. Additionally, other inconsistencies will have to be resolved, such as non-compatible job descriptions and budget ambiguities and exclusions.

The Standards and Goals analysis possesses greater analytical scope than that necessary for an individual agency contemplating a program of a particular size,

TABLE 10
Remodeling Cost Estimates for 26 Jails

Standard #	Short Title	Type 1	Type 2	Type 3	Type 4	Standard Total
102	Quarters		$6,693,536	$2,525,841	$132,116	$ 9,351,493
103	Cells/Dorms					
104	Recreation		95,000	98,500	6,800	200,300
105	Education		86,600	110,850	25,040	222,490
106	Library		—0—	42,900	14,800	57,700
107	Feeding		254,000	121,300	13,000	388,300
109	Medical (General)		8,500	36,467	—0—	44,967
111	Medical Isolation	10,044,700 a	8,727	26,921	8,727	44,375
112	Visiting (General)		200,500	96,455	29,300	328,255
113	Visiting (Confidential)		12,800	13,822	12,800	39,422
114	Laundry		104,800	52,850	—0—	157,650
115	Inmate Storage		30,000	8,910	—0—	38,910
116	Offices		54,500	45,200	36,000	135,700
117	Booking/Release		517,200	276,380	125,200	918,780
118	Emergency Power		—0—	20,000	60,000	80,000
	Total		$8,066,16	$3,478,396	$463,783	$22,053,042
	A.I.A. Fees b					1,764,243
	Wash-ing-ton State Sales Tax @ 5%					1,102,662
	GRAND TOTAL c					$24,919,947

a Includes cost of remodeling present Unites 1 & 2 King County facility for a design capacity of 515 *and* building new facilities to create additional capacity of 550.
b A.I.A. Fees are estimated on a sliding scale; 8% was selected for reference.
c Does not include contingency fees of unassigned space for jails other than Type I (King County).

Source: Correctional Economics Center: *The Cost of Jail Standards Compliance in Washington State.*

since it was designed to be informative to a large audience. The techniques employed, however, scope aside, are relevant for specific agencies.

Once an agency has determined the specific program activities and characteristics necessary for standards compliance in its jurisdiction (e.g., size; type: private, public; services to be provided; location; type of client to be served), a survey of similar programs operating elsewhere should be made. Since the objective is specific standards implementation, it is suggested that the specific activities of each of these similar programs be examined and a *deliberate sample* be drawn. A deliberate sample is different from a random sample in which every element has an equal probability of being selected. The random method is not useful here because of two selection criteria an agency must apply: availability of cost data and duplicability of programs along standards guidelines. Using these criteria, an agency or planner should deliberately select only those programs (or elements) which satisfy these criteria. Time and money will be saved since the study components will consist only of activities which conform to standards and which possess adequate cost information.

When this initial information gathering has been completed, an analysis of each element, both programmatically and fiscally, should be performed.

The programmatic analysis, or comparison, is a last cross-check to ensure that its elements are indeed those which the agency seeks to institute. The cost analysis will provide information on all of the relevant costs which an agency should logically expect to incur in an ongoing program. These costs range from personnel to supplies and rent, and should be listed by the analyst. The next step is to examine published operating budgets. As the preceding section on costs makes clear, however, many operating costs are absent from or inappropriately represented in budget documents. It may be then useful to examine budgets from several programs and fill in some gaps in this way. Then, interviews with project directors and budget officers can be used to complete the process. The resultant sample budget will, then, contain estimates derived from, but not necessarily identical with, budget or expenditure statistics from two or more existing activities which have characteristics similar to those envisioned by an agency facing standards implementation. Table 11 displays the operating costs categories and national cost averages for a halfway house providing comprehensive in-house services. Table 12 is a summary of average cost estimates for halfway houses providing different types of

services. All figures are in 1974 dollars and have been adjusted for regional variation. An average low and average high daily cost are displayed to indicate the variation which might be expected to occur. These cost estimates are based on actual or budgeted expenditures of a sample of houses across the country. One cost, rent (also shown as rental equivalent), was more difficult to obtain than other operating costs, since many houses are purchased rather than rented. An equivalent is necessary, however, if cost estimates are to be comparable. Several estimation processes may be employed to address this problem. The first, utilizing the annual rent figures for a similar building in the same neighborhood may be a simple process for an agency. If figures for appraised market value are available, a rental equivalency rate may be applied. The Standards and Goals Project used a modification of this method on nationwide purchase/renovation figures. The rental equivalency rate incorporates both a cost of capital factor and an allowance for a normal rate of return on capital directly invested. The rate suggested in the Standards and Goals reports[51] is 12 percent, 5/6 of which (10%) represents an annual borrowing cost of capital and the balance a non-compounded rate of return on down payment and later payments of 25 percent of the market value of the facility.

