# "Pay-As-You-Throw" A Proven Way to Reduce Waste, Increase Recycling and Cut Disposal Costs

Pay-As-You-Throw (PAYT)<sup>1</sup> is a unit-based waste collection fee system that, when implemented using a best practices approach, is the most effective way to give households an opportunity to save money by disposing of less waste and recycling more. Similar to other utilities like electricity and water, households are charged based on the quantity of waste they produce. The more they dispose; the more they pay; and the more they recycle, the less they dispose and the more they save.

More than 7,000 communities across the U.S. now have PAYT programs and boast impressive results. Research has found that adopting a PAYT program is **the single most effective change** a community can make to reduce the amount of waste disposed and increase recycling.

## PER-CAPITA WASTE DISPOSAL PAYT VS. NON-PAYT CURBSIDE



Table courtesy of Susan Robinson, Waste Management Inc. Variable Rate Pricing: Best Practice to Increase Recycling

## WHY PAYT?

**Cuts waste in half.** PAYT communities, on average, dispose of 49% less waste than communities that include the cost of waste collection in property taxes or charge it as a fixed fee.

**Dramatically increases recycling.** Research shows that variable rate systems result in a 20-40% increase in recycling tonnage.<sup>2</sup>

**Fair/equitable.** Households are responsible for their own behavior and can take control of their costs accordingly. A survey of 1,000 PAYT participants found that 68% see the program as fair.<sup>3</sup>

**Saves money.** The cost of waste disposal has risen 2.4 times faster than inflation over the last 30 years.<sup>4</sup> Often trash fees fall short in covering full costs. PAYT cuts disposal costs dramatically, provides a sustainable revenue stream when rates are designed with care, and defers the cost of future landfill development.

**Flexible to implement.** PAYT can be designed to meet the needs of any community (e.g., big or small, rural or urban, curbside or drop-off, with automated or manual collection, etc.).

	PAYT Program Types
Bag	<ul> <li>Generators purchase special plastic bags, often designed with a city logo or other distinguishing graphic, through city hall and/or local retailers. The price includes the cost of waste services. Residents can control their costs by choosing to throw less away. Different bag sizes can be used to designate specific volumes of waste.</li> <li>Creates incentive to reduce waste by providing a direct link between waste generating behavior and cost. No billing system to administer, but bags must be made available to residents. Can work with cart- or can-</li> </ul>
Variable	<ul> <li>Generators pay a fixed price based on size or</li> </ul>
Cart	number of carts they select for waste service. The larger or greater number of carts used, the more they pay.
	• Entails upfront costs for variable carts provision and delivery as well as ongoing costs for maintenance. Administratively more complex due to billing system requirements. Limited flexibility in switching between can/cart sizes.
	• Cart size decisions and associated costs are linked to estimated waste generating behavior over time as opposed to weekly fluctuations in generation.
Tag or Sticker	<ul> <li>Generators purchase special tags or stickers through city hall and/or local retailers. Price includes cost of waste services so the more tags/stickers used, the more they pay. Tags/stickers can designate specific volumes of waste and, unlike bags, can be used for bulky items.</li> </ul>
	• Creates incentive to reduce waste by providing a direct link between behavior and cost. Relatively inexpensive to implement. No billing system to administer, but tags/ stickers must be made available to residents. Does not work well with automated cart based systems due to difficulty spotting tags/stickers; but can be used as method for charging for overflow waste.
	Increased potential for froud as tags/stickers are more

#### Increased potential for fraud as tags/stickers are more susceptible to theft, counterfeiting, and non-compliance.

# WHAT ACCOUNTS FOR WASTE REDUCTION?



## **PRICING SYSTEMS**

Pricing systems vary widely between communities but generally fall into three categories:

**1. Fully Variable:** All or most program costs are recovered through the unit fees paid by the generator. To ensure full cost recovery, it is crucial that full program costs are known before setting fees and that future fee adjustments are permitted if needed.

**2. Two-Tiered:** Like an electricity bill, a twotiered system charges the generator a base fixed fee regardless of use and a variable fee that is based on use.

**3. Hybrid:** Generators pay a fixed amount for a specified maximum volume of waste to be set out per collection period. Waste set out that exceeds this amount accrues an additional charge.

