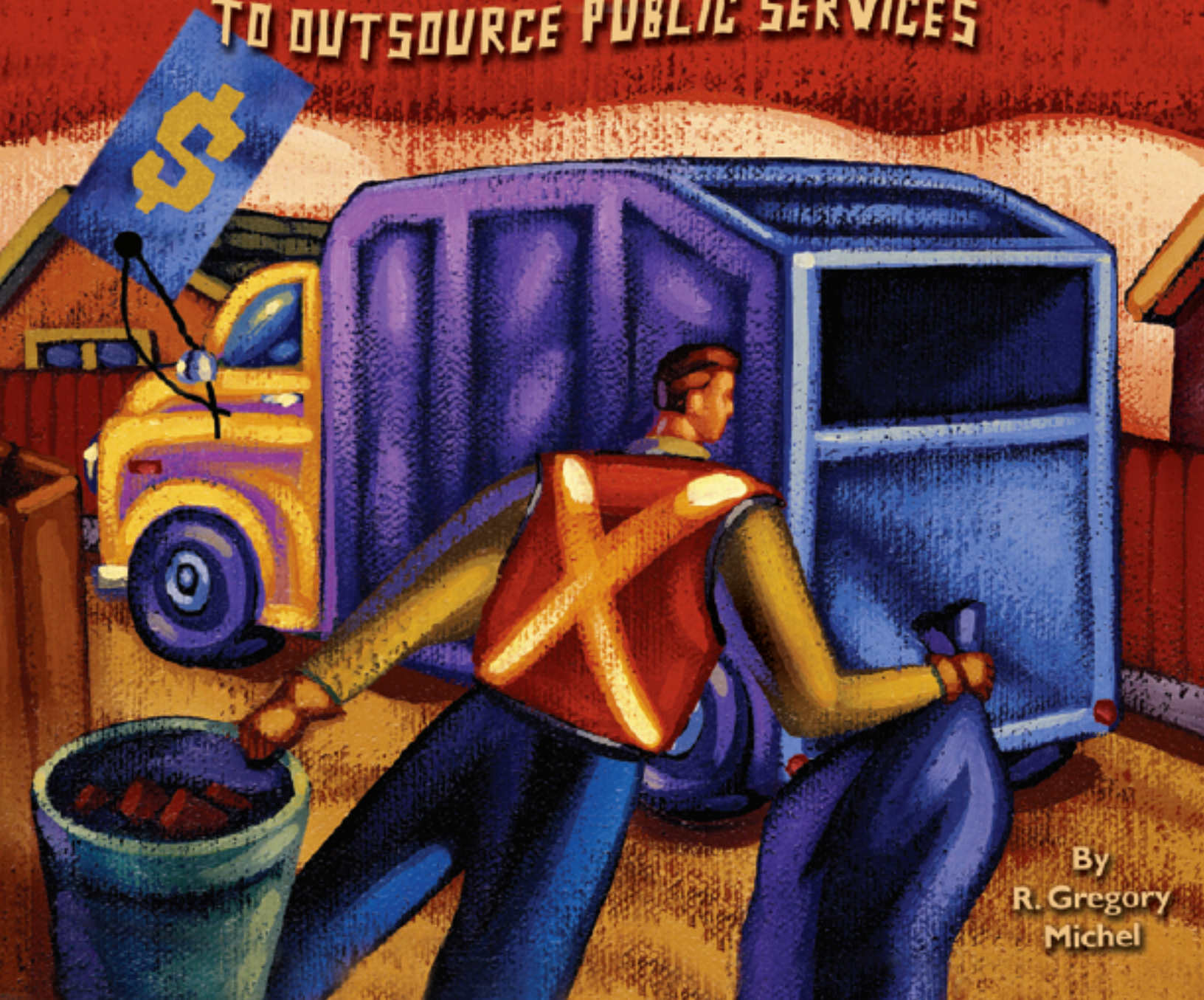


MAKE or BUY?

