

## Solid Waste Committee Study Results

### Current Operational Budget

Current Solid Waste Budget	\$ 477,100.00
Current Solid Waste Revenue	\$ <u>98,600.00</u>
<b>Total Estimated Mill Rate Impact</b>	<b>\$ 378,500.00</b>

### Alternative Operational Budget

Curbside Service	\$ 350,000.00	
Household Waste Tipping Fees	\$ 189,030.24	Est. Based on 7 year average of 2793 tons x \$67.68/ton
Recycling Tipping Fees	\$ 11,115.00	Est. Based on 7 year average of 390 tons x \$28.50/ton
Licenses and Fees	\$ 700.00	
Landfill Expenses	\$ <u>5,000.00</u>	
Total Estimated SW Expenses	\$ 555,845.24	
PAYT Revenue	\$ <u>240,928.00</u>	Est. based on minimum tonnage in past 13 years
<b>Total Estimated Mill Rate Impact</b>	<b>\$ 314,917.24</b>	

**Estimated Mill Rate Impact Change**                      \$        **63,582.76**    **Savings**

The curbside pickup proposal is based on an automated cart program where each home would be provided with two 64 gallon carts. One for household waste and one for recyclables. Residents will have to dispose of their household waste in customized trash bags available for sale throughout the community. For this example the PAYT Revenue estimate was based on \$1.50 per 30 gallon bag.

This option would result in closing the Transfer Station and requiring residents to dispose of typical yard items: shingles, wood debris, OBW, etc. at a commercial facility at their own expense.

**WasteZero**<sup>®</sup>  
Save Money. Reduce Waste.

---

# ABOUT **PAY-AS- YOU-THROW**





**WasteZero** is the leading provider of municipal solid waste reduction programs in the US. The company is on a mission to cut residential trash in half across the nation. It helps municipalities design, launch, and manage next-generation pay-as-you-throw (PAYT) systems, known as WasteZero Trash Metering™ programs. Under these programs, municipalities often eliminate or reduce fixed residential fees for trash collection. WasteZero Trash Metering™ programs require residents to pay for trash based on how much they generate, by disposing of waste only in official, pre-paid bags. These programs consistently cut residential solid waste volume by an average of 44%. They also help to double and sometimes triple recycling rates.

## **INTRODUCTION TO PAY-AS-YOU-THROW**

Under the traditional municipal solid waste (MSW) payment model, residents pay a flat fee to dispose of their waste. These fees can often be “hidden” in utility or property tax bills. With this approach, all residents pay the same, regardless of the amount of waste they generate or how much they recycle. This model gives residents little incentive to reduce the volume of their waste and divert items from the waste stream toward productive uses such as recycling and composting.

Many variations of the PAYT concept exist, and all require that residents pay for trash collection based on how much trash they throw away. All PAYT programs attempt to create economic incentives to recycle more and generate less waste. However, they aren't all equally effective.

# PAYT SOLUTIONS – UNDERSTANDING THE OPTIONS

“Pay-As-You-Throw” is an umbrella term for programs that can take many different forms. Any community weighing the decision to move to a PAYT system needs to understand the different options available to them. Popular PAYT options include cash, overflow, variable-rate carts, tags, and bags.

## CASH

In a cash-based PAYT model, residents pay a set fee in cash for each bag they dispose of at a convenience center or transfer station. Cash-based programs are fair for residents; people who create less garbage pay less to dispose of it. Because there is a cost associated with each bag, these programs also give residents incentives for waste reduction and diversion.

Cash programs can be effective, but they do have their drawbacks. Primarily, cash-based programs have inherent operational and accounting inefficiencies, as cash—often in the form of coins—must be collected, counted, and deposited. Cash programs also put convenience center attendants at risk of theft due to the often large amounts of cash they have on hand. There have also been cases reported of convenience center/transfer station attendants stealing from the cash collection. Finally, cash programs are entirely impractical for municipalities that have curbside trash collection.

