

Clearing Hurdles in Switching to Variable Rate Pricing

Attracted by the benefits of solid waste unit pricing but concerned about some of the potential drawbacks? An understanding of potential problems and how to overcome them may help your community's decision-making when exploring unit pricing—and ease the transition if such an approach is adopted.

By Michael Shapiro

Unit pricing programs offer communities an impressive lineup of benefits: greater attention by residents to waste reduction; increased participation by households in recycling and composting programs; reduced disposal costs; and a more equitable waste management fee structure. Unlike traditional pricing systems, where every household pays the same—regardless of how much trash is set out on collection day—unit pricing programs charge residents only for the waste they discard. The less residents toss, the less they pay.

The benefits certainly have attracted many communities. More than 1,600 communities have switched to some form of variable rate pricing for solid waste collection services in recent years. (See Table 1). In addition, several state legislatures now either encourage or mandate use of variable rate pricing for solid waste.¹

The result for many communities with unit pricing programs has been significantly less waste, lower costs, and improved service. Table 2 lists several communities that have implemented variable rate pricing programs and shows some of the waste reduction and recycling rate increases. For communities concerned about getting squeezed between growing waste generation rates and shrinking disposal options, unit pricing might provide the margin their waste management programs need.

However, the switch from traditional pricing to unit pricing worries some

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Table 1: Variable Rate Pricing Programs in Local Governments, By State¹

California	18	Nevada	2
Colorado	1	New Jersey	18
Connecticut	2	New York	3
Florida	7	North Carolina	4
Georgia	2	Oregon	250 ³
Illinois	38	Pennsylvania	36
Indiana	3	South Dakota	1
Maine	13	Texas	1
Massachusetts	40	Vermont	70
Michigan	5	Virginia	1
Minnesota	855 ²	Washington	243
Missouri	3	Wisconsin	75
Montana	1	Total	1,692

¹ States not listed do not have variable rate pricing programs.

² Minnesota regulations required the use of variable rate fees for solid waste collection in all 855 communities beginning in 1993; however, some were exempted or granted delays in implementation.

³ Estimate from Peter Spendelow of the Oregon Department of Environmental Quality.

Source: Synergic Resources Corporation, 1993

MSW planners. While change is rarely simple, local officials may be concerned that restructuring the way the community conducts and administers its waste collection program might be more than they want to take on. In the experience of communities with variable rate programs, however, potential barriers to implementing unit pricing can be overcome with some advance preparation. These barriers include:

—Building a consensus in the community about the goals of the program and the need for changes that unit pricing may bring.

—Establishing prices that cover the costs of waste collection and that residents feel are fair.

—Obtaining participation of the entire community, including residents of multi-family housing.

—Ensuring that illegal dumping does not increase significantly after imple-

menting unit pricing.

Consensus First: Is Change Needed?

Switching to unit pricing means changes for both residents and the municipality administering the program. Concern, even resistance, can accompany these changes. To win support for unit pricing, the municipality needs to think of residents as customers whose satisfaction is critical to the program's success. This means developing an effective pricing program and supporting it with a strong public education effort.

When Long Beach, California, began planning its variable rates program in 1991, residents were skeptical. According to Jim Kuhl, manager of the city's Integrated Resources Bureau, "People were saying 'Garbage has been collected the same way for a hundred years. Why fix something that's not broken?'" Overcoming the sense that no changes were

Table 2: Selected Communities With Unit Pricing Programs

Community	Population	Program Type	MSW Reduction	Recycling Change
Mansfield, CT	22,500	Subscription can		+40%
Seattle, WA	500,000	Subscription can	25%	+39%
San Jose, CA	740,000	Subscription can	46%	+42%
Pennsville, NJ	13,500	Stickers		+43%
Bound Break, NJ	10,000	Stickers	30%	
Antigo, WI	8,500	Stickers	50%	
Charlemont, MA	1,200	Bags	37%	
Plains, PA	11,200	Bags	49%	+56%
Mt. Pleasant, MI	30,000	Bags	44%	+41%
Du Page County, IL	668,000	Bags	53%	
Plantation, FL	64,000	Bags		+21%
Perkasie, PA	7,900	Bags	59%	+50%
High Bridge, NY	4,000	Stickers		+18%
Illion, NY	9,500	Bags	37%	+41%

needed was Kuhl's biggest hurdle.

Educating residents about solid waste challenges in Long Beach—and the ways in which unit pricing could help—was critical to building support for the program. California had passed a law mandating specific recycling levels. Failure to meet these levels carried potential fines of up to \$10,000 per day—money that ultimately would come from community taxpayers. Through presentations at town meetings and gatherings of civic and private groups, distributing flyers, and meeting with the city's elected officials, Long Beach showed how the plan's waste prevention incentives offered a cost-effective way to boost the city's recycling

rate, enabling it to meet the states mandate, and avoid costly fines.

