



Collection Efficiency Strategies for Success



success
success



Want to **cut your residential solid waste collection costs up to 40 percent** and still provide all the services your customers expect? New strategies for improving collection efficiency can help! In today's competitive waste management market, customers want a wide variety of **collection options at competitive rates**. The solid waste management industry has evolved to meet many of those expectations. Even if you already have a satisfactory program, you can achieve greater success through system improvements such as **new technologies**, better collection vehicles, and new methods of routing. These developments in the solid waste industry make it the perfect time to evaluate your program and adopt **new strategies** to improve service and **reduce costs**.

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Evaluating Your Program

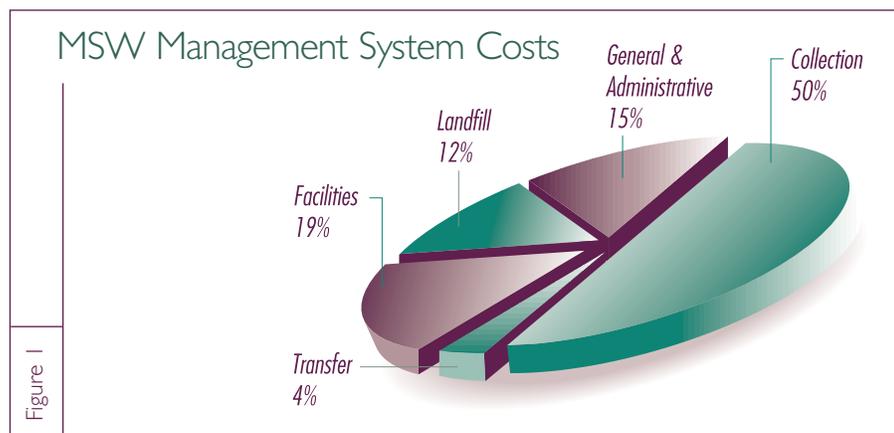
Evaluating and fine-tuning your solid waste system begins with a detailed system analysis. This analysis, or “snapshot,” allows you to select the collection improvement strategies that make the most sense for your community. Your system snapshot also gives you the baseline needed to develop a cost-effective long-range plan that provides for **continuous improvement** and reevaluation. In addition, this plan will supply the flexibility you need to address the rapid changes occurring within the solid waste management industry.

Realizing the Rewards

Your system snapshot shows where you’ve been and where you are now regarding your collection system. Once you get a handle on the past and present, you can plan for the future. There are numerous cost-cutting strategies to help make the future of your collection system successful, including reducing the frequency of collection, implementing dual collection of solid waste and recyclables, and automating collection practices. Regardless of the strategy you adopt, you’re bound to see impressive results.

Collection costs (Figure 1) typically represent between 40 and 60 percent of a community’s solid waste management system costs, so even small changes in collection programs can yield **big results**. In addition, you also might realize intangible benefits such as increased customer satisfaction and employee morale.

In this booklet you’ll take a closer look at several strategies for improving collection efficiency. The fact sheets explain how the strategies work, list the benefits they provide, and offer concrete examples of communities currently realizing the rewards of collection system improvements. They are doing it, and so can you!



Source: *Integrated Municipal Solid Waste Management: Six Case Studies of System, Cost and Energy Use: Summary Report*. 1995, SWANA, 50 pp, GR-G 2700.

Cost-Cutting Strategies

Communities of all sizes, terrains, and climates have successfully cut costs and improved service by using the following strategies:

Reducing Collection Frequency

The growing trend, even in the hottest climates, is to eliminate the second municipal solid waste (MSW) collection day or replace the second collection day with a recyclables or yard-trimmings collection.

Automating Collection

Automated and semiautomated collection vehicles improve efficiency and reduce costs. Both vehicle types reduce labor demand and reduce the risk of worker injury.

Decreasing Fleet Size With Dual Collection

Dual collection systems reduce total fleet and labor costs by decreasing the number of special vehicles needed to provide multiple collection services.