A final word on scale economies is in order. Scale economies may be said to occur when, over the long run, a program experiences continually declining average costs as client population rises. To minimize average costs, then, the client population should be increased. For halfway houses it was discovered that, because of the nature of the services offered, "average operating costs are not significantly lower (nor higher) for a house serving 28 as compared to 18".[52] However, the data did suggest clusters of client populations for which average costs were minimized. The lowest (albeit not significantly) was 18 clients; hence, this figure is used in Table 11.

Model Budget Method

A model budget, as a sample budget, is a set of estimated criminal justice expenditures, in line item form. However, it is not derived from existing expenditure or budget information but is constructed more indirectly. It involves looking at the *functions* of an organization, estimating the personnel and non-personnel resource *units* required to perform these functions in compliance with standards and attaching a price to each. The resultant costs are then grouped to form the usual line item budget. While the sample budget method is less hypo-

TABLE 11
Sample Budget for a House Providing Comprehensive In-House Services (1974 Dollars)

Item	Average High	Percent of Total Operating Costs	Average Low	Percent of Total Operating Costs
PERSONNEL				
Wages and Salaries				
Director	$ 15,970	9.1%	$ 12,085	10.6%
Assistant Director	12,737	7.2%	9,767	8.6%
Counselors (3) (vocational, employment, group and individual)	35,268	20.3%	26,526	23.3%
Psychologist/Evaluator (1/2 time)	7,250	4.3%	5,800	5.1%
Night Counselor	9,441	5.4%	7,100	6.2%
Two Part-Time Counselors (20 hrs./week)	9,152	5.2%	5,120	4.5%
Secretary/Bookkeeper	7,646	4.4%	6,082	5.4%
Cook/Housekeeper	6,990	4.0%	5,500	4.8%
Total Wages and Salaries	(104,814)	(59.6%)	(77,980)	(68.5%)
Fringe Benefits	15,722	8.9%	11,697	10.3%
TOTAL PERSONNEL COSTS	($120,536)	(68.5%)	($89,677)	(78.8%)
NON-PERSONNEL				
Professional Fees and Contract Services	$ 4,042	2.3%	$ 1,016	0.9%
Equipment	1,240	1.0%	558	0.5%
Travel and Transportation	4,055	2.3%	1,890	1.7%
Rent/Rental Equivalent	12,292	7.0%	4,704	4.1%
Maintenance	2,461	1.4%	1,304	1.1%
Utilities	4,288	2.4%	1,834	1.6%
Communications	2,845	1.6%	1,613	1.4%
Supplies	4,087	2.3%	967	0.9%
Food	18,002	10.2%	9,592	8.4%
Other	2,057	1.2%	698	0.6%
TOTAL NON-PERSONNEL COSTS	($ 55,369)	(31.5%)	($24,176)	21.2%)
TOTAL OPERATING COSTS	$175,905	(100%)	$113,853	(100%)
AVERAGE COST				
Capacity (18)				
Average Daily Cost Per Client	$26.77		$17.33	

Source: Correctional Economics Center: *Cost Analysis of Correctional Standards: Halfway Houses.*

TABLE 12
Average Cost Estimates for Halfway House Offering Different Types of In-House Services

Type(s) of Services Provided In-House	High Average		Low Average		Average a	
	Annual	Daily	Annual	Daily	Annual	Daily
Basic In-House Services	$7,347	$20.13	$4,598	$12.60	$5,973	$16.36
Basic In-House Services and Community Resource Referral	$8,123	$22.26	$5,174	$14.18	$6,649	$18.22
Basic In-House Services and Community Resource Referral Utilizing Volunteers	$7,167	$19.63	$4,599	$12.60	$5,883	$16.12
Comprehensive In-House Services	$9,773	$26.77	$6,325	$17.33	$8,049	$22.05

a Mean between "high average" and "low average" estimates.