USING COST ANALYSIS TO DECIDE WHETHER
TO OUTSOURCE PUBLIC SERVICES



By
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Editor's note: This article is adapted from a new GFOA publication, *Cost Analysis and Activity-Based Costing for Government*.

In this period of tight budgets, many governments are under increasing pressure to do more with less. One potential way to reduce costs is to outsource services to private firms, non-profit organizations, or other governments that can provide the services more efficiently. In some cases, outsourcing can result in significant cost savings over the long run. In other cases, however, outsourcing may actually end up *increasing* a government's total costs. How can a government know whether outsourcing a given service will result in a cost savings or a cost increase? This article answers this question by demonstrating how to perform a cost analysis.

The decision as to whether to perform a service "in house" or outsource it to an external provider is commonly referred to as the "make-versus-buy" decision. This article walks through the steps involved in a make-versus-buy cost analysis. But first, two key points warrant emphasis: (1) a make-versus-buy cost analysis should use a differential cost perspective and (2) the analysis should cover a multi-year period and discount future cash flows to their present value.

USE A DIFFERENTIAL COST PERSPECTIVE

Differential cost is the key cost concept for evaluating the outsourcing of a service. The differential cost shows how a decision to outsource will change a government's costs. It is crucial to look at the differential costs instead of merely comparing the total costs of the status quo to the total costs of using a private contractor. The pitfall of comparing total costs is that they may include fixed costs that cannot be avoided by outsourcing a service. This could give the appearance that a government will incur fewer costs by using a private contractor when it actually will incur more.¹

For example, let's say that a private waste hauler offers to provide waste collection services to the City of Unionsville for \$550,000 per year. As it stands, the total cost of providing waste collection services is \$750,000 per year. Thus, it appears that the city could save \$200,000 per year by hiring the private hauler. However, a closer look at the city's fixed costs reveals that it is committed to spending much of the \$750,000 whether or not it switches to a private hauler. More than half of this amount is personnel costs, which the city cannot avoid because of a "no-layoff" policy and the fact that the truck drivers perform other responsibilities. Likewise, the city is committed to \$50,000 per year in debt service payments for the facilities used to store and maintain its garbage trucks.

Sunk costs. A potential mistake in a make-versus-buy cost analysis is the inclusion of sunk costs. A sunk cost is a cost that has already occurred and will remain the same regardless of what decision is made. As such, sunk costs should be ignored in a cost analysis.

To see how including sunk costs can lead to bad decisions, suppose a county government is considering outsourcing its warehouse function to private suppliers that can maintain inventories of all the county's supplies and ship them overnight. One year earlier, the county had spent \$500,000 for a consultant to develop a state-of-the-art inventory process. Opponents of the outsourcing plan argue that the county should not outsource the warehouse function because it just poured \$500,000 into perfecting the existing system. However, this \$500,000 should not influence the decision because it cannot be recovered regardless of the course of action the county takes; only the differential cost of the two alternatives should influence the decision. If the differential cost of outsourcing the warehouse function is \$340,000 less per year than retaining this function in-house, including the sunk cost of the consulting services would lead the county to spend \$340,000 per year more than it has to.

Opportunity costs. Another important cost concept in make-versus-buy decisions is opportunity cost. Opportunity cost is the lost opportunity of using an asset or resource in a way other than the chosen alternative. For example, if a suburban government sells a public swimming pool to a private company to own and operate, the opportunity cost would include the admittance fee revenue that would have been collected if the pool remained a public asset. Likewise, the opportunity cost of not selling the pool would be the revenue from the sale of the pool.

COVER A MULTI-YEAR PERIOD AND DISCOUNT FUTURE CASH FLOWS

A cost comparison should cover a multi-year period. This is important for two reasons. First, a multi-year analysis is more likely to reveal whether outsourcing will generate long-term savings. A government should experience much of the cost savings related to outsourcing in later years, as leases and contracts expire and fixed costs become variable costs. Second, a multi-year contract is usually more attractive to potential vendors, which creates more competition and drives down the costs of the contract.

