

NEWGEN STRATEGIES AND SOLUTIONS, LLC

FUNDING YOUR SOLID WASTE SYSTEM – THROUGH GOOD TIMES AND BAD

As virtually all municipal utilities (water, wastewater, solid waste, and electric) continue to deal with the financial burdens and operational challenges associated with COVID-19, it is a good time to highlight the importance of having a sound financial plan. A financial plan, along with rates that allow for sufficient revenue recovery, increases the likelihood that your utility will retain financial integrity during good times and bad (recessions, natural disasters, pandemics, etc.)

While this article addresses the financial and operational issues specific to solid waste utilities, many of the principles and processes described are equally relevant and important for municipal water, wastewater, stormwater, and electric utilities.

Herein we describe how to establish a financial plan, the importance of incorporating reserves, several policy issues that may arise, and designing associated user fees.



FINANCIAL PLANNING/ COST OF SERVICE

A financial plan and understanding of your operating and capital requirements is essential, regardless of whether the solid waste utility is small (less than \$5 million in annual operating and capital expenditures), large (greater than \$50 million in annual expenses), or anywhere in between. A financial plan and the underlying knowledge it provides allows you to more accurately determine the level of funding required for your utility and the residential user fees required to recover all costs.¹ Additionally, our experience has proven that elected officials like to have financial plans in order to help justify rate impacts, particularly when provided in conjunction with a comprehensive solid waste cost of service study that was developed in a methodical and defensible manner that clearly details the reasons for proposed rate increases.

There are five basic steps to conducting a solid waste utility cost of service analysis, which results in an

understanding of costs for all services and provides a financial plan for moving forward.² The following provides a high-level overview of solid waste utility financial plan development. A more detailed discussion is available in the Solid Waste Association of North America (SWANA) recorded e-courses and webinars series – <https://swana.org/training-certification/find-a-course/course-catalog/planning-and-management>.³



¹ Depending on the services offered by the solid waste utility, a financial plan can also help determine the appropriate commercial dumpster rates, commercial roll-off rates, and landfill and transfer station tipping fees to be charged by the utility.

² NewGen typically develops 5-year financial plans for our solid waste clients, although some prefer to have a 10-year financial plan.

³ Mr. Yanke presented on this topic as part of a SWANA sponsored webinar on May 19, 2020. In addition, as part of the webinar, Mr. Joe Giudice, Assistant Public Works Director for the City of Phoenix, described the process and level of effort required to develop a thorough and accurate financial plan from the client's perspective. This webinar is available for a fee – see website for more detail.

- 1. Solid Waste Budget.** When NewGen undertakes a solid waste cost of service study, we typically start with the client's solid waste budget. This document reflects the operating and maintenance costs, as well as capital costs that are either funded by cash (through rates) or via debt service. We then adjust for one-time expenditures, new programs, or costs that are expected to be incurred during the "forecast period" (typically five years), and inflate the costs at varying inflation rates dependent on the five-year forecast period projections.

For instance, as a result of metal tariffs, many of our clients have experienced significant cost increases for garbage trucks and landfill equipment. For many of them, we often forecast 5% annual capital cost increases for rolling stock and landfill equipment.

- 2. Capital Improvement Plan (CIP) Development.** It is essential that any solid waste utility CIP reflect the number of trucks or other equipment that require replacement on an annual basis, as well as any planned capital projects such as new landfill cells, transfer station tipping floor replacements, new transfer station construction, etc. Development of an accurate CIP can be a time-intensive process that involves numerous meetings and conversations with the client's staff, consulting engineer, and NewGen's solid waste consultants. For instance, we are currently working with a client who has approximately 130 pieces of front-line equipment⁴ and operates a landfill, two transfer stations, a recycling center, and a series of community collection centers. Development of their CIP took several months; however, once completed, the CIP was an incredibly useful tool that informed the client of their most pressing capital needs for the period of FY 2021 – FY 2030.

- 3. Determining "Service Category" Costs.** Once the solid waste utility has completed the first two steps, they will have a forecast of the 5- or 10-year total operating and capital costs. The next step is to allocate these costs to each solid waste service provided by the client. For instance, if a client provides residential garbage, recycling, yard waste, and bulky collection services utilizing different equipment and personnel, then each service would be its own "service category." Additional services include operation of a landfill, transfer station, recycling collection centers, etc. NewGen's solid waste clients will often have between 12 and 25 specific service categories for which personnel and front-line equipment is allocated. An accurate assignment of personnel and equipment to the appropriate service categories is one of the most

time-intensive activities associated with developing a cost of service study, but is essential to knowing the cost of providing each service.

- 4. Determine the Cost of Service.** This step involves dividing the cost of each service category by the appropriate billing units (e.g., number of residential households, tons, dumpster size, etc.). For clients that provide only residential service, the monthly cost of service is calculated by simply dividing each program cost by the number of residential households and then dividing the total by 12 months.
- 5. Rate Design.** The final step is to design and recommend rates to the appropriate body of elected officials. Some clients may elect to implement cost-based rates (see Step 4), while others may determine that there are certain policies, such as low-income assistance or economic development incentives that they wish to consider. This is where it is essential to understand the goals of your elected officials.

