

LEWISTON CITY COUNCIL WORKSHOP AGENDA

Tuesday, January 13, 2015

City Council Chambers

6:00 p.m. Workshop

Pledge of Allegiance to the Flag.
Moment of Silence.

WORK SESSION

1. Presentation of the FY16 Lewiston Capital Improvement Plan - 30 minutes
2. Stakeholder Meeting - Workforce & Small Business Development Downtown - 15 minutes
3. Discussion of Pay as You Throw Solid Waste System - 60 minutes

EXECUTIVE SESSION

Executive Session to discuss Real Estate Negotiations of which the premature disclosure of the information would prejudice the competitive bargaining position of the City.

LEWISTON CITY COUNCIL
WORKSHOP AGENDA
TUESDAY, JANUARY 13, 2015
6:00 P.M.
CITY COUNCIL CHAMBERS, LEWISTON CITY HALL

1. Presentation of the FY16 Lewiston Capital Improvement Plan – 30 minutes

The charter requires that a capital plan be presented to the City Council by mid-January of each year. That plan has been completed and has been separately provided. This presentation will provide an overview of the plan with an emphasis on projects for FY16, particularly those that will involve the potential for issuing bonds. The Planning Board and Finance Committee have been invited to participate.

2. Stakeholder Meeting – Workforce and Small Business Development Downtown – 15 minutes

At the suggestion of Council President Cayer, Economic and Community Development staff are working to coordinate a stakeholder meeting focused on resources and opportunities to assist with workforce and small business development in the City's low and moderate income neighborhoods in and near downtown. Stakeholders would include representatives from local banks, community groups, workforce and small business development agencies, and community development organizations. Councilor Cayer would like to brief the Council on this effort. He is also looking for two Councilors interested in participating in this process along with the Mayor.

3. Discussion of Pay as You Throw Solid Waste System – 60 minutes

Over the past few months, staff has been reviewing pay as you throw solid waste collection systems. Under such systems, the cost of collecting and disposing of residential solid waste is moved from the general property tax to a fee for service system based on the quantity of waste generated by an individual residence. Our review has been assisted by representatives of WasteZero, a firm that specializes in assisting municipalities in evaluating and implementing pay to throw systems. This session is intended as an opportunity to introduce the concept of pay to throw to the Council and seek your support in continuing to analyze its feasibility for the City of Lewiston. We are not asking the Council to decide, at this point, whether such a system should be implemented. Representatives of WasteZero will be present to provide an overview of pay to throw, their company, and experiences with such an approach in Maine and New England. Please see the attached memo and background information.

EXECUTIVE SESSION
IMMEDIATELY FOLLOWING THE REGULAR MEETING

1. Land Acquisition



EXECUTIVE DEPARTMENT

Edward A. Barrett, City Administrator
Phil Nadeau, Deputy City Administrator

January 7, 2015

To: Honorable Mayor and Members of the City Council
 Fr: Edward A. Barrett
 Su: Pay as You Throw (PAYT)

Over the past few months, a number of staff members have been involved in discussing alternatives to the City's current system of solid waste collection.

Current System

Under the current system, commercial and larger multi-family properties are required to pay for the collection and disposal of their solid waste while single family and smaller multi-family properties receive the service at no charge. Single stream recycling is provided to single family and small multi-family properties at no charge.

This system raises a number of questions of equity given that owners of some properties are required to pay for collection and disposal where others receive the service at no charge. In addition, the amount of waste generated by individual properties who receive the no charge service varies dramatically, with some residents generating significant larger quantities than others, in part dependent on whether those residents do or do not take advantage of the no charge recycling system.

The City's current recycling rate, which is barely above 10%, is significantly below the state goal of 50%. This low recycling rate:

- Increases the tipping fees paid by the City for waste disposal,
- Underutilizes the recycling system we provide, and
- Does not contribute to the environmental benefits of recycling or the economic benefits associated with the recently opened materials processing facility at our Solid Waste Facility.

Potential Advantages of a PAYT System

Based on preliminary analysis, a PAYT system would increase our recycling tonnage from the current 1,200 to 3,100; reduce the tons we deliver to the Mid-Maine Waste incinerator from 11,000 to 6,200, and move our recycling rate up to the 50% state goal. Based on data from cities across Maine and New England with PAYT systems that have operated successfully for more than 20 years, these changes are likely to be permanent.

It would also:

- Increase overall equity by moving everyone to a system in which they pay for the cost of collecting and disposing of solid waste
- Reduce energy use and greenhouse emissions through enhanced recycling

[Type text]

- Remove the current cost of municipal solid waste from property taxes, thus helping to stabilize or reduce our property tax rate
- Simplify the administration and oversight of our current program by eliminating the City's multi-family charge for service system.
- Allow MMWAC to replace the waste we reduce with other waste for which a higher tipping fee is charged, improving that facility's financial situation
- From the point of view of the taxpayer, move the cost of solid waste from an uncontrollable expense, where individual actions have no or very limited ability to effect the actual amount paid to a controllable expense where individual actions can reduce costs, similar to the ability to control energy costs through conservation efforts or gasoline costs through choice of vehicle. While initially resistant, residents and councils in other communities have come to embrace PAYT with few if any programs discontinued.
- Based on preliminary pricing estimates, such a program could reduce our solid waste tipping fees by approximately \$200,000 per year and produce about \$1,000,000 in revenue, thus reducing our property tax levy by about \$1.2 million.

Future Solid Waste Issues

Solid Waste management in Maine is approaching a crossroads. Incineration, the major alternative to landfilling in Maine, will be challenged financially as long term advantageous energy contracts have or will soon terminate. The incinerator in Biddeford recently closed. Communities in the Bangor area are seeking alternatives that could result in the closure of that facility as well. MMWAC, which has already lost its energy contract, is facing a significant financial challenge and is poised to raise rates by about 40% to its member community owners.

At this point, it is not clear that the remaining incinerators in the state will be able to effectively compete long-term with the cost of landfilling, especially at the point where incinerators face significant capital costs to upgrade or be adequately maintained.

Should MMWAC close, we will lose our current ash for trash arrangement. Under it, the revenue we receive from accepting ash roughly equals our disposal costs. Should we lose the MMWAC option, disposing of our current 11,000 annual tons of residential waste will require that we either reopen our solid waste facility for such materials, at a significant cost, or transport to another landfill where tipping fees are in the \$80 per ton range. With transportation, this would increase our solid waste costs by roughly \$1,000,000 per year. PAYT would significantly mitigate this long term risk while addressing current challenges.

Conclusion and Request

There are strong economic and environmental benefits associated with the PAYT approach. It is more equitable than our current system since individuals would pay in proportion to their use. It provides a strong incentive to recycle or reuse materials, both saving energy and resources and reducing greenhouse gas emissions. At the same time, it is a significant change, and change is often difficult. To put it in perspective, this change process will take just several months while the benefits of fixing the system will bring a set of structurally permanent benefits.

At this point, we are not asking the Council to take any action toward implementing a PAYT system. We are, however, requesting your support to continue to evaluate this approach, gather additional information, answer questions that you or the public may have, and develop a plan for moving this initiative forward, perhaps as an element of the upcoming budget process.

Maine Townsgman

The Magazine
of the Maine Municipal Association

November 2014

New Approaches To Solid Waste

Composting and pay-per-bag
programs gain popularity,
though community
experiences vary



ALSO IN THIS ISSUE

After the mid-term elections
GIS mapping for smaller towns
School construction decisions
2014 Convention photos

Cutting trash in half: Secure finances with pay-as-you-throw

While traditional forms of disposal such as landfills and incineration remain, the authors note that pay-per-throw is growing in Maine.

By George Campbell and John Campbell

In Maine and across the U.S., the solid waste system is depleting the coffers of towns and cities while damaging our environment. The way we manage our trash wastes tremendous amounts of financial and natural resources, but it does not have to be that way. The good news is that the solid waste system is so large that even small changes can have a profound financial and environmental impact – as the large and growing number of municipalities in Maine that are taking steps to address this system can attest.

