

SOLID-WASTE MANAGEMENT

A GUIDE TO COMPETITIVE CONTRACTING FOR COLLECTION

by
Lynn Scarlett and J.M. Sloan

EXECUTIVE SUMMARY

Over 50 percent of U.S. cities of varying sizes contract all or part of their refuse collection services. The National Solid Wastes Management Association (now Environmental Industries Association) has estimated that at least 50 percent of disposal capacity is privately owned and operated. While no comprehensive surveys have recently been undertaken, the private-sector role in the provision of waste management services appears to be increasing.

U.S. models of privatization take many forms. For collection services, at least six different models of private-sector service delivery exist. These include:

1. single-district, winner-take-all competitive contracting,
2. multi-district competitive contracting,
3. noncompetitive negotiated contracting,
4. "free-for-all" competition,
5. nonexclusive franchising, and
6. competitive exclusive franchising.

In addition to these different privatization models, local governments employ a variety of procedures for: 1) specifying the desired scope of service, 2) evaluating service-delivery options, 3) selecting service providers, and 4) monitoring providers' performance. The breadth and diversity of experience in privatization thus permits an evaluation of what procedures and programs result in high-quality, cost-effective waste management services. This paper will identify those privatization procedures and programs that enhance success.

Three primary forces have motivated the trend toward privatization in the United States: 1) pursuit of cost savings; 2) desire to access new technologies; and 3) desire to reduce risks associated with providing waste management services.

Successful implementation of competitive service delivery involves three stages: 1) an initial evaluation and review of available options; 2) a well-designed service-delivery procurement process (qualifying to bid, bidding, and contracting), and 3) ongoing monitoring and performance reviews (contract administration). Success lies more in the implementation process than in the specific contracting model selected.

Successful transitioning from public-sector to private-sector contracting of waste services requires up-front evaluation of the existing public system.

1. What are the components of the current system?
2. How do these components interrelate?
3. Who currently provides each service component?

One central purpose of privatization is to harness competitive market forces to generate ongoing incentives for more efficient and less costly solid waste management service. Central to this harnessing process is a procurement document that allows for precise and objective evaluation, flexibility, economies of scale, efficient contract length, and accountability.

The hard work really begins after the successful proposer has been selected through the RFQ/RFB process. The aim in contract negotiation should be to establish an agreement whereby the local government maintains needed control over its waste stream, residents are assured low-cost/high-quality waste management services, and the private contractor is able to maintain a profitable business.

The contract should include several critical elements. These include:

- ***A clear definition of the scope of work required.*** Waste management involves an array of different services. Successful privatization requires that one define which of these services will be transferred to the private sector.
- ***A definition of minimum service requirements.*** Once the scope of service is defined, public officials need to clearly define minimum service-level requirements. This includes such matters as frequency of collection, permitted hours of operation, insurance and bonding requirements, health and safety restrictions, permissible service complaint levels, and other basic service parameters.
- ***A description of risk, rate, and termination provisions.***

There is no single best way to structure the contracting of solid waste and recycling collection services. However, in any contracting decision, the twin goals of service quality and competitive cost should guide the design of the bidding process and the delineation of contract details. Ultimately, long-term success of contracting depends on depoliticizing the contracting decision as much as possible, using clear quantitative and qualitative performance standards, and clearly spelling out the responsibilities of the public and private sectors.

I. INTRODUCTION

Over 50 percent of U.S. cities of varying sizes contract all or part of their refuse collection services. The National Solid Wastes Management Association (now Environmental Industries Association) has estimated that at least 50 percent of disposal capacity is privately owned and operated. While no comprehensive surveys have recently been undertaken, the private-sector role in the provision of waste management services appears to be increasing.

U.S. models of privatization take many forms. For collection services, at least six different models of private-sector service delivery exist. These include:¹

1. single-district, winner-take-all competitive contracting,
2. multi-district competitive contracting,
3. noncompetitive negotiated contracting,
4. “free-for-all” competition,
5. nonexclusive franchising, and
6. competitive exclusive franchising.

In addition to these different privatization models, local governments employ a variety of procedures for: 1) specifying the desired scope of service, 2) evaluating service-delivery options, 3) selecting service providers, and 4) monitoring providers’ performance. The breadth and diversity of experience in privatization thus permits an evaluation of what procedures and programs result in high-quality, cost-effective waste management services. This paper will identify those privatization procedures and programs that enhance success.

II. WHY PRIVATIZATION?

Three primary forces have motivated the trend toward privatization in the United States: 1) pursuit of cost savings; 2) desire to access new technologies; and 3) desire to reduce risks associated with providing waste management services.

A. Cost Savings

A large body of academic literature confirms that use of competitive processes in service delivery can generate cost savings, improved service quality, or both. In particular, recent studies show the importance of competition, not private contracting per se, in producing cost savings.

The most comprehensive study examining trash-collection systems—funded by the U.S. government and conducted in the mid-1970s—showed savings of 29 to 37 percent in cities with populations over 50,000.² Programs in which households contracted directly with private haulers were shown to cost more than competitive contracting, franchising, or municipal provision of services.

Other, more recent studies have confirmed that competitive service delivery can generate cost savings. A 1984 study of 20 California cities demonstrated savings of 28 to 42 percent from privatization.³ A 1982 study of 120

¹ An “evergreen” feature that perpetually renews the contract or franchise on an annual basis may be applied to most public/private agreements for municipal solid waste services.

² E.S. Savas, ed., *The Organization and Efficiency of Solid Waste Collection* (Lexington, Mass.: Lexington Books, 1977).

³ Barbara Stevens, “Comparative Study of Municipal Service Delivery,” New York, Ecodata, Inc., February 1984.

Canadian cities found even more dramatic savings of over 50 percent for contracted service.⁴ A 1994 Reason Foundation study showed City of Los Angeles costs to be 30 percent higher than costs in neighboring cities with competitive private contracting of waste services.⁵

Many of these cost comparisons controlled for factors such as route density, frequency and location of service, waste quantity, and service quality. However, they did not directly examine the effects of competition (rather than simply ownership arrangements) on costs. More recent studies have explored the effects of competition. A 1986 survey of 300 local governments in Great Britain revealed cost savings of around 20 percent for a variety of competitively contracted municipal services.⁶ The same study demonstrated that not *all* contracting produces cost savings: the degree of competition affects savings. One analyst, comparing public and private refuse collection, suggested that “competitive tendering [contracting] reduces the range of costs per unit of output or service by failing to award contracts to high-cost providers.” The analyst concludes that “competition does not make all operators equally efficient, but reduces the range of observed inefficiency” (see Figure 1).⁷ Public-sector providers, on the other hand, have costs that range across a broad spectrum, from very inefficient to very efficient. Competitively contracted service has less variability in efficiency, with most providers having costs that approach efficient levels (defined in terms of industry standards).

What accounts for these cost savings under competition? Barbara Stevens of Ecodata, Inc. identified a number of factors that contributed to privatization cost savings. Private contractors, writes Stevens, tend to:⁸

1. require more work from employees,
2. offer equivalent salaries but fewer benefits,
3. match skill levels with job requirements,
4. use part-time labor when appropriate,
5. require that managers be responsible for equipment and labor availability,
6. allow first-line supervisors to have hiring and firing authority,
7. use incentive pay systems, and
8. use less labor-intensive means of providing a given service.

A survey by a citizen task force in the City of Charlottesville found such factors as less vehicle downtime, lower rates of absenteeism, and higher labor productivity to be key contributors to privatization cost savings.⁹

B. Access to Technology

A combination of new regulations and changing local values have prompted significant changes in waste management services over the past decade. The focus has moved from collection and disposal of trash to the delivery of integrated services that include recycling, composting, and other waste-diversion tools. In addition, construction and operation of landfills, recycling facilities, and incinerators have become increasingly costly with the advent of new regulatory requirements.

⁴ James C. McDavid, Patricia Richards, and Bernard Doughton, “Privatization of Residential Solid Waste Collection in Richmond, British Columbia,” School of Public Administration, University of Victoria, undated report.

⁵ William Eggers, ed., *Competitive Government for a Competitive Los Angeles*, Reason Foundation Policy Study No. 182, November 1994.

⁶ Simon Domberger, “Competitive Tendering and Contracting: Recent Experience and Future Policy,” *Policy*, Autumn 1993.

