

CASCADE

PERFORMANCE BUDGETING

A Guide to an Effective System for
Integrating Budget and Performance
Information and for Linking Long-Term
Goals to Day-to-Day Activities

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CASCADE PERFORMANCE BUDGETING

by John Mercer

Cascade™ Performance Budgeting is a systematic approach for developing effective performance budgets at government agencies. It uses a methodology that instills real performance-related *transparency* into the budget by: (1) clearly linking day-to-day program activities with the long-term goals of the agency, and (2) identifying the full cost and the unit cost of the activities, as well as the costs associated with achieving the various goals, objectives and other performance measures that follow from the activities.

For this reason, a Cascade™ Performance Budget provides the essential planning and budget structure for implementing a comprehensive performance management system at federal departments and agencies. From the Office of the Secretary and the various department-level administrative and support functions, through the bureau-level programs and headquarters operations, to the line managers and staff in the field, a Cascade type of performance budget ensures that every dollar spent and every work hour expended explicitly supports the department's desired outcomes.

The uniqueness of Cascade™ Performance Budgeting is that it is the only system that merges the federal agency-specific requirements of OMB with the world-famous performance budgeting methodology that first inspired GPRA (and which has been praised by OMB for its ability to support program management). The Cascade budget system begins with the approach recommended by OMB for integrating budget and performance information for top-level outcomes. It then drives these cost-result linkages down through all levels of the agency. This approach makes the Cascade™ Performance Budget an ideal framework for a performance management system.

The purpose of this guide

This guide describes the key concepts and essential elements of Cascade™ Performance Budgeting. It also illustrates several of the more generally applicable techniques for implementing this approach. While for purposes of clarity and simplicity it does not include all possible variations on these techniques, the examples included are typical.

There are many variables relating to the unique characteristics of each federal department and agency. Individual circumstances will determine which of several alternatives may be the preferred technique to use in a particular case. While the general structure and methodology for developing a Cascade™ Performance Budget is similar for all governmental organizations, the particular application may vary. This may depend, for example, on the degree to which the bureaus share or do not share common departmental goals, or on whether a program is implemented exclusively at a single location or through a network of field offices.

Traditional budget structure

While the specific budget account details in the President’s Budget will vary for each department and agency, the overall structures are generally similar. Departmental budgets are usually structured around bureau-specific accounts, and it is within these bureau budgets that all but a small portion of the departmental spending is planned. The Department itself will commonly have an account that incorporates funding for the Office of the Secretary and for any offices with department-wide support responsibility.

For purposes of illustration, we will assume a hypothetical Department of XYZ, with four bureau-level agencies, submitting a total budget of \$2,135,000,000 for the coming year.

Department of XYZ Budgetary Resources (dollars in millions)	
Departmental management	\$ 11
Bureau A budget	732
Bureau B budget	347
Bureau C budget	462
<u>Bureau D budget</u>	<u>583</u>
Total	\$2135

Table 1

Typically, the President’s Budget might show an account structure for the bureaus that looks similar to this, using the \$732 million for hypothetical Bureau A as an example:

Bureau A Budget Programs (dollars in millions)	
Operations	\$523
Research	65
Technical support	41
<u>State grants</u>	<u>103</u>
Total	\$732

Table 2

In the President’s Budget, information on Bureau A’s accounts would be presented in two primary formats – under the Program and Financing Schedule as “obligations by program

activity,” and by Object Classification. There would also be an indication of the proposed number of full-time equivalent employees (FTEs) associated with this funding. Table 3 shows an example of how the Operations account for Bureau A might look:

OPERATIONS		
Program and Financing (in millions of dollars)		
Obligations by program activity		
Direct program:		
00.01	Disaster prevention	95
00.02	Health services	144
00.03	Regulation	86
00.04	Community services	103
00.05	Response training	36
00.06	Administration and support	42
09.01	Reimbursable program	<u>17</u>
10.00	Total new obligations	523
Object Classification (in millions of dollars)		
Direct obligations:		
Personnel compensation:		
11.1	Full-time permanent	184
11.3	Other than full-time permanent	<u>7</u>
11.9	Total personnel compensation	191
12.1	Civilian personnel benefits	52
21.0	Travel and transportation of persons	7
23.1	Rental payment to GSA	32
23.3	Communications, utilities and miscellaneous charges	66
24.0	Printing and reproduction	3
25.4	Operation and maintenance of facilities	42
25.7	Operation and maintenance of equipment	18
26.0	Supplies and materials	47
31.0	Equipment	<u>86</u>
99.0	Direct obligations	544
99.0	Reimbursable obligations	<u>21</u>
99.9	Total new obligations	523
Personnel Summary		
Direct:		
Total compensable workyears:		
1001	Civilian full-time equivalent employment	2329

Table 3

As indicated, the total amounts shown in Table 3 (\$523 million) are for expected *Obligations*. In this budget account presentation, there would also be shown (in several displays within the Program and Financing Schedule, following the “Obligations by program activity”) the amount of new *Budget Authority* being requested and the amount of expected *Outlays* during the year. In this example, the figures for Budget Authority and Outlays shown for the Bureau might very well be more or less than the \$523 million for Obligations in the Operations account and the \$732 million total for the Bureau (Table 2). It is not unusual for an agency to have as much as a 20 percent variation between those three figures. This variation can have significant ramifications in a performance budget, such as by affecting unit cost calculations. Agencies should be careful to include figures that show what was or will be actually spent during the year.

Shortcomings of the traditional approach

Federal agency budget structures evolved over many years for the purpose of controlling *where* and *how* money is spent, rather than focusing first on *what* the spending should *accomplish*. They define control primarily in terms such as how much should be spent on a particular program based on its general purposes, and how much should be spent on classifications such as salaries and on utilities. Even the so-called “program activities” listed under the budget accounts lack any consistent meaning or reference point. They are often so broadly or narrowly defined that they have little meaningful relationship to what would be considered a specific federal program in the conventional sense.

This type of structure brings little transparency to the relationship between resources consumed and results achieved by federal programs and agencies. Nor does it encourage much discussion of a program’s overall effectiveness. In fact, a major problem it creates is that annual budget discussions are almost always focused on the justification of an incremental increase in spending over the previous year. Seldom does the budget structure encourage or facilitate a more comprehensive examination of an agency’s performance or a fundamental evaluation of a program’s merits.

Because of these and other shortcomings, most of today’s federal budget account structures put departments and agencies at a significant disadvantage in meeting the criteria of the President’s Management Agenda and of OMB’s Program Assessment Rating Tool. These traditional account structures also greatly handicap efforts to build real performance management systems.

Performance budgeting reform

The most important and overarching of the five reform items on the President’s Management Agenda is the Budget and Performance Integration Initiative. This type of integration is commonly referred to as performance-based budgeting. It is a reform that is squarely aimed at addressing the disadvantages of the more traditional approach to federal agency budgeting that is described and illustrated above.

In the President's Budget for FY 2004, OMB describes its ambitious initiative to implement performance budgeting throughout the federal government in 2005. OMB explains that,

"[Strategic plans] are to be considered the template for an integrated 'performance budget' for 2005. The annual performance plan and the budget justification will become an integrated document organized by strategic plan goals. For each goal, the plan analyzes the relationships from goal to outcomes to programmatic effects on outcomes to resource requests. . . ."

"The agency should develop a 'performance budget,' organized like its Strategic Plan that matches resources with outputs and justifies resources requested by the effectiveness at influencing the desired outcomes."

Developing a Cascade Performance Budget

A Cascade™ Performance Budget is a very effective tool for complying with these budget and performance integration requirements of OMB. It also has the advantage of going beyond these immediate OMB requirements and into the laying of a solid foundation for building a comprehensive performance management system, through its linkage of costs to day-to-day activities to long-term goals, across the full spectrum of agency operations.

There are four principal steps in Cascade™ Performance Budgeting:

1. Develop a realigned budget account structure that is organized like the department and bureau strategic plans.
2. Use the Congressional Budget Justification to show how this structure flows down through the organization in a series of interconnected performance budgets.
3. Link day-to-day activities to this chain of performance budgets.
4. Show the full costs of these activities in a manner that facilitates accurate calculation of the total cost of achieving the related goals and objectives.

Step 1. Realign budget accounts

The process begins with development of a performance budget structure that is organized along the same lines as the department and bureau strategic plans. There is no one correct approach to accomplishing this realignment of the budget accounts, because of the varying ways in which programs and bureaus relate to their departments. In some departments, the bureaus operate relatively independently from one another, while in others there is more central coordination at the departmental level. Also some federal agencies are entirely independent of any department.

The fundamental principle to be applied here is that whatever the precise structure used by the department or agency, and whether these goals and objectives are general

statements or specific measures, the budget structure should facilitate clear linkage between dollars and results. Where this is not possible, such as when a meaningful restructuring of the budget accounts has not gained the necessary approvals, then OMB advises that informational tables (such as cross-walks between the traditional and the performance-oriented formats) be included in the Budget Justification.