In a multi-year analysis, future cash flows should be discounted to their present value. This ensures that appropriate weight is given to future costs and benefits. Discounting is the process of converting a future value into its present value.²

HOW TO PERFORM A MAKE-VERSUS-BUY COST ANALYSIS

A make-versus-buy cost analysis involves four basic steps:

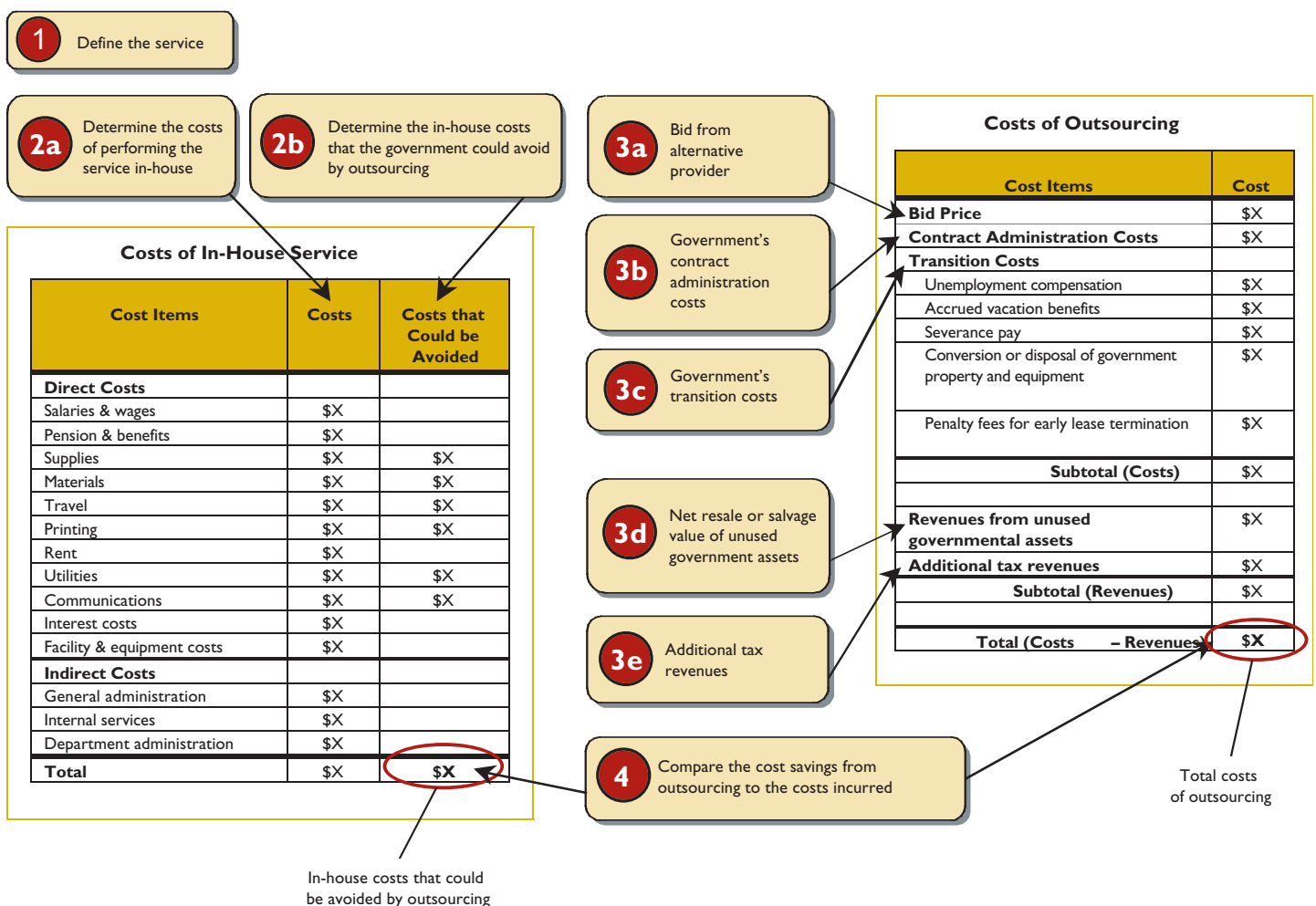
- **Step 1:** Define the service
- **Step 2:** Calculate the in-house costs that could be avoided by outsourcing the service
- **Step 3:** Calculate the total costs of outsourcing
- **Step 4:** Compare the cost savings from outsourcing to the costs incurred