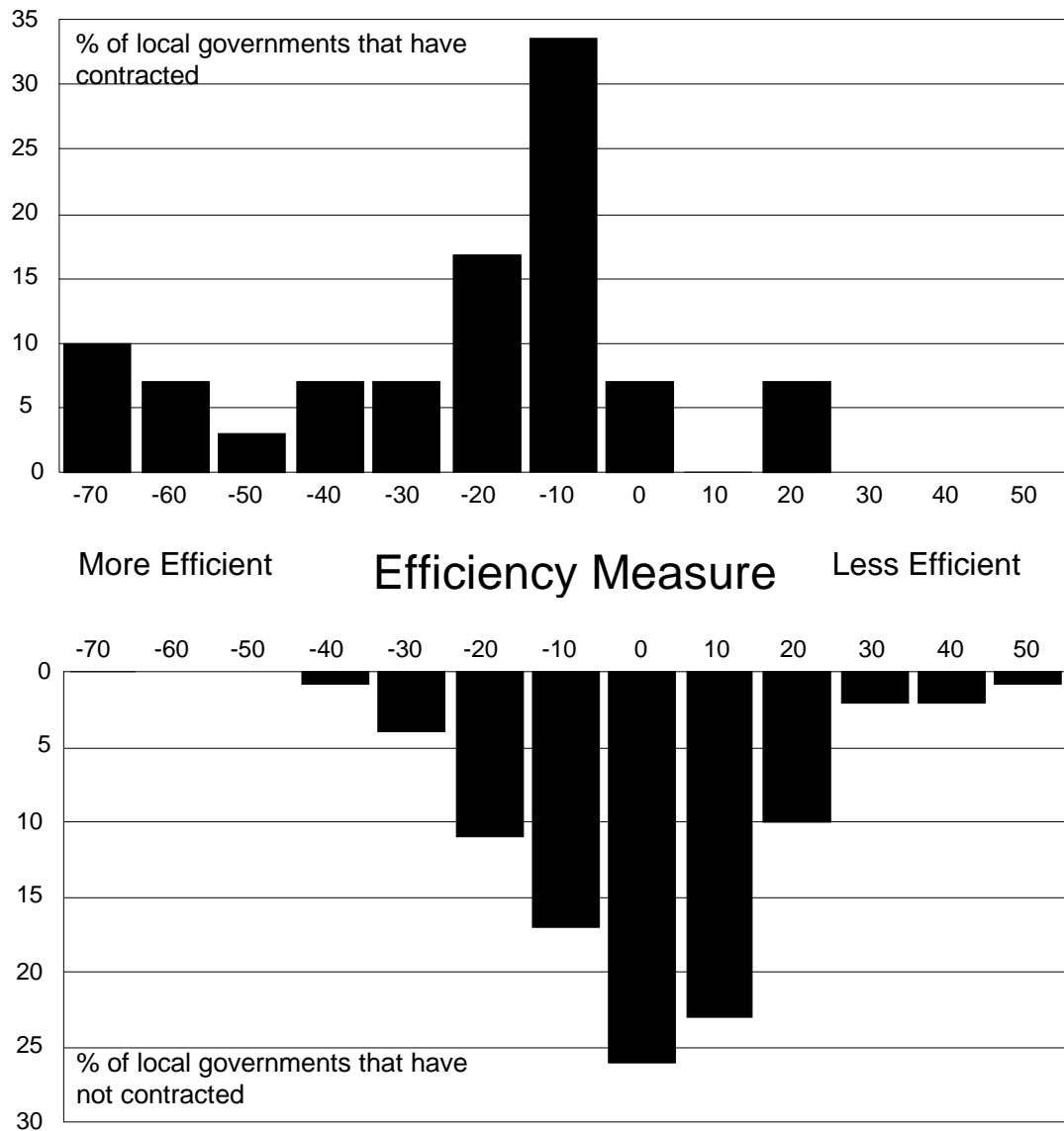
⁷ *Ibid.*, p. 24.

⁸ Barbara Stevens, *Comparative Study of Municipal Service Delivery* (New York, Ecodata, Inc., February 1984).

⁹ Citizens for Constructive Change, *Why Charlottesville Should Privatize Trash Collection*, Charlottesville, July 6, 1992.

For some local governments, meeting these new regulatory and programmatic requirements is beyond their in-house engineering and technical capabilities. This is particularly true of smaller government jurisdictions. Privatization of both facilities and operations offers a means of tapping into state-of-the-art technologies.

Figure 1: Distribution of Efficiency



Note: Authorities with efficiency measures below zero are more efficient than average of all contractors and vice versa

Source: Simon Domberger, "Competitive Tendering and Contracting," *Policy*, Autumn 1993, p. 24.

C. Risk Minimization

With increased regulations and changing service profiles has also come increased financial risks to provide integrated waste services. Liabilities associated with potential pollutants from waste disposal and incineration facilities loom large for some U.S. local governments. Risks also accompany the marketing of recyclables since these materials have volatile scrap values and fast-changing markets. Both kinds of risk have motivated some local governments to partner with the private sector, which often assumes some or all of these risks.

III. THE CONTRACTING DECISION

Successful implementation of competitive service delivery involves three stages: 1) an initial evaluation and review of available options; 2) a well-designed service-delivery procurement process (qualifying to bid, bidding, and contracting), and 3) ongoing monitoring and performance reviews (contract administration). Success lies more in the implementation process than in the specific contracting model selected.

A. The Contracting Decision: Initial Evaluation and Review

Successful transitioning from public-sector to private-sector contracting of waste services requires up-front evaluation of the existing public system (see Figure 2).

1. What are the components of the current system?
2. How do these components interrelate?
3. Who currently provides each service component?

After defining existing system components, the next step is an in-house cost evaluation. Since a primary motivation behind contracting is pursuit of cost savings, one must understand current system costs before determining whether competitive contracting is likely to generate savings.

This task is not straightforward. Several studies have demonstrated that the public sector underestimates in-house costs to provide services by as much as 30 percent.¹⁰ Moreover, computing in-house costs is complex. Jonathan Richmond of the Massachusetts Institute of Technology points out that:

In complex organizations, large numbers of assumptions must be made about how costs which are incurred are to be allocated to various parts of the organization. Many costs are shared by a number of services and there is often no obvious way of assigning them to their sources.¹¹

Among the reasons for understatement of public-sector waste management costs are the failure of some cities to include in refuse budgets such items as: 1) the capital costs of refuse-collection vehicles; 2) cost of interest on bonds; 3) cost of fuel, oil, tires and other vehicle supplies; 4) labor costs for vehicle maintenance; 5) cost of employee fringe benefits; 6) building costs; and 7) liability costs.

