FULL COST METHODOLOGY MODEL

This cost methodology model was developed using concepts from two State Auditor's Office (SAO) reports, “Guide To Implement the Competitive Cost Review Program, October 1992” and “Guidelines and Forms: Least Cost Review Program, May 1994.”

OVERVIEW

State agencies currently provide many services that might be performed more efficiently by an alternative service provider. By subjecting services to competition, agencies can determine whether they are delivering the highest quality services at the lowest possible cost. Absent competitive pressures, the state may act as a monopoly and thus lack incentives to reduce costs, improve quality and increase efficiency.

This cost methodology is designed to assist state agencies in performing cost analysis – a method used to develop meaningful cost information that is useful for decision-making. Using cost analysis, the state's cost to perform a service can be compared to the cost of alternative service providers to determine the most appropriate and cost-effective means of providing that service. The cost analysis process consists of the following steps:

   Step 1: Determine the service to be analyzed
   Step 2: Determine the scope of the service to be analyzed
   Step 3: Determine total in-house costs
   Step 4: Determine total cost to contract

This cost methodology is intended to provide a model agencies can employ for the determination of in-house costs, costs to contract and savings determination. Every factor below may not be applicable to every situation, but the described process does capture all core cost factors.

DETERMINE TOTAL IN-HOUSE COSTS

When preparing the in-house cost estimate, agencies should:

1. Use reasonable and generally accepted accounting principles in developing costs.
2. Review historical information and the current operating budget to determine the cost of performing a service.
3. Provide documentation to support each element of cost.
4. Provide actual costs for the past fiscal year, and budgeted and estimated costs for the next two-year period.
5. Include all known or anticipated increases or decreases in costs.
6. Include all costs regardless of where the cost is budgeted/appropriated.
7. Include all costs regardless of whether or not the cost would be avoided if the service were contracted.
Elements of Total Cost:
The total cost of providing a service in-house is the sum of all direct costs plus a proportional share of agency and statewide overhead, or indirect costs.

| Total In-House Cost = Direct Costs + Agency Indirect Costs + Statewide Indirect Costs |

**Direct Costs**
Include the annual direct cost of the service. Direct costs are those costs that only benefit, and thus are 100 percent attributable to, the service being analyzed. Include all direct costs for a service regardless of where the costs are budgeted. The following categories of direct costs are similar to the Legislative Budget Board (LBB) detailed object-of-expense codes.

a. **Salaries and Wages** - Include the cost of base salaries and hourly wages for all staff, exempt and classified, involved in performing the service. If positions are currently unfilled, include the cost of the position if it will be filled within the period under review.

b. **Other Compensation** - Include the cost of other compensation for all exempt and classified staff involved in performing the service, including longevity pay, hazardous duty pay, compensatory pay and emoluments and allowances.

c. **Overtime Pay** - Include the cost of overtime pay for all staff involved in performing the service.

d. **Fringe Benefits** - Include the cost of state retirement, social security, health insurance, workers' compensation and unemployment contributions for employees. For most state agencies, the cost of fringe benefits is not appropriated to the agency. Thus, these costs do not appear in the agency's accounting records. In this instance, use the standard percentage for fringe benefits provided by the State Auditors Office (see [http://www.sao.state.tx.us/reports/main/08-704.pdf](http://www.sao.state.tx.us/reports/main/08-704.pdf) for 2008 Report). Apply this percentage only to Salaries and Wages identified in section "a" above.

If actual costs for fringe benefits are available, use these amounts.

e. **Supplies and Materials** - Include all materials and supplies used to perform the service. Adjustments for beginning and ending supplies inventory should be made (if material) to determine the cost of supplies actually used.

f. **Rent/Lease of Buildings** - Include rental or lease costs of buildings used in performing the service if these costs are paid by the agency. If the cost of building rent is not paid by the agency, use an appropriate cost-per-square-foot factor. Average cost-per-square-foot can be acquired from the Texas Facilities Commission Facilities Leasing division.

g. **Maintenance and Repair of Buildings** - Include the cost of maintaining, repairing and cleaning buildings used in performing the service. If these costs are not paid by the agency, use an average cost-per-square-foot factor for building maintenance and custodial services. Average cost-per-square-foot can be acquired from the Texas Facilities Commission Facilities, Facilities Management division.