Source: Correctional Economics Center: *Cost Analysis of Correctional Standards: Halfway Houses.*

thetical, this method is extremely useful in those instances where existing program activity does not approximate that suggested by the standards. Properly carried out, it can be highly accurate and informative.[53]

This method was used in addressing the NAC probation standards.[54] For personnel, e.g., probation officers, the available working hours per month were derived by deducting vacation, sick and other leave, training, and administrative and other duties. Next, the probation process and the attendant duties at each stage were defined, e.g., court related duties: presentence investigations, completion processing, revocation processing; probation services: needs assessment, supervision. Service unit workload values were then assigned. For example, the court-related tasks of a presentence investigation (review, interview, verification, report preparation) require 7.5 hours per case when a long form is used. Hours necessary to provide other probation services recommended by the standards were also estimated. These estimates yielded probation officer staffing requirements for services to the court sector and a services to probationers sector of a probation department with a specified workload. Using ratios of supervisors and support staff to these case probation officers permitted derivation of complete staffing for a model probation program. Salary rates from government surveys were then assigned to yield a high-low salary range (see Table 13). Nonpersonnel costs can be derived from existing budgets since many of these do not vary with standards implementation. Rent, utilities and maintenance are a function of total staff; other costs are more properly a function of the number of support staff. Certain components, such as training and travel costs, which might be expected to vary with standards compliance should be adjusted upwards. Table 14 displays a model budget for the services to probationers sector of a probation department complying with the NAC standards. Since again, a range of costs is offered, agencies constructing their own model budtets can use this as a cross-check by line item.

Differential Cost Method

This technique is most useful in comparing procedures—existing and proposed—of activities designed to achieve similar objectives and to identify the cost differences in those sets of activities. For example, arrest, field citation and stationhouse citation are three activities designed to achieve the same outcome: appearance in court. Citations are "less drastic" than arrest and their use is recommended by the NAC Stand-

TABLE 13

Complete Staffing Requirements
ratio of supervisor/probation office = 1/6
ratio of support personnel 1/2.5
support personnel consists of:
receptionist
secretary
clerk/typists

	Salary range a	
	low	high
Administrative Sector		
Director	$17,888	$22,231
Assistant Director	16,267	20,451
Manager of budget/statistical reporting	15,072	19,970
Statistician/research analyst	9,581	11,590
Personnel analyst	9,846	11,577
3 Support personnel	5,112	6,600
Services to the Court Sector		
Director	$14,646	$18,570
3 Supervisors	11,403	14,808
18 Probation officers	9,174	11,887
10 Support personnel	5,112	6,600
Services to Probationers Sector		
Director	$14,646	$18,570
10 Supervisors	11,403	14,808
60 Probation officers	9,174	11,887
28 support personnel	5,112	6,660

a Salary ranges for all positions except support personnel were derived from U.S. Civil Service Commission, Bureau of Intergovernmental Personnel Programs, *State Salary Survey, August 2, 1975* (Washington, D.C.: Government Printing Office, 1975). The salary range for staff personnel was derived from International Personnel Management Association, *Pay Rates in the Public Service* (Chicago: 1975).

Source: Correctional Economics Center: *Cost Analysis of Correctional Standards: Probation.*

ards. These alternatives to arrest were analyzed in one report of the Standards and Goals Project,[55] and the examples in the methodology are those of that study.

Before costs can be estimated it is first necessary to outline the procedures associated with each activity. For example, the act of arrest involves three basic procedures: transporting the accused to the stationhouse, booking, and custody. Field citation, while not involving those procedures, implies some others, primarily locating persons failing to appear. Next, the resource cost per accused for each procedure is derived; a nationwide estimate of $2.08 (for officer's time and vehicle usage) was derived for transporting one accused person to the stationhouse.[56] Similar workload sampling can be used to derive the total resource cost of any procedure.