Increasing Employee Productivity

Local governments and private haulers that employ new management techniques, such as revised organizational structures, updated pay and incentive programs, new training initiatives, modified performance appraisal systems, and new job descriptions, note improved employee morale and rising productivity.

Contracting and Competition

A well-designed competitive procurement is the key to obtaining the most reasonable rates and highest quality service. Even when collection has traditionally been provided by the public sector, competition is proving effective. Some jurisdictions use privatization to get the most cost-effective system. Other communities allow private haulers to compete with public crews for the right to provide collection services, which can result in public sector innovation, lower costs, and higher quality.





Collection Frequency: Less Is Often Best

When it comes to picking up municipal solid waste (MSW) and recyclables, less is often best. Offering collection services less often can, in many cases, decrease costs and increase the amount of waste diverted from disposal. Although twice-per-week pickup is still popular in many parts of the country (especially the South), more and more communities are successfully making the change to weekly pickup.



Why Change?

In spite of the perceived need for twice-per-week collection, studies repeatedly demonstrate that the second collection day is underutilized. The availability of recycling and composting programs helps reduce the need for two MSW pickups even further. The use of “Pay-As-You-Throw” fee structures, where households are charged according to the amount of waste they set out for collection, also helps reduce the need for two pickups per week.

While the impacts of changing collection frequency vary, studies show that reducing MSW collection frequency typically:

- **Decreases costs:** Reducing collection frequency lowers operating costs by improving operational productivity. With less frequent collection, residents set out more waste for each collection, making vehicle trips more productive.
- **Decreases vehicle and labor needs:** Reducing collection frequency cuts MSW collection vehicle needs by 20 to 40 percent. Fewer trucks translates to savings in labor, capital, and maintenance costs.
- **Reduces environmental impacts:** Reducing collection frequency means fewer trucks, lower fuel usage, and fewer air emissions, as well as reduced traffic and safety impacts on community streets.
- **Provides opportunities for new or expanded services:** Reducing collection frequency helps to establish or expand recyclables or yard-trimmings collection programs. Municipalities can implement new programs while still preventing fleet and staffing increases.
- **Increases waste diversion:** Reducing collection frequency increases participation in diversion programs for recyclables and yard-trimmings.
- **Balances workload:** Reducing collection frequency increases collection route productivity by spreading out the total amount of residential MSW to be picked up each week more evenly among the available work days.

Strategies at Work

- **Saving Money:** In Montgomery County, Maryland (a suburb of Washington, DC), one part of the county received weekly MSW pickup while other areas received twice-per-week MSW pickup. Based on a study released in March 1995, twice-per-week collection was almost 70 percent more costly than once-per-week collection.
- **Improving Public Health:** In Mesa, Arizona, where summertime temperatures soar to more than 100° F, wheeled plastic carts with lids reduced health and nuisance concerns. When the city switched from its traditional twice-per-week service, customers received brochures explaining how proper use of the carts would cut down on pests and odors.
- **Keeping Customers Satisfied:** After a 6-month pilot program in Plano, Texas, 92 percent of survey respondents agreed they did not need a second MSW collection day each week. For customers who require more frequent service, however, some communities, like Jacksonville, Florida, offer a second pickup each week at a premium rate. Fewer than 0.5 percent of the city's households subscribe for the extra collection service.
- **Tracking Special Needs:** In Montgomery County, Maryland, field inspectors meet with customers who have physical limitations to ensure their special assistance needs are legitimate. The county's contract haulers collect set-outs from the front or rear door for customers who meet the special assistance eligibility requirements.
- **Selling the Change:** To gain customer support for changing collection frequency and reducing taxpayer expectations for a rate cut, staff in Charlotte, North Carolina, emphasized that cost savings from the solid waste budget would be used to hire more police officers—something citizens identified as a priority in numerous surveys.

What Are the Keys to Success?