Three approaches for accomplishing this will be illustrated here. In each of these examples, our hypothetical Department XYZ has four high-level Strategic Goals that are general statements of long-term program results, plus a fifth goal addressing departmental management and support. Each of these goals is supported by several Strategic Objectives that together define the desired outcome. Sufficient progress toward or accomplishment of these objectives is defined by the several measurable Strategic Performance Goals that are linked to each.

The starting point is the structure of the strategic plans goals and objectives. Table 4 illustrates how this might look:

<p>Department of XYZ Strategic Plan (FY 2003 – 2008)</p> <p>Strategic Goal 1. Ensure that the health of the American people is</p> <p>Strategic Goal 2. Promote maximum educational opportunities and achievement for . . .</p> <p>Strategic Goal 3. Conserve natural resources so that</p> <p>Strategic Goal 4. The public will be protected from unsafe practices that pose serious threats to their local environment.</p> <ul style="list-style-type: none">❑ Strategic Objective 4.1. Local communities will be assured of the safe and proper handling of dangerous toxic chemicals.<ul style="list-style-type: none">➤ Strategic Performance Goal 4.1.1. By FY 2008, achieve a reduction of 24% from the 2002 baseline in the number of adverse incidents designated as “serious” in the transportation and storage of Class A1 and A2 toxic chemicals.➤ Strategic Performance Goal 4.1.2. By FY 2008, achieve a national rating of 8.45 on the AVP scale.❑ Strategic Objective 4.2. The public will have <p>Strategic Goal 5. Programs and support functions of the Department shall be effectively and efficiently managed in order that . . .</p>
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Table 4

Using Strategic Goal 4 as an example, Table 4 shows that the goal is more specifically defined by two Strategic Objectives, one of which is that “Local communities will be assured of the safe and proper handling of dangerous toxic chemicals.” And how will the Department know that this objective has been met (or that sufficient progress has been made)? By two specific, measurable target levels of result that it wants to achieve by FY 2008, Strategic Performance Goals 4.1.1. and 4.1.2. One relates to a reduction in the number of serious accidents and the other relates to an improved score on a particular scale. The Strategic Performance Goals are in effect the *measurable outcomes* that the Department wants to achieve. (As will be noted later, departments and bureaus are generally free to use whatever terminology they wish in labeling these various levels of the goal hierarchy, as long as the actual measures reflect appropriate distinctions between outputs and outcomes.)

How might this strategic plan structure be reflected in realigned budget accounts? An approach suggested by OMB is to use the Bureau’s programs as the budget accounts, with the outcome and output goals forming the program activity lists. This is illustrated by the Program and Financing Schedule shown in Table 5.

Bureau A
 Toxics Storage Safety (FY 2005)
Program and Financing (dollars in millions)

Account 123456Q	FY 2003	FY 2004	FY 2005
Reduce the number of incidents of spills and leaks in the storage of Class A1 and A2 toxic chemicals by 5% from the 2004 result.	\$31M	\$32M	\$34M
Conduct 4975 inspections	9	10	11
Complete 1985 investigations	9	9	9
Issue 4100 licenses	13	13	14

Table 5

In this case, the budget account is the Bureau’s Toxics Storage Safety Program, and the program activities are a combination of the program’s primary annual outcome (Program Measure 4.1.1.1) and the outputs from that program’s activities. (This source will be indicated more clearly in Table 9.)

Another approach suggested by OMB is to create an informational table that combines performance information relating to two different budget accounts, showing how they both contribute to a common outcome goal. Where this type of informational table is used, it is not required by OMB that all funding from each account be integrated into the table. Table 6 illustrates this approach, but it does include measures that link all of funding to the two budget accounts.

Bureau A
FY 2005 (dollars in millions)

Accounts 123456P and 123456Q	FY 2003	FY 2004	FY 2005
Reduce the number of serious incidents in the transport and storage of Class A1 and A2 toxic chemicals by 4% from the 2004 result.	\$70M	\$72M	\$76M
Reduce the number of incidents of spillage in the transport of Class A1 and A2 toxic chemicals by 3% from the 2004 result.	39	40	42
00.01 Process 9750 transport plans	(22)	(23)	(24)
00.02 Conduct 6250 inspections	(17)	(17)	(18)
Reduce the number of incidents of spills and leaks in the storage of Class A1 and A2 toxic chemicals by 5% from the 2004 result.	31	32	34
00.03. Conduct 4975 inspections	(9)	(10)	(11)
00.04. Complete 1985 investigations	(9)	(9)	(9)
00.05. Issue 4100 licenses	(13)	(13)	(14)

Table 6

In this case, two budget accounts are combined in the informational table. One is the Bureau’s Hazardous Cargo Program and the other is the Toxics Storage Safety Program. The common outcome goal is the annualized version of Strategic Performance Goal 4.1.1. As will be seen in Table 9, it is designated Annual Performance Goal 4.1.1.1., which makes that linkage explicit.

What if the Department is not able to (or chooses not to) realign its existing budget accounts? In that case, it is still possible to realign the program activity structures of the accounts so that there is a better correlation to outcomes. For example, the program activities listed in the Program and Financing Schedules may be changed so as to mirror the department’s strategic goals. For our hypothetical Bureau A, this would mean that the “obligations by program activity” presentation of its Operations budget account (see Table 3) could be recast as shown in Table 7.

Bureau A		
OPERATIONS		
Program and Financing (in millions of dollars)		
Obligations by program activity		
Direct program:		
00.01	Health	203
00.02	Education	86
00.03	Conservation	15
00.04	Safety	171
00.05	Management	<u>48</u>
10.00	Total new obligations	523

Table 7

Here the five program activities are each given a title that signifies one of the five departmental Strategic Goals (e.g., “Safety” for the goal, “The public will be protected from unsafe practices that pose serious threats to their local environment”).

Note that in Table 7, the \$523 million total shown here for the Operations budget account is the same amount as is shown in the original Program and Financing Schedule for Bureau A in Table 3. In that previous presentation, however, the program activities breakout was not in terms of departmental strategic goals. In some cases, it may be more appropriate for the department or agency to show the funding by strategic objectives in the program activity table, particularly if there are too few strategic goals to be meaningful and not too many strategic objectives to be impractical.

Revising the budget accounts in a manner similar to the approaches described above will probably require coordination with the agency’s Congressional appropriations subcommittees, as well as with OMB. Agencies should be prepared to explain how this type of revision will better support the interests of their Congressional appropriators in ensuring the effective use of tax dollars. This has already occurred at several agencies, where strategic goals are now incorporated into the account structure.

If the department is not able to gain agreement on redefining its budget accounts and program activities in terms of its strategic goals or other outcomes, then OMB urges the use of informational tables in the Budget showing the relevant relationships. Table 8 presents a crosswalk indicating how funding in an unrealigned program activity structure supports departmental strategic goals.

Step 2. Use the Budget Justification to show that performance budgets interconnect

Departmental and bureau spending plans are outlined in the President’s Budget, but it is in its Congressional Budget Justifications that the more detailed breakdowns are shown and more specific rationales given for the budget requests. As explained earlier, OMB has stated that, “The annual performance plan and the budget justification will become an integrated document organized by strategic plan goals.” Informational tables in the budget justification should be used to facilitate this integration.

Table 8 illustrates the use of an informational table, in the form of a cross-walk, to show how the funding for Program and Financing (P&F) Schedule program activities (Table 3) in an unrealigned budget account supports the departmental strategic goals (Tables 4 and 7). This type of informational table is an especially useful item in the budget justification if the Bureau has been unable to realign its budget accounts and P&F schedules to make these linkages more directly in the budget itself.

Bureau A
Operations Budget Account
(dollars in millions)

Cross-walk between Bureau’s P&F Program Activities and Department Strategic Goals

	Str Goal 1 Health	Str Goal 2 Education	Str Goal 3 Conservation	Str Goal 4 Safety	Str Goal 5 Management	Total
00.01. Disaster prevention	33			60	2	95
00.02. Health services	144					144
00.03. Regulation			15	67	4	86
00.04. Community services	17	86				103
00.05. Response training	9			27		36
00.06. Admin. and support					42	42
09.01 Reimbursable program				17		17
Total	203	86	15	171	48	\$523

Table 8

The matching of budget funding to strategic goals – whether by budget account realignment or through a cross-walk table -- is a pivotal turn in the development of an effective performance budget. It puts into place a first necessary element in the effort to link dollars to results in a meaningful way.

In the Cascade™ Performance Budgeting System, the strategic and other outcome goals flow down through the organization in a series of interconnected performance budgets, to guide on-going program management. The next four pages contain a series of graphics that illustrate this important aspect of the Cascade system.

Chart 1 (page 12) outlines how an explicit linkage is created between accomplishment of the department's mission and the day-to-day activities that occur throughout all levels of the organization. As illustrated, the department's strategic plan should link to two types of supporting documents – the department's own performance budget (an integrated annual performance plan and budget justification), and the bureau-level strategic plans. These documents, in turn, should directly link to and drive creation of the bureau-level performance budgets. (Note: Some departmental plans are summaries of bureau plans.)