Exhibit 1 illustrates the steps in a make-versus-buy cost analysis. To simplify the diagram, the analysis is limited to a single year. In actual practice, the analysis should cover a three- to five-year period, and steps 2b through 4 should be repeated for each year. The totals for each year should be discounted to their present value.

Step 1: Define the service. The first step in a make-versus-buy cost analysis is to clearly define the government service that is being considered for outsourcing. In other words, specify the quality and quantity of the service and the output and outcomes that are expected. This is necessary so that there is an apples-to-apples comparison between the service the government is already providing and the service proposed by outside contractors. If a service is vaguely or incorrectly defined, the in-house costs may be higher (or lower) than the contract costs simply because the government is providing more (or less) service than what is documented in the request for proposals.

When specifying the quality and quantity of the service, it is important to investigate whether government employees informally provide additional services to residents. For example, a parks and recreation department may perform tree trimming for elderly residents upon request, or may deliver wood chips free of charge.

Exhibit 1: Make-Versus-Buy Cost Analysis



It is also important to examine whether the resources (labor, facilities, equipment, and material) used for the service are formally or informally shared with other government services. For example, garbage collection crews might assist with snow removal after a heavy snowfall, or they may help the parks and recreation department clean up after a summer festival. All of these details must be documented in the contract to arrive at an accurate cost comparison and to avoid disputes with vendors after the contract is signed.

Step 2: Calculate the in-house costs that would be avoided by outsourcing the service. The second step is to calculate the total government costs that would be avoided or saved by outsourcing the service. To determine the costs that would be saved, first itemize the full cost of the service, including all of the direct and indirect costs.³ Then, use this list of costs as the basis from which to determine the specific costs that would be saved if the service were outsourced. GFOA’s recommended practice on measuring the cost of government services defines the in-house costs saved by outsourcing as those costs that are either eliminated immediately or eliminated after a brief transition period.⁴ It is important to remember that many fixed costs—overhead costs in particular—will remain the same even though the resources behind those costs are not being used.

Cost estimates should be made on a multi-year basis and discounted to a present value. To ensure that inflation is treated consistently, nominal costs should be used if a nominal discount rate is used, and real costs should be used if a real discount rate is used.⁵

Step 3: Calculate the total costs of outsourcing. The third step is to calculate the total costs of outsourcing the service. The costs of outsourcing include the contractor’s bid price, the government’s contract administration costs, and the government’s transition costs, less any new revenue generated from outsourcing. These cost estimates should be discounted to their present value and cover the same period as the cost savings in the previous step.

To be consistent throughout the analysis, only *new* costs should be counted, not the costs that would be incurred regardless of who provides the service. For example, if a government already employs workers to perform contract administration, these costs should not be included in the analysis as long as they are absorbed by existing employees.

Contract administration costs. The government’s contract administration costs include all of the tasks necessary to select and manage a vendor over the life of the contract. These tasks may include reviewing and evaluating RFPs, writing and negotiating the contract, processing change orders and amendments to the con-

tract, monitoring and evaluating vendor performance, dealing with disputes, and processing payments to the vendor. Depending on the type of contract and their own internal processes, state and local governments can estimate contract costs anywhere from 0 percent to 25 percent. Some governments base their estimates of contract administration costs on a standard formula like the one in Exhibit 2 used by the U.S. Office of Management and Budget.