Local governments that have successfully reduced MSW collection frequency offer the following keys for planning, communicating, and responding to customer needs:

- **Provide containers to make it easier for residents to store a full week's worth of MSW:** Even in the hottest climates, you can reduce MSW collection frequency without public health impacts by providing containers with tight-fitting lids and by emphasizing proper MSW storage techniques.
- **Provide alternatives for residents who need more service:** Ask customers who oppose once-per-week collection to try it for a few weeks. Most households find that the weekly pickup is sufficient. When needed, offer a second collection day for an additional fee. Usually, very few residents sign up for this service.
- **Provide assistance for residents with limitations:** Approximately 1 to 6 percent of your residents might have physical limitations that make it difficult to handle larger or heavier set-outs. Offer special assistance to those residents who demonstrate a need.
- **Communicate the need for change in terms meaningful to your customers:** If changing collection frequency allows you to offer other services your customers want, let them know. Those new services might include recycling or composting or other programs residents care about, such as education or crime prevention.



Automation: Making Collection Faster and Easier

Once hailed as “tomorrow’s key to improving collection efficiency,” automation is today’s solution to making collection more cost-effective. Traditionally, collecting MSW is a labor-intensive business, often requiring as many as three workers per vehicle to lift and dump disposal containers. With the advent of automated lifting systems, however, collection requires fewer workers, thereby reducing labor costs and workers’ compensation claims.



How Does Automated Collection Work?

Semiautomated and fully automated systems are the two main approaches to reducing the demands of manual MSW collection. Both systems rely on special trucks with mechanical or hydraulic lifting systems and require customers to use special wheeled carts.

With semiautomated vehicles, crews wheel the carts to the collection vehicle and line them up with “flippers” (i.e., hydraulic lifting devices mounted on the truck body), activate the lifting mechanism, then return empty containers to the collection point. The use of semiautomated vehicles decreases demand for manual lifting, but it does not eliminate the need for manual labor.

In fully automated vehicles, drivers control hydraulic arms or grippers from the vehicle cab. Unless there are problems—overflow materials, improperly prepared materials, obstructed set-outs, or the need for roll-out assistance—the driver can service a route without leaving the collection vehicle.

What Are the Benefits?

What drives local governments and haulers to consider automating MSW collection? The benefits include the following:

- **Reduced injury risk:** Increased automation typically reduces work-related lifting injuries as well as puncture wounds and lacerations.
- **Reduced vehicle needs:** Fully automated collection increases (by up to 300 percent) the number of households served per worker, per hour. This increased productivity typically results in a smaller vehicle fleet.



- **Decreased labor needs:** Automated collection reduces crew size per truck. For semiautomated collection, one- or two-person crews are the norm. With fully automated systems, the driver typically works alone.
- **Reduced environmental impacts:** Automated collection means fewer trucks, lower fuel usage, fewer air emissions, and fewer traffic and safety impacts on community streets.
- **Reduced tipping fees:** Carts with lids help keep water, ice, and snow from set-outs, which also helps control the weight of set-outs and decreases tipping fees.
- **Improved neighborhood aesthetics:** Uniform containers eliminate unsightly set-outs. Containers with lids are less likely to be tipped over or torn apart by animals, reducing litter potential.
- **Reduced public health risks:** Containers with lids help mitigate odor and health concerns.

What Are the Keys to Success?

Local governments that successfully increased automation offer the following keys for planning and responding to customer needs:

- **Consider local geographic conditions:** Before investing in new collection technology, test the vehicles and containers under the range of weather or traffic conditions common to your community. Narrow streets, one-way streets, streets with “bumper-to-bumper” on-street parking, and dead-ends or tight cul-de-sacs present special challenges for automated collection vehicles. In addition, high winds or other weather conditions will influence your choice of vehicles and carts.
- **Consider impact on vehicle maintenance:** Most semiautomated and fully automated collection vehicles have complex hydraulic systems that require more maintenance than manual collection equipment. Factory training programs help make sure your fleet maintenance facilities and personnel can meet the increased maintenance demands. While per-vehicle maintenance costs often rise with automation, total fleet maintenance costs typically drop because there are fewer trucks to maintain.
- **Develop a staff reduction plan:** Automated collection equipment requires fewer employees per truck, so what do you do with the extra staff? Some communities time the phase-in of automation with expected employee attrition rates. Other communities use a combination of attrition, retraining programs, interdepartmental transfers, and early retirement incentives to achieve staffing reductions without lay-offs.
- **Provide assistance for residents who cannot handle larger set-outs:** Depending on local demographics, 1 to 6 percent of your residents have physical limitations that make it difficult for them to handle large carts. Offer special assistance to residents who demonstrate a need.