h. **Telecommunications** - Include the cost of voice and data telecommunications charges used to perform the service.

i. **Utilities** - Include the cost of utilities used to perform the service, such as electricity, gas, water, steam and waste disposal. If these costs are not paid by the agency, use a cost-per-square-foot-factor for utilities. Average cost-per-square-foot can be acquired from the Texas Facilities Commission Facilities, Facilities Management division. In capital-intensive services, an alternative method may be used.
j. **Rent/Lease of Equipment** - Include rental or lease costs of computer equipment, telecommunications equipment, motor vehicles, copiers, office equipment and any other equipment directly related to the service being reviewed. Do not include lease payments to the Texas Public Finance Authority in this section, as these costs will be included in Depreciation of Assets in item l, below.

k. **Maintenance and Repair of Equipment** - Include the cost of maintaining and repairing equipment in working condition, including maintenance contracts.


m. **Other Direct Costs** - Include all other costs that are 100 percent attributable to the service such as training, travel, postage, uniforms, employee parking, professional fees and other contracted services (including both private and interagency contracts). Separately identify expenses for contractors who perform the same service or produce the same general product that is being reviewed.

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**Agency Indirect Costs**

Agency indirect costs are those expenses that benefit many agency activities. Thus, a portion of these costs must be allocated to the service being analyzed. Agency indirect costs consist of two types: agency-wide indirect support and divisional indirect support.

**Agency-wide indirect support** is all agency central support costs that indirectly contribute to the service being analyzed, such as the cost of central administration, financial and personnel services, information resource technologies and operating and support services. These costs are summarized in each agency's Request for Legislative Appropriations (LAR). Use the LAR to identify agency indirect support costs to be allocated to the service being analyzed, unless an alternative source is a more appropriate representation, in which case agencies should develop appropriate supporting documentation.

For state agencies, agency-wide indirect support costs can be found in the "Administrative and Support Cost Schedule" of the LAR. For general academic institutions of higher education, these costs can be found in three formula-funded strategies in the LAR: General Administration and Student Services, General Institutional Expenses and Campus Security. For health-related institutions of higher education, these costs can be found in the following strategies in the LAR: General Administration and Student Services, General Institutional Expenses and Instructional Administration.

Before allocating agency-wide indirect support costs to the service being analyzed, capital outlay should be recomputed as depreciation and an amount for fringe benefits should be included based on the percentage in the SAO Report noted above. Additionally, if the cost of the service being analyzed is included in agency-wide indirect support, this amount should be excluded prior to allocation. For example, in a review of print services, the cost of the print shop would be excluded from agency wide indirect support.
Divisional indirect support is any administrative cost incurred by the division that performs, or supports, the service being analyzed. These costs should also be allocated. For example, print shop staff may report to a director whose cost is not included in the direct costs of the print shop or in agency-wide indirect support costs. Thus, this director's salary and expenses should be allocated to the print shop as divisional indirect support. Prior to allocation, divisional indirect support should be adjusted for depreciation and fringe benefits as noted above.

Statewide Indirect Costs
Statewide indirect costs include the cost of statewide support services provided to state agencies by the State Auditor's Office, the General Services Commission, the Comptroller's office, the Attorney General's Office, the Library and Archives Commission, the Department of Information Resources, the Governor's Office, the Treasury, the Legislative Budget Board, and the Sunset Advisory Commission. These costs are allocated to state agencies annually through the Statewide Cost Allocation Plan (SWCAP). The cost allocated to each state agency through the SWCAP should be allocated to the service being analyzed using one of the cost allocation methods discussed below.

Allocating Indirect Costs:
Once agency indirect costs, or overhead costs, have been identified, several methods can be used to allocate these costs. Methods vary from fairly simple methods to more complex step-down methods. The more complex methods involving step-down allocations are more accurate but require more time and resources. Therefore, when selecting a method to use, consideration should be given to the additional level of effort required to achieve a greater degree of accuracy. The following paragraphs provide a brief discussion of four methods of allocating indirect costs.