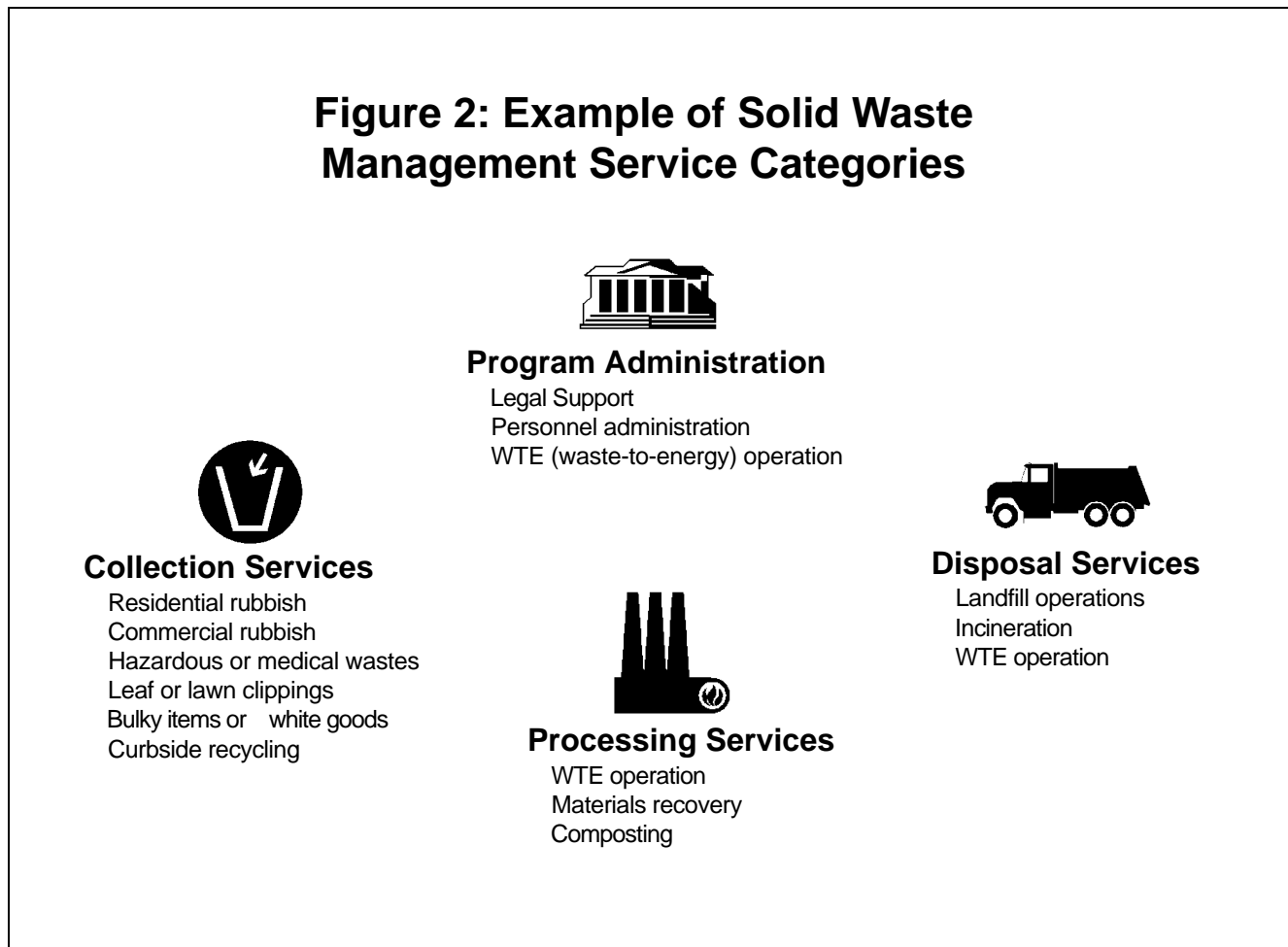
An appropriate cost comparison of in-house (public-sector) service provision versus contracted service requires estimation of the full direct costs of in-house service, as well as all support costs, and any transition costs that might be incurred in the privatization process. These costs are then compared against estimates of all direct costs

¹⁰ Lawrence Martin, "A Proposed Methodology for Comparing the Costs of Government versus Contract Service Delivery," *Municipal Yearbook 1992* (Washington, D.C.: International City/County Management Association, 1992); and "How Much Do Government Services Really Cost?," *Urban Affairs Quarterly* (Sept. 1979).

¹¹ Jonathan Richmond, *The Costs of Contracted Service: An Assessment of Assessments*, MIT Center for Transportation Studies, July 20, 1992.

associated with private-sector service, plus any administrative costs associated with monitoring and administering the privatized service.¹²

Figure 2: Example of Solid Waste Management Service Categories



Two final steps are important in the decision regarding whether to competitively contract service: 1) development of both quantitative and qualitative measures of performance; and 2) identification of any barriers—legal, political, or technical—to privatization.

Standard performance measures include those outlined by PTI, Inc., in its 1995 *Guide to Solid Waste Competitive Service Delivery* (see Tables 1 and 2).

B. The Procurement Process: Elements of Success

One central purpose of privatization is to harness competitive market forces to generate ongoing incentives for more efficient and less costly solid waste management service. Central to this harnessing process is a procurement document that allows for precise and objective evaluation, flexibility, economies of scale, efficient contract length, and accountability.

¹² For a discussion of costing methodologies, see Lawrence Martin, *How to Compare Costs Between In-House and Contracted Services*, Reason Foundation How-to Guide No. 4, March 1993.

Table 1: Examples of Quantitative Measures of Performance		
Customer Satisfaction	Cost Comparability	Employee Performance
<ul style="list-style-type: none"> • Response time for special requests • Community participation (e.g., recycling rates/tons collected) • Number of complaints (other than missing garbage) • Number of missed stops 	<ul style="list-style-type: none"> • Budget vs. actual expenditures • Rate of increase in budget costs • Local government budget projects 	<ul style="list-style-type: none"> • Overtime, in excess of budget • Equipment cleanliness, preventive maintenance and repairs • Number and type of first-time and recurring injuries • Tons collected per day • Absenteeism • Attrition rates

Source: PTI, *Guide to Solid Waste Competitive Service Delivery*.

Table 2: Examples of Qualitative Measures for Evaluating Program Services	
Quality of Service	Effective management
<ul style="list-style-type: none"> • Quality of work on route • Interaction with citizens on route • Employee involvement with decision making • Timeliness of service • Consistency of service 	<ul style="list-style-type: none"> • Voter preferences • Local leaders' support for status quo or change

Source: PTI, *Guide to Solid Waste Competitive Service Delivery*.

1. Precise, Objective Evaluation

The criteria for selection of a municipal solid waste service provider must be precisely stated. Ambiguity in the municipal request for proposals (RFP) will probably render “fluff” responses that are not amenable to definitive, objective evaluation. When evaluation criteria are not clearly defined, the selection process is open to manipulation or even graft. With a little extra effort at the beginning of the process, it is possible for local governments to issue requests for proposals that will stand the test of public scrutiny and firmly establish public confidence in the integrity of the bidding process. Terms such as *valuable*, *bankable*, *quantifiable*, *verifiable*, *certifiable*, *calculable*, and so on, should drive the establishment of selection criteria.

The municipality may choose to give each of the selection criteria equal consideration or to “weight” the factors in accordance with specific interests of the community. If the selection criteria are to be weighted, the municipality should precisely state the “weighting formula.”

Preparing a serious response to a municipal RFP can require a large commitment of corporate resources. A typical response to a municipal solid waste management RFP requires several hundred hours of management staff time. Company owners, general managers, recycling managers, operations managers, route managers, customer service managers, chief financial officers, office managers, and field supervisors must all become involved in preparing the proposal.

A clear understanding of the selection criteria will help interested companies make the important decision of whether or not to devote the necessary resources to respond to the RFP. Local governments also benefit by not having to evaluate proposals that cannot achieve the city's requirements. For example: a city may have 20,000 single-family households and place a high value on the potential contractor's experience in serving a comparable

community. With this knowledge, contractors lacking the desired experience will probably opt out of the process.

The municipality should recognize that restrictive selection criteria present a two-edged sword. On the one hand, restrictive criteria may provide clarity. On the other hand, such criteria may serve to eliminate potentially excellent service providers.

2. Flexibility

Service specifications that define in expansive detail route structures, the kind of equipment that must be used, the exact sort of waste-collection container that must be provided, and so on, prevent private competitors from proposing cost-saving innovations. Most successful contracting processes specify performance standards—frequency of service, allowable customer complaint levels, and so on—rather than input standards such as container specifications, cubic-yard capacity of trucks, and so on.

For example, a local government procurement officer may have been convinced by a sales person or a friend in a municipal government that a specific truck should be used to service the contract. However, vehicle specification should always be determined by the type of service required and the anticipated payload. For refuse collection/transportation, the vehicle that produces the *largest legal payload* in the least time should generally be selected. *Local conditions* and routing issues will determine whether a front loader, rear loader, or side loader is best-suited for the job. These considerations are often best left to contractors to evaluate. Overspecification also limits (or eliminates) prospects that a contractor can optimally use existing trucks by “sharing” them across several contracts.

Beyond the technical comparison, buyers should examine the maintenance records of each vehicle under consideration. Whenever possible, evaluators should determine the maintenance and safety records of fleets that are being used in conditions that are comparable to the planned use, i.e., similar weather, terrain, and route conditions. For instance, planners in Miami, Florida would gain little useful information from operators in Jackson Hole, Wyoming (urban, flat, and hot versus rural, mountainous, and cold). This provides just one example of why non-operators should not attempt to specify input standards.

As General George Patton once quipped, “Never tell people how to do things. Tell them what you want them to achieve and they will surprise you with their ingenuity.” This lesson is critical to waste management privatization, whether for collection programs or for the provision of solid waste management infrastructure.