In addition, the city showed how the program would save a significant amount of money for those residents who already were generating less waste. To help drive home this point, Long Beach officials compared the rates for waste collection with the other utility services residents receive. This argument made sense to residents, said Kuhl: "People understand that no one can just go to a gas station and buy 20 gallons for the price of 5—residents have to pay for the amount of service they use." Through its public education program, the city convinced residents that waste reduction incentives would help the city succeed in

its overall solid waste program. In turn, residents supported unit pricing.

At What Price?

Switching to unit pricing also often means convincing residents about *their* bottom line results. Cases in Mansfield, Connecticut, and Loveland, Colorado, illustrate the point.

Before implementing its variable rate program in 1990, the town of Mansfield worked to find a price structure that residents would consider fair. Lon Hultgren, Director of Public Works, said his department began by designing a subscription-based program to replace the private waste collection service residents had previously used. (Under the old system, residents paid a flat fee of about \$20 per month for unlimited service). For the new program, the town decided to offer four service levels: one, two, and four cans per week, plus a "mini" service level of just one bag per week. The town established prices for each level that would, in the aggregate, cover all program costs.

Next, since the amount set for the most common service level was about 10 percent higher than the flat fee residents were paying previously for waste collection services, planners lowered it to a figure they felt was closer to what the market would bear. The result was a fee of \$20.75 per month for two-can service (with each can 35-gallons). The prices of other service levels were adjusted slightly to maintain the costs-revenues balance. The price was set at \$14.50 per month for one-bag service, \$17.50 for one-can (or two bag) service, and \$26.50 for four cans.

The city overcame what Hultgren described as the "classic resistance" to a user-fee system, and the program is now well accepted. With customers getting used to it, there has been a general trend of residents subscribing for lower level service.

Mick Mercer, the Streets and Solid Waste Manager in Loveland, Colorado, agrees that price concerns are key. Despite good intentions, "most people don't pay much attention to solid waste issues. Pocketbook concerns are what really matter." The key, said Mercer, is to design a program that will cost about the same or save money.

In Loveland, the switch to variable pricing began with a pilot program serving about 2,000 households three years ago. Loveland took the program city-wide (14,000 households) in April 1993.



Mailing Trash

When a unit pricing systems was started in Loveland, Colorado, residents were asked to buy trash bags for 75 cents apiece at retail outlets. Residents soon complained, apparently comparing the cost of the trash bags with other plastic bags they could buy for pennies. To make the connection between the cost of the bags and collection and disposal service, the city changed to bag tags, and compared the tags to stamps. Now, to "mail" their garbage to the landfill, Loveland residents affix one 75-cent stamp on each 30-gallon bag they put out for collection. A 40-cent stamp is good for a 13-gallon bag, and a sofa will set you back about 13 stamps.

Table 3: Effect of Variable Rate Pricing on Illegal Dumping and Recycling Rates

City	Population	Residential Landfill %Change	Recycling % Change
<i>Cities with notable problems</i>			
Harvard, IL	5,600	-34% to -31%	
113%			
Ithaca, NY	35-40,000	-31%	63%
Woodstock, IL	15,000	-31%	NA
Mt. Pleasant, MI	30,000	-44%	141%
<i>Cities with minor problems</i>			
Downers Grove, IL	46,000	-49%	88%
Perkasie, PA	7,000	-54%	156%
Lisle, IL	19,500	-53%	NA
<i>Cities with no apparent problems</i>			
High Bridge, NJ	3,600	-18%	3%
Charlemont, MA	1,200	-37%	NA
Antigo, WA	8,500	-50%	146%
Ilion, NY	8,800	-51%	141%
Rock Falls-Sterling, IL	29,500	-65%	NA
Seattle, WA	495,900	**	**

** Seattle reported no apparent problems with illegal dumping, but did not report changes in waste generation or recycling changes. NA=no applicable data

Source: "Under What Conditions Should Cities Adopt Volume-Based Pricing for Residential Solid Waste Collection?" Daniel Blume, Master's Memo Study, Duke University, May 1991.

City planners estimated that most residents would probably use one 30-gallon bag per week, down from the previous two to three bags per week. A year into the full program, studies verify that the average set out is now about 0.88 bags per household per week.

Under the old program, residents were paying \$5.75 per month for unlimited waste collection services; the city wanted to be sure not to come in too much over this for those households that were able to increase their waste prevention and recycling.