Dual Collection: One Truck, Two Waste Streams

Imagine sending four trucks through a neighborhood each week to pick up MSW, recyclables, yard-trimmings, and bulky items. Sound excessive? Multiple passes are the reality for many communities where residents expect a variety of collection services. Rather than maintain separate vehicle fleets, several local governments turned to dual collection vehicles that allow for the collection of separated waste streams in a single vehicle in a single pass.

How Does Dual Collection Work?

Several manufacturers now produce dual collection vehicles. The vehicle designs vary to fit different collection program needs. Some examples of possible configurations include:

Split-Cart Systems

Split-cart systems utilize automated collection technology. Residents receive wheeled carts with dividers to separate MSW and recyclables. The hopper and vehicle chamber on the collection truck are divided the same way. Crews collect the carts using hydraulic lifting arms operated from the truck cab. As the carts tip into the vehicle hopper, MSW and recyclables flow into the separate compartments. Typically, in a split-cart system, collection crews pick up yard-trimmings separately.

In some split-cart systems, residents mix all recyclables (i.e., paper, plastic, metal) together in the designated portion of the cart. Check with your local materials recovery facility to ensure you can deliver fully commingled recyclables before considering this dual collection strategy. Many recovery facilities prefer separate collection of paper and containers to reduce the potential for contamination.

Front-Loader “One Pass” Systems

Front-load collection vehicles, normally used for commercial dumpster collection, also might act as dual collection trucks for residential routes. Crews bolt special split containers (modified open-top dumpsters) on the front-load collection arms.

These containers might have compartments for MSW, yard waste, and/or recyclables. Residents set out materials as usual, then collectors load the set-outs into the appropriate compartment. Periodically, crews activate the lifting mechanism and the front-load container tips into the truck’s hopper. A split hopper directs the collected materials into separate chambers in the truck body.

As with split-cart systems, some front-load systems mix all recyclables together. This approach will not be effective for your community if your local materials recovery facility cannot process fully commingled recyclables.

Customized Designs

Customized dual collection designs might be the answer if you do not have access to processing capacity for mixed recyclables (i.e., paper, plastic, glass, and metal commingled together). Several manufacturers offer combinations of traditional packer bodies and recyclables collection units mounted on a single chassis. To achieve the proper compartment sizing, communities using these customized dual collection systems usually provide separate collection of yard-trimmings or require residents to use yard-trimming drop-off centers.

What Are the Benefits?

The benefits of dual collection systems typically include:

- **Reduced vehicle and labor needs:** Reducing the number of special vehicles needed to provide multiple collection services reduces total fleet and labor costs.
- **Reduced environmental impacts:** Fewer trucks mean lower fuel usage, fewer air emissions, and reduced traffic and safety impacts on community streets.
- **Increased diversion:** Dual collection allows communities to add diversion programs while controlling cost increases.

Will Dual Collection Work for Me?

Your community might be a good candidate for dual collection if you have:

- Low residential MSW generation rates.
- Low housing density.
- High driver and/or crew wages.
- High mileage to get to processing or disposal locations.
- High participation rates in your recycling program.
- Processing and disposal locations within 10 miles of each other.

Program planning is the key to success. Find out all you can about the types of dual collection vehicles available and decide which will work best in your community. Some dual collection vehicles, for example, require a large turning radius, which limits their use in areas with narrow roadways, dead-end streets, and tight cul-de-sacs. Choosing an incompatible dual collection vehicle design limits your program flexibility. Advanced planning and research helps alleviate costly equipment retrofits.