Simplified Method
The simplified method is the least accurate method but relatively easy to develop. This method assumes that indirect costs are allocated to the service being analyzed using a single percentage for each level of indirect costs.

There are four basic steps in using the simplified method. First, determine the total indirect costs incurred at each level (statewide, agency-wide, and division). Second, select a direct allocation base for each level that most appropriately represents the utilization of those services. Common allocation bases are direct salaries, direct expenditures and the number of direct employees. The direct allocation base is determined by deducting the indirect portion of the basis used from the total basis to arrive at a direct base. For example, a direct salary base would include total agency salaries less any salaries included as indirect costs. Third, divide the service's percent of the total direct allocation base by the total direct allocation base to obtain the service's portion of the total direct allocation base. Fourth, determine the amount of indirect costs attributable to the service being analyzed by multiplying indirect costs by the service's percent of the direct allocation base. For example, if a service has ten percent of the agency's direct salaries, it would be allocated ten percent of the indirect costs.

Again, it should be noted that this method is the least accurate method of determining indirect costs. It should be used when indirect costs are utilized at the same rate as the direct allocation base by all direct services, and the time and costs to use a more complex method are not justified.

Multiple Base Method
The multiple base method recognizes that user divisions/services do not utilize indirect costs in the same proportion. This method is consistent with Activity-Based Costing (ABC), which assigns indirect costs to services based on their use of resources. Using this method, each function, or component, of indirect costs is allocated using the most appropriate allocation base. For example, the accounting function may be allocated to a service based on the number of accounting transactions and the data services function may be allocated based on system usage.
As with the simplified method, there are four basic steps in using the multiple base method. First, determine the cost of each indirect service. Second, select a direct allocation base for each indirect service that appropriately represents the utilization of the service. Appendix B provides suggested allocation bases for common indirect services. The direct allocation base is determined by deducting the indirect portion of the basis from the total basis to arrive at a direct base. For example, a direct accounting transaction base would be the total accounting transactions for the agency less any accounting transactions for services included as indirect services. Third, divide the service's portion of the direct allocation base by the total direct allocation base to obtain the service's percent of the total direct allocation base. Fourth, determine the amount of indirect costs attributable to the service being analyzed by multiplying indirect costs by the service's percent of the agency's percent of the direct allocation base. For example, if a service has ten percent of the agency's direct salaries, it would be allocated ten percent of the indirect costs.

Although the multiple base method is preferred over the simplified method, it does contain a basic inaccuracy that may or may not be material. The simplified and multiple base methods do not recognize the cost of indirect services provided to other indirect services. For example, these methods do not allocate the costs of the personnel sections that are provided to the accounting section. In order to correct this inaccuracy, a step-down method should be used.

**Single Step-Down Method**

The single step-down method uses the same basic process to identify and allocate indirect costs as the multiple base method. However, using the single step-down method, indirect costs are allocated to services within an agency in a sequenced, or step fashion. This allows for recognition of the costs of indirect services provided to other indirect services.

The single step-down method allocates indirect costs to all services, both direct and indirect. Indirect costs are allocated sequentially in the single step-down method. The order of allocation is critical using this method, which starts with the indirect service providing the most amount of service to other indirect services down to the indirect service receiving the most services from other indirect services.

There are four basic steps using the single-step-down method. First, select the order of allocating the costs of indirect services. Second, allocate the costs of the first indirect service using the multiple base method described above. Third, allocate the cost of each subsequent service to all direct and indirect divisions/services below them in the order selected. Do not allocate the cost of indirect services back to previously allocated services. Fourth, continue the process until all indirect costs have been allocated to direct services.

For example, the costs of the executive director's office would be allocated to all direct and indirect divisions/services except the executive director's office based on agency salaries. Costs of the personnel office would include the costs allocated to it from the executive director's office. These costs would be allocated to all divisions/services except the executive director's office and the personnel office based on the number of employees. Costs of the accounting office would include the costs allocated to it from the executive director's office and the personnel office. These costs would be allocated to all divisions/services except the executive director's office, personnel and accounting. Therefore, the last indirect service allocated would include its portion of all previously allocated costs and would be allocated only to direct services.