TABLE 14

Model Budget for the Services to Probationers Sector of a Principally Urban County Probation Department Operating in Compliance with the *Correctional* Standards a

Item	Average High	Percent of Total Operating Costs	Average Low	Percent of Total Operating Costs
PERSONNEL				
Director	$ 18,570	1.2%	$ 14,646	1.2%
10 Supervisors	148,080	9.2	114,030	9.8
60 Probation officers	713,220	47.0	550,440	47.5
28 Support personnel	184,800	12.4	143,136	12.4
TOTAL SALARIES	1,064,670	71.5	819,625	70.9
Fringe benefits (15%)	159,701	10.7	122,944	10.6
TOTAL PERSONNEL COSTS	1,224,371	(82.2)	945,196	(81.6)
NON PERSONNEL				
Indirect (administrative)	102,053	6.8	79,608	6.9
Rent, utilities, maintenance	56,628	3.8	46,827	4.1
Communications	21,371	1.4	17,608	1.5
Supplies	20,803	1.4	15,336	1.3
Travel	21,158	1.4	18,389	1.6
Training	12,141	.8	10,366	.9
Purchased services	21,016	1.4	17,395	1.5
Other	10,224	.7	7,384	.6

Table 14 Cont.

Item	Average High	Percent of Total Operating Costs	Average Low	Percent of Total Operating Costs
TOTAL PERSONNEL COSTS	265,394	17.8	212,913	18.4
TOTAL OPERATING COSTS	$1,489,765	(100.0%)	$1,153,109	(100.0%)
Average Costs	*High*		*Low*	*Mean*
Probation officer working hours	$15.19		11.81	$13.50
Needs assessment	68.36		53.15	60.75
Supervision/Service delivery				
Minimum	11.40/month (136.80/year)		8.86/month (106.32/year)	10.13/month (121.56/year)
Medium — Low (service needs)	27.79/month (272.48/year)		17.72/month (212.58/year)	10.25/month (243.00/year)
Medium — High (service needs)	30.33/month (364.56/year)		23.62/mouth (283.44/year)	27.00/month (324.00/year)
Maximum	45.57/month (546.84/year)		35.43/month (423.16/year)	40.50/month (486.00/year)

a This probation department services 4,000 active probation cases with 250 new cases received and 240 cases closed per month, and completes 400 presentence investigations per month.

Source: Correctional Economics Center: *Cost Analysis of Correctional Standards: Probation*

TABLE 15
Differential Cost Summary: Cumulative Criminal Justice System Public Expenditures for Study Activities
(Annual Estimates—"Model" City of 200,000 Population)

Procedure	Activity: Arrest Cost	%	Stationhouse Citation Cost	%	Field Citation Cost	%
Transportation to Station-house	$ 2,773	(14.9)	$ 2,773	(16.5)	$ 1,248	(11.4)
Booking	7,891	(42.4)	7,891	(46.8)	3,552	(32.3)
Justification for Non-Release of an Accused	—		960	(5.7)	960	(8.7)
Custody to Arraignment	7,945	(42.7)	3,576	(21.2)	3,576	(32.6)
Location of Persons Failing to Appear in Court						
First failures—notif. only	—		382	(2.3)	382	(3.5)
Second failure—willful	—		1,268	(7.5)	1,268	(11.5)
Differential Cost:						
Cumulative CJS Public Expenditures for Differential Procedures	$18,609	(100.0)	$16,850	(100.0)	$10,986	(100.0)

Source: Correctional Economics Center: *Cost Analysis of Correctional Standards: Alternatives to Arrest.*

Next, case flow must be determined. Case flow is the number of people exposed to a procedure, and, for an existing activity such as arrest, is a known figure for a jurisdiction. Costing out the traditional activity is simply the multiplication of average resource costs times the case flow, or users. This provides the base from which the differential analysis can proceed.

First, the number of persons *eligible* for the alternative activities must be estimated. In the case of alternatives to arrest, NAC Standard 4.3 is clear as to the cases in which arrest is warranted, e.g., unreasonable risk, refusal to supply information, prior failure to appear. From this standard and others like it, guidelines permitting the alternative activity can be established. These guidelines will assist in identifying the eligible population. This eligible population, adjusted for the possibility that not all eligibles would receive the alternative service, is used to estimate the case flow into the alternatives.