RESERVE FUNDS

Our extensive experience in conducting solid waste cost of service studies has shown that solid waste utilities often establish certain reserves. Further, those utilities with reserves tend to be able to better weather financial downturns while still purchasing essential equipment, funding cell constructions, and financing major capital repairs. As the economy recovers, the reserves are then replenished using cost-based user fees. Some of the reserves that NewGen sees utilized include the following:

Operating Reserve Fund

This fund is primarily used to facilitate the payment of daily transactions, meet operating cash needs, and assist in funding other reserves when the fund balance grows above its targeted range. We typically recommend that our clients maintain a minimum of 60 to 90 days of the utility's annual operating expenses in an operating reserve fund.



⁴ Front line equipment refers to equipment that is used every day, or most days that the utility is operating.

Emergency Cash Reserve Fund (Rate Stabilization Fund)

For solid waste utilities that are able to establish this fund, its primary purpose is to ensure the continuation of services during unforeseen incidents (such as recycling market volatility, significant landfill tonnage decreases, or increased costs associated with a natural disaster or pandemic). A good goal is to maintain this fund at no less than 10% of annual operating expenses.

Equipment Replacement Reserve Fund

This fund is used to pay for utility equipment replacements such as compactors, dozers, water wagons, automated side-loader (ASL) trucks, roll-off trucks, transfer trailers/trucks, etc. This account should be funded based on the current cost of equipment divided by its useful life. For example, if a city has 14 front line ASLs totaling \$300,000 each, that totals an investment of \$4.2 million. If the ASLs are budgeted for replacement every seven years, the City needs to set aside \$600,000 annually through user fees to be placed in this reserve for use during that Fiscal Year (FY). NewGen would also suggest inflating that amount annually (currently 5% annually due to an increase in metal costs as a result of tariffs).

Landfill Reserve Funds

The following are different types of landfill reserve funds:

Landfill Gas Collection Reserve Fund – This funds the maintenance of the landfill gas (LFG) collection system.

Cell Development Reserve Fund – This funds the design, development, and construction of new landfill cells. The cost of a new cell can total \$2 million to \$8 million; this amount should be amortized over the useful life of the cell, with the reserve funded through user fees, if possible, or a short-term bond issue that matches the life of the cell.

Closure/Post-Closure Care Reserve Fund – This funds the closure and post-closure care of the utility's landfill. This fund can often be \$30 million to \$40 million for large landfills.

Capital Improvement Reserve Fund

This fund supports capital projects that are not related to rolling stock, equipment, or a landfill. Example capital improvements are roof replacements, wetlands liners, and road improvements).

KEY BENEFITS OF ESTABLISHING A RESERVE FUND

1. Prepare for unexpected events
2. Capability to pay for large capital expenditures
3. Regulatory requirements compliance



POLICY ISSUES

Utilities should not be surprised if various policy issues arise when conducting a cost of service study and developing a financial plan. Once the costs associated with different services are fully identified, it is not atypical for elected officials and senior management to ask, "Who should pay for them?" or "How they should be paid for?" Additional frequent questions include:

- Should apartments be charged on a per unit basis or on a dumpster basis?
- Should government accounts (e.g., fire stations, parks, etc.) receive "free" services or should they be billed?
- Should bulky collection services be charged a separate user fee or be included in the monthly residential user fee?
- Should private haulers be assessed a franchise fee?

Answering these questions requires a review of the client's policies, the level of service they wish to provide customers, and a host of other issues that are addressed on a case-by-case basis.

CLIENT EXPERIENCES

Over the years we have discovered that solid waste utilities are better able to justify rate increases to elected officials when they have developed a comprehensive cost of service study and financial plan that includes a minimum of a five-year forecast of projected costs. The financial plan can also provide clear direction on a utility's best approach to address certain operational issues. The following are recent examples of NewGen's work with solid waste utilities:

- City of Phoenix, Arizona.** In November 2019, NewGen completed a solid waste cost of service study and financial plan that forecast the solid waste department's projected costs for five years. The financial plan illustrated the need for a rate increase to elected officials and, as a result, the utility was able to implement its first rate increase in 11 years (effective spring of 2020).
- City of Stillwater, Oklahoma.** NewGen completed a solid waste cost of service study as part of a comprehensive solid waste management plan, in July 2020. The cost of service analysis helped the City quantify the cost of building a recycling staging facility, which will allow the solid waste utility to haul its recyclables to a materials recovery facility in Tulsa, Oklahoma. Further, the cost of service study reflected a need to increase residential and commercial rates. The City Council approved the recommended rate increases in October 2020.
- Santa Fe Solid Waste Management Agency (Santa Fe, New Mexico).** Following completion of a cost of service study for the Agency, NewGen assisted in development of a formal reserve fund policy document. This policy document was approved by the Joint Powers Board (comprised of city and county elected officials).
- South Central Solid Waste Authority (SCSWA) (Las Cruces, New Mexico).** NewGen is currently working with the SCSWA on the development of a 10-year financial plan. A key benefit of this plan is that it allows the Authority to optimize the timing of its future capital improvements associated with both transfer stations and community collection centers located throughout the county.

Additionally, the plan includes a detailed assessment of all "front line" equipment. The analysis includes key data for each piece of equipment including purchase prices and dates of purchase, the estimated useful life, estimated retirement, and forecasted new purchase costs (adjusted for inflation). This plan will help the Authority determine how much money to set aside annually to fund equipment purchases through FY 2030.



Solid Waste Association of North America (SWANA) Webinar – Funding Your Solid Waste System Through Good Times and Bad (2020)

If your solid waste utility has never undertaken the development of a cost of service study or financial plan, we would urge you to consider the associated benefits. If you have any questions, please contact Dave Yanke or Allison Trulock.

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