A bureau may also direct its subunit organizations (called “offices” and “programs” for purposes of illustration here) to have their own multi-year strategic plans that support the bureau's plan. This is optional. However, it is important that some type of annual performance budget be created by these organizations, even if the documents do not contain all of the GPRA and OMB required elements of the bureau's performance budget. This is particularly true for any regional and field operations of the bureau. In a Cascade™ Performance Budgeting System, these types of operations have budgets that drive the creation of performance plans/budgets for every manager. In the end, it is the first-line managers supervising the day-to-day activities of program staff who will determine the ultimate success of the entire enterprise in achieving its intended outcomes. This is why a Cascade budget links all the way down to staff-level activities and tasks.

Table 9 (page 13) illustrates the primary example used in this guide of how a strategic goal is linked to the staff-level activities of a specific program (Bureau A's Toxics Storage Safety Program). Note that for the intended outcome (a measurable reduction in serious incidents), “serious incident” is defined by several Performance Indicators.

Chart 2 (page 14) and Chart 3 (page 15) illustrate the point that there are many possible levels of a performance measurement hierarchy, and that for purposes of this guide, eight levels are used here and a specific term is applied each one. The terms used here (Strategic Goal, Strategic Objective, Strategic Performance Goal, etc.) are simply illustrative. There is no standardized terminology in the federal government, with the exception that a distinction is made in the characterization of whether a measure is an *outcome* or an *output*. Both the number of levels in a performance measurement hierarchy and the designations used may be freely modified. Some of the alternative terms include Outcome Goal, Key Outcome, Key Performance Indicator, General Objective, Performance Target, End Outcome, and Intermediate Outcome.

CASCADE™ Performance Budgeting

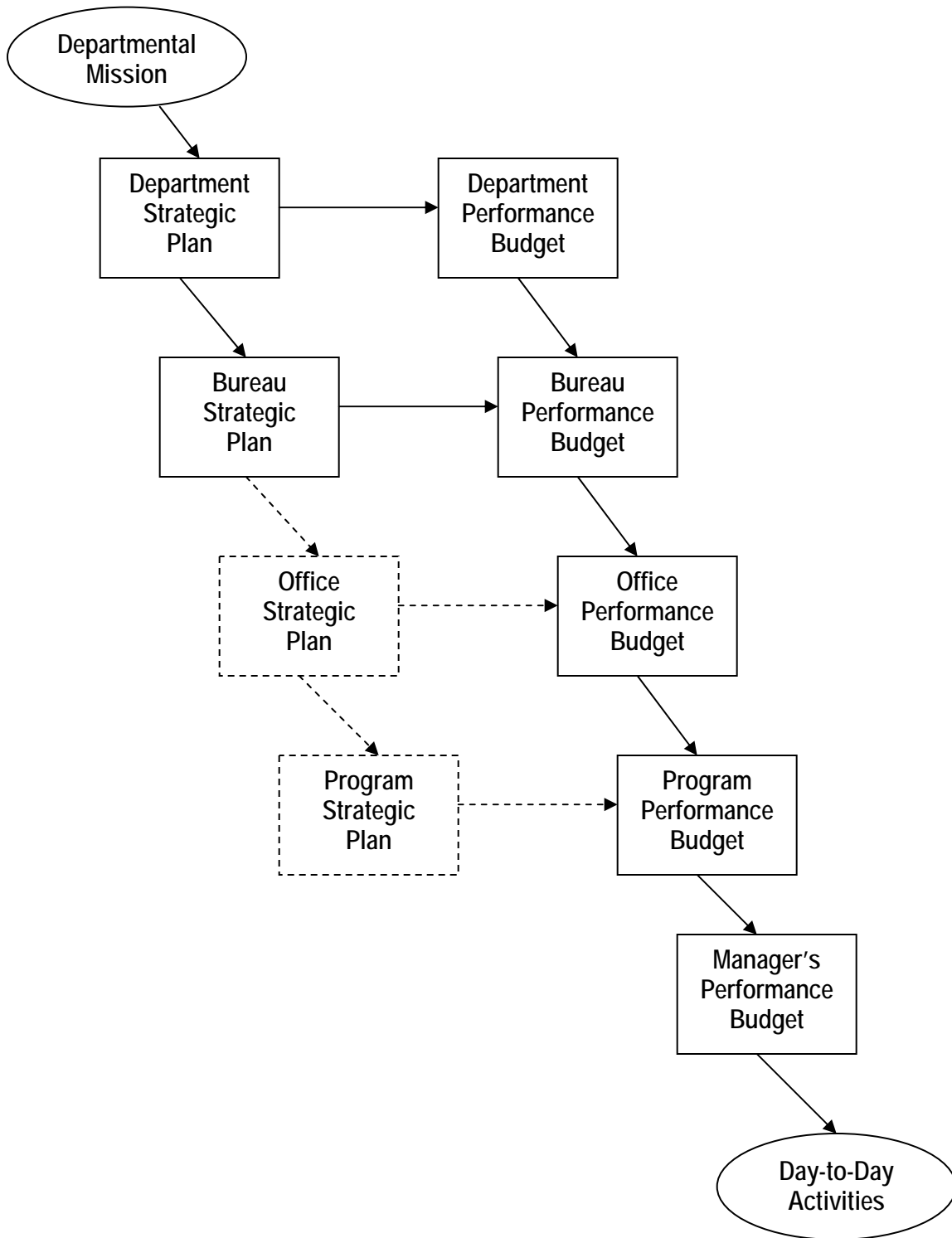


Chart 1

Cascade™ Drill-Down Example
End Outcome to Intermediate Outcome to Outputs to Activities for FY 2005

Strategic Goal 4. The public will be protected from unsafe practices that pose serious threats to their local environment.

□ **Strategic Objective 4.1.** Local communities will be assured of safe and proper handling of dangerous toxic chemicals.

➤ **Strategic Performance Goal 4.1.1.** By FY 2008, achieve a reduction of 24% from the 2002 baseline in the number of adverse incidents designated as “serious” in the transportation and storage of Class A1 and A2 toxic chemicals.

○ **FY 2005 Annual Performance Goal 4.1.1.1.** Reduce the number of serious incidents in the transport and storage of Class A1 and A2 toxic chemicals by 4% from the 2004 result.

✓ **Performance Indicator 4.1.1.1 – PI.A.** No more than 3 deaths caused directly by adverse incidents involving Class A1 and A2 toxic chemicals.

✓ **Performance Indicator 4.1.1.1 – PI.B.** No more than 28 hospitalizations required as a direct result of adverse incidents involving Class A1 and A2 toxic chemicals.

✓ **Performance Indicator 4.1.1.1 – PI.C.** Length of hospitalization is no greater than 3 days in at least 80% of cases.

Hazardous Cargo Program

- **Program Measure 4.1.1.1 – PM.A.** Reduce the number of incidents of spillage in the transport of Class A1 and A2 toxic chemicals by 3% from the 2004 result.
- **Program Measure 4.1.1.1 – PM.B.** Increase the . . .

Toxics Storage Safety Program

- **Program Measure 4.1.1.1 – PM.C.** Reduce the the number of incidents of spills and leaks in the storage of Class A1 and A2 toxic chemicals by 5% from the 2004 result.
- **Program Measure 4.1.1.1 – PM.D.** Achieve an average satisfaction rating of at least 3.8 on a 5-point scale from Class A1 and A2 licensees on their dealings with TSSP officials.

Activities:

- **4.1.1.1 – 3.** Conduct 4975 inspections
- **4.1.1.1 – 4.** Complete 1985 investigations
- **4.1.1.1 – 5.** Issue 4100 licenses