## OVERFLOW

In an overflow program, residents pay a flat fee that covers everything they can fit into a certain size cart, and then pay extra (usually by the bag) to dispose of anything that does not fit into the cart. Overflow programs can be useful in collecting revenue from the minority of residents who regularly fill their carts beyond capacity, but given the large size of many carts (often up to 96 gallons), many residents do not often reach the point where they need to resort to overflow—making it difficult for overflow

programs to achieve their waste reduction and diversion goals.

## VARIABLE-RATE CARTS

Variable-rate carts (VRCs) are another pay-as-you-throw option that communities can consider. Under these programs, residents choose from among different sizes of carts—frequently 35, 65, and 96 gallons—paying more for the larger carts and less for the smaller ones. One benefit of this system is that it offers some of the inherent fairness that is a hallmark of PAYT.

Variable-rate cart programs can be expensive and include high start-up costs to purchase new equipment. Variable-rate cart programs can be operationally complicated as communities deal with the ongoing logistics of distributing different cart sizes, accounting for them, and maintaining all cart sizes.

Perhaps the biggest drawback of variable-rate cart programs is that they often do not achieve communities’ waste reduction and waste diversion goals. This happens largely because each resident will usually select the cart size that fits his or her existing waste disposal pattern, rather than changing their habits and further reducing waste.

The practice of resident “snow-coning” is also common in variable-rate cart programs. In “snow-coning,” residents will select the smallest and lowest-priced cart, and then overstuff it with bags of trash piled on top like the scoop of ice on a snow cone. This adds litter problems to an approach that is not known for generating positive results in the first place. To help

treat this symptom of VRC programs, municipalities will sometimes combine an overflow program with variable rate carts. This simply adds greater complexity, and usually fails to reduce waste in any meaningful way.

## TAGS

Another PAYT option is tags (or stickers). Under these programs, residents pay by the bag by affixing a pre-paid tag or sticker to each bag of trash, much like using an oversized postage stamp. Tag-based systems are fairer for residents than flat fees and they create incentives for waste reduction and diversion.

Enforcement of tag or sticker programs can be challenging, which limits their effectiveness. Communities with automated collection cannot effectively use a tag-based system, due to the need to closely inspect each bag as it is collected. It can also be difficult for collection crews to detect bags that are larger or heavier than permitted, that have split stickers, and that are untagged but hidden beneath bags with the proper tag. Under a tag or sticker-based program, waste collection crews are sometimes forced to decide between collecting slowly—and detecting non-compliance—or collecting quickly and letting unpaid-for waste get collected.

Tag-based programs can reduce waste by 5-20% although there are significant drawbacks, most of which relate to enforcement difficulties and the resultant “cheating” by some residents.

Bag-based pay-as-you-throw programs usually offer the greatest range of benefits and have the fewest drawbacks.

**BAGS**

Bag-based pay-as-you-throw programs usually offer the greatest range of benefits and have the fewest drawbacks. In the bag-based system, residents dispose of their waste in specialized bags approved by the municipality and clearly marked with the municipal seal or other unique instructions or information. These programs are fair, with residents paying only for the trash they dispose of without having to subsidize the habits of more wasteful neighbors. As a result, they provide the necessary incentives for residents to reduce, reuse, and recycle.

Operationally, bag-based programs are the simplest option and require no changes to existing collection systems. Bag-based programs are also less expensive because they do not require the purchase of new equipment. They are also easier to enforce, due to the readily identifiable nature of the bags, even in communities that use automated collection systems.

Most significantly, bag-based pay-as-you-throw programs are highly effective in reducing waste and in driving up recycling rates. WasteZero Trash Metering™ programs, which are bag-based, reduce waste by an average of 44% and can double or triple recycling volume.