3. Economies of Scale

Achieving potential cost savings in service delivery requires, where possible, setting contract service areas that are large enough for the provider efficiently to structure routes. For example, an automated refuse collection vehicle can efficiently service approximately 1,000 households per day or 5,000 households per week. A city with 5,000 households will probably be better off selecting one contractor that is able to maximize the use of one vehicle rather than selecting two contractors (2,500 homes each) that are only able to utilize one half of their respective vehicles' capacities. Alternately, a local government that currently collects refuse may have 6,500 curb-serviced households. Because one automated refuse collection truck is able to efficiently service only 5,000 households per week, the municipality must purchase a second vehicle in order to service the remaining 1,500 households. In most cases, a private contractor is able to allocate the unused portion of the second vehicle to other collection routes (other cities). In this example, the service fees of the private contractor are based upon the use of 1¼ collection vehicles. The municipal service provider must necessarily allocate the full cost of both vehicles to solid waste service.

For waste disposal or processing facilities, permitting regional facilities, either as merchant facilities or through joint powers agreements among neighboring jurisdictions, can allow the efficient sizing of facilities. “Big” is not

always better. The appropriate service or facility scale will depend on the locale and nature of the service or infrastructure to be provided.

4. Efficient Contract Length

Determining contract length involves a balancing act between the desirability of periodic competition to ensure cost-containment and the need to ensure adequate contract length to permit capital-cost recovery. Contracts of short duration may deter competition during the bidding process if companies calculate that they will be unable to recoup equipment investment costs.

The term of municipal refuse/recycling contracts is the subject of considerable debate. On the one hand, it is argued that contracts should be short in order to increase the opportunity for competition. Short-term contracts (three to five years) are said to be sufficient to attract qualified bidders and to maximize the benefits of competitive contracting by going out to bid as often as possible. Others, however, assert that short-term contracts reduce the level of competition and increase the cost of service to the consumer for two primary reasons: the high cost of modern refuse/recycling trucks and other equipment; and the smaller number of potential bidders for short-term contracts.

Costs of equipment: The cost of a new refuse collection vehicle is between \$100,000 and \$150,000. Recycling collection vehicles can cost between \$70,000 and \$150,000. In addition, alternative-fuel engines, required in some contracts, can increase the costs of each vehicle by as much as \$75,000. If the local government opts for automated service, the cost of refuse/recycling barrels requires a large financial commitment.

For example, a city with 10,000 households may require the purchase of 22,000 100-gallon barrels—two for each household (one for refuse and one for recycling), plus 10 percent inventory for new customers, lost, stolen or damaged barrels, etc. Here, the cost of containers alone will run well over \$1,000,000. The high cost of equipment makes it practically impossible for many qualified contractors to submit a competitive bid on a short-term contract.

Reduced number of bidders: Competition for the municipal refuse/recycling contract will provide residents with high-quality service at the lowest available price. Because most private contractors have comparable operating costs, the pressure of the competitive bidding process reduces the amount of profit available in the contract. Often, the early years of a municipal contract are barely a “break even” proposition for the contractor. Contractors often shun short-term contracts because of the bleak prospects of turning a reasonable profit.

Longer contracts (seven to ten years) will likely attract the most bidders and the most favorable rates for residents. Although the quality of service should remain constant throughout the term of the contract, the operating efficiencies of the contractor usually improve dramatically over time. The cost to the consumer remains constant (allowing for cost-of-living adjustments), but the contractor's profit margin may improve because of internal innovations. Improvements may include the development of more efficient collection routes and increased knowledge of operations personnel, which can reduce equipment needs, operating hours, and maintenance costs.

5. Accountability

Successful competitive contracting for waste services also requires provisions to ensure that specified performance levels are maintained. Procurement documents need to spell out reporting requirements, performance standards, and guarantees against nonperformance. A reputation for providing excellent service at reasonable costs is the stock in trade of private refuse collection companies. With their reputation at stake, little else may be necessary to ensure the performance of the private contractor. However, most state solid waste management laws are directed to local governments and not to private contractors. For this reason, the municipality must maintain a certain level of control over its waste stream and its service contractors. Contracts

should provide the means for local government to invoke financial penalties, reimbursement for third-party services, and a swift means of contract termination for failure to perform.

C. The Procurement Process: Elements of Failure

In order to be successful, the contracting city should formally adopt a strict procedure for selecting the contractor. Failure to do so usually invites a tumultuous ordeal that creates havoc for elected officials, government employees and private competitors. A selection process that is above reproach is achievable. The selection process should provide an even playing field for all potential bidders. An established, fair, selection procedure reduces the effect of political pressure and sensational tactics that are employed by bidders.

Some bidders recognize that if they are able to create public furor and angst regarding the selection process, they may be successful in causing elected officials to “cave in,” go outside the established selection criteria and make a political, rather than a rational business choice. This may create short-term relief from political pressure for elected officials or city administrators. But, more importantly, it undermines public confidence in the bidding process and may confirm the public suspicions regarding government's inability to spend tax dollars wisely.

The following are recent, actual examples of RFP processes gone wrong.

Case #1 - A newly incorporated city issued a request for proposals. The city's incorporation created a group of upwardly mobile, politically ambitious community activists. Practically every issue that came before the city council became politicized. After two years of “on again, off again” discussions, evaluation and negotiation, the city was unable to reach a decision. A contract was never issued.

Case #2 - The city issued an RFP that contained no clear definition of the “winner.” Sealed bids were solicited and opened in a public forum. Nine bids were received. The seventh bidder noted an error in the calculation of his fee and was allowed to change his bid on the spot, thus becoming the low bidder . . . by *one cent!* To the astonishment of the public and the other bidders, the changed bid was awarded the contract.

Case #3 - The city's RFP process started well. The city hired an excellent consultant that laid the ground rules for the process. When bids were opened, the incumbent contractor was ranked fourth out of seven proposals. When it appeared certain that the contract would be awarded to a new contractor, the incumbent undertook a massive public relations campaign in order to strong-arm the council into maintaining its contract. Petitions were signed and dramatically delivered to the council chambers; laborers with their children and several city residents crowded the chambers. The total number of petitioners and council meeting attendees equaled less than one percent of the population. But the council decided to retain the services of the incumbent hauler. The cost to the residents, over the term of the contract, was approximately \$6,000,000. The 99 percent of residents that were not involved in the public relations campaign (and probably have no idea that it ever occurred) will be paying the bill for this decision for the next ten years.

Case #4 - The city issued an RFP that included minute prescriptive detail. Minutiae that would have little bearing upon the quality or cost of service was required in the proposal. For instance, the city prescribed detailed specifications for truck chassis and bodies. The carts and recycling containers were detailed in such a way that only one manufacturer could produce them. In the end, the city received only one viable proposal. It was clear to other potential proposers that the RFP had been designed to accommodate a specific company.

Case #5 - The city hired a world-renowned engineering firm that specialized in solid waste issues to write the city's RFP, solicit bids, evaluate the responses, and select two contractors for negotiation. This was done. However, at the last minute, the RFP was thrown out and a local, politically connected company was selected for negotiation.

Each of these cases are real-world examples. In order to assure that these types of abuse of the public trust do not occur, a fair selection process must be established. Elected officials should do the hard work of establishing the process and then let the process do the work of selection.

IV. THE IMPLEMENTATION PROCESS

A. Designing a Bidding System

As U.S. cities have become more sophisticated partners in privatization, many have moved away from the quagmire of a subjective single-tier bidding process. Instead, cities are increasingly using a two-tier process. During the first tier—the request for qualifications (RFQ)—cities first assess the technical qualifications of potential bidders. This process determines a firm's ability to meet basic performance, financial, regulatory, and other criteria.¹³

The second tier of bidding—the request for proposals (RFP) or request for bids (RFB)—involves evaluation of competing proposals in terms of comparative cost-effectiveness. Municipalities should spell out clearly what the evaluation criteria are and whether all criteria are given equal consideration.

1. Tier One - Request For Qualifications

The request for qualifications should broadly define the service that will be required under the contract. Without detailing the “scope of work,” the RFQ should, for example, state the number of households to be served, whether or not the households are curb-serviced, the frequency of required service, manual or automated service, disposal or processing requirements, health and safety issues, and any requirements to meet waste reduction/recycling percentages and other issues that describe the required service.