Table 9

CASCADE™ Performance Budgeting

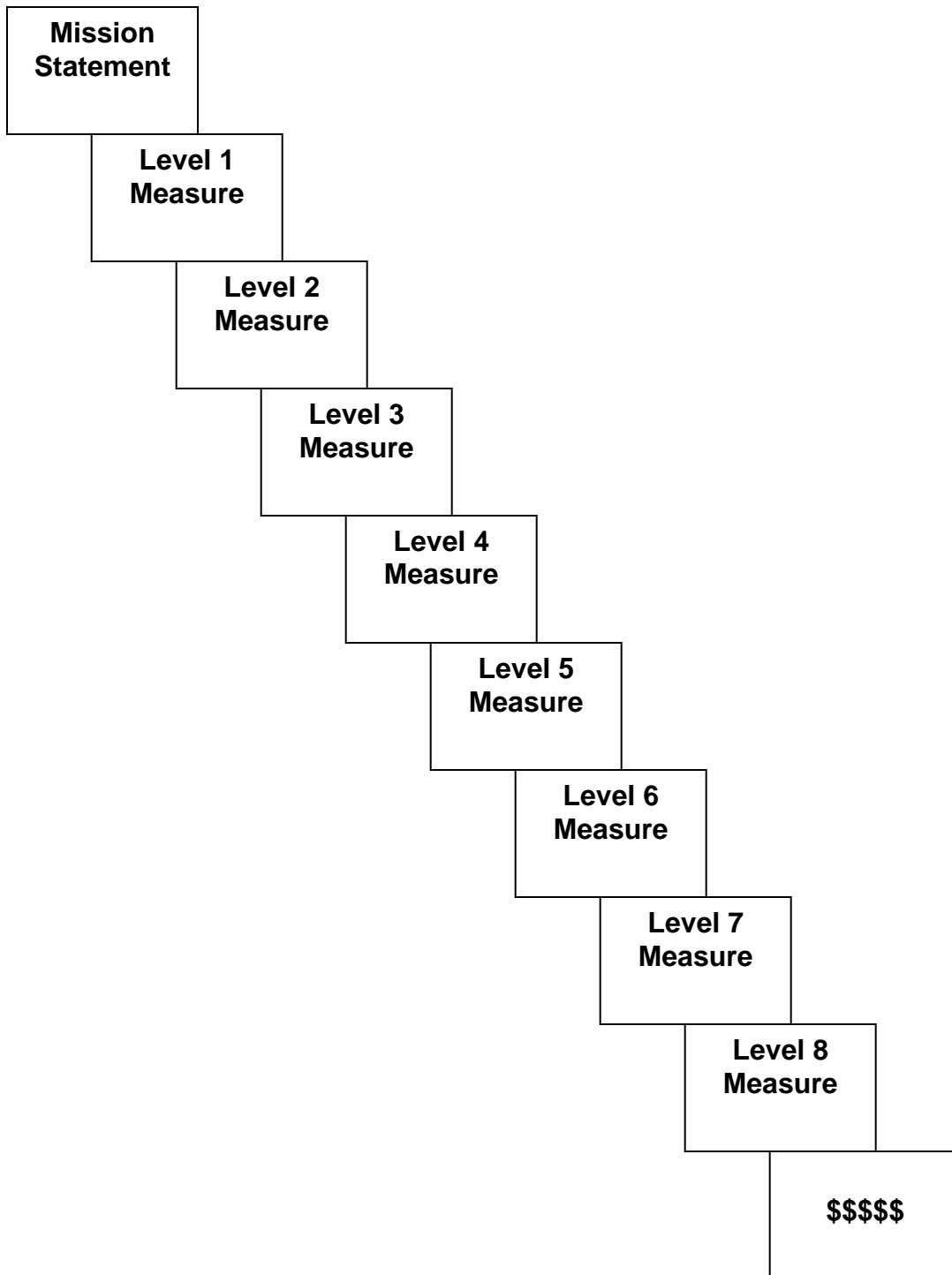


Chart 2

CASCADE™ Performance Budgeting

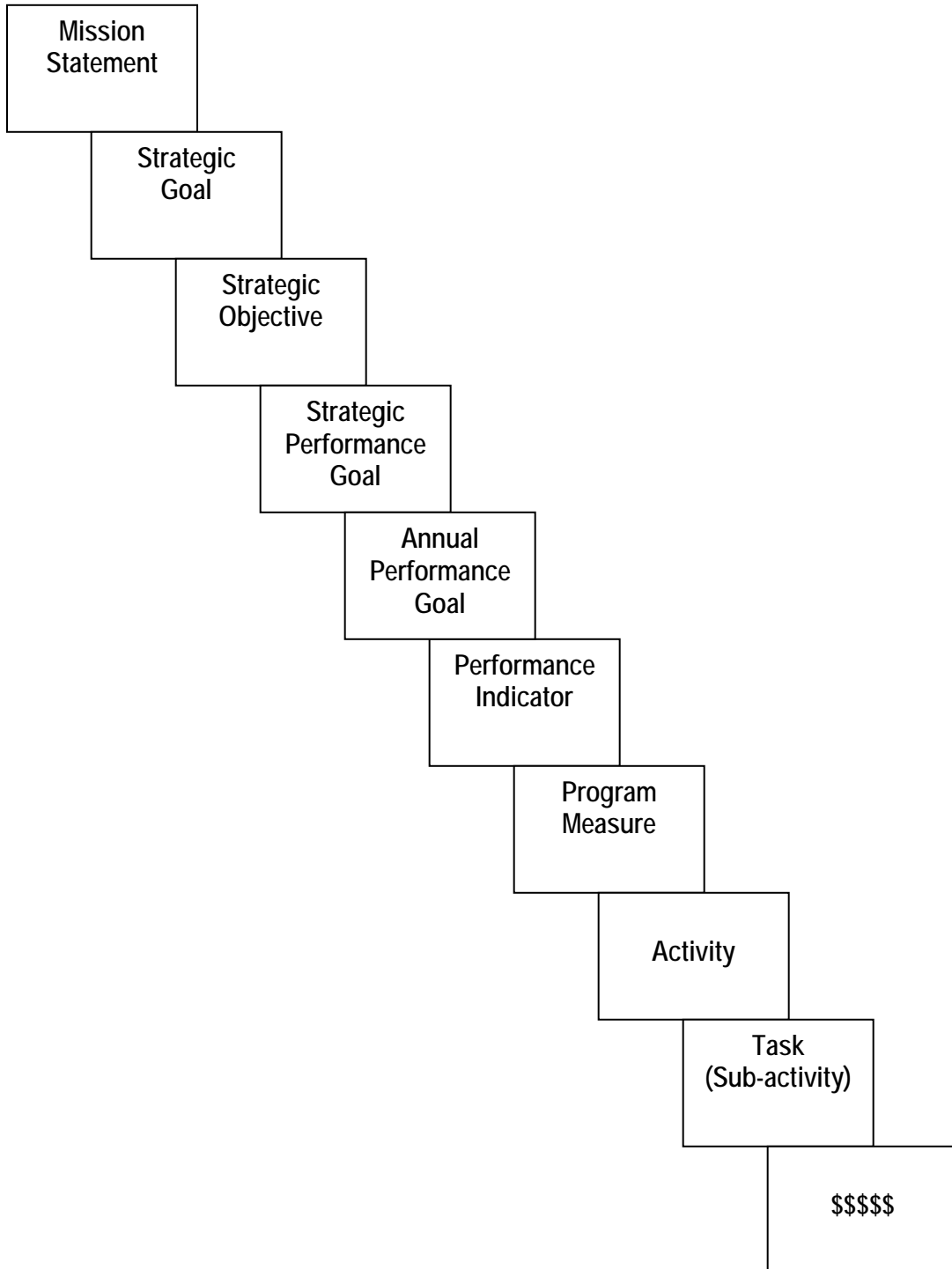


Chart 3

Now we will take the principles outlined in the table and charts on pages 12-15, and apply them to the development of a Cascade™ Performance Budgeting System at our hypothetical Department XYZ and its Bureau A.

As indicated by Table 1 on page 2, the department has a budget of \$2,135 million for its four bureaus and a departmental management function. Regardless of whether it has fully realigned its budget account system, or instead has used information tables to indicate the necessary dollars-results linkages, it will be useful to have a table showing how funding for those areas maps to support for departmental outcomes. Table 10 demonstrates these linkages.

Department XYZ

Cross-walk between Department Strategic Objectives and Bureau Funding
(dollars in millions)

	Deptl Mgt	Bureau A	Bureau B	Bureau C	Bureau D	TOTAL
DepStrGoal 1		250		236	140	626
StrObj 1.1		104		22	78	(204)
StrObj 1.2				161		(161)
StrObj 1.3		146		53	62	(261)
DepStrGoal 2		142	97	202		441
StrObj 2.1		77	18	113		(168)
StrObj 2.2		65	79	89		(183)
DepStrGoal 3		17	235		220	472
StrObj 3.1			99		122	(221)
StrObj 3.2			136			(151)
StrObj 3.3		17			98	(115)
DepStrGoal 4		275			189	464
StrObj 4.1		107			96	(203)
StrObj 4.2		168			93	(261)
DepStrGoal 5	11	48	15	24	34	132
StrObj 5.1	4					(4)
StrObj 5.2	7	48	15	24	34	(128)
TOTAL	11	732	347	462	583	2135

Table 10

For purposes of this example, the outcomes are the departmental Strategic Goals (DepStrGoal) and the Strategic Objectives (StrObj), using the format summarized by Table 4 (page 6). It is also possible to extend this presentation down another level to include the Strategic Performance Goals, if that is useful.

For the remainder of this guide, we will focus mainly on the \$732 million budget of Bureau A, summarized in Table 2. We previously had looked at just the funding relating

to the Operations account for Bureau A, which totaled \$523 million (Tables 3, 5-8). Now the entire bureau budget will be linked to outcomes and other performance measures.

Bureau A’s strategic plan may have its own set of goals and numbering system, distinct from that of the department, as this is commonly the case. We will assume that the plan has two programmatic goals (Bureau Strategic Goals 1 and 2) and one general management and support function goal (Bureau Strategic Goal 3). Table 11 shows how the Bureau A column in Table 10, which links \$732 million to departmental outcomes, is also aligned with the bureau’s own strategic goals and objectives.