**WITH BAG-BASED PAY-AS-YOU-THROW**



City may reduce fees or reallocate General Fund dollars for disposal/collection



Residents purchase municipality-specific bags at local retail stores (typically \$1-2/bag)



Only pay-as-you-throw bags are collected curbside or at drop-off centers



Behavior changes: waste is reduced and recycling increases

**CONVENIENT**

**EASY**

**EFFECTIVE**

## AMERICAN INSTITUTE FOR PACKAGING AND THE ENVIRONMENT STUDY

A 2013 study by the American Institute for Packaging and the Environment (AMERIPEN), titled “AMERIPEN Analysis of Strategies and Financial Platforms to Increase the Recovery of Used Packaging,” focused on the ways that local, state, and federal governments reduce waste and increase recycling.

AMERIPEN analyzed techniques used across the US, Canada, Australia, and Europe. Those techniques included:

- Disposal bans
- Mandatory recycling
- Unit-based pricing, or pay-as-you-throw (PAYT)
- Advance recycling/disposal fees
- Container deposits/bottle bills
- Landfill taxes/surcharges
- Extended producer responsibility (EPR) for packaging

The study found that PAYT is extremely effective, and recommended it as one of the three best approaches to reduce solid waste and increase recycling. The study also cited data showing that about 90% of residents approve of PAYT programs<sup>1</sup>.

## PAY-AS-YOU-THROW AND POPULAR OPINION: A WINNING COMBINATION

A study conducted by the public opinion research firm Public Policy Polling (PPP) sheds light on resident attitudes toward PAYT—and shows those attitudes to be overwhelmingly positive.

Among the survey’s findings:

- **Favorability:** 79% have either a very or somewhat favorable opinion of PAYT, with an outright majority (52%) having a very favorable opinion.
- **Fairness:** More than two-thirds—68%—see the program as fair.
- **Ease of Participation:** 74% think it is easy to take part in PAYT.
- **Effectiveness:** 89% said PAYT is performing better than or as well as they expected.

## WASTEZERO TRASH METERING™

Under the WasteZero Trash Metering™ program, the company’s proprietary approach to PAYT, residents purchase municipality-issued trash bags to meet their waste needs.

Trash bags are priced at levels that encourage residents to use fewer bags by diverting more waste into recycling, composting and/or other disposal methods. The WasteZero Trash Metering™ program incentivizes residents to produce less trash and use fewer bags in order to lower their trash-related costs.

### MANUFACTURING

WasteZero manufactures all supplies for its programs—including customized plastic trash bags made from recycled content—in the U.S. The company customizes the bags to municipal specifications, including size, color, customized art (typically municipal seals), thickness, and more.

### LOGISTICS

Through its retail store distribution offering, WasteZero provides all the back-end logistics necessary for implementation. This includes warehousing the trash bags, as well as shipping them to local grocery, convenience, and hardware retailers so that residents can easily purchase them. The company also manages inventory, accounting, and reporting.

### COMMUNICATIONS SUPPORT

WasteZero recognizes that educating residents gives them the resources they need to succeed. The company provides custom materials (web/phone/announcements/handouts) to educate residents about the program.

<sup>1</sup> Skumatz, Lisa A., Ph.D., Recycling Update Workshop, Presentation to Northern California Recycling Coalition, March 27, 2012