The new costs required to achieve the original objective can then be estimated. If 100 percent of the population were eligible for and did receive the new service, then the costs of procedures solely associated with the original activity would be eliminated altogether. The more common phenomenom is likely to be a reduction in procedural costs, rather than their disappearance. In the case of field citation v. arrest, for example, police transportation costs would be *reduced*, as would booking and custody costs as the eligible population began being issued summonses. Other procedural costs, however, would be introduced, such as those associated with that estimated portion of the population which fails to appear. The costs for each procedure within each activity are then summed to yield the cumulative criminal justice system expenditures for these differential procedures. Table 15 displays the differential costs of arrest, stationhouse and field citation for a model city of 200,000. The format of this table is useful for differential analysis since it includes the additional procedures (and costs) as occasioned by the alternatives.

FOOTNOTES

[1] Daniel Skoler, "Financing the Criminal Justice System—Taking Stock, 1965–75," *Criminal Justice Digest*, vol. 4, no. 2, p. 2. The real (deflated) increase was 92 percent to $8.86 billion in 1965 dollars.

[2] Douglas Lipton, Robert Martinson, Judith Wilks, *The Effectiveness of Correctional Treatment: A Survey of Treatment Evaluation Studies* (New York, N.Y.: Praeger, 1975).

[3] George L. Kelling, et al. *The Kansas City Preventive Patrol Experiment* (Washington, D.C.: Police Foundation, 1974).

[4] National Advisory Commission on Criminal Justice Standards and Goals, *Courts* (Washington, D.C.: Government Printing Office, 1973). Hereafter, all references to this Commission will be cited as NAC.

[5] Arman Alchain and William Allen, *University Economics* (Wadsworth Publishing, 1968), p. 68.

[6] See *Measuring Benefits of Government*, ed. Robert Dorfman (Washington, D.C.: The Brookings Institution, 1965) which includes examples drawn from research, recreation, education, health among others.

[7] See, for example: Gary Becker, "Crime and Punishment: An Economic Approach," *Journal of Political Economy*, March/April, 1968; Harold Votey and Llad Phillips, "The Control of Criminal Activity: An Economic Analysis" in *Handbook of Criminology*, ed. Daniel Glaser (Chicago: Rand-McNally, 1974) and Isaac Ehrlich, "The Deterrent Effect of Capital Punishment: A Question of Life and Death," *American Economic Review*, June, 1975.

[8] Stuart Adams, *Evaluative Research in Corrections: A Practical Guide* (Washington, D.C.: Government Printing Office, 1975), p. 74.

[9] B.L. Wayson, Gail Monkman and Sally Familton, *The Cost of Jail Standards Compliance in Washington State* (Washington, D.C.: Correctional Economics Center, 1976). Hereafter referred to as *Washington State*.

[10] Carl Nelson, *A Handbook of Cost-Benefit Techniques and Applications, Part II: Applications* (Washington, D.C.: Correctional Economics Center, 1975), p. 15.

[11] See *D. Thalheimer, Cost Analysis of Correctional Standards: Halfway Houses* (Washington, D.C.: Correctional Economics Center, 1975) pp. 28–32; and G.S. Monkman and B.L. Wayson, *Comparative Costs of State and Local Facilities* (Washington, D.C.: Correctional Economics Center, 1975), pp. 38–39. Hereafter, textual references will be "House of Corrections Study."

[12] Gary Becker, *Human Capital: A Theoretical and Empirical Analysis with Special References to Education.*

[13] Monkman and Wayson, *Comparative Costs,* pp. 29–34.

[14] Ann M. Watkins, *Cost Analysis of Correctional Standards: Pretrial Diversion* (Washington, D.C.: Correctional Economics Center, 1975), p. 50.

[15] Idem., p. 53.

[16] Wayson, Monkman, Familton, *Washington State, Appendix A-3, Kitsap.*

[17] Monkman and Wayson, *Comparative Costs.*

[18] We are referring here to *Expenditure and Employment Data for the Criminal Justice System* published by the U.S. Department of Justice, Law Enforcement Assistance Administration.

[19] Watkins, op. cit., pp. 6–10.