The city decided that a rate of 75 cents per 30-gallon bag would encourage residents to reduce and recycle while keeping per-household costs at a reasonable

Getting Some Help

To help interested communities learn more about the process of planning, designing, and implementing unit pricing programs, the U.S. Environmental Protection Agency has prepared a guide, "Pay-As-You-Throw: Lessons Learned About Unit Pricing." This guide provides detailed technical information on unit pricing based on the experiences of 11 communities with programs in place. The manual (EPA 530-R-94-004) is free; to order, call the RCRA Hotline at (800) 424-9346, or write to U.S. EPA, RCRA Information Center (5305), 401 M Street S.W., Washington, DC 20460.

level. Adding the cost for households that set out one bag per week (\$3.25/month) to the fixed monthly fee for curbside and yard waste recycling services (\$3.40/month), the total refuse and recycling service costs each household \$6.65/month—only 90 cents per month more than the old program.

The system was started by selling bags at retail outlets for 75 cents each. Despite some education efforts preceding the switch, residents began complaining almost immediately about the cost of the bags. They compared them to supermarket bags that cost just pennies apiece. Loveland officials realized they had to find some way to help residents make the connection between the cost of the bags and the town's waste collection services.

Loveland solid waste planners accomplished this by changing from bags to tags and comparing the new tags to stamps—in effect, asking residents to "mail" their waste to the landfill. A single "trash stamp" costs 75 cents and covers one 30-gallon bag. A 40 cent stamp also is sold to those households that need just a 13-gallon bag.

The stamp program helps handle bulky items, too. To dispose of a couch, for example, residents are asked to call the solid waste office, describe the item, and are told how many stamps it will cost. A standard-sized sofa takes about 13 stamps—about \$9.75.

The adjustment the city made to meet criticism paid off. After the first year of operation, a survey showed that 87 percent of residents gave the program a

mark of good or excellent.

All in the Family

Another potential barrier for communities implementing unit pricing is to design a program that extends the waste reduction incentive to residents of multi-family housing. In multi-family residences (buildings with five units or more), tenants typically are asked to bring their waste to a central dumpster for collection. Since their garbage is combined, identifying the amounts of waste that individual residents discard in order to charge accordingly can be difficult.

Mansfield, Connecticut, faced such a challenge. Home to University of Connecticut, Mansfield has a large student population living in multi-family housing. But the town has come up with a strategy to help extend unit pricing to these residents. The town charges the landlords of multi-family housing a variable rate for the waste collected from their tenants. Since these costs are included in the rent, residents do not see what they pay for waste collection. So, Mansfield officials sought ways to show residents of multi-family buildings that waste reduction could bring them potential cost savings.

For example, when a 60-unit condominium complex switched from its private waste hauling services to Mansfield's unit pricing program, town officials reviewed its waste management costs. It found that the complex was overpaying for waste collection services. The officials showed how the complex could actually save money under the program, if everyone cut down on waste generation and began recycling, the complex could actually save money under the program. And these savings could lead to a reduction in the condominium fees charged to residents, or at least prevent them from going up.

Another strategy to extend unit pricing to multi-family units is simply to include as many residents of multi-family housing as possible in your standard program. In Long Beach, California, for waste collection purposes, the city considers residents in developments with 10 or fewer units to be single-family residences. These units are given the same containers and rate options as all other single-family households. Kuhl, from the city's resources board, reports that tenants had few difficulties making the transition to the can-based unit pricing program, even in cases where these developments previously used a

central waste dumpster.

Illegal Dumping: Enemy No. 1?

When a community introduces the possibility of unit pricing to its residents, one concern frequently mentioned is whether residents might dump waste illegally to avoid paying fees. According to Henry Fisher, the Solid Waste Manager for McHenry County, Illinois, the first thing that should be understood is that illegal dumping has always

occurred. In addition, although this is difficult to gauge, there is no evidence of a large-scale increase in illegal dumping due to variable rate programs.

McHenry County's experience is similar to that of many communities that have adopted variable rate pricing. A report by the Reason Foundation cited several multi-community studies that show illegal dumping is not a significant problem.¹ Another study covering 14 cities reported no problem in six cities,

minor problems in four cities, and notable problems in four cities.² Table 3 shows the effect of illegal dumping on recovery in these 14 cities. Since these communities do not use a standard methodology for gauging changes in waste generation and recycling rates, these data should be considered estimates. The extent of illegal dumping in the communities had either no effect or only a marginal effect on the effectiveness of the programs. Another study of eight cities show no dumping problems in seven of the eight cities.^{1,2}

Tempering the Temptation

Difficulties with illegal dumping can be addressed through a combination of enforcement and public education. One method McHenry County's Fisher suggests is to reduce residents' incentive to dispose of waste outside the system by adopting a multi-tiered rate structure that includes a flat rate for a basic level of service and a modest per-unit charge for any additional waste collected. In this way, residents pay a direct price that is less than if the program relied entirely on per-unit charges for program revenue. And households also receive a certain level of trash collection they might perceive as free. (Residents pay for this basic service, of course, in the traditional manner—via taxes or flat fees.) With this combination, individuals who might otherwise be tempted to dump waste believe the new prices are reasonable and are more inclined to participate.