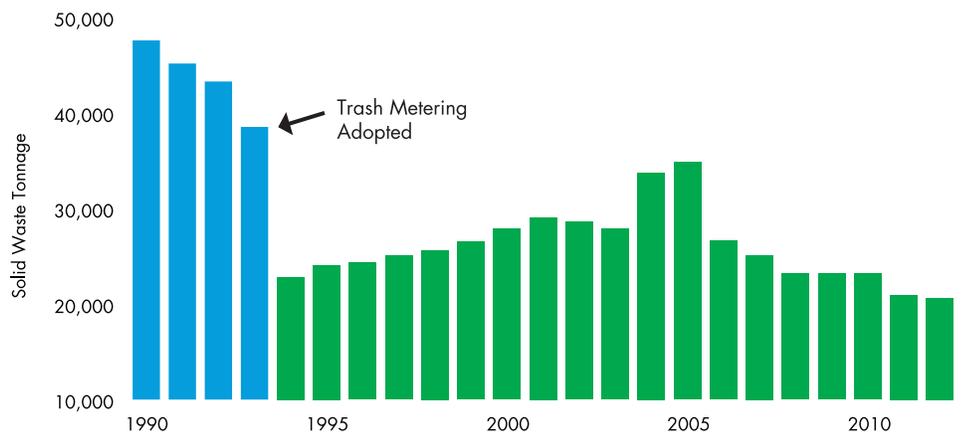
# WASTEZERO TRASH METERING™ SUCCESS

WasteZero’s waste reduction experience has produced real and meaningful results for its municipal partners.

**Typical results include:**

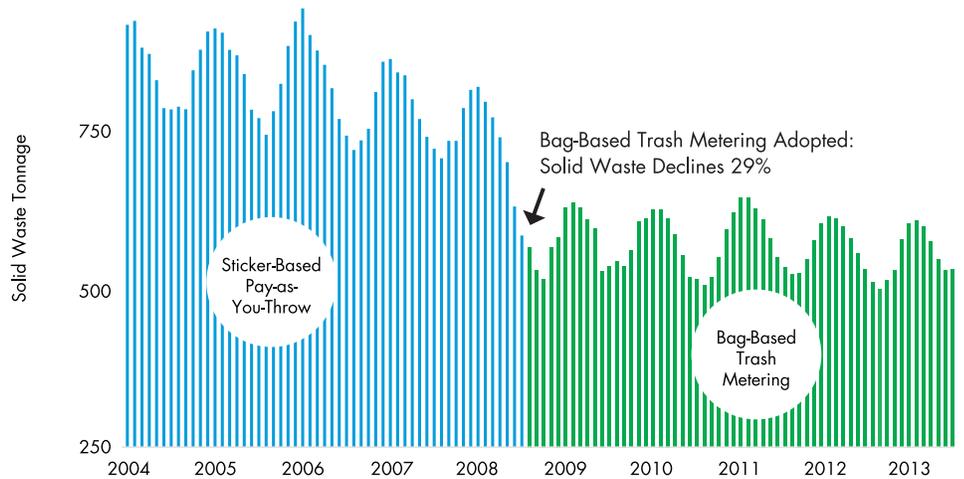
Municipality	Solid Waste Tonnage	Recycling Rate
Ashland, MA	-38%	+98%
Dartmouth, MA	-59%	+50%
Decatur, GA	-42%	+79%
Duxbury, MA	-43%	+20%
Malden, MA	-49%	+74%
Sandwich, MA	-48%	+74%
Tiverton, RI	-50%	+100%
Wells, ME	-59%	+47%

**Worcester, Mass. Solid Waste Volume 1990 - 2012**



Source: Worcester Department of Public Works

**Gloucester, Mass. Solid Waste Volume 2004-2013**



Source: Gloucester Public Works Department

Programs generate significant results within three months of launch and last as long as the program is in effect.

Municipalities support our programs because they

- Require no up-front costs for cities and towns
- Require no additional personnel, facilities, or other resources to implement or run
- Use existing technologies—no need for additional municipal investment
- Transcend partisan politics
- Are quickly implemented and generate significant results within 90 days