Bureau A

Crosswalk between Department and Bureau Strategic Objectives Funding
(dollars in millions)

	Bureau Strategic Goal 1			Bureau Strategic Goal 2			BSG 3	Total
	Obj. 1.1	Obj. 1.2	Obj. 1.3	Obj. 2.1	Obj. 2.2	Obj. 2.3	Obj. 3.1	
Dep StrGoal 1								250
Str Obj. 1.1	56	48						104
Str Obj. 1.2								
Str Obj. 1.3		39	84			23		146
DepStrGoal 2								142
Str Obj. 2.1					77			77
Str Obj. 2.2				55	10			65
DepStrGoal 3								17
Str Obj. 3.1								
Str Obj. 3.2								
Str Obj. 3.3			17					17
DepStrGoal 4								275
Str Obj. 4.1				73		34		107
Str Obj. 4.2	93				33	42		168
DepStrGoal 5								48
Str Obj. 5.1								
Str Obj. 5.2							48	48
TOTAL	149	87	101	128	120	99	48	732

Table 11

This informational table allows the Bureau to demonstrate that its funding is aligned with bureau-specific outcomes, which are in turn directly supportive of the departmental outcomes.

Table 3 cites several program activities in the Program and Financing Schedule for Bureau A's Operations budget account. However, like many so-called "program activities" listed in the traditional budget account structures of departments and bureaus, they have little relationship to the actual programs of the department. This is a major reason that OMB has asked agencies to re-examine their account structures and to realign them where necessary to build a better linkage to actual programs and to outcome goals.

Table 12 displays a more accurate listing of Bureau A programs, along with the budget for each area of responsibility. It is the same \$732 million as is shown in Table 11 for funding by Strategic Goal and Objective, except now it is broken out by Office and Program. There is a budget for the Administrator's office, including a wide range of bureau-wide support functions. Within each Office there is not only a budget for each program, but also for the general administrative function.

The table indicates that \$34 million is budgeted for the Toxics Storage Safety Program within the Office of Environmental Safety. If the Bureau has been able to realign its budget accounts in accordance with OMB guidance, then Table 5, as shown earlier, might be how this program would appear in the President's Budget. Below the Toxics Storage Safety Program in Table 12 is also listed the Hazardous Cargo Program. Table 6 showed how the two programs might be shown in an informational table in the Budget, under a common outcome goal.

At this point we have seen how by using informational tables, the \$732 million for Bureau A's budget can be linked to the Department's outcomes (Table 10), the Bureau's outcomes (Table 11), and the Bureau's programs (Table 12).

It should perhaps be noted here that these and other tables and charts are provided in this guide for illustrative purposes, and to better explain the concepts and techniques of the Cascade Performance Budget. Not all of these informational tables should necessarily be included in the budget justification. Some tables may even be combined.

Another view of the dollars-programs-results linkages is presented in Table 13. This is a particularly useful display, because it shows how program dollars are aligned with the goals and objectives of the Bureau. An important point here is that a Cascade Performance Budget associates every budget dollar with an outcome. As will be seen shortly, it does this first through the program activities and outputs, but ultimately to the outcomes. In that regard, note that in Table 13 even the administrative costs of each Office and the costs of the Administrator's office are linked to a Bureau Strategic Goal (i.e., BSG 3, which as was indicated earlier relates to effective management).

One feature of Table 13 is that it has the same bottom row totals as are shown in Table 11 and the same right-hand column totals as shown in Table 12. From these tables it can be seen that the \$34 million Toxics Storage Safety Program will support both the Bureau's Objective 2.3 and the Department's Strategic Objective 4.1., while the Hazardous Cargo Program will support the same Bureau Objective, but a different Departmental Strategic Objective (i.e., 4.2).

Budget of Bureau A by Office and Program (dollars in thousand)

Office	Program	Budget
Office of the Administrator		\$36,850
	General Management	6,420
	Planning, Budget and Finance	4,721
	Human Resources	3,862
	Information Resources	17,253
	Special Programs	4,594
Office of Community Health		\$268,385
	Administration	3,867
	Rural Communities Program	47,960
	Local Response Assistance Program	82,003
	Health Opportunities Program	70,215
	Epidemic Research Program	64,340
Office of Environmental Safety		\$166,444
	Administration	3,245
	Toxics Storage Safety Program	34,010
	Hazardous Cargo Program	42,320
	Community Awareness Program	50,017
	Environmental Research Program	36,852
Office of Specialized Employment Development		\$176,030
	Administration	1,852
	Post-Secondary Grants Program	105,200
	Extended Learning Program	28,834
	Scientific Professions Program	40,144
Office of International Programs		\$84,391
	Administration	2,435
	Global Health Program	41,607
	Travel Safety Cooperation Program	23,565
	Foreign Regulatory Analysis Program	16,784
Total		\$732,100

Table 12

CASCADE™ COST MODEL

Bureau Objectives by Program Costs (dollars in thousands)

	Bureau Strategic Goal 1			Bureau Strategic Goal 2			BSG 3	Costs
	Obj. 1.1	Obj. 1.2	Obj. 1.3	Obj. 2.1	Obj. 2.2	Obj. 2.3	Obj. 3.1	
Office of the Administrator							36,850	36,850
Community Health							3,867	268,385
Rural Communities			36,620		11,340			47,960
Local Response Assistance	25,354	52,614				4,035		82,003
Health Opportunities	61,350	8,865						70,215
Epidemic Research			64,340					64,340
Environmental Safety							3,245	166,444
Toxics Storage Safety						34,010		34,010
Hazardous Cargo						42,320		42,320
Community Awareness				30,917		19,100		50,017
Environmental Research				29,091	7,761			36,852
Specialized Employment Development							1,852	176,030
Post-Secondary Grants	28,376				76,824			105,200
Extended Learning	17,690			11,144				28,834
Scientific Professions				40,144				40,144
International Programs							2,435	84,391
Global Health	15,970	25,637						41,607
Travel Safety Cooperation					23,565			23,565
Foreign Regulatory Studies				16,784				16,784
Total	148,740	87,116	100,960	128,080	119,490	99,465	48,249	\$732,100

Table 13

Step 3. Link day-to-day activities to performance budgets.

The next step in Cascade Performance Budgeting is to identify the range of activities of agency staff that support the desired outcomes. In doing so, the actual program outputs directly generated by these activities will also be identified and linked to the outcomes.

These activities should be carefully defined in order to maximize their utility, not just in performance budgeting, but also in performance management. To do so, the activities should be specific enough that they bring clarity to what the money will be spent on during the year. They should relate directly to what managers manage on a day-to-day basis, and they should make appropriate distinctions between the various responsibilities of an organization in a manner that supports effective managerial decision-making.

At the same time, it is important that the activities are not defined too narrowly. Otherwise so many will be needed that they could overwhelm the budget and information systems. The identification and definition of activities that will be used in the performance budgeting system is a task that must be undertaken with care. This process should involve not just the agency accountants, but also the program managers, order to ensure that the result is useful in managing operations.

Chart 4 (page 22) illustrates how these types of activities link to and support program results in a Cascade™ Performance Budgeting System. The example shown here relates to Bureau A's Toxics Storage Safety Program. A more detailed outline of the role of these particular activities was shown in Table 9 (page 13). Chart 4 shows the items displayed in that table within a broader context of the performance measures hierarchy.

As Chart 4 and Table 9 indicate, the Toxics Storage Safety Program has three activities relating to inspections, investigations and licensing. They each have measurable units, which taken together should produce two types of Program Measures. A different but related program (Hazardous Cargo) also results in the accomplishment of two Program Measures. Those four Program Measures, in turn, support the achievement of three Performance Indicators (which together define a "serious incident"). The Performance Indicators link to a single Annual Performance Goal that measures a reduction in "serious incidents". The Annual Performance Goal is the annualized version of the 5-year Strategic Performance Goal, which is one of two measures defining accomplishment of the desired outcome (the Strategic Objective).

Chart 4 illustrates one other aspect of these Program Activities – they can be broken down further into more specific Tasks (or sub-activities). This is not a necessary step in developing a Cascade™ Performance Budget, but it can be very useful. This break-out allows the budget to show activities broad enough to support policymaking and funding decisions, without having to include meaningless and overwhelming detail. For program management purposes, however, the program's own performance budget could include the Task-level details. Task measures may for some programs be very useful for effectively guiding day-to-day operations, especially in managing program costs.