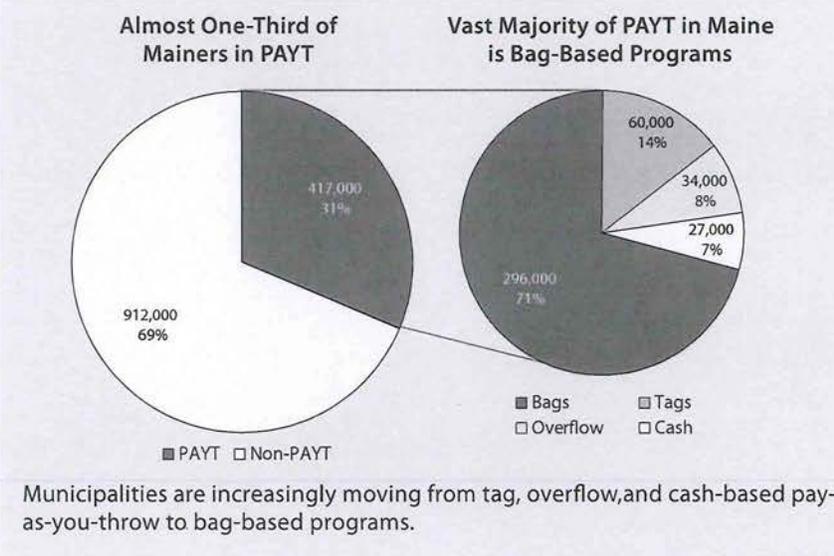
The economic toll of trash is stunning. Every year, \$200 billion is spent on solid waste management and wasted energy due to trash. Moreover, we are missing out on \$184 billion each year in opportunities for additional revenue from increased manufacturing using recycled goods, recyclable materials thrown in landfills and incinerators and payroll from more recycling-related jobs. Altogether, those avoidable costs and unrealized revenue opportunities make trash a \$384 billion problem for the U.S. economy – every year.

Similarly, while we all understand intuitively that trash is bad for the environment – landfills and incinerators cause damage to soil, water, and air quality – many people are surprised by

George Campbell was Mayor of Portland when the City instituted its successful pay-as-you-throw program, in 1999. Campbell currently serves as a Vice President at the Louis Berger Group and as Senior Managing Director at Lexden Capital; in both of these roles, he oversees large public/private partnerships.

John Campbell is Chairman of the Board of WasteZero, the leading provider of municipal solid waste reduction programs in the U.S. Previously, Campbell was the co-founder, chairman and Chief Executive Officer of Campbell Alliance, a specialized management consulting firm.

PAY-AS-YOU-THROW IN MAINE



Source: WasteZero analysis

just how enormous the environmental cost of our solid waste system actually is. All of the garbage that's thrown away across the U.S. produces 275 million metric tons of carbon dioxide equivalent every year. That's the same as the emissions from one out of every five cars in the U.S. And all that trash wastes 3.5 quadrillion BTUs of energy annually, enough energy to power fully one-quarter of all U.S. homes for an entire year.

Common sense solution

One solution to this financial and environmental problem lies with "pay-as-you-throw" programs, a common-sense response in which towns and cities move from charging people for their solid waste services via a flat fee buried in the property tax bill to paying a variable rate based on how much

they throw away. This gives people incentives to throw away less and recycle more.

Variable-rate pricing for solid waste is a "smart fee" structure that brings this utility in line with the payment model for other utilities, such as water and electricity. It encourages more responsible use of a valuable resource and better aligns outcomes with municipal goals such as reduced spending on waste disposal, increased revenue generation and operational efficiency.

Pay-as-you-throw, or PAYT, can come in different forms:

- Cash-based systems, where people pay with cash for each bag they throw away, usually at a transfer station.
- Variable-rate carts, which offer multiple trash cans of varying sizes,

EXISTING MAINE PAY-AS-YOU-THROW PROGRAMS



with the largest being the most expensive.

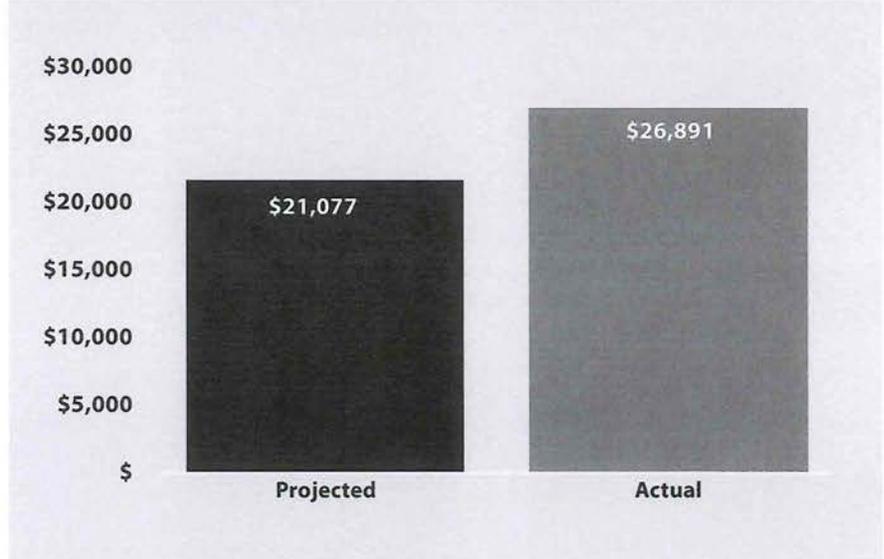
- Overflow programs, where people pay for each bag of trash that does not fit into their cart.
- And, systems where people attach pre-paid stickers or tags to each bag of trash they throw away.

All of those systems reduce solid waste tonnage to some degree, but their effectiveness can be limited by ineffective pricing structures, weak incentives at the individual level and challenges with enforcement. As a result, none have proven to be as effective at waste reduction as the form of pay-as-you-throw that is by far the most prevalent across Maine: bag-based programs.

With bag-based PAYT, people use specially marked city or town trash bags, usually in recognizable, bright colors with a municipal seal imprinted on them. The bags cost more than traditional trash bags (often \$1 or \$2, depending on size), because they cover not only the cost of the bag but also the cost of collection and disposal.

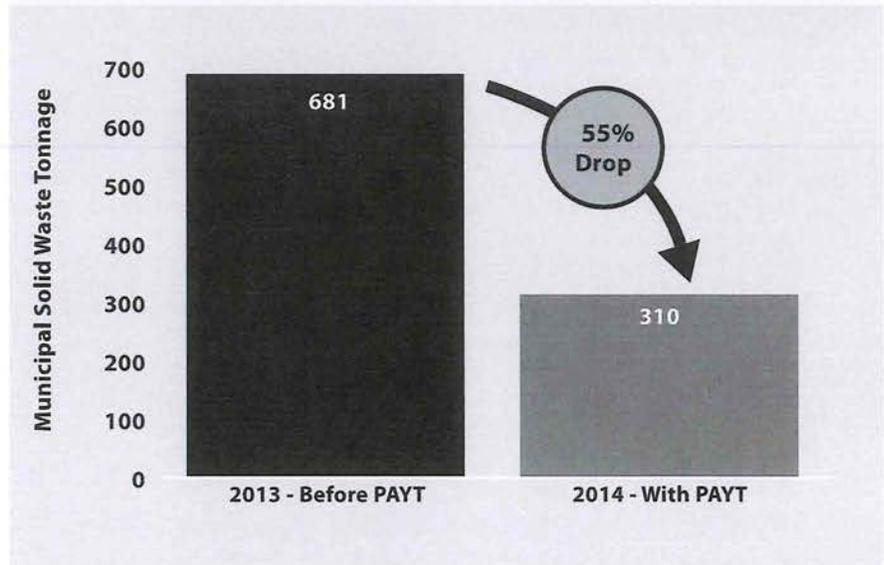
Making people aware of the true cost of their garbage every time they throw something away makes them think twice about throwing away things that have value outside the trash can – whether through reuse, recycling, composting, charitable donations or source reductions. Bag-based PAYT

WATERVILLE DISPOSAL SAVINGS WITH PAY-AS-YOU-THROW: FIRST EIGHT WEEKS



Source: Waterville Department of Public Works

WATERVILLE MSW REDUCTION WITH PAY-AS-YOU-THROW: FIRST EIGHT WEEKS



Source: Waterville Department of Public Works

has been proven to cut trash volumes by an average of 44 percent, dramatically helping municipal finances and reducing garbage's environmental toll.

