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## Is Unit Pricing Right for Your Community?

**O**ver the past several years, many communities across the United States have found it increasingly difficult effectively and economically manage their municipal solid waste (MSW). Against a backdrop of steadily rising waste generation rates, many communities have seen their local landfills closing, tipping fees rising, and prospects for siting new disposal facilities diminishing. Other demands on waste management systems include growing public awareness of general environmental issues, as well as state and locally legislated waste prevention and recycling goals.

In response, many communities have begun adopting new approaches to waste management, such as collecting materials for recycling; composting yard trimmings and other organic materials; and conducting education programs intended to help residents understand the need for waste prevention and recycling. In addition, recognizing that market-based approaches are proving to be important tools in dealing with environmental issues, some communities have turned to economic incentives to encourage residents to prevent waste whenever possible and recycle or compost the remainder. One such incentive system is unit pricing.



## What Is Unit Pricing?

**Unit pricing is not a new concept. Berkeley, California, began its unit pricing program in 1924, and Richmond, California, launched a unit pricing program in 1916!**

Traditionally, many communities in the United States have paid for waste management services through property taxes or through an annual fee charged to each household. The cost per residence remains constant regardless of differences in the amount of waste generated. This creates the mistaken impression that MSW management is free.

**Unit pricing, also known as variable rate pricing or pay-as-you-throw, is a system under which residents pay for municipal waste management services per unit of waste collected rather than through a fixed fee.** Unit pricing takes into account variations in waste generation rates by charging households or residents based on the amount of trash they place at the curb, thereby offering individuals an incentive to reduce the amount of waste they generate and dispose of.

Unit pricing programs can take two basic forms. Residents can be charged by:

- Volume of waste, using bags, tags or stickers, or prescribed sizes of waste cans.
- Weight of waste, with the municipality measuring at the curbside the amount of waste set out for collection.

While they operate differently from one another, these systems share one defining characteristic: residents who throw away more pay more.

If the basic concept of unit pricing is straightforward, however, the decision to adopt such a program is far from simple. To help communities considering unit pricing as a solution to their mounting solid waste management difficulties, EPA convened a Unit Pricing Roundtable, attended by representatives from

communities that had implemented unit pricing or were actively considering it. EPA then organized the resulting wealth of ideas and advice to produce this guide. EPA designed the guide to help readers determine whether unit pricing is a viable option for their community and, if so, which factors to consider when planning and implementing such a program.



*By encouraging residents to prevent waste and recycle whenever possible, unit pricing is helping communities to better manage their solid waste.*

## Potential Benefits to Unit Pricing

Communities that have adopted unit pricing programs have reported a number of benefits, ranging from reductions in waste generation to greater public awareness of environmental issues. These benefits include:

- **Waste reduction.** Unit pricing can help substantially reduce the amount of waste disposed of in a community. Some communities with unit pricing programs report that unit pricing helped their municipality achieve reductions of 25 to 45 percent in the amount of waste shipped to disposal facilities.
- **Reduced waste disposal costs.** When the amount of waste is reduced, communities often find their overall MSW management costs have declined as well. (A portion of the revenues previously spent on waste disposal, however, may need to be dedicated to recycling, composting, or other diversion activities.)
- **Increased waste prevention.** To take advantage of the potential savings that unit pricing offers, residents typically modify their traditional purchasing and consumption patterns to reduce the amount of waste they place at the curb. These behavioral changes have beneficial environmental effects beyond reduced waste generation, often including reduced energy usage and materials conservation.
- **Increased participation in composting and recycling programs.** Under unit pricing, new or existing recycling and yard waste composting programs become opportunities for residents to divert waste for which they otherwise would pay. Experience has shown that these programs are the perfect complement for unit pricing: analysis of existing unit pricing systems shows that composting and recycling programs divert 8 to 13 percent more waste by weight when used in conjunction with a unit pricing program.
- **Support of the waste management hierarchy.** By creating an incentive to reduce as much waste as possible using source reduction and to recycle and/or compost the waste that cannot be prevented, unit pricing supports the hierarchy of waste management techniques defined by EPA.
- **More equitable waste management fee structure.** Traditional waste management fees, in effect, require residents who generate a small amount of waste to subsidize the greater generation rates of their neighbors. Under unit pricing, waste removal charges are based on the level of service the municipality provides to collect and dispose of the waste, similar to the way residents are charged for gas or electricity. Because the customer is charged only for the level of



COSTS



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service required, residents have more control over the amount of money they pay for waste management.