## WASTEZERO QUICK FACTS

### KEY LOCATIONS

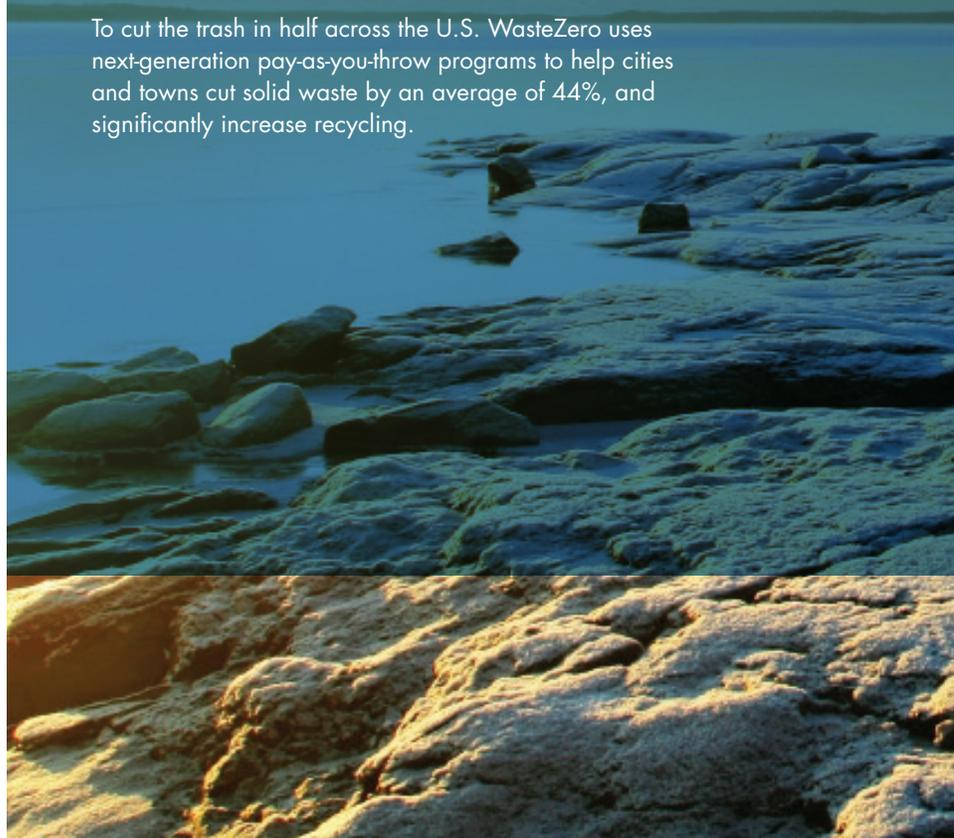
Raleigh, North Carolina  
North Andover, Massachusetts  
Hemingway, South Carolina

### CERTIFIED B CORPORATION™

### PARTNERS WITH 800 MUNICIPALITIES AND NUMEROUS GOVERNMENT AND PRIVATE ORGANIZATIONS THROUGHOUT THE UNITED STATES

### MISSION

To cut the trash in half across the U.S. WasteZero uses next-generation pay-as-you-throw programs to help cities and towns cut solid waste by an average of 44%, and significantly increase recycling.



---

# MEDIA CONTACT

Joshua Kolling-Perin  
Director, Public Engagement  
(o) 919-322-1207  
jkollingperin@wastezero.com

8540 Colonnade Center Drive  
Suite 210  
Raleigh, NC 27615

[www.wastezero.com](http://www.wastezero.com)  
[blog.wastezero.com](http://blog.wastezero.com)



---

## About WasteZero

WasteZero, the leading provider of municipal solid waste reduction programs in the U.S., is on a mission to cut residential trash in half across the nation. WasteZero partners with hundreds of municipalities throughout the U.S. to reduce the amount of waste landfilled and burned, increase recycling, and generate savings. The company helps municipalities design, launch, and manage next-generation pay-as-you-throw systems, in which people pay by the bag for their solid waste services. These programs increase individuals' awareness of the cost of their trash, reducing solid waste by an average of 44% and increase recycling by 100% or more. In most cases, WasteZero is able to guarantee its municipal customers that its programs will meet or exceed specific waste reduction targets.

WasteZero manufactures the customized specialty plastic trash bags for its programs and other customers in the U.S. from recycled content. It is committed to creating U.S. jobs and to solving the nation's solid waste crisis. A certified B Corporation, WasteZero is a national organization with key management offices in Raleigh, N.C., and the Boston area, and a manufacturing facility in Hemingway, S.C.



For more information, visit [www.wastezero.com](http://www.wastezero.com)