With the RFQ, the local government establishes its base contractor requirements. The contractor's response to the RFQ will determine its ability to serve. The following factors should be considered in the RFQ:

- **Corporate financial ability** - The local government must be able to verify that the proposer has sufficient financial strength in order to fulfill the requirements of the contract throughout the entire term of the contract.
- **Experience providing like services** - The municipality may not wish to risk contracting with an inexperienced company. Start-up companies are not likely candidates for receiving municipal contracts. Most municipalities prefer to have contractors that have experience providing similar services and a good track record with favorable references.
- **Bonding requirement** - Because of the escalating liabilities associated with all types of waste management, municipalities are increasing the bonding requirement of private contractors. In the mid-1980s, a typical municipal bonding requirement for a solid waste services contract was approximately \$2,000,000. Today, a \$10,000,000 bonding requirement is common. The high bonding requirement sometimes eliminates excellent prospective bidders from the process.
- **Legal encumbrances** - Cities need to know with whom they are doing business. Are there any recent financial or character issues regarding the company that have been determined in a court of law? There

¹³ This process can involve assessing such matters as legal encumbrances of the firm, indemnifications, insurability, condition of fleet, experience in providing like services, recordkeeping and reporting capabilities, accounting practices, and complaint resolution.

should be a limit to this type of scrutiny, however, and most legal issues that are over five years old should have no bearing on the contractor's ability to serve.

- **Indemnifications** - Municipalities may sometimes require indemnifications for hazardous materials, Superfund, or other matters. Many potential bidders would be willing to offer such indemnification. However, the local government must be able to ascertain the ability of the proposer to stand behind the indemnification.
- **Local and state requirements** - Any required noncollusion agreements, equal-opportunity employment statements, and so on, should be provided as part of the RFQ process.
- **Insurability** - Some refuse haulers (both public and private) have been shut down by local law enforcement officials because of poor traffic records, overweight citations, mechanical deficiencies, etc.
- **Workers compensation issues** - What is the company's workers compensation experience-modification rating? Does it have worker-safety training? Workers compensation ratings can have a significant effect on service fees.
- **Labor issues** - This includes union and non-union employee lawsuits, for example. Does the company have a good relationship with its employees?
- **Condition of fleet** - Repair and maintenance records of all vehicles to be used in the city should be available for inspection by the city or an agent of the city.
- **Record keeping/reporting ability** - With the intense scrutiny of all waste-related services, it is a good idea to have a contractor that keeps meticulous, thorough records.
- **Accounting practices** - The company's accounting practices are of little direct concern to the local government, since the initial service fee is competitively determined and the subsequent fee-adjustment procedure should be established by contract. Accounting principles are more important where the contractor is forced to work as a quasi-utility, on a cost-plus basis. Where franchise-fee payments are concerned, local governments should understand and affirm the method of calculation.
- **Complaint-resolution procedure** - A demonstrable method of fielding and resolving service complaints should be presented in the RFQ.

RFQ responses should be reviewed, evaluated, and ranked in accordance with the criteria established by the local government. For example, responses might be ranked along a continuum from excellent to inadequate. One method is to give each ranking a numerical multiplier that is used as a basis for adjusting cost bids to take into account service quality and other performance characteristics. Whether a city uses a multiplier and how that multiplier is set will depend upon the importance that a city places on cost relative to other evaluation criteria (see box insert, for example).

The importance of this ranking will be demonstrated later. Only those respondents judged *adequate, good or excellent* should be given an invitation to bid.

2. Tier Two - Request For Bids

The request for bids is extended only to those companies that qualify through the RFQ process. In most cases, the RFB document will be a single page, fill-in-the-blank quotation of prices for the required services (see Appendices IIa and IIb). Using this format, the prices submitted by each respondent can be compared.

B. Selecting the Winner

The method of selecting the winning contractor must be clearly described in the RFQ. The simplest method of selection would be to accept price quotations from qualified bidders, select the low bidder, and negotiate a contract.

Performance Multiplier: Example

- Excellent Quality Rating = 0.9
- Good Quality Rating = 1.0
- Adequate Quality Rating = 1.1
- Inadequate Quality Rating = 0

Note: The effect of using ranking multipliers is to adjust upwardly the costs of a bidder receiving a low-quality ranking, while reducing the net bid of a bidder receiving an excellent-quality ranking.

There are, however, considerations other than price that may be important to the local government. Although they may not be required as qualifying conditions, a local government may choose to consider certain proposal issues that are difficult to quantify. Here are a few subjective issues that are commonly presented:

- Local truck and maintenance yard
- Company serves neighboring communities
- Local owner/management
- Appearance and condition of fleet and facilities
- Local control of disposal site
- Local control of recycling/transfer station

These are a few of many issues that could be of importance to the municipality. It is difficult to assign a dollar value to these factors, but the city may wish to consider these and other factors in the ranking of the RFQs.

Here is an example of how the selection process might work:¹⁴

1. Company A receives an “excellent” ranking on its RFQ and is assigned a 0.9 numeric value. Company A's qualifications are considered excellent because it meets or exceeds all of the qualifying criteria established by the city. In addition, the company owns and operates a local recycling center and transfer station. The company also serves two neighboring cities, and the owner and general manager live nearby.
2. Company B receives a “good” ranking and is assigned a 1.0 numeric rating. Company B received a “good” rating because it met all of the city's qualifying criteria. In addition, the company has a reputation for providing excellent service, demonstrates strong corporate financial ability, and boasts a very low workers compensation experience-modification rating.
3. Company C is given an “adequate” rating and receives a 1.1 numeric value. In its RFQ response, company C demonstrated that it is able to achieve the city's basic requirements.
4. Companies D, E, and F fail to meet the threshold criteria and are eliminated from the process.
5. The city now requests bids from companies A, B, and C.
6. Company A bids $\$11.75 \times 0.9$ quality rating = \$10.58 (represents “weighted cost” as perceived by the city)

¹⁴ It is typical to have a 20–25 percent range between the lowest and highest bidders. The numeric range of 0.9 to 1.1 used in this example makes it possible to attribute specific value to factors (other than price) that are contained in each response. Although this method is still somewhat subjective, it is far better than providing no guidelines for this important aspect of the service proposal. This type of procedure provides a solid rationale for nonmonetary factors.

7. Company B bids $\$10.50 \times 1.0$ quality rating = $\$10.50$ (*Best Bid*)
8. Company C bids $\$10.00 \times 1.1$ quality rating = $\$11.00$

After assignment of weighted value to the company's qualifications and multiplication by the bid amount, the city should attempt to negotiate a service contract with company B.

This procedure is not bullet-proof. However, it does provide a clear process for decision makers who want to avoid the quagmire of a muddled, sometimes inexplicable choice of contractors—a choice that can be subject to lobbying, sensationalism, and sentimentality. The local government can make the process *clean, simple* and *fair* by establishing these criteria at the commencement of the proposal process.

C. Contract Negotiation and Features

The hard work really begins after the successful proposer has been selected through the RFQ/RFB process. The aim in contract negotiation should be to establish an agreement whereby the local government maintains needed control over its waste stream, residents are assured low-cost/high-quality waste management services, and the private contractor is able to maintain a profitable business.

U.S. experience with waste-service privatization underscores the critical importance of the procurement process and contract provisions. The contract document is the centerpiece of the privatization process in the United States (see Appendix I). It is, in essence, the “Bible” of any privatization effort: a poorly constructed contract can result in poor contractor performance, confusion over responsibilities, and other inefficiencies. Before local governments move forward with privatization, they must, as one commentator put it, “do their homework.”

The contract should include several critical elements. These include:

- ***A clear definition of the scope of work required.*** Waste management involves an array of different services. Successful privatization requires that one define which of these services will be transferred to the private sector.
- ***A definition of minimum service requirements.*** Once the scope of service is defined, public officials need to clearly define minimum service-level requirements. This includes such matters as frequency of collection, permitted hours of operation, insurance and bonding requirements, health and safety restrictions, permissible service complaint levels, and other basic service parameters.
- ***A description of risk, rate, and termination provisions.***

1. Service Levels

Defining service levels involves a number of variables (see Table 4). The contract should also clearly state the relationship between the contractor and the city (or county), provisions for allocating risk, determining rate changes, and securing guarantees that a government will obtain the desired service (see Table 5).