CASCADE™ Performance Budgeting

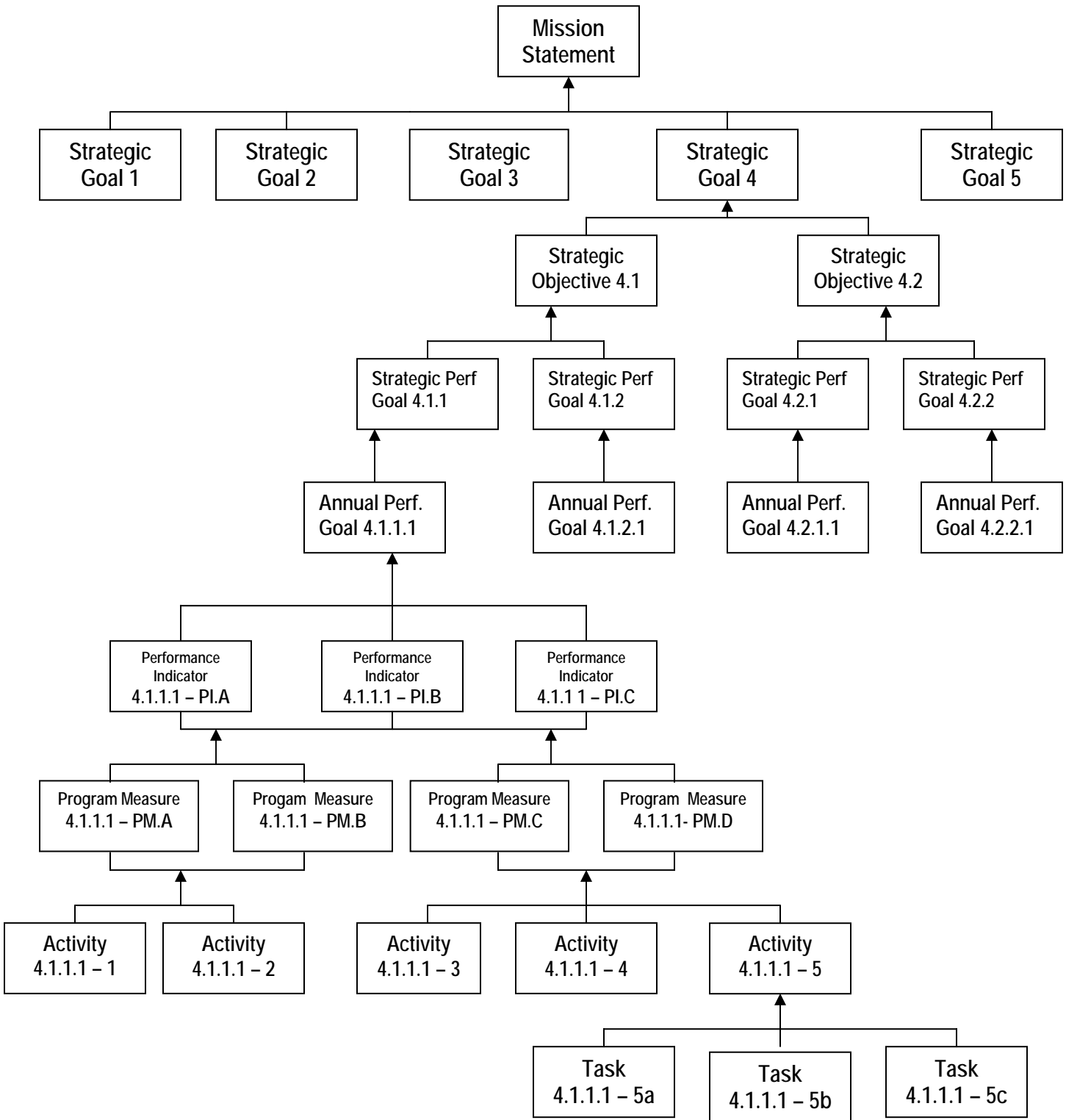


Chart 4

Step 4. Show full costs of activities

Developing a Cascade™ Performance Budget is not just a top-down exercise – one that starts with end outcomes and their costs and then flows down through intermediate outcomes to outputs to process and activity measures. There is also an important bottom-up component, which is essentially the fiscal “reality check” in answering the question, “What does it cost to achieve these results?”

In a sophisticated and effective performance budget, every budget dollar is linked to a single task or activity. Activities and their costs are then linked to process measures or program outputs. This linkage is continued on up the performance measurement hierarchy, showing the total cost of achieving each annual goal and of supporting progress toward the long-term outcomes. This is not only the most accurate way of calculating outcome costs, it is also an essential element of an effective performance management system.

To be done properly and accurately, this dollar-activity linkage must be done completely. This means that not only should every budget dollar be associated with a task or activity, but also that every activity must be fully costed – showing both direct and indirect costs. The process for doing this is called “full cost accounting.”

A more complete discussion of the importance to federal agencies of full cost accounting, and how it should relate to calculating the costs of their activities, is found in this guide beginning on page 29.

Chart 5 shows the linkage of costs with program task, activities, outputs and outcomes. This is a useful approach to mapping the integration of budget and performance information. The Cascade™ approach illustrated here incorporates the task-level cost accounting of the model performance budgeting system that directly inspired the development of GPRA. This is the famous pioneering performance-based management and budgeting system of Sunnyvale, California. In 1992, OMB described that system in congressional testimony as follows:

“As indicated, the city of Sunnyvale, California, stands out as the single best example of a comprehensive approach to performance measurement that we have found in the United States. . . . One underlying reason for the success achieved by Sunnyvale is the fact that every program manager uses the system to plan, manage, and assess progress on a day-to-day basis.”

Note the emphasis by OMB on how well this system supports the ability of program managers to plan and manage day-to-day operations. This is the key to a successful performance management system. Performance budgeting should support performance management “on a day-to-day basis.”

To do this well, the performance budget should relate directly to what managers actually manage – the tasks and activities their staff engage in day-to-day – so that they can manage the associated costs on an on-going basis. In the President’s Budget for 2003, here is what the OMB said about a key element in Sunnyvale’s performance budget:

“Sunnyvale, California has become internationally recognized for performance budgeting – allocating funding for tasks rather than for personnel, equipment and supplies, with quantified objectives that are expected to be achieved with the funding.”

An example of this task-cost relationship can be seen in our hypothetical Toxics Storage Safety Program. Table 9 has already shown us that Activity 4.1.1.1 – 5 involves the issuance of 4100 licenses relating to toxic chemicals storage. Chart 5 shows that \$13,880,000 has been budgeted for this activity. It also shows that the activity is made up of three distinct *tasks*, with a budget for each.

It might be helpful to examine what this looks like in the context of a hypothetical Cascade™ performance budget for the entire program. Tables 14 and 15 illustrate what this type of budget for the Toxics Storage Safety Program might look like (with an abbreviated supporting narrative). Table 15 is a conventional object classification budget, indicating how the program’s \$34,010,000 will be spent – salaries, benefits, travel, rent, etc.

Table 14 shows how the performance budget apportions those same dollars among three program activities. The budget also defines each activity, indicates the unit of measure, the number of units expected to be achieved, the average cost of achieving each unit, the number of work hours that will be applied to this activity, and the cost per work hour.

Note the incorporation of work hours, rather than full time equivalents (FTEs). The program’s 168 FTEs were converted to 349,440 total work hours, and then “budgeted” against each activity. Work hours are a more accurate vehicle for associating costs with an activity than are FTEs, unless the activities are defined so broadly that every employee only engages in one specific activity throughout the year. The use of work hours has proven to be a very useful feature in governmental performance budgeting, because it relates directly to how managers manage staff resources.

A popular method for calculating the costs of program activities and work hours is called “activity-based costing” (ABC) and the systematic management of such costs is called “activity-based cost/management (ABC/M). These approaches are important aspects of the Managerial Cost Accounting systems that agencies are required to implement (see cost accounting discussion that begins on page 29).

Table 16 shows how the program’s activities are broken down further into tasks, using the “Conduct training and licensing of handlers” activity as an example. This facilitates good, cost-effective management of the program activity (and thus of the program as a whole) – and provides a basis for developing a meaningful pay-for-performance system.

