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8 steps for an accurate cost-of-service analysis

Use this methodology to explain your agency's true costs and revenue needs to elected officials.

By [Richard Allen and Marc Rogoff](#)

Getting a firm handle on costs is a challenge for any public works manager, but particularly for solid waste leaders in this era of lean-and-mean local government.

Elected officials tend to target solid waste because of perceived high labor, equipment, and capital costs, even though many communities allocate collection-and-disposal revenues to other municipal operations. That makes full cost accounting difficult and adds to agency overhead. As a result, many haven't raised rates despite sharp hikes in fuel, maintenance, insurance, and employee health benefit expenses. Finally, the lack of reliable benchmarking data makes it difficult to rate agency performance.

Competition from the private sector remains intense, and politicians seeking ways to keep taxes and service costs low often make the threat of privatization. Given the current climate, a cost-of-service or rate study is more important than ever to focus attention on critical financial and management issues.

The analysis will demonstrate how much revenue from tipping fees, collection fees, and/or assessments a solid waste agency/department needs to provide those services. Eight basic steps ground the review in basic accounting and financial principles while ensuring that input from key stakeholders is obtained and addressed.

Think of the process as a pyramid with data-gathering forming the base and the remaining seven steps building on the results.

The situation at hand

Charlotte County was one of the first Florida communities to implement a special assessment to fund solid waste operations. The program has gone beyond disposal to include collection and recycling in the customer's property tax assessment.

On average, the county's 108-acre landfill takes in 170,000 tons per year from about 84,000 residential units and 300 business customers. The county's remaining three-year term of its existing contract with its franchise hauler requires the Solid Waste Division to assess residential units within unincorporated areas and a few beach communities outside the district assessments for trash and recycling collection and disposal at the landfill. County leaders were concerned that they might have to dip into reserve funds to cover shortfalls in tipping fee revenues or collection assessments due to the continuing declines in waste tonnage and residential building caused by the Great Recession.

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Here's how the county allocates the \$148.04 annual solid waste assessment:

- Franchise curbside collection: \$109.80
- Landfill operations (recycling, diversion, an illegal dumping task force, and household hazardous waste programs): \$32.80
- Administration (tax collection and mailing notices): \$5.44

The Solid Waste Division has six cost centers:

- administration
- capital improvements
- two customer drop-off centers
- illegal dumping prevention
- landfill



If you've never conducted a rate study, or you want to update one that's several years old, the process can be broken down into eight steps.

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At the outset of the study, we developed a pro forma financial model using an Excel template developed by SCS Engineers, an environmental engineering consulting and contracting firm, to develop projections for collection, recycling, and disposal and to calculate different rate structures. Then we began working through the eight steps.

1. **Gather historical expenses and revenues.** Data from the six cost centers over the last five years was plugged into the pro forma model to establish a baseline.
2. **Identify test year.** A test year is how much money the division must take in within a calendar year to fully recover operating costs.
3. **Refine revenue requirements.** The test year revenue requirement was multiplied by five to calculate a single, five-year revenue requirement. We then projected likely increases related to inflation, labor, facility and vehicle maintenance, and planning using a 2% consumer price index adjustment.
4. **Calculate revenue offsets.** Sales of recyclables dropped off at the county's two customer convenience centers.
5. **Allocate system costs.** The team worked to assign administrative and overhead costs to the six cost centers based on assumed historic use.
6. **Calculate tonnage delivered by customer class.** We estimated the average residence would generate 0.92 tons of waste annually through 2027.
7. **Estimate number of assessment units.** Reasonable estimates were developed of future number of parcels in the sanitation district over the next five-year period using population and building permit estimates.
8. **Set tipping tee.** The cost of service for each customer class was determined by distributing the costs of each across the total number of billing units of each.

The result: 3 rate options

This analysis produced a business case for three scenarios that we presented to county decision makers:

- no change in rates and assessments
- full recovery of all costs
- CPI adjustment only.

They chose the first option, deciding not to raise rates or assessments for the three years of the county's existing contract. At the end of that time, the pro forma model will be used to estimate potential escalation costs when the county begins contract renegotiations.

The rate study was well-received by county managers and enabled them to assess the division's financial health in an efficient and timely manner.

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