Table 4: Service Level Variables

Customer Issues	Equipment Issues	Community Issues	Contract Administration Issues
<ul style="list-style-type: none"> • Customer education requirements • Universe of customers covered under the contract service • Materials targeted for recycling • Service-quality standards • Handling of bulky goods • Hours of collection • Collection schedules • Special service needs (for example, handicapped) 	<ul style="list-style-type: none"> • Level of service automation desired • Storage/collection container specs (general performance specs) • Basic safety requirements 	<ul style="list-style-type: none"> • Litter abatement requirements • Truck or equipment appearance • Noise mitigation requirements • Special collection events 	<ul style="list-style-type: none"> • Length of the contract and any renewal conditions • Disposal site designations • Contractor role in materials marketing • Monitoring requirements (i.e., annual reports and audits) • Billing requirements

Table 5: Risk, Rate, and Security Contract Provisions
<ul style="list-style-type: none"> • Certificates of insurance with language specifying coverage appropriate to the contract services; • Defined minimum financial ratings of acceptable insurers; • Contractor being specifically named on insurance certificate; • Local government being named as the additional insured; • Inclusion of contract number and title on insurance certificate; • Full insurance payment, to ensure that contractor coverage is not canceled for nonpayment; • Notice of insurance cancellation, to be sent directly to the local government; • Separate performance and payment bonds, with language reviewed by the jurisdiction's legal department; • Language defining risk management and loss control measures; • Hold-harmless agreements; • Approval for transfer of ownership; • Provisions for terminating or canceling agreement in case of contractor default; • Formula for periodic rate adjustment procedure.

Source: PTI, Inc., *Guide to Solid Waste Competitive Service Delivery*; and Reason Foundation.

2. Issues of Cost and Price

Public officials should not confuse issues of *cost* and *price*. The private contractor's internal cost of service delivery should not be of concern to city and county officials. Good contractors are constantly seeking ways to maintain or increase service quality while reducing their cost of service delivery. This process, of course, will make the contractor more profitable; this is, in fact, their goal. A key purpose of competitive contracting is to harness the incentives private contractors have to provide quality service efficiently (while using contract provisions to ensure that quality service is clearly defined).

Price, however, should be of great concern to the city. Price is what the city, its residents, or businesses pay for the specified service. If the price of service is determined through the competitive bidding process and managed through a negotiated contract, the contractor's costs should be irrelevant to the city.

Cost Control. In general, issues of controlling costs are an internal function of the private contractor. Under normal circumstances, the costs of labor, vehicle maintenance, insurance, and so on, are controlled by company managers. However, there are uncontrollable costs that sometimes occur for which the city should be willing to reimburse the contractor. For instance, a shortage of landfill disposal capacity or the passage of a new environmental regulation may cause an unforeseen increase in disposal costs. Depending on local conditions, disposal costs may range between 20 and 50 percent of the contractor's total cost of service delivery. A sudden “spike” in disposal cost would wipe out the contractor's profit margin and cause the contractor to be unable to

service the contract. Similarly, cost-of-living adjustments (COLA), usually determined by the regional Consumer Price Index (CPI), are considered by cities annually.

Cost control is generally the domain of the contractor save in the case of extraordinary or sudden uncontrollable increases. These issues should be carefully outlined when negotiating the service contract with the successful bidder.

Price Control. Generally, pricing is an important consideration of public sector negotiators. The price for service is typically set through the competitive bidding process; indeed, that is a central purpose of that process. However, the public sector plays an additional role in establishing how any price changes are to occur during the duration of the contract (see Appendix III). Many contracts allow the contractor to petition the city (or county) for rate adjustments annually. Rate adjustments are often calculated on a formula that allows for 100 percent of disposal cost increases (tip fee increases set by landfill or incinerator operators) and a specified percentage (usually 80 to 100 percent) of the regional CPI increase to be added to the base service rate. Whatever formula is used, however, the city or county contracting for service should attempt to maintain incentives for the contractor continuously to seek further service efficiencies. If service is rebid periodically, this process itself may maintain the necessary incentives for the contractor to seek to enhance productivity and efficiently provide collection service. In some instances, some cities and counties may allow the contractor to petition them for rate adjustments in response to unforeseen external circumstances, such as fuel shortages or local landfill closures.

In order to avoid unnecessary discrepancies at a later time, it is best to establish the terms and conditions for rate adjustment at the onset of the contract. Good-faith negotiations should produce a formulaic rate adjustment procedure that satisfies both the legitimate business concerns of the contractor and the management responsibilities of the public sector.

Contractor Reporting Requirements. The reporting requirements of the public sector vary widely. Many cities, for example, require monthly, quarterly, or annual reports from their contractor. In some cases, bimonthly reports are required in order to accommodate billing cycles. The depth and breadth of reporting may vary widely. However, most reports require information regarding the following business activities:

- total tonnage of solid waste disposed, identified by source (residential, commercial and industrial);
- total tonnage of solid waste recycled, identified by source (residential, commercial and industrial) and the individual type of material designated to be recycled or composted;
- destination and disposal site locations for all solid waste disposed and recycled;
- total number of accounts served, identified by source (residential, commercial and industrial); and
- total dollar amount of accounts billable and total dollar amount of revenue received.

Audit of Contractor. The contractor should maintain accurate and complete books and accounts of all revenues arising out of its operation under the contract agreement in a manner that conforms with generally accepted accounting principles. In the contract, the public sector should require that the contractor's books, accounts and records, arising out of or related to its operations under the contract, shall at all times be open to inspection, examination, and audit by authorized officers, employees, or agents of the city or county.

Remember that after service rates are established through the bidding process, the contractor's internal costs for providing the required service should not be an issue of public sector concern. The rights of the public sector to audit the contractor should be limited to revenue issues arising directly from the service contract and should not extend to other areas of the company's noncontract-related operations. Again, the public sector concern should not be for the contractor's profitability, but should focus on the maintenance of a fair price for services, as established through an open-market, competitive-bidding process.

V. CONCLUSION

There is no single best way to structure the contracting of solid waste and recycling collection services. However, in any contracting decision, the twin goals of service quality and competitive cost should guide the design of the bidding process and the delineation of contract details. Ultimately, long-term success of contracting depends on depoliticizing the contracting decision as much as possible, using clear quantitative and qualitative performance standards, and clearly spelling out the responsibilities of the public and private sectors.

ABOUT THE AUTHORS

Lynn Scarlett is vice president of research at Reason Foundation, a nonprofit public policy research organization in Los Angeles, California. Ms. Scarlett has written a number of policy studies on solid waste management and recycling issues.

Joe Sloan is environmental services manager for the Athens Disposal Company, a privately owned waste collection and recycling firm. Mr. Sloan is president of the California Conservation Coalition, a nonprofit educational organization that is dedicated to the advancement of market-oriented solutions to environmental problems.

APPENDIX I: Residential Service Issues

The following provides a brief discussion of key questions and issues associated with designing waste collection and recycling programs.

A. Collection Issues

1. Universal Collection

Will all residential dwellings within the local jurisdiction be served under the contract? If not, where is the distinction (for example, only curb-serviced households? or all residents that do not receive commercial-type service?)

The simplest distinction is often between barrel and bin users. Barrels are generally 30- to 40-gallon trash cans (60 to 110 gallons with automated service). Bins are generally wheeled containers that have two- to three-cubic-yard storage capacity. Although each type of container stores municipal solid waste (MSW), they require different methods of service. These distinct services require different types of collection vehicles and separate routing considerations. The per unit service costs and rate-adjustment considerations are different. Bin-serviced accounts may be included in a contract negotiation, but they should be considered separately from barrel-serviced accounts. It may be preferable to bid bin-serviced accounts on a volume/frequency basis rather than on a per unit basis.

2. Service Levels

The local government must specify the frequency and method of service: for example, one or two pick-ups per week, automated or manual service, limited or unlimited volume/weight allowed per service, handling of large or bulky refuse, and so on.

3. Collection Schedules and Holidays

The service contract should specify regular collection days and provide for schedule changes that result from holidays and unusual problems such as weather conditions or natural disasters.

4. Special Collection Events/Christmas Trees/Summer Clean-ups

Are there any special collection requirements? This should not be left to the discretion of the bidder. Special collections should either be made part of the bid process and included in the per unit price, or there should be a specific bid for these stand-alone services. When bidders start to include “free” services in their bid, it clouds the bidding picture and makes the job of evaluation more difficult.

5. Bulky Goods Pick-up

Is this included in the bid price? Are there any limitations of size, weight, frequency, and so on?