- **Increased understanding of environmental issues in general.** Through unit pricing, communities have the opportunity to explain the hidden costs of waste management. Traditional waste management systems often obscure the actual economic and environmental costs associated with waste generation and disposal. Once individuals understand their impact on the environment, they can choose to take steps to minimize it.

## Potential Barriers to Unit Pricing



While there are clearly benefits associated with unit pricing programs, there also are potential barriers. Communities considering unit pricing should be aware of the costs and possible community relations implications associated with the following issues:

- **Illegal dumping.** Some residents have strong reservations about unit pricing, believing it will encourage illegal dumping or burning of waste in their area. Communities can counter this fear with an effective public education program. Since most communities with unit pricing programs have reported that illegal dumping proved to be less of a concern than anticipated, providing residents with this information can help allay their concerns over illegal dumping.
- **Recovering expenses.** Since unit pricing offers a variable rate to residents, the potential exists for uneven cash flow that could make it harder to operate a unit pricing program. To address this, communities must be sure to set prices at the appropriate level to ensure that, on average, sufficient funds are raised to pay for waste collection, complementary programs, and special services.
- **Administrative costs.** Effectively establishing rates, billing residents, and collecting payments under a unit pricing program will likely increase a waste management agency's administrative costs. Communities need to set waste collection prices at a level that can cover these costs.
- **Perception of increased costs to residents.** While a unit pricing program offers residents greater control over the cost of collecting their waste, it could initially be seen as a rate increase. An effective public outreach campaign that clearly demonstrates the current costs of waste management and the potential reductions offered by unit pricing will help to address this perception.
- **Multi-family housing.** Extending direct waste reduction incentives to residents of multi-family housing can present a challenge. Since waste generated by these residents typically is combined in a central




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**In all unit pricing programs, residents who throw away more pay more.**

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location to await collection, identifying the amounts of waste generated by individual residents in order to charge accordingly can be difficult. Communities must experiment with rate structures and collection systems to encourage residents of multi-family housing to reduce waste.

- **Building public consensus.** Perhaps the greatest barrier to realizing a unit pricing program is overcoming resistance to change, both among citizens and elected officials. Informing residents about the environmental and economic costs of current waste generation patterns can help overcome this resistance and build support for unit pricing.

Careful planning and design of a unit pricing program to meet specific community needs is the best solution to these potential difficulties. In particular, an effective public education program designed to communicate the need for unit pricing and address the potential concerns of residents will help meet these challenges. (Public education programs are discussed in detail in Part IV of this guide.)



## Types of Communities That Can Benefit From Unit Pricing

Unit pricing programs work best when tailored to local needs. All types of communities can design unit pricing programs that will help achieve the goals of reducing waste generation and easing waste management difficulties; large, medium-sized, and small communities in every region of the country have realized these benefits. Local officials indicate that unit pricing programs also work well whether solid waste services are carried out by municipal or by private haulers.

As a result, unit pricing has grown significantly over the last few years. In the 1980s, only a handful of communities in the United States operated unit pricing programs. Now, over 1,000 communities have unit pricing programs in place. By January 1994, over 1,800 programs are scheduled to be in operation. In addition, laws in 10 states currently mandate or encourage unit pricing programs.