Exhibit 2: OMB Staffing Formula for Estimating the Cost of Government Contract Administration

Number of Government Employees Used to Provide Service	Number of Staff Needed for Contract Administration (FTEs)
10 or less	0.5
11 – 20	1
21 – 50	2
51 – 75	3
76 – 100	4
101 – 120	5
121 – 150	6
151 – 200	7
201 – 250	8
251 – 300	9
301 – 350	10
351 – 450	11
More than 450	2.5% of the number of government employees used to provide service

Transition costs. Transition costs include all of the costs incurred by a government as it shifts a service to an outside contractor. These transition costs may include the various personnel-related costs related to laying off employees, including unemployment compensation, accrued vacation benefits, and severance pay.⁶ They may also include the preparation of government facilities and equipment for use by an outside contractor. Alternatively, these assets might be sold or otherwise disposed of, resulting in a positive or negative net salvage value. If the assets are rented, an early termination of the lease may create additional costs.

Revenues from outsourcing. Any additional revenues that a government collects as a result of outsourcing should be subtracted from the costs of outsourcing. In some cases, a decision to outsource a service may result in increased tax and fee revenues from the contractor. For example, a contractor may pay property taxes on a new facility constructed within city limits.

Another source of revenue is the sale of government assets that are no longer needed because a vendor uses its own assets to provide the service. For instance, a government might sell its garbage trucks if a vendor uses its own vehicles. Care should be taken to include only the additional revenues that are the result of outsourcing.

Step 4: Compare the cost savings from outsourcing to the costs incurred. The final step in a make-versus-buy cost analysis is to calculate the difference between the costs saved by outsourcing a service and the costs incurred. If the costs saved are significantly greater than the costs incurred, then outsourcing may make financial sense.

The final result of a cost analysis is often based on assumptions that have a fair degree of uncertainty. As a countermeasure, it is prudent to conduct a sensitivity analysis, which tests the sensitivity of the final result to changes in the underlying assumptions. There are three main methods for performing a sensitivity analysis. One method is to recalculate the result under pessimistic, expected, and optimistic scenarios. A second method is to recalculate the result many times by testing each assumption over a wide range of values. A third method is to calculate a probability distribution for the result of an analysis.⁷ To address the uncertainty inherent in any cost analysis, governments sometimes require that the cost savings from outsourcing exceed the cost of providing the service in-house by a certain margin. For example, the State of Texas and the federal government use a 10 percent threshold.

There are many nonfinancial costs and benefits that are difficult to quantify in this type of analysis but that should be considered nonetheless. For example, there may be a significant difference in the quality of the service provided by a government and the quality of the service provided by a private contractor. Underutilized facilities, labor, and equipment during the transition period may also entail opportunity costs to the government. And outsourcing may reduce a government's ability to use the service to carry out policy goals. On the positive side, shifting a service to a contractor also transfers liability and other risks to the contractor (even though these risks are likely built into the contract price). Governments are developing increasingly sophisticated ways of handling these issues, such as requiring providers to return a percentage of their profits to non-profit organizations in the community.

A CASE STUDY

An example will further illustrate how to perform a cost analysis for a make-versus-buy decision. Suppose the City of Greenville is considering outsourcing lawn and grounds maintenance to a

private firm. As a first step toward determining if outsourcing lawn and grounds maintenance makes financial sense, the city defines this particular service. Lawn and grounds service is provided by the city's Public Works Department, which maintains 200 acres of developed parkland. Exhibit 3 specifies the activities that comprise the lawn and grounds maintenance function.