Remember, the current generation of dual collection vehicles are still relatively new. Vehicle vendors and solid waste system planners continue to experiment with and improve alternatives for dual collection.



Crew Productivity: Motivating Employees

Automated trucks and altered collection schedules only go so far in improving collection efficiency. Efficient collection programs also need a motivated, productive work force. To increase worker productivity, many local governments implement special pay structures, offer better training programs, and reward employees for safe work practices.

Why Change Management Approaches?

Many local governments utilize an incentive or “task pay” system for their waste collection crews. In this type of system, each crew is assigned a specific route, with a fixed number of stops to service each day. They are paid for a full day’s work, no matter how quickly or slowly they take to complete the route. This gives workers an incentive to finish their routes as quickly as possible, while still ensuring that all residences will be picked up in the course of the day.

While this type of system has many advantages for both the collection crews and the local government, it can also create problems. Workers might place speed ahead of safety, causing injuries to themselves or traffic accidents. Also, as waste generation patterns and neighborhood demographics change over time, the routes may become unbalanced, with some becoming too long and others too short. These changes become especially significant when a community increases waste diversion through recycling and/or “Pay-As You Throw” fee structures (where households are charged on the basis of the amount of waste they produce). It is often difficult to adjust work assignments to reflect these changes.

What Can I Do?

To overcome the challenges associated with incentive pay structures, some local governments eliminate the incentive pay system altogether, redefine the “task” to be completed, or redesign routes so more work is required from each crew.

If you change or eliminate incentive pay plans, you will need other strategies to motivate crews and encourage high productivity. Some successful strategies include the following:

- **Team initiatives:** With proper team training, employees form teams that provide valuable feedback to management, offer an effective means to communicate with front-line personnel, and provide increased employee buy-in with department policies and practices.
- **Employee gain-sharing programs:** Local governments provide gain-sharing bonuses to individual employees if the department meets or beats its budget goals.



- **Emphasis on employee wellness:** Solid waste departments offer employee and family wellness incentives that encourage crews to participate in health fairs and other programs.

- **Absenteeism and safety incentives:** Communities and haulers combat the problems of absenteeism and work-related accidents by offering monetary and nonmonetary rewards for attendance and safe work practices.

- **Vehicle and route selection incentives:** Communities base route and truck assignments on driving safety records and crew productivity. The chance to get better assignments encourages employees to operate vehicles safely and efficiently.

- **Training initiatives:** Communities across the country invest in employee training to improve morale and performance. Offer supervisors the opportunity to take college-level courses to improve leadership and management skills. Develop comprehensive training programs for all solid waste collection crews.

What Are the Benefits?

Improving management practices and increasing communication and cooperation between labor and management improves a wide range of public services. In fact, focusing on employee motivation can accomplish the following:

- **Improved work/life quality:** Help to increase excitement about work, improve problem-solving abilities, and reduce injury potential.
- **Reduced costs:** Help to decrease overtime and absenteeism, increase productivity, and allow service improvements to be made with limited resources.
- **Improved labor/management relations:** Help to reduce grievances, develop fair and effective discipline, share gains, and develop labor agreements that more accurately reflect service needs.
- **Improved safety:** Help to focus on injury and accident prevention, improve training and policies, improve return-to-work rates, and reduce time-loss expenses.

Contracting: Competition and Collection Costs

Privatization increases the cost-effectiveness of many public programs. Faced with consumer demand for cheaper and better service, many municipalities outsource the collection of solid waste and recyclables. When privatizing, a well-designed and carefully managed contract is the key to getting reasonable rates and high-quality service.



Why Engage in Competition?

Competition is one way to lower costs or improve service. Base your decision to change your mode of service delivery through competition on a careful evaluation of your current program. In your evaluation, be sure to look at your goals and objectives, level of customer satisfaction, cost of service, ability of your current service provider(s) to meet existing and projected demands, and quality of service delivery achieved.

What Are the Benefits?