[20] Watkins, op. cit., p. 51.

[21] Neil M. Singer and Virginia B. Wright, *Cost Analysis of Correctional Standards: Institutional-Based Programs and Parole* (Washington, D.C.: Correctional Economics Center, 1976), pp. 50–57.

[22] Thalheimer, op. cit., p. 89.

[23] Mark McConkie, *Management by Objectives: A Corrections Perspective* (Washington, D.C.: Government Printing Office, 1975), p. 1.

[24] Ibid., p. 15.

[25] Ibid., p. 16.

[26] See Daniel Glaser, *Routinizing Evaluation* (Washington, D.C.: Government Printing Office, 197), pp. for a cogent discussion of "latent" and "manifest."

[27] See Wayson, et. al., *Final Report of the Task Force on Performance Measurement System* (Washington, D.C.: U.S. Bureau of Prisons, 1971) (Mimeographed) for an explanation of how performance measurement can be applied in a corrections agency.

[28] *State of Vermont Executive Budget, Fiscal Year 1975,* pp. 150–168. Examples include "number of cases seen per year," "recommendations made to the court," etc.

[29] Thalheimer, op. cit., p. 68.

[30] Ibid., p. 65.

[31] Ibid., Appendix A, pp. 16–18.

[32] *Washington State,* pp. 76–79.

[33] Jeffery Chapman, A Handbook of Cost-Benefit Techniques and Applications, Part I: Techniques.

[35] Peter B. Meyer, *A Conceptual and Methodological Approach to Cost-Benefit Analysis in the United Services Agency* (University Park, Pa.).

[35] Michael K. Block, *Cost, Scale Economies and Other Economic Concepts,* (Washington, D.C.: Correctional Economics Center, 1976). pp. 20–21.

[36] For more detail, see the following: John Holahan, *A Benefit-Cost Analysis of Project Crossroads,* (Washington, D.C.: National Committee for Children and Youth, 1970); Jeffrey Chapman and Carl Nelson, *A Handbook of Cost-Benefit Analysis: Techniques and Application,* (Washington, D.C.: Correctional Economics Center, 1975); and Gail S. Monkman, ed., *Cost-Benefit Analysis: Three Applications to Corrections,* (Washington, D.C.: Correctional Economics Center, 1974).

[37] *Corrections,* p. 19.

[38] *Corrections,* Standard 11.9, p. 385.

[39] *Corrections,* Standard 2.12, p. 52.

[49] This categorization process is outlined in greater detail in the *Plan for a Cost Analysis of the Corrections Report,* and later publications (see below) of the Standards and Goals Project of the Correctional Economics Center.

[41] It should be remembered throughout that the standards under consideration are those with economic and cost implications.

[42] Wayson, Monkman, Familton, *Washington State.*

[43] Standards 104, 111 and 178 (respectively) Washington State Jail Commission.

[44] Sally F. Familton, *A Benefit-Cost Analysis of the Juvenile Services Program for Pinellas County, Florida* (unpublished draft), Correctional Economics Center.

[45] Wayson, Monkman, Familton, *Washington State,* pp. 45–49.

[46] Ibid.

[47] Susan Weisberg, *A Cost Analysis of Correctional Standards: Alternatives to Arrest, Correctional Economics Center, October, 1975.*

[48] *From 1974 data provided by John Galvin, Director—Alternatives to Jail* Incarceration Project, American Justice Institute, Sacramento, California, August 6, 1975.

[49] Wayson, Monkman, Familton *Washington State,* pp. 24–25.

[50] *In Washington State,* manyear equivalents rather than "staff" were the unit of analysis.

[51] Donald Thalheimer, *Cost Analysis of Correctional Standards: Halfway Houses,* Correctional Economics Center, October, 1975, Appendix A-4.

[52] Thalheimer, *op. cit.,* page 58 for #1.

[53] Interestingly, the methodology described below can be used "in reverse" for an agency desirous of knowing the costs of *current* functions.

[54] Donald Thalheimer, *Cost Analysis of Correctional Standards: Probation,* unpublished draft, Correctional Economics Center.

[55] Weisberg, *op. cit.*

[56] Weisberg, *op. cit.,* p. 29.

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