CASCADE™ Performance Budgeting

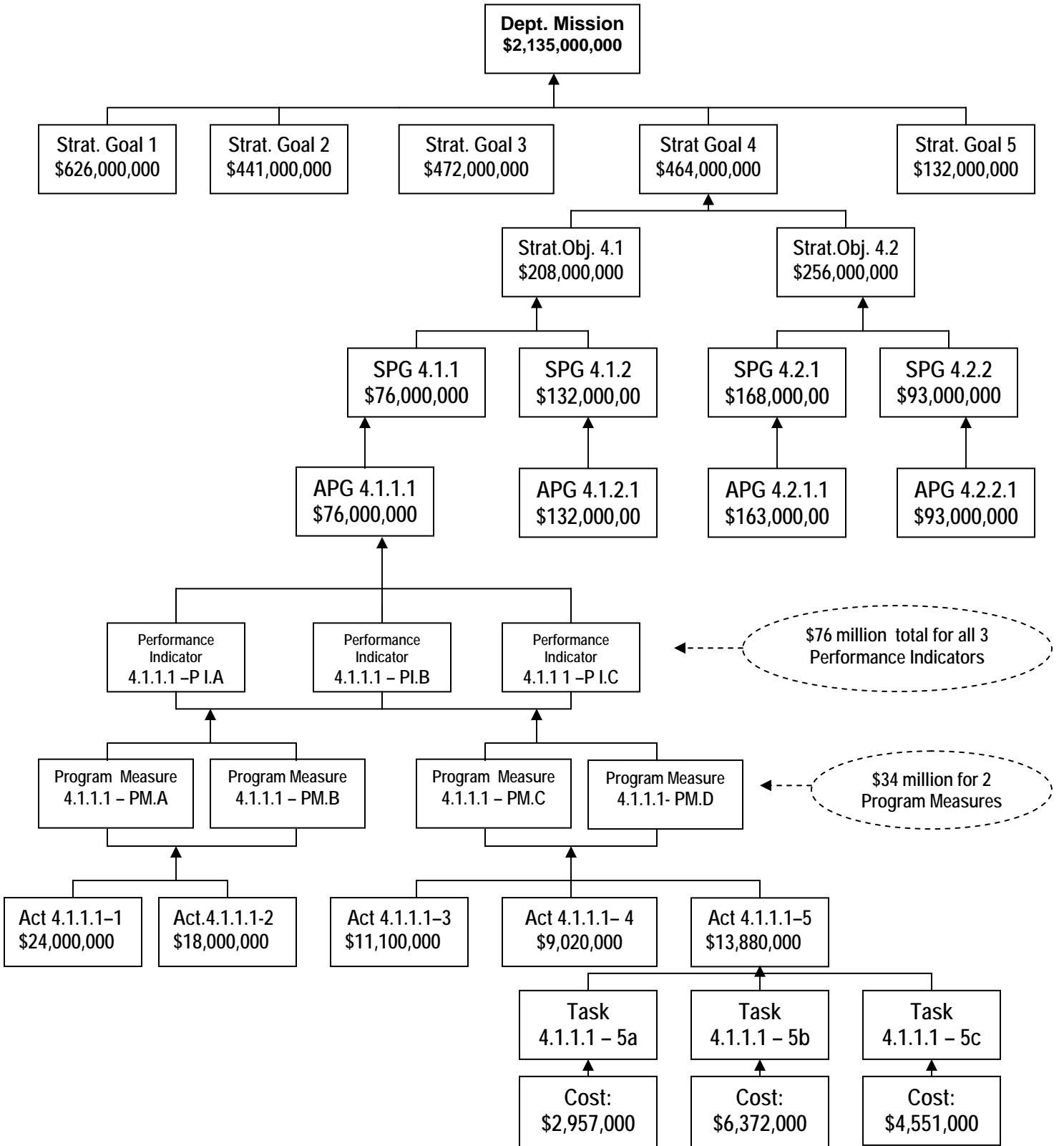


Chart 5

Program Performance Budget: Toxics Storage Safety Program

<u>Budget Authority</u>	<u>Obligations</u>	<u>Outlays</u>	<u>FTE</u>
\$39,000,000	\$36,300,000	\$34,010,000	168

Program Measures:

4.1.1.1 – PM.C. Reduce the number of incidents of spills and leaks in the storage of Class A1 and A2 toxic chemicals by 5% from the 2004 result.

4.1.1.1 – PM.D. Achieve an average satisfaction rating of at least 3.8 on a 5-point scale from Class A1 and A2 licensees on their dealings with TSSP officials.

Program Means and Strategies:

Continuing Actions: TSSP will maintain its rigorous inspection activities, focusing on sites identified as “at risk” through our TABIC model. TSSP recently strengthened its licensing program by extending the handler training period to 30 days. We will complete our Interagency Working Group coordination plan this year, in cooperation with HHS and EPA. This should significantly improve our inspection and investigation efforts, by leveraging a wider range of resources. We will train and license 22% more handlers, primarily in 17 states identified by our program evaluations as needing special attention.

New Initiatives: TSSP has identified a need for 20 new biochemists to staff its expanded ARNAC initiative and will begin a recruitment campaign at selected universities. A new training program is being funded at \$850,000 to upgrade the technical skills of our license application instructors, which will allow us to reduce unit costs of that program beginning next year by 12%. TSSP will be able to transfer 27 FTEs from the J-TOP program to the SLP, because of positive state government actions over the last two years.

Activity	Unit	Number of Units	Unit Cost	Work Hours	Work Hour Cost	Total Cost
4.1.1.1 – 3. Conduct inspections of handler facilities	An inspection conducted	4975	\$2233	115,775	\$95.96	\$11,110,000
4.1.1.1 – 4. Investigate incidents of spills and leaks	An investigation completed	1985	\$4544	68,300	\$132.06	\$9,020,000
4.1.1.1 – 5. Conduct training and licensing of handlers	A license issued	4100	\$3385	165,365	\$83.94	\$13,880,000
Totals				349,440	\$97.33	\$34,010,000

Table 14

PROGRAM: Toxics Storage Safety Program

<u>Program Budget by Object Classification</u>		
11.1	Full-time permanent	12,710,000
11.3	Other than full-time permanent	<u>403,000</u>
11.9	Total personnel compensation	13,113,000
12.1	Civilian personnel benefits	4,602,000
21.0	Travel and transportation of persons	531,000
23.1	Rental payment to GSA	1,747,000
23.3	Communications, utilities and miscellaneous charges	3,304,000
24.0	Printing and reproduction	363,000
25.4	Operation and maintenance of facilities	2,350,000
25.7	Operation and maintenance of equipment	819,000
26.0	Supplies and materials	2,550,000
31.0	Equipment	<u>4,631,000</u>
Total outlays		34,010,000

Table 15

Activity: 4.1.1.1 – 5. Conduct training and licensing of handlers	Unit	Number Of Units	Unit Cost	Work Hours	Work Hour Cost	Total Cost
Task 4.1.1.1 – 5a. Conduct background checks on applicants	Background investigation completed	5260	\$783	47,400	\$86.92	\$4,120,000
Task 4.1.1.1 – 5b. Conduct licensee training class	Training class conducted	550	\$13,609	89,250	\$84.43	\$7,485,000
Task 4.1.1.1 – 5c. General administration and support services	Work Hour	28,715	\$77.49	28,715	\$77.49	\$2,225,000
Totals	License issued	4100	\$3385	165,365	\$83.94	\$13,880,000

Table 16

Chart 6 (page 28) makes the point that while in some cases total costs can be determined for achieving a particular performance measure (e.g., an Activity, an Annual Performance Goal, a Strategic Goal), in other cases this may not be possible. This is particularly true when the linkage from the supporting measures below is to an entire tier rather than to specific measures.