Exhibit 3: Current Lawn and Grounds Maintenance Service

Services Provided by Public Works	Schedule
Grass mowing and trimming	March – May (every 7 days) June – September (every 14 days)
Tree and bush trimming	Once per year (in fall)
Litter collection	Every two weeks
Grass fertilization	Once per year (in spring)

Next, the city calculates the total costs that would be avoided or saved by outsourcing lawn and grounds maintenance. To determine the costs that would be saved by outsourcing, the full cost of the service is itemized, including all of the direct and indirect costs. The top portion of Exhibit 4 shows how this would look over a five-year period. The city would be able to avoid several of the costs in the second column if the service were outsourced. About \$400,000 in personnel costs would be avoided by virtue of a combination of layoffs of seasonal employees and a promise from the vendor to hire 30 percent of the city's employees. The remaining employees would be reassigned to other tasks. The city would continue to incur insurance costs for lawn maintenance equipment until the insurance contract terminates after the first year. Administrative overhead costs often cannot be avoided (at least in the short run) because they are generated in other departments, such as finance and human resources, that would likely remain fully staffed even if the service were outsourced. The total savings for each year are discounted to their present value.⁸

The third step is to calculate the total costs of outsourcing lawn and grounds maintenance. The bottom portion of Exhibit 4 shows how this would look over a five-year period. The costs of outsourcing include the contractor's bid, the government's contract administration costs, and the government's transition costs, less the additional revenue generated from outsourcing. The total costs for each year are discounted to their present value. Only the *new* costs associated with outsourcing the service are included in the analysis.

Exhibit 4: Illustrative Make-Versus-Buy Analysis

The Costs of Performing the Service In-House

Cost Items	Current Annual Costs of Service	In-House Costs that Could be Avoided by Outsourcing					
		Now	Year 1	Year 2	Year 3	Year 3	Year 4
Personnel	\$600,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000	\$400,000
Insurance	\$16,000	\$0	\$16,000	\$16,000	\$16,000	\$16,000	\$16,000
Equipment & Supplies	\$134,000	\$134,000	\$134,000	\$134,000	\$134,000	\$134,000	\$134,000
Fuel	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
Administrative Overhead	\$100,000	\$0	\$0	\$0	\$0	\$0	\$0
TOTAL	\$1,000,000	\$684,000	\$700,000	\$700,000	\$700,000	\$700,000	\$700,000

A In-house costs that could be avoided by outsourcing (Net Present Value)

$$\$4,031,851 = \left[\begin{matrix} \text{ } \\ \text{ } \\ \text{ } \\ \text{ } \\ \text{ } \\ \text{ } \end{matrix} \right] + \left[\frac{\text{ } }{(1+r)^1} \right] + \left[\frac{\text{ } }{(1+r)^2} \right] + \left[\frac{\text{ } }{(1+r)^3} \right] + \left[\frac{\text{ } }{(1+r)^4} \right] + \left[\frac{\text{ } }{(1+r)^5} \right]$$

The Costs of Outsourcing the Service

	Now	Year 1	Year 2	Year 3	Year 3	Year 4
Bid Price	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Contract Administration	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000	\$75,000
Transition Costs						
• Unemployment compensation	\$0	\$1,000	\$1,000	\$1,000	\$1,000	\$1,000
• Accrued vacation benefits	\$20,000	\$0	\$0	\$0	\$0	\$0
• Severance pay	\$10,000	\$0	\$0	\$0	\$0	\$0
• Conversion or disposal of government property and equipment	\$10,000	\$0	\$0	\$0	\$0	\$0
• Penalty fees for early lease termination	\$30,000	\$0	\$0	\$0	\$0	\$0
Subtotal (Costs)	\$645,000	\$576,000	\$576,000	\$576,000	\$576,000	\$576,000
Revenues from sales of unused government assets	\$400,000	\$0	\$0	\$0	\$0	\$0
Additional tax revenues	\$0	\$0	\$0	\$0	\$0	\$0
Subtotal (Revenues)	\$400,000	\$0	\$0	\$0	\$0	\$0
TOTAL (Costs – Revenues)	\$245,000	\$576,000	\$576,000	\$576,000	\$576,000	\$576,000