PAYT is changing cities and towns throughout Maine. Almost one-third of Mainers – 417,000, or 31 percent – live in a PAYT community today. And 71 percent of that population takes

part in bag-based PAYT. That number is growing. Just in the last few months, the City of Waterville and Town of Etna adopted PAYT programs, and more communities sign on each year. In each of those cities and towns, people are taking dramatic and positive steps to reverse the financial and environmental damage of our solid waste system.

Success stories in Maine

The Maine towns and cities that have PAYT stand as strong evidence of the programs' effectiveness at cutting waste and helping municipal finances. Three relatively new programs in Maine provide good examples.

Waterville began a bag-based, pay-as-you-throw program in early September of this year. The city opted to direct some of the revenue from PAYT to finance city-wide curbside recycling. Together, PAYT and the curbside recycling it enables reduced municipal solid waste by 55 percent in the first eight weeks of the program, compared with the same period in the previous year. That reduction was greater than the 44 percent Waterville had projected.

PAYT in Waterville is also outpacing the city's financial projections. With \$27,000 in disposal savings in eight weeks, the program is projected to save \$175,000 in its first year.

Another example of PAYT's power is the City of Sanford, which first adopted bag-based PAYT in mid-2010 and saw its solid waste tonnage drop immediately and dramatically. However, voters not yet able to see the program's long-term value repealed the program just four months after it began – and tonnage shot back up. Sanford residents voted the program back in by referendum in 2013, and its tonnage dropped again. In the first three months of the new program, solid waste tonnage dropped by 42 percent, the recycling rate nearly doubled and the city saved more than \$28,000 in disposal costs. Since then, the positive results have continued.

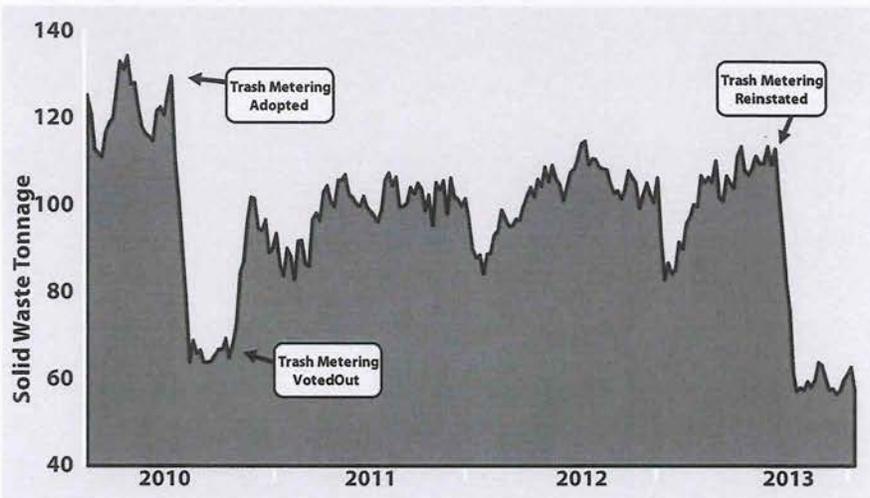
Eliot begins

The Town of Eliot began a bag-based PAYT program in 2013. As with Sanford and most other towns its solid waste tonnage dropped right away: In the program's first four months, Eliot cut its trash by 57 percent and saved \$9,000 in disposal costs.

The recent success that Sanford, Eliot and dozens of other Maine towns and cities have seen with PAYT over the years shows that the program can help others as well. To project roughly what PAYT could mean for a given municipality, a community can apply the average performance from other PAYT communities.

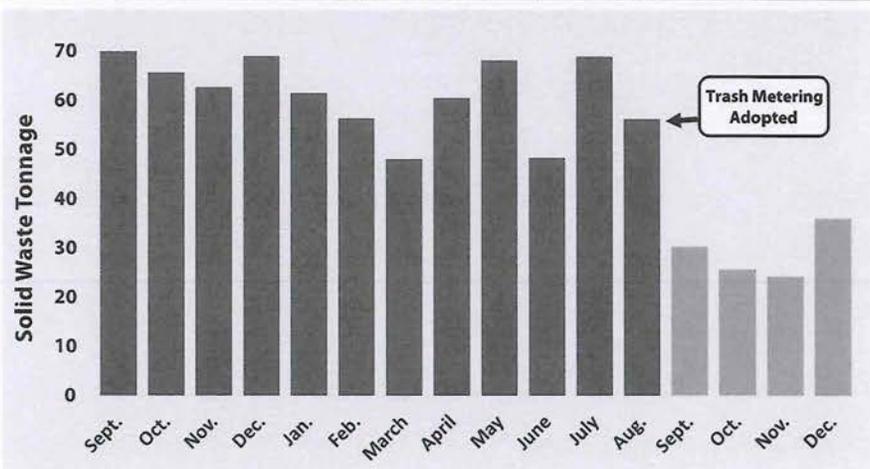
Using that model, we can see that PAYT in Maine could have a profound

SANFORD SOLID WASTE TONNAGE, 2010 - 2014



Source: Sanford Public Works Department

SURVEY RESULTS ELIOT



Source: Eliot Public Works Department

SAVINGS ESTIMATES

	Annual Disposal Savings	Annual Program Revenue	Annual Net Financial Impact
Statewide	\$5.2 million	\$16.5 million	\$21.7 million
25,000-resident city	\$251,000	\$793,000	\$1.04 million
12,500-resident town	\$125,000	\$397,000	\$522,000
5,000-resident town	\$51,000	\$159,000	\$210,000

Source: WasteZero

ENVIRONMENTAL ESTIMATES

	Greenhouse Gas Reduction (in Metric Tons CO ₂)	Equivalent to...	Energy Savings (in MMBTUs)	Equivalent to...
Statewide	377,000	Emissions from 74,000 cars	3.1 million	Energy used to power 28,000 homes Energy produced by 389,000 rooftop solar arrays
25,000- resident city	7,100	Emissions from 1,400 cars	59,000	Energy used to power 520 homes Energy produced by 7,300 rooftop solar arrays
12,500- resident town	3,500	Emissions from 690 cars	29,000	Energy used to power 260 homes Energy produce by 3,600 rooftop solar arrays
5,000- resident town	1,400	Emissions from 280 cars	12,000	Energy used to power 100 homes Energy produced by 1,500 rooftop solar arrays

Source: WasteZero

effect on the finances of Maine's towns and cities. If every city and town in Maine had a bag-based PAYT program, and reduced solid waste volume by the 44 percent average of all the other programs like it in the U.S., the annual financial impact would be an estimated \$28 million, saving \$6 million in disposal costs due to reduced waste and generating \$22 million in revenue from the sale of PAYT bags.

At the individual municipality level, a city with 25,000 residents that collects its trash at the curbside could expect an annual net financial impact of \$1.04 million from PAYT, made up of \$251,000 in disposal savings and \$793,000 in revenue. For a town of 12,500, the annual impact would be \$522,000 – \$125,000 in disposal savings and \$397,000 in revenue. Even a 5,000-resident town could see \$210,000 in impact each year, with \$51,000 saved in disposal and revenue of \$159,000. Needless to say, this is money that municipalities can use in many productive ways: for education, public safety, parks, greenways, transit and many other purposes.

In addition to the financial benefits, PAYT could do dramatic good for the environment. Using the same calculations as above, statewide PAYT in Maine would cut greenhouse gas emissions by 134,000 metric tons of CO₂ equivalent. That's the same as taking 26,000 cars off the road every year. And in terms of energy savings, state-

wide PAYT would conserve 1.1 million BTUs, enough energy to power 9,900 residential homes in a year, or the amount created by 139,000 rooftop solar arrays.