CASCADE™ Performance Budgeting

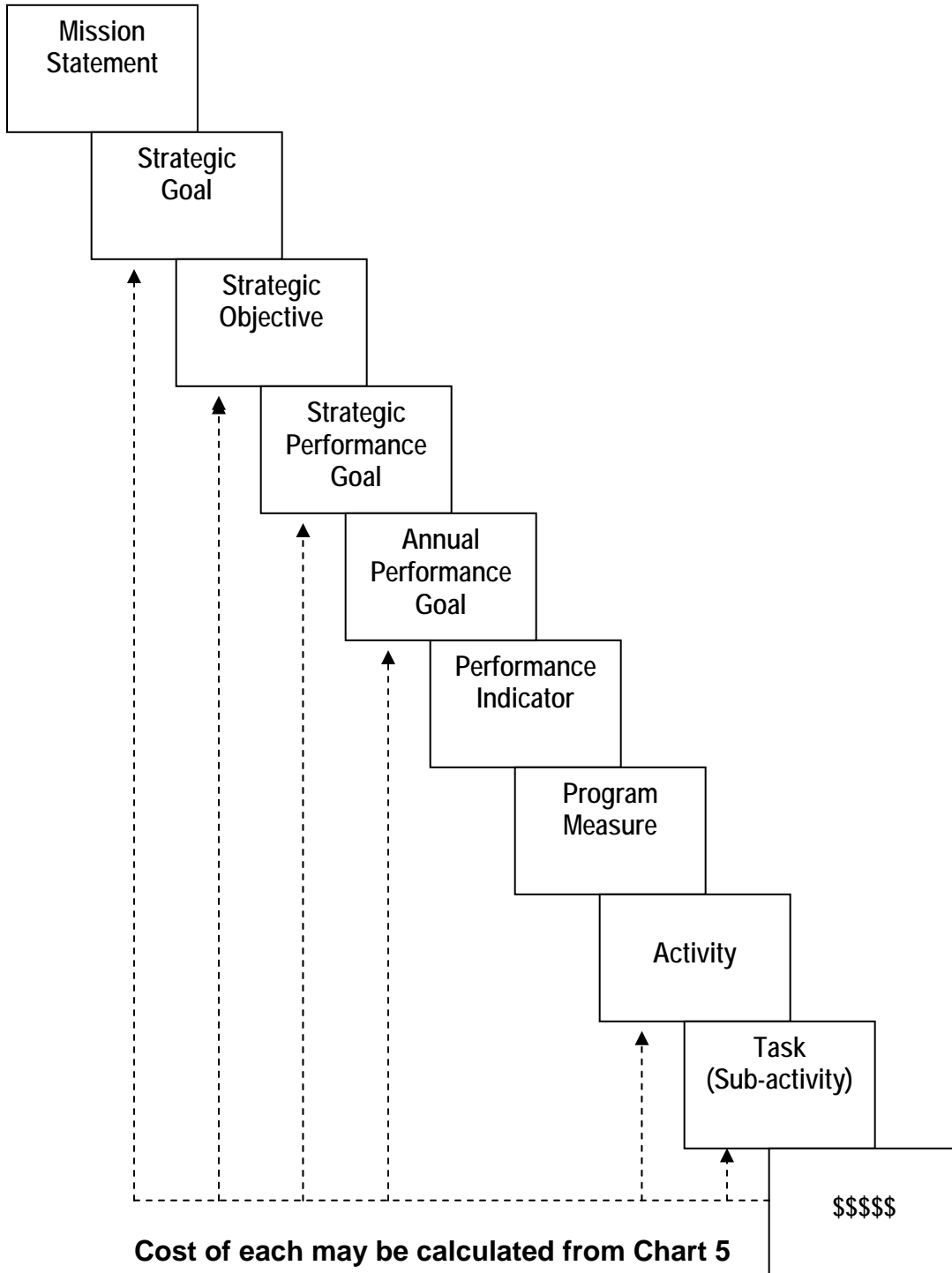


Chart 6

End Notes

Number system

It should be noted that for the sake of clarity and simplicity, the numbering system for the Program Activities in the performance budget illustration (Tables 14 and 16) reflects the departmental strategic plan structure. For example, Task 4.1.1.1 – 5a is explicitly derived from (and supportive of) the Department’s Strategic Goal 4. In an actual case, these various agency and program performance measures (i.e, the Annual Performance Goals, Performance Indicators, Program Outcomes, Activities, Tasks, etc.) would more likely have a numbering system that reflects the Bureau’s own strategic plan structure, rather than that of the Department. For example, the Outputs, Activities and Task shown above for the Toxics Storage Safety Program might be numbered so as to show that they are directly derived from Bureau A’s Strategic Objective 2.3. In that case, it would be useful either to provide a chart that cross-walks the Bureau’s Annual Performance Goals (APG) to the relevant departmental APGs, or to include a citation by each APG in the Bureau’s Annual Performance Budget that references the departmental performance goal being supported.

Full cost

As indicated by Tables 14-16, the cost shown for achieving the tasks, the activities, and the outputs of the Toxics Storage Safety Program in each case reflects all of the costs shown in the Object Classification budget. However, this may not actually reflect what is called the “full cost,” which OMB explains as follows in Circular A-11:

“From a budgetary standpoint, ‘full cost’ is the sum of all budget resources used by an agency to achieve program outputs. This includes such traditional elements of cost as salaries and expenses, procurement of goods and services, grants, transfers, subsidies, benefit payments, etc. Additionally, ‘full cost’ includes the full employer share of the annual accruing cost of retiree pension and health benefits, the accruing cost of hazardous waste cleanup, annual capital usage charges and rent, and the cost of all support services and goods used and provided for centrally.”

OMB understands that agencies may presently face certain statutory prohibitions against including some of these additional elements of full cost in their budget requests, such as all accruing retirement pensions and retiree health benefits, and it is pushing legislation to remove those barriers to accurate cost accounting. In the meantime, agencies are encouraged to develop and display *informational tables* that do incorporate all such relevant cost information, showing the actual full costs.

In any event, since 1998 there has been a requirement (developed by FASAB, the Federal Accounting Standards Advisory Board) that all agencies implement *managerial cost accounting* systems. As explained by FASAB in that standard,

“The managerial cost accounting concepts and standards contained in this statement are aimed at providing reliable and timely information on the full cost of federal programs, their activities, and outputs. The cost information can be used by the Congress and federal executives in making decisions about allocating federal resources, authorizing and modifying programs, and evaluating program performance. The cost information can also be used by program managers in making managerial decisions to improve operating economy and efficiency. . . . Those standards will provide a method for identifying the unit cost of all government activities.” (emphasis added)

Despite this requirement for federal agencies to implement cost accounting systems, the General Accounting Office (GAO) has found generally weak compliance. In October 2001, GAO issued a report (“FFMIA Implementation Critical for Federal Accountability”) stating that few agencies have developed the required systems:

“A major cornerstone of FFMIA is good cost accounting information that program managers can use in managing day-to-day operations. Managerial cost accounting is aimed at providing reliable and timely information on the full cost of federal programs, their activities, and outputs. . . . Developing the necessary information, which is needed as well to support GPR implementation, will be a substantial undertaking. . . . Our sense is that today few agencies may have good cost accounting information. . . . Further, the move to implementation of performance-based budgeting highlights the need for cost accounting information at the program level.” (emphasis added)

Table 13 (page 20) displays the linkage between Bureau A’s various programs and their costs for supporting the bureau’s Objectives. However, the costs shown there do not include all indirect support functions (e.g., bureau-wide financial management, human resources, information technology, etc.). A reasonable argument can be made that these costs should be charged back to the bureaus and linked directly to the programmatic goals, because they are actually part of the indirect cost of achieving the desired outcomes. Table 17 illustrates how this might be done, by apportioning all of the costs associated with the management objective (Obj. 3.1) to the six programmatic objectives. This included the administrative cost of each Office (e.g., Community Health). For example, the Toxics Storage program cost increases from \$34 million to \$36.5 million.

CASCADE™ ALTERNATIVE COST MODEL

Bureau Objectives by Fully Loaded Program Costs (dollars in thousands)

	Bureau Strategic Goal 1			Bureau Strategic Goal 2			BSG 3	Fully Loaded Costs
	Obj. 1.1	Obj. 1.2	Obj. 1.3	Obj. 2.1	Obj. 2.2	Obj. 2.3	Obj. 3.1	
Office of the Administrator							(36,850)	
Community Health							(3,867)	(282,650)
Rural Communities			39,137		12,117			51,245
Local Response Assistance	27,091	56,220				4311		87,622
Health Opportunities	65,554	9,472						75,026
Epidemic Research			68,748					68,748
Environmental Safety							(3,245)	(175,226)
Toxics Storage Safety						36,516		36,516
Production Safety						45,439		45,439
Community Awareness				33,195		20,508		53,703
Environmental Research				31,235	8,333			39,568
Specialized Employment Development							(1,852)	(185,360)
Post-Secondary Grants	30,198				81,756			111,954
Extended Learning	18,826			11,859				30,685
Scientific Professions				42,721				42,721
International Programs							(2,435)	(88,864)
Global Health	17,316	27,798						45,114
Travel Safety Cooperation					25,552			25,552
Foreign Regulatory Studies				18,198				18,198
Total	158,985	93,490	107,885	137,208	127,758	106,774	(48,249)	\$732,100

Table 17

OMB recognizes that more legislative and policy work needs to be done, both to permit full and accurate cost accounting and to establish standard methodologies for charging indirect costs.

“To encourage efficient use of resources, the budget needs a uniform measure of the full annual cost of the resources that will be charged to each program and activity. As it has before, the Administration will propose to reflect program costs to the appropriate programs, including the accruing costs of retirement and retiree health care benefits. The Administration has also developed proposals to charge for support services, capital assets, and hazardous substance clean-up where those resources are used. . . . They would provide a better assessment of program costs.”

In the meantime, OMB continues to urge the use of informational tables that make good-faith efforts to reflect the true costs of achieving program goals.

President’s Management Agenda

Performance budgeting directly relates to reforms on the President’s Management Agenda.

<p style="text-align: center;">President’s Management Agenda</p> <p style="text-align: center;">Example Core Criteria for “Green”</p> <p><u>Integrating Budget and Performance</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Full budgetary cost is charged to mission accounts and activities. Cost of outputs and programs is integrated with performance in budget requests and execution <p><u>Financial Management</u></p> <ul style="list-style-type: none"><input type="checkbox"/> Integrated financial and performance management systems supporting day-to-day operations.

Table 18

OMB Circular A-11 Guidance: Exhibit 225

OMB's budget guidance to federal agencies on how to get a rating of "Green" on the President's Management Agenda scorecard includes the following statements:

Objectives, Goals, and Targets

"Outcome goal(s) should be linked to output target(s) and defined in a manner that support strategic objectives and the department's mission. An outcome goal should help determine success in carrying out the mission and achieving the objectives. An output goal should measure what the program directly produces. Resources and organizational effort should be linked directly to outputs, and the resources and outputs being summed to outcomes."

Alignment

"[A] department that can demonstrate all of the following indicators satisfies the requirements for alignment.

1. The department has identified major outcome goals. The department has also identified and determined which program areas contribute to each goal. (There may be areas that contribute to more than one outcome goal.)
2. The department has identified how much cost is attributed to each of the output goals associated with the outcome goals identified in 1. In cases where a major program area contributes to more than one outcome goal, the department has established ground rules for attributing costs to the output goals associated with a particular outcome goal. Documentation should identify not only the total costs attributable to each goal but also the marginal costs attributable to increments of performance. . . . "

Performance budgeting examples

Examples of actual program performance budgets from the model performance-based budgeting system may be found on-line at www.john-mercier.com/pb_examples.htm.

John Mercer is an independent management consultant to government agencies, with over 20 years of experience in government performance planning, budgeting and management systems. Often called "the Father of GPRA" for having proposed and developed that legislation while serving as Counsel to the Senate Governmental Affairs Committee, he has been described in the press as being "considered by many a foremost expert in performance-based budgeting." He is a former mayor of Sunnyvale, CA and was Deputy Assistant Secretary for Program Policy Development and Evaluation at the U.S. Department of Housing and Urban Development. His website may be viewed at www.governmentperformance.info.