B Costs of Outsourcing (Net Present Value)

$$\$2,999,804 = \left[\text{ } \right] + \left[\frac{\text{ } }{(1+r)^1} \right] + \left[\frac{\text{ } }{(1+r)^2} \right] + \left[\frac{\text{ } }{(1+r)^3} \right] + \left[\frac{\text{ } }{(1+r)^4} \right] + \left[\frac{\text{ } }{(1+r)^5} \right]$$

$$\left(\text{A In-house costs that could be avoided by outsourcing} \right) - \left(\text{B Cost of outsourcing} \right) = \text{Cost Savings of Outsourcing}$$

$$\$4,031,851 - \$2,999,804 = \$1,032,048$$

As a final step in the analysis, the city calculates the difference between the costs saved and the costs incurred by outsourcing lawn and grounds maintenance. Subtracting the costs of outsourcing this function from the cost savings shows that the city would save a present value of \$1,032,048 by outsourcing lawn and grounds maintenance. If more than one vendor bid on the service, the city would repeat the last three steps for each vendor to determine which one presented the best overall deal.

CONCLUSION

This article outlines a method for evaluating whether it makes financial sense to outsource a service. While the article focuses specifically on the costs involved in this type of decision, other factors must also be considered. The National Advisory Council on State and Local Budgeting recommends that governments consider the following factors when evaluating whether to outsource a service:

- Cost of service, including short- and long-term direct costs, costs to administer and oversee the service, impact on rates and charges, and impact on costs of other government services.
- Service quality and control, including safety and reliability, ability to control service levels and who receives the service, ability of the government to make internal changes to improve its own performance, ability to change the delivery mechanism in the future, and risk of contractual nonperformance and default.
- Management issues, including the quality of monitoring, reporting, and performance evaluation systems, public access to information, and ability to generate or sustain competition in service delivery.
- Financial issues, including impact on outstanding debt and grant eligibility.
- Impact on stakeholders, including government employees, customers, and taxpayers.
- Statutory and regulatory issues, including impact on federal and state legal and regulatory requirements, and liability.⁹

A good analysis considers both the financial and nonfinancial effects of outsourcing. By following the steps outlined in this article, governments can gain a clear understanding of how shifting a particular service to an outside provider would affect their costs.■

Notes:

1. This point is made in the GFOA recommended practice, "Application of Full-Cost Accounting to Municipal Solid Waste Management Activities (1998)."

2. For a detailed explanation of discounting, see Chapter 5 of the new GFOA publication, *Cost Analysis and Activity-Based Costing for Government*.
3. For guidance on estimating the full cost of a government service, see Chapter 3 of the GFOA publication, *Cost Analysis and Activity-Based Costing for Government*.
4. See "Measuring the Cost of Government Services" at <http://www.gfoa.org/services/rp/budget.shtml>.
5. For a discussion of discounting to the present value, see Chapter 5 of the GFOA publication, *Cost Analysis and Activity-Based Costing for Government*.
6. There is not agreement on whether these costs should be included in a cost analysis. The Treasury Board of Canada, for example, recommends that severance pay and vacation benefits not be included in transition costs (see "Stretching the Tax Dollar: Make or Buy," Treasury Board of Canada Secretariat, Innovative and Quality Services, Financial and Information Management Branch).
7. For additional discussion of sensitivity analysis, see Chapter 3 of the GFOA publication, *Decision Tools for Budgetary Analysis*.
8. Since the forecasted costs in years one to five are made in real dollars, a real discount rate of 1.5 percent was used to calculate the present value. This also applies to the costs discussed in the next paragraph.
9. National Advisory Council on State and Local Budgeting, Practice 6.1 - Develop Programs and Evaluate Delivery Mechanisms.

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