Some of the benefits of competition typically include:

- **Reduced costs:** Competition often reduces costs to customers. Rates have been known to drop as much as 20 to 60 percent as a result of a competitive bidding process, especially if collection services have not been bid out for a long time.
- **Improved service quality:** Competition, and a carefully designed scope of services, ensures customers get the best possible service. Some communities use a combination of public and private crews. The competition between these service providers keeps all parties “on their toes.”
- **Increased control of waste flow:** The U.S. Supreme Court ruled that local governments cannot pass ordinances directing MSW to particular facilities. Courts have, however, upheld the rights of communities to enter into open competitive processes to select collection contractors and specify, as part of those processes, that collected materials be taken to designated sites.

What Are the Keys to Success?

Local governments that successfully used competition to select a hauler offer the following keys for planning and implementation:

Strategies at Work

Reducing Costs: In Hillsborough County, Florida, residential collection fees dropped approximately 30 percent when the county engaged in an open competitive process to select franchise haulers. Similarly, in Charlotte, North Carolina, municipal employees competed with national and regional haulers for a contract to serve a quarter of the city's residents. The per-household costs bid by the municipal crews were nearly half the rates proposed by the next lowest private sector bidder.

Keeping Service Levels High: Minneapolis, Minnesota, uses a combination of public and private collectors. A consortium of local haulers provides collection to approximately half of the city's residential customers. Public crews serve the other half. The city's solid waste director believes this competition helps ensure that both public and private crews provide the highest quality service at the lowest costs.

Special Approaches to Rate Increases: The Solid Waste Authority of Palm Beach County, Florida, uses the Refuse Rate Index, which ties rate adjustments to industry-specific price indices. As a result of using this rate adjustment approach, Palm Beach County franchise haulers recently lowered their rates as part of an annual rate review process, and customers received a decrease in their annual user-fee.

- **Define the scope of services:** You need a well-defined scope of services that fully addresses local needs. Do not overlook special services you want your contractor to provide, such as storm debris removal, solid waste collection at special events, or public education assistance.
- **Select a procurement approach:** Will you issue a request for bids or proposals? How many contracts will you enter into? What selection criteria will you use? Make sure you consult your local purchasing and legal advisors to determine your options.
- **Consider alternative approaches to rate adjustments:** Many contracts allow collection rates to adjust annually, based on the Consumer Price Index. This approach frequently results in artificially high cost increases to local governments. Consider rate adjustment approaches that tie cost components (e.g., labor, fuel, and vehicle replacement) to appropriate indices.
- **Consider requiring a Pay-As-You-Throw rate structure:** Offering rate payers an opportunity to control the rates they pay by reducing the amount of waste they set out can help generate support for the shift from public to private collection.
- **Select the term of the agreement:** Local procurement guidelines might dictate the term of your contract. Matching the length of the collection contract to the expected useful life of collection vehicles (typically 7 to 10 years) might yield more competitive rates.
- **Consider liquidated damages:** Include liquidated damage clauses in your collection contracts. If a contractor fails to perform as expected, withhold payment on an agreed upon schedule. Apply liquidated damages to such areas as response to complaints, delivery of materials to designated locations, or ability to meet collection schedules.
- **Remember the importance of contract monitoring and enforcement:** Contracts must be enforced to be effective. Monitor contractor performance, check customer satisfaction levels, and enforce contract terms.



Collection Change: Communicating to Build Support

A new collection program is only as effective as its weakest component. For many communities, that component is communication. Without a well-designed strategy for communicating the benefits of changing a waste collection system, many municipalities face resistance from their customers, colleagues, and collection managers. Inform residents and department staff of a planned change ahead of time to help ensure a smooth transition to a new collection program.



What Should I Do?

How do you develop a successful consensus building effort? The particulars vary from community to community—based on local needs and the availability of resources—but the following key steps are universal:

Identify Your Target Audience

You must convince both internal and external audiences that the proposed collection system change is beneficial. Internal audiences include decision-makers, department heads, crews and supervisors, and customer service personnel. External audiences include customers, stakeholder groups, the media, peer communities, and competitors.