Although the single step-down method provides a more accurate distribution of indirect costs, it is complex and time consuming to prepare. It also does not fully allow for the identification of indirect services provided to all services. This is due to the process of only allocating to services that had not previously been allocated. In order to accomplish this, a multiple step-down method is required.
**Multiple Step-Down Method**

Unlike the single-step-down method, the multiple step-down method includes steps that permit the cross-allocation of indirect service costs to other indirect services regardless of the order of allocation. This is accomplished by performing two or more separate allocations. The first allocation allows the cost of each indirect service to be allocated to all divisions/services regardless of whether they have been previously allocated. Each allocation thereafter also allocates to all services, except for the last allocation. The last allocation uses the same method as the single-step-down method, only allocating to those services below it in order. This process should be continued until the costs being allocated are not material. Usually this only requires two allocations. The results of more than two allocations normally do not justify the work required to prepare the allocations.

The multiple step-down method allocates the same amount of indirect costs as the other methods, but is more accurate. The cost of this accuracy, however, is the additional effort required.

**DETERMINE TOTAL COST TO CONTRACT**

The total cost to contract is defined as all costs associated with contracted service delivery and is the sum of contractor costs, contract administration costs, conversion costs, unavoidable state costs, any loss on the sale of capital assets, less any gain on the sale of capital assets.

\[
\text{Total Cost to Contract} = \text{Contractor Cost} + \text{Contract Administration Cost} + \text{One-Time Conversion Costs} + \text{Unavoidable State Costs} + \text{Loss on Assets} - \text{Gain on Assets}
\]

**Contractor Costs**
Contractor costs are the total costs a contractor proposes to charge for providing the service being analyzed.

**Contract Administration Costs**
Contract administration costs include the costs of negotiating, executing, monitoring and evaluating the contract. Include expenses for salaries, fringe benefits, services and supplies, equipment costs, facility operation and maintenance costs and other expenses. This analysis must be done on a case-by-case basis as each situation is unique.

**One-Time Conversion Costs**
One-time conversion costs are those costs that are sometimes incurred when transitioning from in-house to contract service delivery. Examples of conversion costs include estimated payments to terminated employees for unemployment compensation and annual leave, penalties for terminating lease agreements, the costs to develop a system to monitor the contract, and the costs associated with duplicated effort during the transition period. Amortizing these costs over the life of the contract may be appropriate. All conversion costs must be documented.

**Unavoidable State Costs**
Unavoidable state costs are the portion of the total in-house costs that will continue to be incurred by the state despite the method of service delivery. Each element of cost that is considered "unavoidable" must be documented.

Generally, most direct costs will be avoidable costs, which are those in-house costs that will not continue to be incurred if a service is contracted out. One exception to this rule is depreciation costs, which do not represent a cash outflow. Since there are no established rules on which indirect costs are unavoidable, the documentation should address the issues that determine whether a cost is avoidable or unavoidable. These issues include the type and size of the service being analyzed, the agency's organizational structure and opportunity costs.
The type of service being analyzed can affect whether indirect costs are unavoidable. For example, a service that is labor intensive versus material intensive can affect whether accounting or personnel services are avoidable costs. In the case of a print shop that is more material-intensive than labor-intensive, the cost of the accounts payable section may be avoidable and the costs of the personnel section may be unavoidable. This is because a large number of the accounts payable transactions for the purchase of printing materials and supplies would not be necessary if the print shop functions were contracted. In the case of services that are more labor-intensive such as computer programming, the costs of the personnel section may be avoidable and the costs of the accounting section may be unavoidable.

The size of the service being analyzed may also affect whether indirect costs are unavoidable. Contracting a service with hundreds of employees and millions of dollars in indirect costs should enable the agency to reduce indirect costs/services. However, a service with less than ten employees and very low expenditures in relation to the agency's total expenditures would probably not result in the avoidance of a substantial amount of indirect costs.