We're often told that environmental and financial solutions are an "either/or" choice: What's good for the

environment will hurt the economy, and what's good for the economy will hurt the environment. But one-third of Mainers know from personal experience that that's not the case, that by cutting trash nearly in half, pay-as-you-throw programs do good for both the economy and the environment. ■

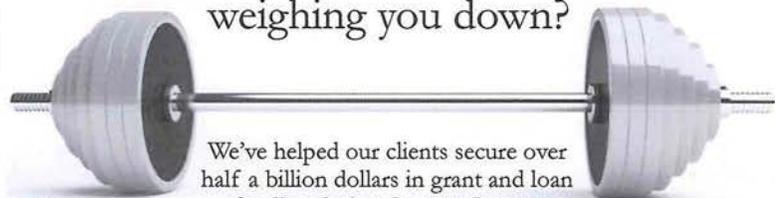
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A Guide to Pay-as-You-Throw in Maine

This document serves as a guide to understanding the “how’s” and “why’s” of the pay-as-you-throw model for solid waste—both in general and specifically in Maine, where it has already helped transform a number of cities and towns, and has the potential to do so in many more.

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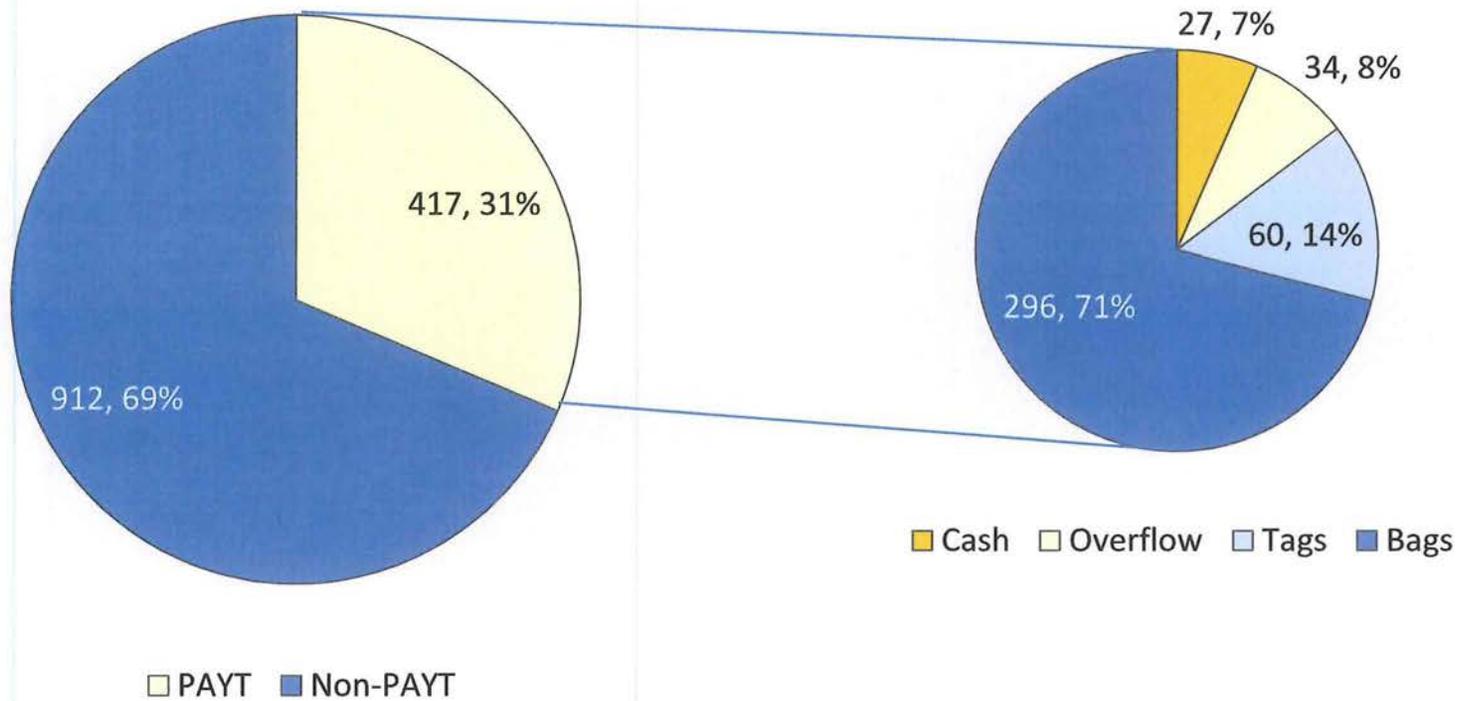
Pay-as-You-Throw in the News 24

PAYT in Maine

Overview

31% (or 417,000) of the 1.33 million people in Maine live in towns that have some form of PAYT.

Payment Method for Trash Service in ME
By pop. in thousands and percent of pop.
Total pop. = 1.33 million



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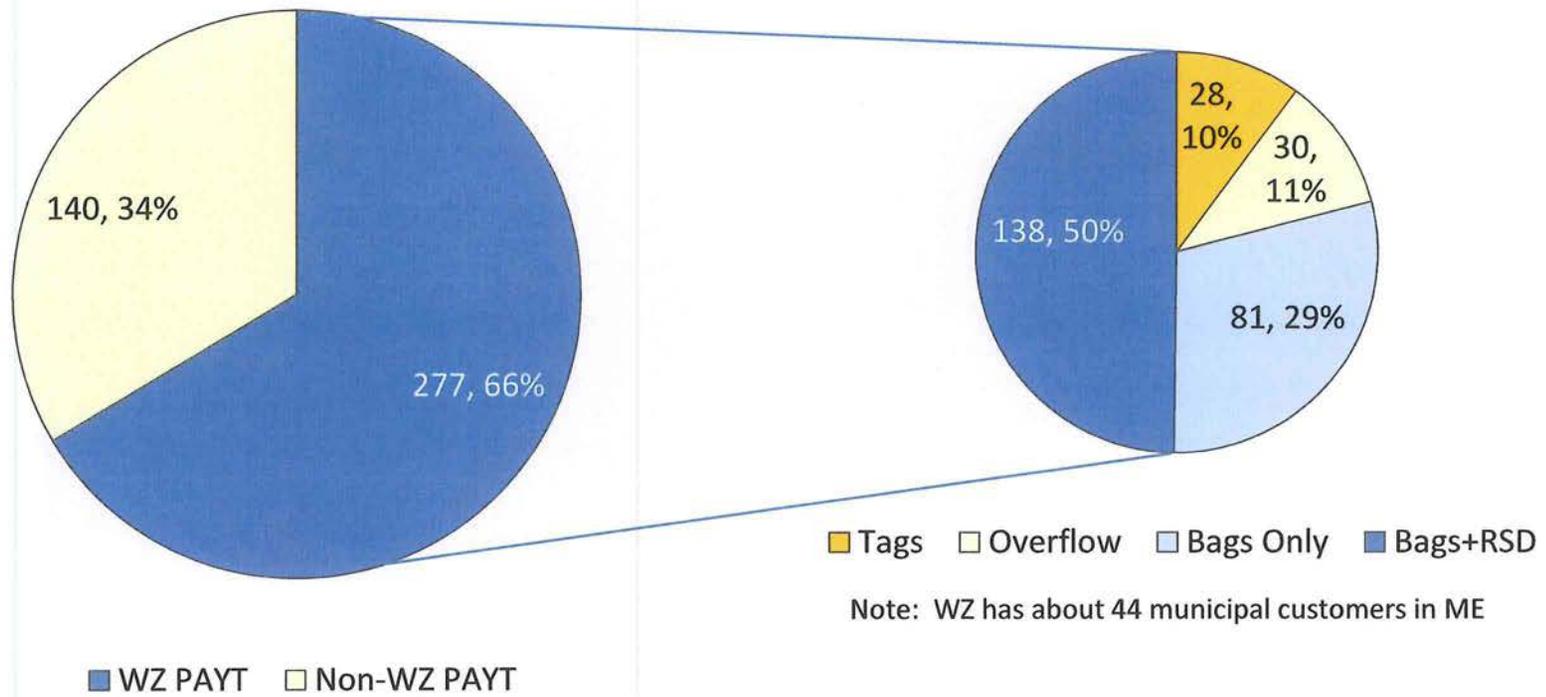
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PAYT in Maine

WasteZero's Presence

Of the 417,000 who live in PAYT towns, WasteZero serves municipalities encompassing fully two-thirds of them.