Loveland's Mercer agrees that illegal dumping is "perceived as a bigger problem than it really is." Where it does occur, illegal dumping in Loveland typically takes the form of individuals leaving trash in commercial or apartment building dumpsters. To prevent this, Mercer's office conducted extensive public education about all aspects of unit pricing, including illegal dumping. The office also works hard to investigate complaints of violations. Where illegal dumping is suspected, the office often finds the name and address of the violator in mail found in the trash. The individual is notified of the finding and warned that any additional violations will result in prosecution. "We haven't had any repeat violations yet," said Mercer.

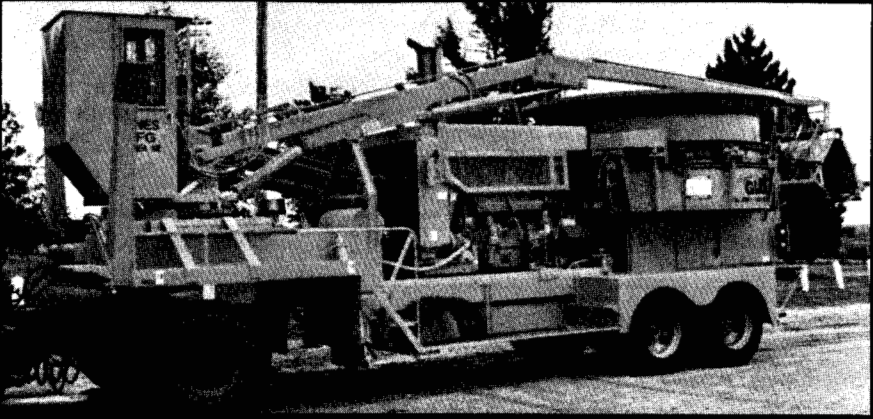
Other Forms of Beating the System

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dumping or citizens dumping their trash in commercial dumpsters. Sometimes, residents cut back on waste by dropping nonrecyclable materials into recycling bins.

Long Beach, California, found an increase in contamination of recyclables soon after implementing its variable pricing system for trash. To correct the behavior, the city did not collect the materials from any recycling bins containing nonrecyclable materials. Instead, collection crews attached notes to the bins that listed the program's recyclable materials and explained that residents could remove the nonrecyclables and call the city to reschedule the pickup—often on the same day. Since implementation of the policy, contamination of recycling bins has dropped dramatically.

Another way residents have found to beat unit pricing systems is to compact their waste to fit as much trash into fewer bags or smaller cans. Loveland dealt with this potential problem by establishing a 50-pound maximum weight for trash bags set out for collec-

tion. Besides providing more accurate estimates of waste collected, this protected sanitation workers. When overstuffing does occur, the collection crew leaves a note for the resident, explaining why it didn't collect the waste and inviting the resident to call with any questions.

Changes in the Office

Some communities find that changing to unit pricing for solid waste also brings increased administrative demands, including the need for additional personnel or equipment. Communities can structure programs to minimize these demands. In Loveland, one reason why planners decided upon the "postage stamp" concept was the low overhead in such a system. Several stores in town agreed to sell the stamps with no mark-up. As a result, the city has few additional expenses associated with stamp sales and distribution. Loveland simply bills the stores monthly for the stamps they sell. Only one additional person has been hired—a customer service person used to answer questions that come in by phone.

Making the Move

To make the move to unit pricing, communities should take steps ahead of time to deal with potential barriers—before they become a problem. In addition to the issues discussed here, there inevitably will be other, community-specific concerns that need to be addressed. According to communities with variable rate programs, however, these issues are manageable and that switching to unit pricing is worth investigating. ■

Inquiries about this article should be directed to the RCRA Hotline, (800) 424-9346.

Notes:

¹Skumatz, L., "Variable Rates for Municipal Solid Waste: Implementation Experience, Economics, and Legislation," June 1993, Reason Foundation, Los Angeles, California.

²Blume, D., "Under What Conditions Should Cities Adopt Volume-Based Pricing for Residential Solid Waste Collection?" Master's Memo Study, Duke University, May 1991.



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