

Reprinted from

RESOURCE
RECYCLING



The nuts and bolts of *saving on fleet costs*



By Karen Luken

When revenue shortfalls threaten to cut recycling programs, cost-cutting measures must delve deeper than the bottom line to find potential savings.

Special Collections Focus

In a former position as the Solid Waste Manager for Hamilton County, Ohio, I thought I was pretty savvy about every aspect of managing recycling programs — from designing educational campaigns to conducting contract negotiations with vendors. However, as Albert Einstein once said, “Knowledge is limited,” and, in my case, it was very limited.

While I did possess program management skills, I had never even ridden on a recycling truck let alone looked under the hood. In my ignorance, I always believed that we hired drivers and mechanics to do that and, out of fear, I avoided

Karen Luken is a Senior Director for R. W. Beck in Cincinnati and can be reached at kluken@rwbeck.com or (513) 936-8955.

the garage as much as possible in the hopes that my complete ignorance of operations never saw the light of day. Only when I changed jobs and started spending time in this mysterious world of oil and transmissions did I realize that recycling managers and operators must work together if recycling programs will thrive and, in some instances, survive.

Identifying potential savings

The City of Cincinnati faced this survival issue when revenue shortfalls put non-essential city services, such as art programs, recreation centers and the curbside collection of recyclables and yard waste, in serious jeopardy.

The city contracted out the curbside collection of recyclables, so costs could only be lowered by changing the type of service, not by improving efficiency. Yard waste and refuse collection, on the other hand, was a service provided by the city. As such, by evaluating how certain services were provided, the associated costs could be decreased. If enough savings could be identified, the net savings could potentially sustain all three programs.

To identify these savings, R.W. Beck performed an extensive solid waste collections study for the City of Cincinnati and evaluated the existing fleet maintenance system. The study assessed the following areas:

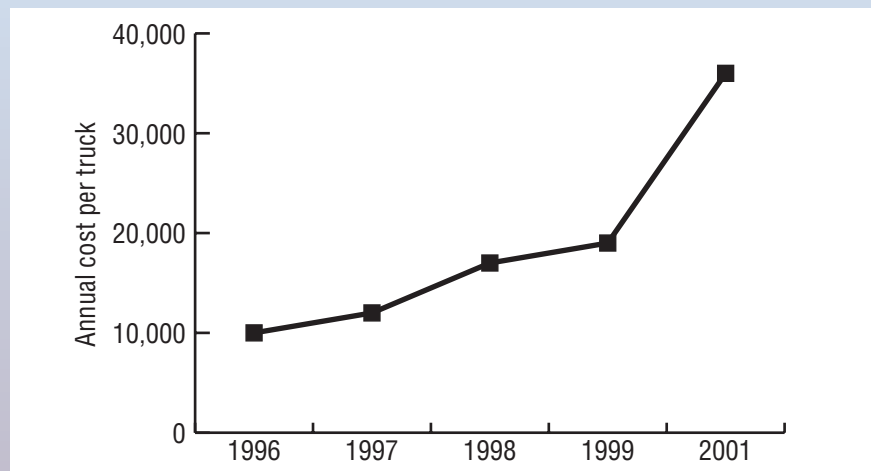
- ◆ Current condition of solid waste fleet assets;
- ◆ Current fleet management operations and practices;
- ◆ Current fleet maintenance information systems; and
- ◆ Adequacy of fleet management staff and support resources dedicated to solid waste management.

Building support

First and foremost, building support for the study among key stakeholders was critical to the project's success. To establish stakeholder trust and credibility, initial site visits included group meetings with city management, Neighborhood Operations Department (NOD) management and staff and Fleet Services (Cincinnati) management, as well as individual interviews with key personnel.

Early in the process, it became apparent that most of the costs were associated with the rear-load packer truck maintenance. When compared to other similar vehicle fleets, the NOD fleet exhibited a condition rated as good. In part, this condition assessment could be attributed to the relatively new fleet (averaging four years old), but the greater contributor to this assessment was the considerable maintenance attention received by the vehicles. NOD fleet management practices were generally sound

Figure 1 Annual cost per truck, 1996-2001



Source: R.W. Beck, 2004.

with three exceptions.

The number of spare trucks was too low. NOD operated 36 residential refuse collection routes and 12 yard waste collection routes per day for a total of 48 routes per day. The entire rear-load packer truck fleet consisted of 53 vehicles. The five spare trucks represented a spare-truck rate of 10 percent. This was below the generally applied industry minimum spare-truck rate of 15 to 20 percent.

Some trucks were used for purposes for which they were not designed. The Leach Beta packers purchased in 1995 and 1996 were light-duty packer bodies designed specifically for residential refuse. However, the City of Cincinnati collected bulky items with residential refuse. Loading bulky type materials into these light-duty packer bodies was causing severe damage to the body, packing and hydraulic systems.

NOD management inconsistently enforced the policy that truck operators conduct pre- and post-trip inspections. Inconsistent inspections were increasing the cost of maintenance for the fleet because items that could be repaired with minimal cost, if caught early, turned into higher dollar repairs when left unnoticed. Ascribing a cost savings amount to improvement in this activity was not possible, but undoubtedly enforcement of the policy could reduce the annual cost per truck.