Define Needs

To find out what the “average” citizen thinks about a proposed program change, consider some or all of the following techniques: surveys, focus groups, pilot programs, citizen planning committees, and informal discussions with customers. Understanding resident fears and needs is critical to developing an effective outreach strategy. Citizen input is only part of the solution; staff creativity also plays a role. Idea-sharing incentives motivate front-line crews to share their ideas for saving money or improving service quality.

Communicate Program Change

Once you identify what your target audiences care about, develop an information campaign to respond to those needs. For citizens, get the word out through direct mailings, utility bill notices, newspaper and magazine articles, print and broadcast public service announcements, community meetings, and paid advertising. No matter which media you choose, your message should focus on the needs and concerns identified through your citizen involvement efforts.

Strategies at Work

In 1993, Charlotte, North Carolina, switched from twice-per-week manual backyard collection to weekly curbside collection with automated vehicles. To build support for these changes, the city did the following:

- Used Charlotte's Neighborhood Coalition to get input and feedback about changes to the collection system.
- Conducted extensive meetings with front-line staff to communicate the need for change, get staff input, and provide training about "frequently asked questions."
- Surveyed city residents to find out their priorities for improving quality of life—residents identified crime as the number one concern.
- Developed a public education message that focused on the fact that collection system changes would save the city enough money to implement new community crime prevention programs.
- Used community meetings, newspaper articles, newsletters, cable programming, radio talk shows, and door-to-door distribution of educational materials to get the word out.
- Anticipated increases in customer service demands by installing a new database system to track incoming requests and complaints.
- Trained 16 temporary personnel to supplement existing customer service staff.



Deliver the Promised Services

One of the most meaningful ways to build support for new service levels is to make sure program operations live up to their public relations promises. Make sure service delivery glitches are minimal by phasing in new services to gain operational experience.

Respond to Concerns

Customer care is important to local governments. A wide variety of customer service software is available to help monitor customer calls and track the outcome of citizen complaints. Customer call volume often increases 200 to 300 percent following a major collection program modification. You might need to add additional phone lines, train staff to respond to calls, and implement strategies to address citizen concerns. Remember, this disruption typically wanes in 4 to 6 weeks.

Evaluate Your Program and Make Changes as Needed

Local governments that successfully changed their MSW or recyclables collection systems know the value of concise, creative, and frequent information exchange with internal and external stakeholders. Even a well-conceived outreach program, however, can fall short of its goals. If you try to implement a change and encounter barriers, diagnose the problem and learn from the experience.

Frequently Asked Questions

Q: Why should I change my solid waste collection system if residents like it?

A: Customer satisfaction is one very important measure of collection system performance, but there are other important criteria to consider, including efficiency and cost. Citizen response to change can be positive or even improve after an initial adjustment period. In addition, many collection system improvements are “invisible” to residents. Employee motivation programs, improved fleet maintenance approaches, and new route management strategies are just a few examples of strategies that yield positive results with little or no customer involvement.

Q: How will changing my solid waste collection system affect costs?

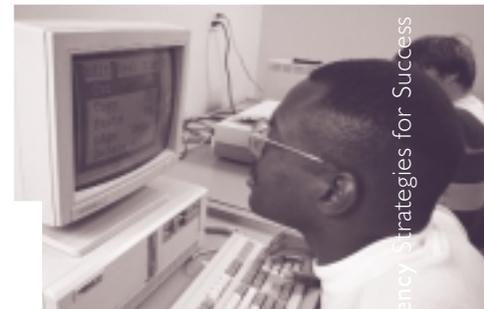
A: Costs depend on the type of change being considered. The city of Waco, Texas, for example, implemented a fleet management quality circle program for less than \$500, resulting in a savings of approximately \$100,000 in the first year alone. Some collection system improvements, such as automation or dual collection, require higher up-front investments for new vehicles and containers. These investments are more than justified by the increased productivity of the vehicles and decreased labor costs. Fewer trucks mean less fleet capital costs and reduced operating and maintenance costs.