WasteZero's Share of PAYT
 By pop. in thousands and percent of pop.
 PAYT pop. = 417,000



PS4

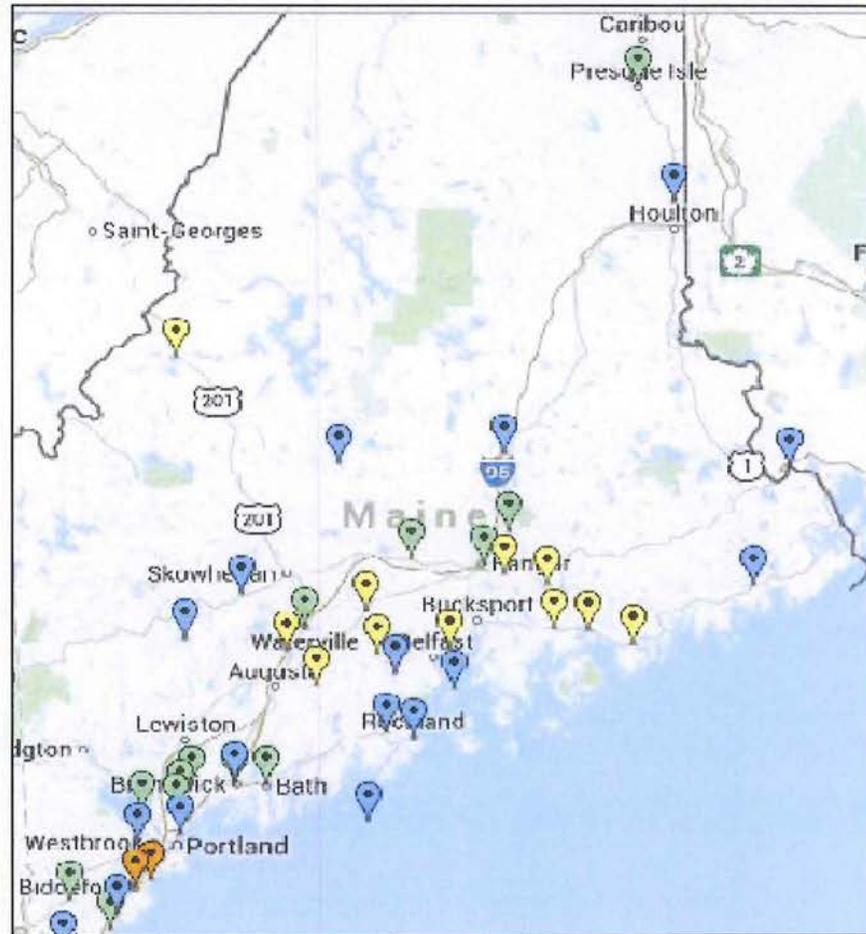


PS4

PAYT in Maine

WasteZero's Presence

WasteZero's 44 partner communities in Maine encompass 277,000 people and are spread throughout the state.



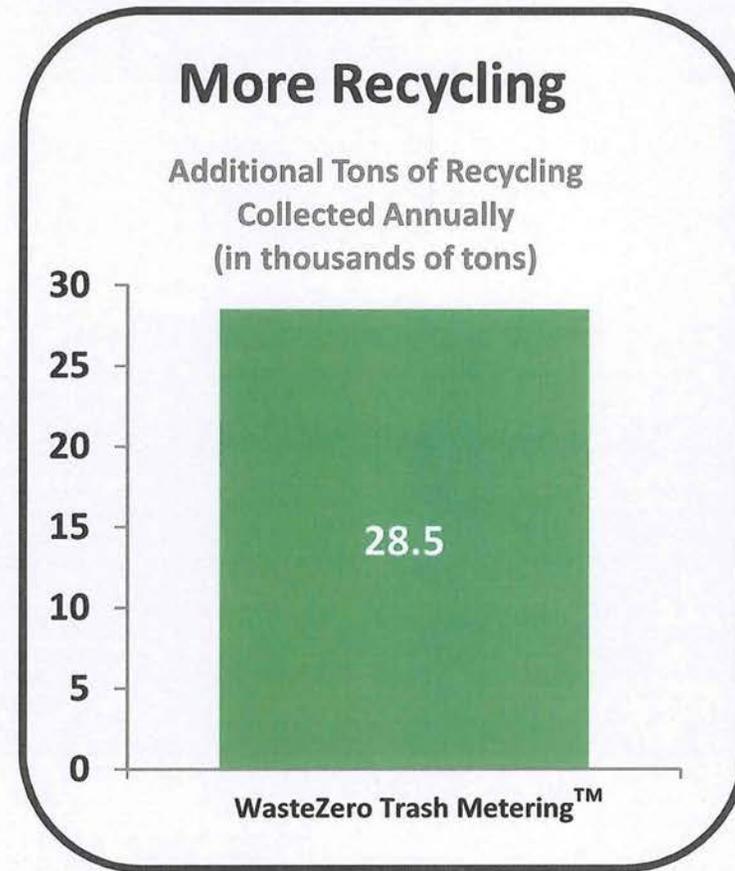
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Pg 5

PAYT in Maine

Projected Annual Financial Impact of Statewide PAYT

If the remaining non-PAYT towns (only those with pop. >5,000) were to go to Trash Metering—and tag and overflow towns were also to convert—the projected annual trash diversion would be 71,200 tons, with \$5.95 million in annual tip fee savings, as well as \$22 million+ in revenue for \$28M in financial impact.



PS6

PS6

PAYT in Maine

Projected Annual Environmental Impact of Statewide PAYT

CO2e (Greenhouse Gas)

Annual
Reduction

134,000
Metric Tons

- Reduced carbon footprint
- Less pollution
- Healthier environment for residents



Equivalent to:



Removing
26,000
passenger vehicles from the road

or

Reducing gasoline consumption by
15,051,000
gallons



BTUs (Energy Used)

Annual
Reduction

1,117,000
Million Units

- Reduced costs
- Reduced carbon footprint
- Increased energy security



Equivalent to:



Powering
9,900
residential homes

or

Installing
139,000
rooftop solar panel arrays



PSN

097

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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.

PS11

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

PG 12

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 programs¹.

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.

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

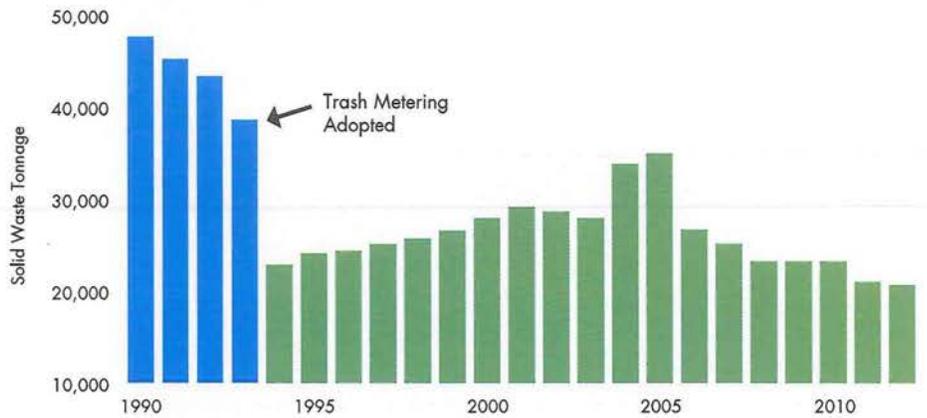
WASTEZERO TRASH METERING™ SUCCESS

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

Typical results include:

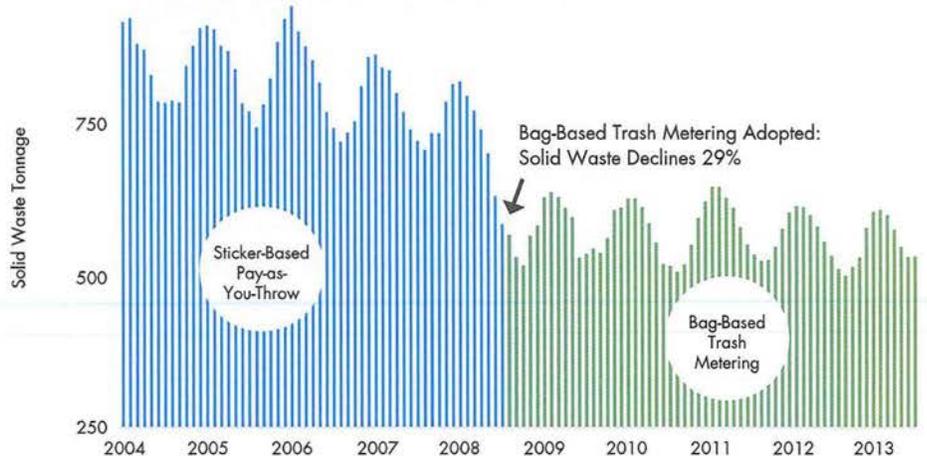
Municipality	Solid Waste Tonnage	Recycling Rate
Ashland, MA	-38%	+98%
Dartmouth, MA	-59%	+50%
Decatur, GA	-42%	+79%
Duxbury, MA	-43%	+20%
Malden, MA	-49%	+74%
Sandwich, MA	-48%	+74%
Tiverton, RI	-50%	+100%
Wells, ME	-59%	+47%

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

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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

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Director, Public Engagement
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www.wastezero.com
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



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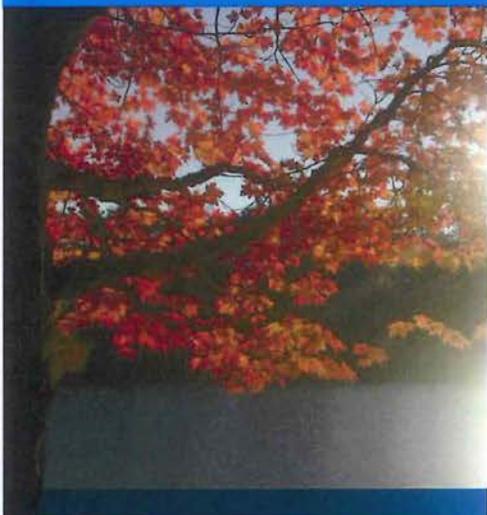
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THE POWER OF PAYT— WORTH COMING BACK TO

In July 2010, the City of Sanford, ME instituted a bag-based pay-as-you-throw (PAYT) program. Immediately, trash volume dropped by half. Four months later, the town repealed the program with predictable results: The amount of trash shot up, almost back to where it started.

In September, 2013, Sanford reinstated PAYT, with impressive results.

IN THE FIRST TWO MONTHS OF THE PROGRAM, SANFORD

Cut its municipal solid waste by 42%

Nearly doubled its recycling rate.

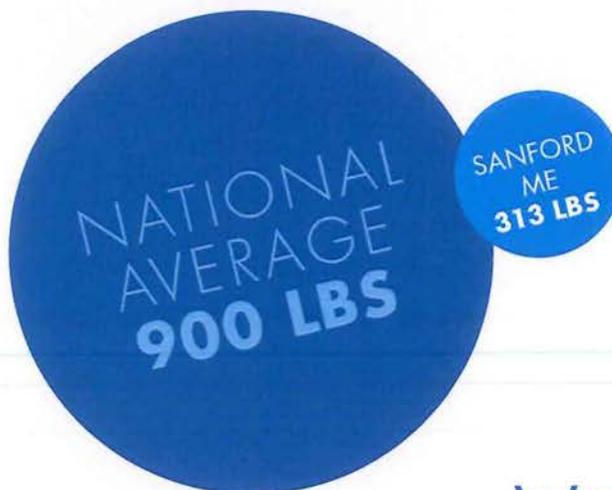
Saved more than \$28,000 in solid waste tipping fees

SANFORD, MAINE, SOLID WASTE VOLUME, 2010 - 2014



Source: Sanford Public Works Department

ANNUAL POUNDS OF TRASH PER CAPITA



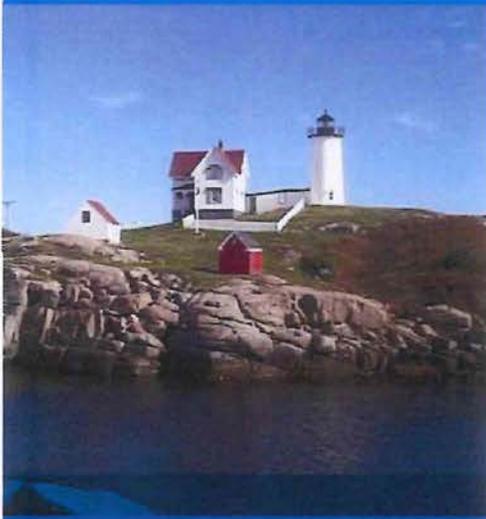
20,700
POPULATION

\$44,000
MEDIAN INCOME/HOUSEHOLD

BAG-BASED PAYT WITH
CURBSIDE TRASH AND
SINGLE STREAM RECYCLING
COLLECTION

WasteZero®
Save Money. Reduce Waste.

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57% TRASH REDUCTION- IN JUST FOUR SHORT MONTHS!

The small town of Eliot, ME decided to find a way to reduce the tax burden on residents. To address these efforts, in early September, 2013, the Town kicked off its WasteZero PAYT program.

In four short months, the amount of trash generated dropped by more than half, and the Town saved close to \$9,000, putting them on a path to exceed their projected first-year savings.

IN THE PROGRAM'S FIRST FOUR MONTHS

Trash volume dropped

57%

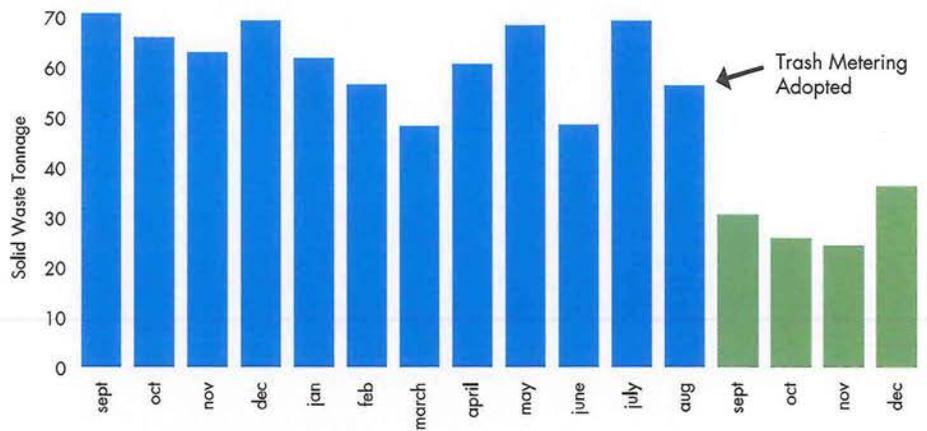
(from 268 tons to 116 tons)

The Town saved

\$8,589

(decreasing their incineration expenditure from \$15,236 to \$6,647)

ELIOT, ME. SOLID WASTE TONNAGE, Sept. 2012 - Dec. 2013



Source: Eliot Department of Public Works

ANNUAL POUNDS OF TRASH PER CAPITA



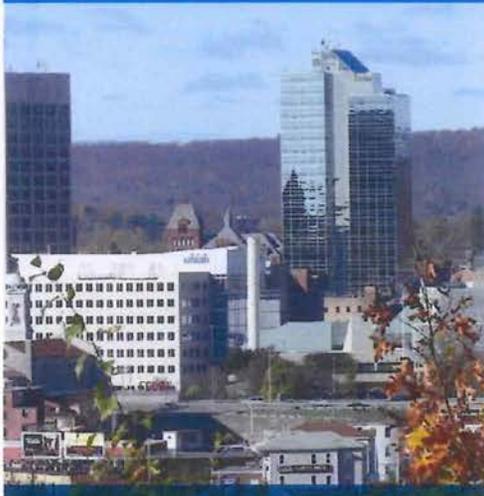
6,200
POPULATION

\$75,000
MEDIAN INCOME/HOUSEHOLD

BAG-BASED PAYT AT THE
DROP-OFF CENTER

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A LONG-RUNNING SUCCESS STORY IN A LARGE CITY

In 1993, Worcester's municipal budget crisis forced the City to adopt a bag-based PAYT waste reduction and recycling program.

In the first week, Worcester's recycling rate shot from 2% to 38%, and their solid waste volume dropped 47% between the year before the program and the year after.