Fleet maintenance information systems

The city's fleet maintenance information system had the capability to effectively support management of the NOD fleet; however, management of fleet assets is most effective and efficient when a strong partnership exists between the fleet operator and the fleet maintenance provider. Such a

partnership did not exist for the NOD fleet. Several dynamics appeared to be at work preventing such a partnership, but more complete sharing of information is a critical part of building the partnership.

NOD fleet maintenance and support services

Rework, or vehicle problems that require more than one trip to Fleet Services, is a relatively minor cost item in the annual fleet maintenance budget. Although considerable evidence indicated that excessive rework was taking place for the NOD fleet, maintenance records did not reveal large numbers of tasks that could be classified as rework.

The yearly maintenance costs per packer were too high, leading to higher-than-expected costs to maintain the collection fleet. The expected average annual maintenance yearly cost of maintenance for a rear-load packer truck was between \$20,000 and \$25,000 per year based on a seven-year life expectancy. The city's per-vehicle annual maintenance cost of \$35,561 was almost double the expected cost.

The average age of the rear-load fleet, at four years, was acceptable and, in fact, met the usually recommended average age for a collection fleet. This fact, however, made the higher maintenance costs all the more difficult to understand. In addition, as illustrated in Figure 1, the annual cost to maintain a packer truck had increased dramatically over time.

Reviewing the Cincinnati situation revealed some confusion as to what repairs fell into the "Normal Wear and Tear" category and what repairs fell under "Driver Negligence." The city referred to the two categories as "Targeted" and "Non-targeted" repairs. To track the repairs, the city used a reporting system that required a writ-

ten description of each repair type for each category. Although a reporting system existed, the descriptions were very brief and lent to too much interpretation.

One of the problems with the current methodology was the very large "Damaged in Use" repair account found in the "Non-targeted" category. Unfortunately, Fleet Services seemed to refer to this account as repair costs that resulted from poor operator practices or outright abuse. This is problematic from several viewpoints. First, if there is actual operator abuse, then it definitely should have been identified and accounted for as such and addressed by NOD management, not masked by another name. Secondly, if the "Damaged In Use" repair account was consistently reaching levels of over \$500,000 a year and it was not abuse, then a large part of this account should be classified as "Normal Wear and Tear" and should have been budgeted and accounted for as such in the "Targeted" category.

A final issue regarding packer truck maintenance costs was warranty recovery. Little evidence indicated a serious warranty recovery program by Fleet Services, although funds received for repairs performed under warranty could off-set a portion of overall maintenance costs. In fact, commercial sanitation fleet service managers quote figures as high as \$1,000 per packer truck for expected annual warranty recovery. A more aggressive warranty recovery program was considered.

Recommendations

Numerous variables influence fleet maintenance

costs and operations. Because of this, future program reviews should include an assessment of the entire system, including those interfaces and activities integrated with fleet management and maintenance.

In Cincinnati's case, the fleet maintenance services provided to NOD were generally high quality; however, the costs of those services exceeded expected levels for a solid waste fleet. To rectify this situation, the following recommendations were made.

Ensure packer truck spare ratio is in the 15 to 20 percent range. Currently, the packer spare truck ratio, with all four pool trucks available, is just slightly above 15 percent. Consideration should be given to adding one more truck to the fleet.

Replace all current bodies in the NOD fleet with heavy-duty packer bodies. This change represents an annual maintenance cost savings of at least \$500,000 per year.

Consistently enforce the pre- and post-trip inspections by vehicle operators. Accurately ascribing a cost savings amount to improvement in this activity is implausible, but undoubtedly would reduce the annual maintenance cost per packer truck. NOD management has, however, taken steps over the last two months to implement this improvement.

Develop routine, open and effective information sharing of the fleet maintenance information system's databases. If additional training on the fleet information system is needed for NOD personnel, NOD and Fleet Services management should arrange for such training at the earliest possible date.

Move the majority of repair costs currently captured as "Damaged in Use" to "Normal Wear and Tear" under the "Targeted" budget. This change does not lower the overall budget in the short term, but makes the budget more accurate and realistic given the operational characteristics of the NOD fleet. This, in turn, will allow more informed management decisions regarding budget reduction practices. A side benefit of the significant reduction in this "Non-Targeted" item is that the apparent contentious atmosphere surrounding this account is largely eliminated.

It has been three years since the City of Cincinnati took a hard look at its fleet maintenance practices, and today my recyclables and yard waste sit in front of my Cincinnati home for separate collection. The results of this analysis played a role in the survival of these programs by producing over \$800,000 in savings during the first year the recommendations were implemented. More importantly though, the relationship between the recycling managers, drivers and mechanics has improved due to an increased awareness of how important they are to each other, an enhanced appreciation of what the other faces each day and the newfound belief that, "It is better to understand a little, than misunderstand a lot." **RR**

Reprinted with permission from Resource Recycling, P.O. Box 42270, Portland, OR 97242-0270; (503) 233-1305, (503) 233-1356 (fax); www.resource-recycling.com.