Most jurisdictions will have different bottom-line results because most communities have different accounting practices. Planning models help project the impact of collection system modifications on the number of vehicles needed, labor requirements, and direct operating costs.

Q: How can I ensure customers understand and support the proposed change?

A: Building consensus for collection system modifications involves a four-step process: 1) identify the fears, needs, and concerns of stakeholders; 2) develop outreach materials that address those needs in a targeted way; 3) deliver the promised service reliably; and 4) provide ongoing customer service and support.

Most communities find the majority of complaints and questions (if any) subside after the first 4 to 6 weeks of implementation. To get through that startup period, anticipate increased call volumes and prepare all local governmental staff for the questions that are likely to arise.



A user-friendly, computerized collection worksheet that will generate route requirements for any given system is available from the Solid Waste Association of North America. Call 301 585-2898.



It's Working!



Elected officials and system users across the country are reaping the benefits of implementing new collection strategies.

Lower Costs to Rate-Payers

Hillsborough County, Florida, used a competitive contracting process to select MSW and recyclables collectors. As a result, **rates dropped by almost 30 percent** for the average resident. Charlotte, North Carolina, switched from manual, backdoor MSW collection to curbside collection using automated collection vehicles. Using specialized software to assist with routing, Charlotte was able to reduce the number of routes needed by more than 30 percent. As a result of these changes, the city **saved over \$800,000** per year and achieved a 95 percent approval rating from customers.

More Satisfied Customers

Plano, Texas, switched from twice-per-week MSW collection to weekly service. A mail survey reported **92 percent resident satisfaction** with the new collection program.

Improved Worker Safety and Morale

Philadelphia, Pennsylvania, implemented labor and management strategies to improve communication between union and management. The city initiated extensive training for front-line supervisors. As a result, **on-time performance improved by nearly 30 percent**, crew overtime expenditures dropped, and employee morale improved.

Increased Diversion

Visalia, California, switched from fully automated MSW collection to a dual collection system with weekly MSW and recyclables collection. Visalia added the curbside collection of recyclables and yard-trimmings for an incremental **cost of less than 2 percent** of its direct operating budget. As a result, the city achieved a 25 percent diversion rate (excluding yard-trimmings).

Contracting and Competition

Palm Beach County, Florida, competitively bid collection contracts in 1993, after nearly 30 years of negotiating agreements. The county **achieved a 40 percent reduction in collection costs** per household, lowered annual fees paid by homeowners for the first time in 20 years, and controlled rate increases over the course of the contract.



Acknowledgements

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- *Improved Routing Case Study - City of Charlotte, North Carolina, Part 1.* 1997, SWANA, 101 pp, GR-C 0071 (Ordering number).
- *Changes in Collection Frequency Case Study - City of Mesa, Arizona, Part 2.* 1997, SWANA, 97 pp, GR-C 0072.
- *Semi-Automation Case Study - City of Rochester, New York, Part 3.* 1997, SWANA, 76 pp, GR-C 0073.
- *Dual Collection Case Study - City of Loveland, Colorado, Part 4.* 1997, SWANA, 72 pp, GR-C 0074.
- *Getting More for Less: Cost-Cutting Strategies Case Study Set.* 1997, SWANA, GR-C 0070.
- *Getting More for Less: Collection Efficiency Workbook.* 1997, SWANA, 115 pp, GR-C 0075.
- *Getting More for Less: Automated Collection Worksheet.* 1998, SWANA, GR-C 0075.

For information about SWANA's collection efficiency workshop or on obtaining any of these documents, contact:

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For More Information

EPA has also published a more detailed report on collection efficiency entitled "Getting More for Less: Improving Collection Efficiency." To obtain a free copy of this report or any of our other publications on municipal solid waste, contact:

U.S. Environmental Protection Agency
RCRA Information Center (5305W)
401 M Street, SW.
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You can also find electronic versions of our MSW publications as well as additional information on our Web site: www.epa.gov/msw.



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Penalty for Private Use
\$300