6. Hours of Collection

The local government sets operating hours in accordance with community tolerance. For the operator, the earlier the better. Restrictive hours can affect the cost of service and should be clearly defined in the RFP. The operating hours of landfills, transfer stations, and materials recovery facilities (MRFs) are important to routing. In some urban areas, disposal facilities reach their permitted daily capacities and must cease operations early in the day. In order to keep costs down, haulers need to tip as much material as possible at the most economical solid waste facility. Operating hours that do not compensate for local disposal facility requirements will cost the local government more money.

7. Litter Abatement

Even under ideal conditions, collecting hundreds of tons of refuse can be a messy business. A certain amount of spillage is unavoidable. However, in most situations collectors are able to “clean up their mess.” Sometimes, inclement weather causes problems on collection day—wind is the primary culprit. In order to reduce litter, the local government should require that refuse containers have lids. Each collection vehicle should be required to carry a shovel, broom, and dust pan and remove litter associated with the refuse/recycling operation.

B. Equipment and Container Issues

1. Level of Automation

The advent of “packer” trucks revolutionized the refuse collection industry. The ability to compact trash onboard the vehicle radically changed the economics of transporting solid wastes. As a result of compaction, haulers were able (for the first time) to transport the maximum legal weight limit and significantly reduce the per ton cost of collecting and transporting waste.

Today, a smaller yet important revolution is on the rise. The potential benefits of automated or semi-automated refuse collection are being considered by local governments across the United States. Although the economic gains attributable to automation do not rival those of compaction, the benefits can be significant. The initial capital costs of automating solid waste services are considerable, but the potential mid- and long-term savings can make the investment reasonable and attractive.

When considering automation, planners must consider the political cost of bringing about systemic changes—for example, does the current manual system provide unlimited weekly service? How is bulky waste collected? How will the automated system address these issues? One great potential benefit of automation is that it is much simpler to invoke a unit-based pricing system. These “pay-as-you-throw” fees may have some advantages in fostering waste minimization.¹⁵

2. Size of and Ownership of Refuse/Recycling Containers

Many factors must be considered when choosing a style and size of refuse collection container. A local government must decide whether to have automated or manual service, which will influence container type. Second, local governments must determine whether to implement unlimited collection of refuse or volume/price restrictions. Many automated programs use some type of volume-based pricing. Containers for automated service vary in size from 35 to 110 gallons (with some as large as 300 gallons for shared-alley service). The cost for these containers ranges between \$25 and \$60 each, and automated containers are almost always provided by the contract hauler, with container size based on service requirements (refuse only, green waste, recycling, frequency of collection, and so on).

While local governments should set basic service parameters, they should not specify particular container types; that choice should be left to the hauler.

Most local government contracts for refuse collection require residents to provide their own trash cans or bags. Many city codes require that cans be of a minimum 20-gallon and maximum 40-gallon capacity and that no container should weigh more than 60 to 80 pounds. Some cities require the contractor to collect an unlimited amount of refuse at each household; others set volume or weight limitations. For instance, a city might allow a maximum weekly set-out to 300 pounds or the equivalent of one cubic yard. Even without total weight/volume restrictions, cities should establish the maximum allowable weight at 60 pounds per container. This limitation will help preserve the health of workers and, thereby, ultimately help control the cost of refuse service.

¹⁵ See, for example, Lisa A. Skumatz, *Variable Rates for Municipal Solid Waste: Implementation, Experience, Economics, and Legislation*, Reason Foundation Policy Study No. 160, June 1993.

C. Transport, Processing, and Disposal Issues

1. Disposal/Processing Site Designation

If disposal/processing sites and fees are negotiated separately from collection contracts, two factors should be considered. First, distance of the facility from the route(s) has a major impact on overall collection efficiency and cost. A local government may negotiate a processing or disposal contract with a distant facility in the interest of saving money. However, added transportation costs (especially for uncompacted, source-separated residential recyclables) can negate any lower “tipping” or processing fees. Second, the ability of the solid waste facility to assure prompt delivery and ease of ingress and egress can influence service costs. Both of these factors can add to fleet maintenance costs and to the number of hours required to fulfill the terms of the contract.

Two recent U.S. federal court decisions have allowed so-called economic flow control in which haulers under contract to cities to provide waste collection can be required to use specifically designated disposal facilities. However, the long-term legal status of flow control (including economic flow control) remains uncertain. Regardless of the legal status of flow control, local governments may want to leave decisions about choice of processing and disposal facilities to haulers/recyclers so that they can determine the most efficient alternative.

2. Transportation of Solid Waste, Recyclables, and Yard Waste

In most cases, it is best for solid waste, recyclables, and yard waste to be transported directly to the landfill or processing plant in the collection vehicle. When solid waste facilities are distant, or closer facilities are extremely busy, the operator may make effective use of a transfer station. Operators should be allowed to base their decisions upon ever-changing time, distance, and tipping/processing fee calculations. To prescribe the precise method of transport/transfer at the outset of a lengthy contract will hinder the ability of the contractor to respond to changing market conditions.

3. Materials and Yard-Waste Receiving at Processing Facility

Dealing with a guaranteed “turn-around” time at landfills and MRFs can be important to the cost of service. Even at a price, publicly owned and managed facilities will not usually offer preferential handling. But many private facilities will. In a heavily populated area where competition for landfill and processing capacity is intense, an owner/operator will often negotiate special rates to expedite the entry and exit of designated vehicles. The preferred handling may yield enough time savings to offset the premium paid for expedition.

D. Recycling Issues

1. Materials Marketing

The local government should describe the required outcome of the marketing and sale of recyclables but should avoid prescribing the manner and methodology of marketing. Private parties with the ability to make decisions in the market economy will usually receive the highest and “best” commodity prices available in a particular location. Because commodities markets are volatile, the local government may decide to place some “risk” limitations on the broker. This should only be required under circumstances in which the local government shares revenue from the sale of commodities or where high-risk speculation might adversely affect the financial ability of the contractor to fulfill the requirements of the contract.

2. Ownership of Recovered Materials

Who owns “discards”? In the past, many local governments have insisted that waste collectors “own” the trash once it is collected. Now, with concerns about flow control, hazardous waste liabilities, and the value of recovered materials, ownership issues have much more significance. Municipalities should release themselves of responsibility for all recyclables and solid waste the moment it is deposited into the contractor's collection vehicle. Hazardous waste and “value” concerns can be addressed in the contract-negotiation process. Local governments should insist that contract solid waste haulers implement programs to identify, tag, and leave

behind improperly disposed hazardous materials. Most haulers that are large enough to seek a municipal franchise in mid- and large-size cities will generally be willing to provide a limited shield of liability (regarding CERCLA/Superfund issues) for the city. If a city attempts to gain unlimited CERCLA indemnification, many benefits of competitive contracting may be lost.

3. Recycling Collection Vehicles

The type of recycling collection vehicle should be directly related to the design of the recycling program. The commodities accepted, the type of containers used, the frequency of collection, and the design of the processing facility are all important factors in selection of collection vehicles. Only minimal programmatic changes should be made during the first several years of any municipal recycling program. If planners anticipate the addition of other materials, that should be made clear at the outset of the bidding process. In order to keep service costs to a minimum, bidders select collection vehicles and determine the required manpower according to RFP specifications.

If a local government decides to provide standard, curbside recycling service—accepting glass bottles, HDPE, PET, aluminum cans, steel cans, and newspaper—equipment will be purchased in accordance with the operator's experience and standard industry practices. If the city soon decides to add, for example, mixed paper and additional plastics to the program, vehicle design and capacity may be insufficient to effectively accomplish the required service. A significant change in the target commodities may require refabrication of the truck body (including enlargement of volumetric capacity), or even necessitate the use of a completely different vehicle. In addition, the residents' collection containers may be insufficient to accommodate additional materials and the planned processing plant may have difficulty with the new mix of materials.

4. Recycling Containers

Selection of the “right” collection container is not an easy task. Key questions must be asked: What does a local government want to accomplish through the recycling program? Is the goal maximum recovery? Lower cost? Maximum participation? Where will the materials be processed? Can the processor handle commingled commodities, or do they need to be separated by material type? How often will collection occur? What commodities are readily recycled in the area?

5. Material Types Targeted for Recycling

What are the goals of the recycling program? Answering this question will determine the materials to be collected. Is the program in response to a government mandate, or is it the product of grassroots community concern? In some cases, cities are mandated to divert selected items from the waste stream regardless of cost of the availability of ready markets for commodities. In other cases, they are simply directed to accomplish a certain level of recycling. In these cases, municipal compliance is established by the total weight or volume of material recovered through municipally driven programs. Whether established by legislative mandate or community concern, each program must deal with “bottom line” issue of program cost. The ultimate cost of any program is directly related to the value of the recovered commodities after collection and processing are extracted.