The agency's organizational structure and assignment of duties may also affect whether indirect costs are unavoidable. The reassignment of responsibilities and duties could result in a cost or a portion of a cost being classified as avoidable. For example, a division supervisor may spend half of their time supervising a motor pool and the other half supervising a print shop. When analyzing print shop indirect costs, the first assumption might be that the cost of the division supervisor is unavoidable due to the need to maintain a supervisor for the motor pool. However, if the supervisor is not assigned other duties, there may not be a need for a motor pool administrator, which could result in a reduction in the costs of operating the motor pool. Thus, the true savings to the agency as a result of contracting for print services could be the entire cost of the division supervisor rather than half.

Opportunity costs should also be considered, which are those costs that can be avoided in the future through better use of resources. These costs are much more difficult to determine. For example, contracting for various agency support services can provide management with additional time and resources to address core functions. This should result in increased productivity and lower future costs.

**Gain or Loss on Assets**

The gain or loss realized from the sale or disposition of buildings and/or equipment no longer needed as a result of contracted service delivery should be considered. The gain or loss from the disposal of assets is the difference between the depreciated amount and the revenue received. Any loss on the disposal of assets should be added to the total cost to contract and any gain should be deducted. Amortizing the gain or loss on assets over the life of the contract may be appropriate.
APPENDIX A
GLOSSARY OF TERMS

Agency in-house cost estimate - a document that contains the agency's calculation of the cost to the state to deliver a service.

Avoidable costs - those in-house costs that would not be incurred by the state if a service, or a portion of a service, were contracted to the private sector or another state agency.

Unavoidable costs - those in-house costs that would continue to be incurred by the state if a service, or a portion of a service, regardless of the method of service delivery.

Direct costs - a cost that can be directly attributed to a service and bears a direct relationship to that service.

Indirect costs - a cost that is not readily identifiable to a service but supports that service.

Statewide Cost Allocation Plan (SWCAP) - a report that is prepared annually by the Office of State-Federal Relations to identify statewide central support service costs provided to all agencies of state government, such as auditing, accounting, budgeting, centralized purchasing, legal and other costs.

Total in-house cost - the sum of all direct costs plus a proportional share of agency and statewide indirect costs required to perform a service.

Total cost to contract - all costs associated with contracted service delivery, including the sum of contractor costs, contract administration costs, conversion costs, unavoidable state costs, and any loss on the sale of capital assets, less any gain from the sale of capital assets.
APPENDIX B
SUGGESTED BASES FOR ALLOCATING COSTS

Note: These allocation bases are not mandatory. Any method of cost allocation may be used as long as it produces an equitable distribution of costs.

**General Allocation Bases:**
Direct salaries
Direct expenditures
Number of direct employees

**Specific Allocation Bases:**

<table>
<thead>
<tr>
<th>Type of Service</th>
<th>Suggested Allocation Base</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accounting</td>
<td>Number of transactions processed</td>
</tr>
<tr>
<td>Auditing</td>
<td>Direct audit hours</td>
</tr>
<tr>
<td>Budgeting</td>
<td>Direct hours of identifiable services of employees of central budget</td>
</tr>
<tr>
<td>Building lease management</td>
<td>Number of leases</td>
</tr>
<tr>
<td>Data processing</td>
<td>System usage</td>
</tr>
<tr>
<td>Disbursing service</td>
<td>Number of checks or warrants issued</td>
</tr>
<tr>
<td>Legal services</td>
<td>Direct hours</td>
</tr>
<tr>
<td>Mail and messenger service</td>
<td># documents handled or employees served</td>
</tr>
<tr>
<td>Motor pool costs</td>
<td>Miles driven and/or days used</td>
</tr>
<tr>
<td>Equipment maintenance and repairs</td>
<td>Direct hours</td>
</tr>
<tr>
<td>Office space use and related costs (utilities, etc.)</td>
<td>Square feet of space occupied</td>
</tr>
<tr>
<td>Payroll services</td>
<td>Number of employees</td>
</tr>
<tr>
<td>Personnel administration</td>
<td>Number of employees</td>
</tr>
<tr>
<td>Printing and reproduction</td>
<td>Direct hours, pages printed, etc.</td>
</tr>
<tr>
<td>Procurement service</td>
<td>Number of transactions processed</td>
</tr>
<tr>
<td>Local telephone</td>
<td>Number of telephone instruments</td>
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