### PAYT IN ACTION

San Jose, CA Program: Variable Cart Previously, residents were charged a flat rate for unlimited weekly garbage collection. Results: After extensive research, planning and public consultation, San Jose implemented PAYT combined with a curbside recycling system and financial incentives to contractors to promote recycling. Recyclables and yard trimmings more than doubled after the program was implemented and a telephone survey revealed that 90% of residents were satisfied with the program.

Seattle, WA Program: Variable Cart Results: City has done price elasticity studies and determined that for every 10% increase in waste and recycling collection fees, waste has decreased by 2%

St. Cloud, MN Program: Bag Results: From 1990 to 2008 per-household decrease in waste of

47%; over threefold

increase in recycling.

#### Worcester, MA

Program: Bag Results: "It was an instant success and all the things people said could happen and would happen -illegal dumping, throwing of trash across the city -never happened. We went from recycling 2% of our waste to 38% in one week." Total net financial impact of \$94.5 million in savings over 21 years (1993-2014).

Fort Worth, TX Program: Variable Cart Results: In year 1, recycling rate increased from 6% to 20%: participation rate increased from 38% to 70%; solid waste disposal costs dropped from \$32 million to approximately \$25 million, saving the city more than \$7 million.

Gainesville, FL

**Program:** Variable Cart Previously, costs for solid waste disposal were hidden from users **Results:** In Year 1, solid waste collected decreased 18% and recyclables recovered increased 25% resulting in cost savings of \$7.95 per household.

Sources: U.S. FPA. Waste Zero case studies.

## POTENTIAL CONCERNS

Concern		Possible Resolution
Haulers and Recyclers	Contamination of the recycling stream	<ul> <li>Design the program with hauler input</li> <li>Implement recycling first, then PAYT a year later</li> <li>Provide extensive recycling education and enforcement</li> </ul>
Uncertain and Unpredictable Revenue	Reduced revenue/taxes from collection/ disposal rates	• Develop the initial rate structure to reflect realistic future diversion rates and allow for a "true up" over time
Illegal Dumping	PAYT may lead to illegal dumping and a rise in enforcement and cleanup costs	<ul> <li>More perception than reality. Illegal dumping is largely made up of bulky waste and non-residential materials.</li> <li>Preempt illegal dumping through education and promotion</li> </ul>
Politics	Constituent opposition	<ul> <li>Identify a champion to promote and shepherd PAYT adoption</li> <li>Conduct extensive education and outreach at all stages of program adoption</li> <li>Phase in program to ease transition</li> </ul>

#### SUPPORT FOR PAYT\*

The following are just some of the organizations recognizing PAYT as a valuable tool for consideration by communities wanting to reduce waste and boost recycling rates:

The National League of Cities Sustainable Cities Institute provides resources to aid cities in developing sustainability programs and achieving sustainability goals. An example is a PAYT Fact Sheet. PAYT is described as a "Next Generation" strategy to help local governments improve on traditional programs.

The U.S. EPA supports PAYT "...because it encompasses three interrelated components that are key to successful community programs: 1) Environmental Stability; 2) Economic Stability; and 3) Equity. Although the U.S. EPA no longer updates the information it has online, it continues to provide information such as resources and case studies.

Regional organizations like the Northeast Waste Management Officials' Association (NEWMOA), and several state agencies, including MA DEP, CT DEEP, CalRecycle, PA DEP, and the Natural Resources Council of Maine, have worked with communities to help implement PAYT programs (sometimes referred to as SMART - Saving Money and Reducing Trash), by sharing tips, case studies, and other resources.

#### WANT TO LEARN MORE?

#### WWW.PAYASYOUTHROW.ORG

<sup>1</sup>Also known as variable rate pricing, trash metering, unit pricing and Save As You Recycle <sup>2</sup>Source: Susan Robinson. 2015. Variable Rate Pricing: Best Practice to Increase Recycling.

<sup>3</sup>Source: Automated telephone survey of 991 residents of communities with bag-based PAYT programs conducted by Public Policy Polling, Feb. 2014.

<sup>4</sup>Source: Waste Zero. May 2015. Waste Reduction Options.