6. Processing Requirements

Some RFPs prescribe the method of materials processing. Prescribing methodology often hinders technological development and innovation. Local governments should set forth desired/required results or outcomes of the processing/marketing operation and let contractors develop the best systems for accomplishing the requirements in the contract (for example, a 25 percent recovery rate from the waste stream).

APPENDIX IIa: Bidding for Residential Services

Residential Service—Bid Form (Example)

Proposer shall indicate firm rates for services where indicated below. These rates shall apply, without adjustment, for the first twelve (12) months of service under the Franchise Agreement.

Alternate rate structures and services may be suggested. However, for purposes of comparison, a firm rate must be quoted for each of the categories listed herein.

Single Family Dwellings - Residential Curbside *Rubbish* Service

Indicate monthly rate per unit for regularly scheduled weekly curbside collection and disposal of residential/household waste, excluding such items as appliances or furniture.

- Collection Rate Per Unit = \$ _____
- Disposal Rate Per Unit = \$ _____
- Total Service Rate = \$ _____
- Franchise Fee @ 5% = \$ _____
- Additional Municipal Fee = \$ _____
- Total Rate Paid by Resident = \$ _____ per unit

Single-Family Dwellings - Residential Curbside *Recycling* Service

Indicate monthly cost per unit for regularly scheduled weekly curbside collection and processing of residential/household recyclables, including: aluminum cans, tin/steel cans, HDPE, PETE, food and beverage container glass and newspaper.

- Collection Rate Per Unit = \$ _____
- Franchise Fee @ 5% = \$ _____
- Total Rate Paid by Resident = \$ _____ per unit

Special One-Time Pick-Up Cost For Pick-Up and Disposal Of Appliances, Furniture, and Bulky Items

Indicate not-to-exceed rate for one-time special pick-up and disposal of appliances, furniture, and other bulky items not eligible for regular collection.

\$ _____ per *item*

Residential: Special One-Time Drop-Off and Collection of a 3-Cubic-Yard Bin

Indicate rate for one-time drop-off and collection of a 3-cubic-yard bin at a residential address.

\$ _____ per bin

Residential: Special One-Time Drop-Off and Collection of a 40-Cubic-Yard "Roll Off" Container

Indicate rate for one-time drop-off and collection of a 40-cubic-yard bin at a residential address.

\$ _____ per container (plus disposal charges)

Multiple-Family Dwellings: Detached Units on a Single Lot

Indicate monthly cost per unit for regularly scheduled weekly curbside collection and disposal of residential/household waste, excluding such items as appliances or furniture.

\$ _____ per month for the first unit

\$ _____ per month per additional unit

Multiple-Family Units: Attached Units (Apartments and Condominiums) and Mobile Home Parks

Indicate monthly cost per unit for regularly scheduled weekly curbside collection and disposal of residential/household waste, excluding such items as appliances or furniture.

\$ _____ per month for the first unit

\$ _____ per month per additional unit

Note that customers in this category may elect to utilize commercial services and rates in lieu of residential services and rates.

APPENDIX IIb: Bidding For Commercial Services

Bidding for commercial waste collection/disposal services should itemize: 1) service rate, 2) disposal rate, 3) franchise fee, 4) additional municipal fee, 5) total rate paid by customer. Commercial services vary widely by frequency of service, the type of container, and service vehicle that is required to serve the needs of each waste generator.

Commercial Refuse Service—Bid Form (Example)

3-Cubic Yard Bin	Price
1 Day Pick-Up	_____
- Service Rate	_____
- Disposal Rate	_____
- Franchise Fee	_____
- Additional Municipal Fee	_____
- Total Rate Paid by Customer	_____
2 Days Pick-Up	_____
- Service Rate	_____
- Disposal Rate	_____
- Franchise Fee	_____
- Additional Municipal Fee	_____
- Total Rate Paid by Customer	_____
3 Days Pick-Up	_____
- Service Rate	_____
- Disposal Rate	_____
- Franchise Fee	_____
- Additional Municipal Fee	_____
- Total Rate Paid by Customer	_____
4 Days Pick-Up	_____

- Service Rate _____
- Disposal Rate _____
- Franchise Fee _____
- Additional Municipal Fee _____
- Total Rate Paid by Customer _____

5 Days Pick-Up

- Service Rate _____
- Disposal Rate _____
- Franchise Fee _____
- Additional Municipal Fee _____
- Total Rate Paid by Customer _____

6 Days Pick-Up

- Service Rate _____
- Disposal Rate _____
- Franchise Fee _____
- Additional Municipal Fee _____
- Total Rate Paid by Customer _____

Note: The same procedure should be undertaken with each type of commercial service, including roll-off boxes (i.e. construction debris containers) and temporary service bins.

APPENDIX III: Example of Rate Adjustment Calculation

A. Assumptions

Base Residential Service Rates

- | | |
|--|---------------|
| 1. Trash Collection/Disposal Service | \$10.75/month |
| a. Current Service Base | \$7.53/month |
| b. Current Disposal Base | \$3.22/month |
| 2. Recycling Collection/Processing Service | \$1.85/month |

Consumer Price Index (CPI) = 2.15% (determined by regional calculation provided by the U.S. Bureau of Labor Statistics)

Disposal Rate Increases

	<u>Rate Last Year</u>	<u>New Rate</u>	<u>Rate Increase</u>	<u>% Usage by City</u>
1. Landfill X	\$25.00	\$26.00	\$1.00	50%
2. Landfill Y	\$33.00	\$34.50	\$1.50	30%
3. Landfill Z	\$39.00	\$39.50	\$0.50	20%

Total Annual Municipal Tonnage (Residential and Commercial)	118,069 tons
Residential Percentage of Total Municipal Tonnage	52%
Municipal Franchise Fee	5%
Additional Municipal Fee	\$2.10/month
Number of Residential Units Served	24,699

B. Calculation**Calculation: Disposal Adjustment**

1. Total Annual Municipal Tonnage	118,069 tons
2. Percent Residential	$\times \frac{0.52}{1}$
3. Residential Tons	61,396 tons
4. Residential Units Served	$\div \frac{24,699}{1}$
5. Annual Tons Per Household Served	2.49
6. Disposal Site Adjustments	

A. Landfill X

\$1.00 increase per ton \times 2.49 annual tons per household =

\$2.49 annual increase per household = \$0.21 monthly increase per household.

Monthly increase per household at landfill X = \$0.21 \times 50% usage = \$0.11

B. Landfill Y

\$1.50 increase per ton \times 2.49 annual tons per household =

\$3.74 annual increase per household = \$0.31 monthly increase per household.

Monthly increase per household at landfill Y = \$0.31 \times 30% usage = \$0.09

C. Landfill Z

\$0.50 increase per ton \times 2.49 annual tons per household =

\$1.25 annual increase per household = \$0.10 monthly increase per household.

Monthly increase per household at landfill Z = \$0.10 \times 20% usage = \$0.02

Total monthly increase per household \$0.22

Calculation: Disposal + CPI Adjustment

8. Current Service Base	\$7.53/month
9. CPI	$\times \frac{0.0215}{1}$
10. CPI Adjustment	\$0.16/month
11. New CPI Service Base (lines 8 + 10)	\$7.69/month
12. Current Disposal Base	\$3.22/month
13. Disposal Adjustment (line 7)	$+ \frac{0.22}{1}$
14. New Disposal Base	\$3.44/month
15. New Net Trash Collection/Disposal Rate (lines 11 + 14)	\$11.13/month

Calculation: Recycling Service + CPI Adjustment

16. Recycling Service Base Rate	\$1.85/month
17. CPI	$\times \frac{0.0215}{1}$
18. CPI Adjustment	\$0.04/month
19. New Recycling Service Base Rate (lines 16 + 18)	\$1.89/month

Calculation: New Total Service Rate

20. New Rate Paid to Contractor (lines 15 + 19)	\$13.02/month
21. Municipal Franchise Fee Percentage	$\times \frac{0.05}{1}$
22. Municipal Franchise Fee	\$0.65/month
23. Additional Municipal Fee	\$2.10/month
24. Total Fee Paid by Resident (lines 20 + 22 + 23)	\$15.77/month