*Unit pricing is a familiar concept for businesses. For years, many companies have been paying for waste removal services based on the size of their dumpsters and the frequency of collections.*

## Making a Decision About Unit Pricing



After considering this overview of the benefits and barriers to unit pricing programs, decision-makers who believe unit pricing could work in their community can turn to Part II of this guide and begin the planning process. Decision-makers should carefully consider key factors such as the types of services to offer, the associated costs, the potential for complementary programs, the level of administrative change necessary, and the extent to which residents will support or oppose unit pricing.

## questions & answers

### Will this guide tell me what system to use and how to implement it?

*No. This guide is intended to provide essential information about unit pricing and to help you think about how well such a program would work in your community. It will provide many suggestions borne of successful programs of all types and sizes around the country. However, final decisions about whether to adopt unit pricing, what type of system to use, and how to implement it should be made based on local needs and circumstances.*

### How expensive is it to implement unit pricing?

*The cost of implementing a unit pricing program is directly related to how complex the selected system is, how it is financed, and how different it is from the current waste removal system. Many communities have implemented unit pricing with minimal upfront and ongoing costs. Over the long term, communities with unit pricing programs have generally reported them to be cost-effective methods of achieving their waste management goals.*

### Our community has had significant fiscal problems. Would unit pricing be appropriate?

*A community introducing unit pricing may choose to use fees either to supplement or to replace current revenue sources. While a community with a tight waste management budget may choose to use unit pricing fees to supplement current revenue sources, the public may resist such fees as simply an additional tax. Other communities stress that local acceptance of a unit pricing program is greater if current taxes, such as general or property taxes, are reduced by the amount of the new solid waste fees.*





# Points to remember



Unit pricing requires residents to **pay for each unit of waste** that they dispose of. This billing arrangement is similar to fees assessed on other essential services (such as water and electricity), where the charge is based on usage.



Unit pricing has been effective in reducing the amount of solid waste disposed of in **all types of communities** across the country.



Communities using unit pricing **in tandem with recycling** and composting programs have found these programs increase each other's effectiveness.



This guide is designed to provide **basic information** about planning and operating a unit pricing program. Decisions regarding the actual program you adopt will be based on your community's unique circumstances.

# Case Studies

## All Types of Communities Are Adopting Unit Pricing

**Rural areas.** Unit pricing is found in a number of rural communities. For example, it has been implemented in High Bridge, New Jersey, which has a population of 4,000, and in Baldwin, Wisconsin, which has a population of under 2,000.

**Larger communities.** While unit pricing is not yet common in the largest cities, it has been working successfully in Anaheim, Glendale, Pasadena, and Oakland, California; Aurora, Illinois; Lansing, Michigan; Seattle, Washington; and a number of other communities with populations over 100,000. In addition, state laws in Minnesota, Wisconsin, and Washington either currently or soon will require implementation of unit pricing programs in communities statewide, regardless of size (with some exceptions).

**County-wide.** Unit pricing also can be implemented on a county-wide basis. Tompkins County, New York; Hennepin County, Minnesota; and King County, Washington all have implemented unit pricing programs.



## Unit Pricing Cuts Down on Waste Volume

Unit pricing can result in dramatic declines in the amount of waste set out for collection. The Village of Hoffman Estates, Illinois, noted a 30-percent reduction in waste volume after implementing a unit pricing program. Seattle, Washington, reported a decline in waste generation from an average of 3.5 waste cans to 1.7 cans per household per week after unit pricing was launched. This amount was further reduced to just one can per household per week after complementary curbside recycling and composting programs were introduced (see the discussion of complementary programs in Part III).

Most communities, however, cannot delineate what percentage of waste reduction is directly attributable to unit pricing and what percentage is due to other factors, such as new recycling programs, consumer education, or even economic recession. Nevertheless, studies conducted over the last few years indicate consistent waste reductions in unit pricing communities. For example, a study at Duke University by Dr. Daniel Blume examined 14 cities with unit pricing. The waste reductions in this study ranged from 18 to 65 percent. The average waste reduction was 44 percent.