RESULTS OF OVER 20 YEARS OF PAYT IN WORCESTER:

400,000
tons of trash diverted

200,000
tons of additional recycling

Savings of more than
\$10 million
in waste disposal costs

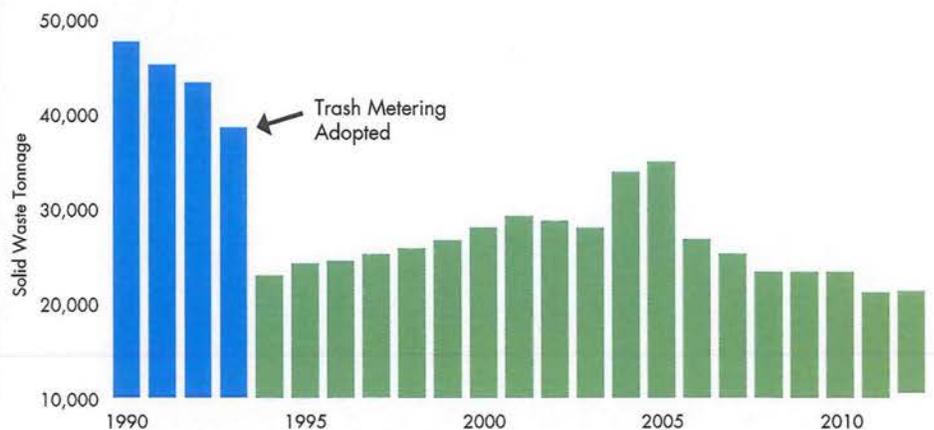
43%
recycling rate, among the best in MA and far higher than the statewide average of 30%

181,000
POPULATION

\$46,000
MEDIAN INCOME/HOUSEHOLD

BAG-BASED PAYT WITH CURBSIDE TRASH AND RECYCLING COLLECTION

WORCESTER, MASS., SOLID WASTE VOLUME, 1990 - 2012



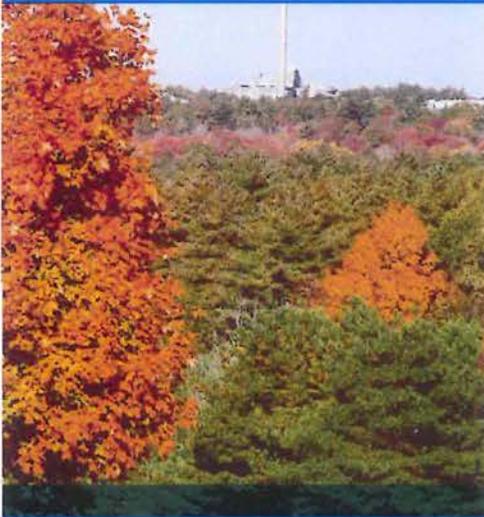
Source: Worcester Department of Public Works

ANNUAL POUNDS OF TRASH PER CAPITA



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TRADING PLACES: TRASH AND RECYCLING

To address fiscal challenges and extend the life of its landfill, the Town of Dartmouth MA introduced its PAYT program with automated recycling collection in October 2007. As a result, the Town reduced its trash budget by paying less in tipping fees and by selling its recycling. Now, the Town's trash collection program is self-sufficient and runs independent of the general fund.

FROM 2006
TO 2013,
THE TOWN SAW

59%
decrease in
solid waste tonnage

50%
increase in
recycling tonnage

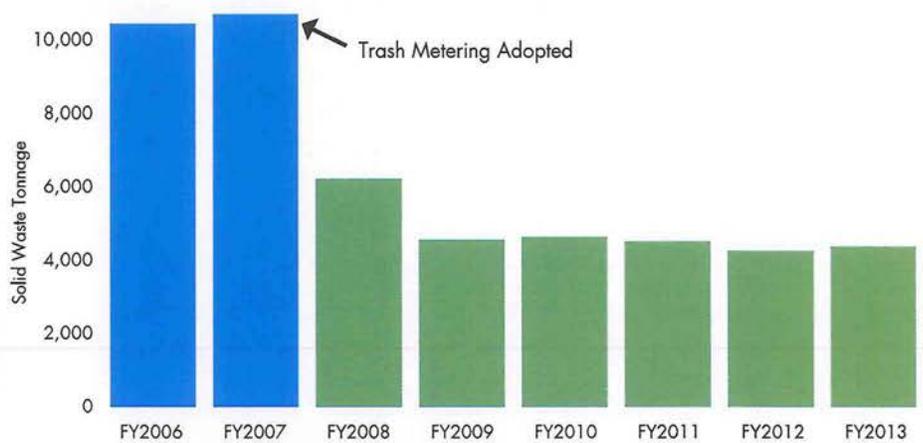
150%
increase in its
recycling rate

34,000
POPULATION

\$71,000
MEDIAN INCOME/HOUSEHOLD

BAG-BASED PAYT WITH
CURBSIDE TRASH AND
DUAL-STREAM RECYCLING
COLLECTION

DARTMOUTH, MASS., SOLID WASTE VOLUME, FY2006 - FY2013



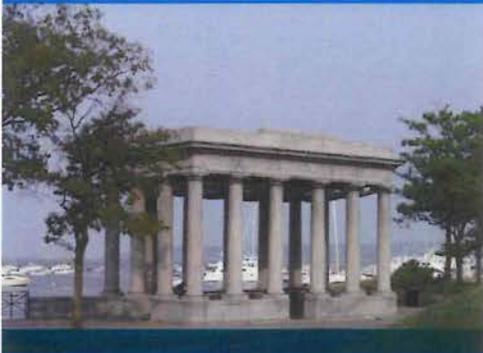
Source: Dartmouth Department of Public Works

ANNUAL POUNDS OF TRASH PER CAPITA



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7521



IN THE PROGRAM'S FIRST THREE MONTHS, PLYMOUTH EXPERIENCED

39%

reduction in solid waste tonnage

\$36,000

in tipping fee savings and recyclable sales revenue

IN THE PROGRAM'S FIRST SIX MONTHS, PLYMOUTH SAW ADDITIONAL BENEFIT:

42%

drop in waste

Near doubling in recycling rate

\$76,268

in savings

56,468
POPULATION

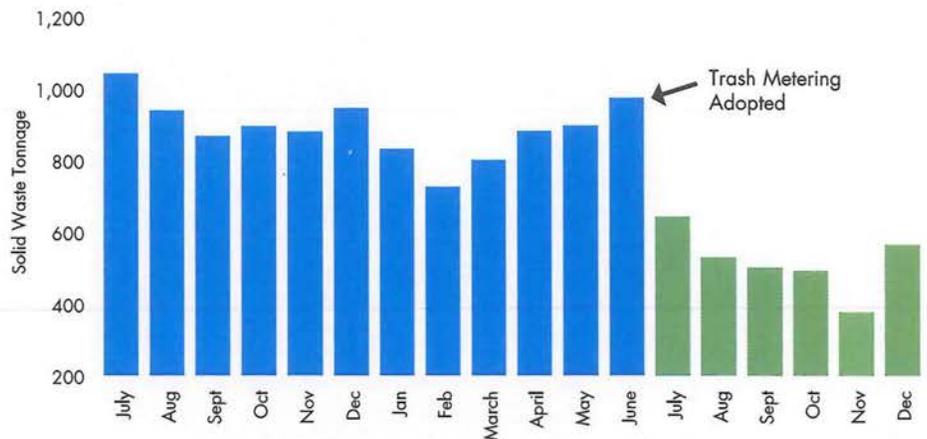
\$77,228
MEDIAN INCOME/HOUSEHOLD

BAG-BASED PAYT AT THE
DROP-OFF CENTER

CURBSIDE OR DROP-OFF CENTER: SUCCESS EITHER WAY

To increase its recycling, reduce trash costs for residents, and create a more fair and efficient trash collection program, the Town of Plymouth, MA began its bag-based PAYT program at drop-off centers in July 2013. In just three months, the Town saw a 39% reduction in solid waste volume. While not shown here, in January 2014, the Town adopted automated curbside collection and saw its total solid waste tonnage drop even more dramatically.

PLYMOUTH, MA, SOLID WASTE TONNAGE, JULY 2012 - DEC. 2013



Source: Plymouth Department of Public Works

ANNUAL POUNDS OF TRASH PER CAPITA



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Brewster recycling program bags savings, revenue

By **K.C. MYERS**

kcm Myers@capecodonline.com

August 06, 2014 6:36 AM

BREWSTER – In the first nine months of the Pay-As-You-Throw program the town has saved \$44,415 in trash hauling and disposal fees, and greatly increased the amount of recycling, according to a report by the Recycling Commission.

It's too early to say if or how much money overall the town has saved by converting to a pay-by-the-bag system of trash disposal. But Recycling Commission members told the selectmen Monday they have accomplished their two main goals of increasing recycling and reducing the waste stream.

"The bottom line is there is a lot less trash and a lot more recycling," said Meg Morris, chairwoman of the commission.

In a nine-month comparison of fiscal 2013 and 2014, the town increased its recycling tonnage by 28 percent, the commission's report says. And the town reduced its solid-waste disposal by 49 percent comparing the nine months of the program, which began in October 2013, with the prior nine months, the report notes.

Brewster is one of three Cape Cod towns, including Sandwich and Wellfleet, to adopt a system whereby customers buy special bags from a retail store for 50 cents, \$1 or \$2, depending on size.

These are the only bags accepted at the town's transfer station. The full bags are then taken to SEMASS, the Rochester incinerator that burns the Cape's solid waste to drive turbines that generate electricity.

It costs the town \$45 a ton at SEMASS. But that price will go to \$70 a ton in 2015, according to the contract.

All the Cape Cod towns are facing similar dramatic tipping fee increases due to the expiration of the old contracts with SEMASS. The big increase in fees has prompted many towns to consider pay-as-you-throw as a way to save money.

Had the town been charged \$70 a ton in 2014, the savings would have been \$88,375, the Brewster Recycling Commission's report says. The additional recycling effort has also cost approximately \$5,183 more in recycling hauling fees, the report notes.

The town reduced the dump sticker cost from \$110 to \$45 in the beginning of fiscal 2014. Revenue from sticker fees dropped by about \$60,000, the report says. Revenue from the sale of the bags, however, brought in \$191,700, the report says.

Selectman John Dickson said it appears the town's trash revenue stream is up overall by about \$100,000.

"That's right, but it's still difficult to compare," said David Quinn, Barnstable County Regional Waste Reduction planner, who assisted the town.

Determining overall savings isn't possible until the town has a full year-to-year comparison, said Town Administrator Charles Sumner. But if the program earns more than it costs, residents could see a reduction in sticker fees in the future.

"The goal is to make this revenue neutral," Quinn said.

In May, Sandwich Department of Public Works Director Paul Tilton reported an overall savings to Sandwich of \$280,000 from converting to the pay-as-you-throw system.

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>

By Anamika Roy
Daily News Staff

[Print Page](#)

August 14, 2014 12:01AM

Ashland reports \$1M in savings from recycling efforts

ASHLAND - The town's recycling and waste reduction program has saved Ashland nearly \$1 million in disposal fees and reduced the amount of trash the town sends to landfills by 37 percent, according to numbers released by the Department of Public Works.

Ashland introduced its pay-as-you-throw program eight years ago to reduce its trash disposal costs. According to Finance Director Michael Herbert, the town has to pay a disposal fee for solid waste but not for recycling.

With the pay-as-you-throw program, residents could use 14- and 33-gallon bags for solid waste disposal. The bags were sold by WasteZero, a company that works with municipalities to improve their trash programs.

The town also offered free, weekly single-stream recycling collection, which according to Herbert, was key to the program's success.

"The single-stream process makes it easier. More people are willing to take advantage of it and do it (recycle)," he said.

The town has not seen an increase in illegal dumping under the program, according to a press release.

In the three years before the program was introduced, the town recycled an average of 1,100 tons per year. That amount has increased to 1,616 tons per year after the program started on July 1, 2006.

"This is a much more environmentally friendly process," said Herbert on Wednesday.

He would like to see Ashland reduce its solid waste by 50 percent in the next few years.

According to a metric provided by the Environmental Protection Agency, the amount of trash Ashland saved from landfills has reduced 5,500 cars-worth of greenhouse gases. The energy saved could be used to power 2,100 homes.

Ashland is a member of the state's Green Communities program, which awards grants to designated cities and towns to be more energy efficient. While the state will not give Ashland any grants for improving its recycling rate, Herbert says it sets a good example.

"This further solidifies our standing commitment to environmental stewardship and a culture of responsibility required to live up to our Green Community status," said Town Manager Tony Schiavi in a press release.

Anamika Roy can be reached at 508-626-3957 or aroy@wickedlocal.com. Follow her on Twitter @anamikaroy.

<http://www.metrowestdailynews.com/article/20140814/NEWS/140818444>

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The People Speak

Pay-as-you-throw and resident satisfaction. BY STEPHEN LISAUSKAS AND JOSHUA KOLLING-PERIN

For years, cities and towns that have considered adopting pay-as-you-throw (PAYT) to address the rising cost of solid waste disposal have needed to do so with little or no information on what people really think about the programs.

As with any public issue, many residents have questions, and sometimes a few vocal residents speak out against the program. However, it is not clear how many people those opponents actually represent. Conversely, it has been hard for leaders to determine how many potential PAYT supporters there are in a community, mainly because most supporters do not take the time to speak up in public forums. For too long, this information gap has forced municipal leaders to make decisions in a vacuum: If they adopt PAYT, how satisfied will their residents be with the program, and will they comply with it? The level of public approval can have a significant impact on the overall success and effectiveness of a PAYT program.

Now, a new study conducted by the public opinion research firm Public Policy Polling (PPP) shows, for the first time, what people think after PAYT is implemented, and what opinions policymakers can expect the public to hold after the new program is implemented. The study sheds light on resident attitudes

toward PAYT—and shows those attitudes to be overwhelmingly positive. This study gives municipal leaders the tools they need to incorporate residents' opinions into their decision-making process, showing them conclusively that people who participate in pay-as-you-throw see it as fair, effective, and easy to do.

Background on Pay-as-You-Throw

Pay-as-you-throw programs can take many forms, but bag-based programs are the most effective at reducing waste. With bag-based pay-as-you-throw, people dispose of their waste in specially marked city or town bags, usually in easily recognizable, bright colors with a municipal seal imprinted on them. The bags cost a little more than traditional trash bags (often \$1 or \$2, depending on size), because they cover not only the cost of the bag but also all or part of the cost of collection and disposal. Making people aware of the cost of their garbage every time they throw something away makes them think twice about putting easily recycled—and valuable—materials into the trash. People become less likely to throw away those things that have value outside the trashcan—whether through reuse, recycling, composting, charitable donations, or other means. And when people recycle and divert material from their trash, they can save on the cost of disposal. Bag-based pay-as-you-

throw has been proven to cut trash tonnages by an average of almost 50%—helping municipal finances and reducing garbage's environmental toll.

Methodology

The automated telephone survey asked 27 questions of 991 residents of communities with bag-based pay-as-you-throw programs. The respondents were selected randomly from among 11 communities in four states (Iowa, Massachusetts, New Hampshire, and Rhode Island). The survey was conducted over four days in February 2014.

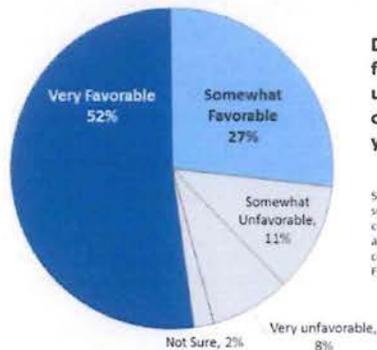
Overall Findings

The most striking finding of the survey is pay-as-you-throw's extremely high favorability. Overall, 79% of survey respondents said they have either a very or somewhat favorable opinion of PAYT. Additionally, an outright majority said they have a very favorable opinion of PAYT.

Notably, PAYT has high favorability across income brackets. Even in households in the lowest income bracket surveyed (below \$30,000), 80% said they see it as very or somewhat favorable.

Given the obvious operational concerns about changing a core public service such as trash collection, policymakers can take comfort

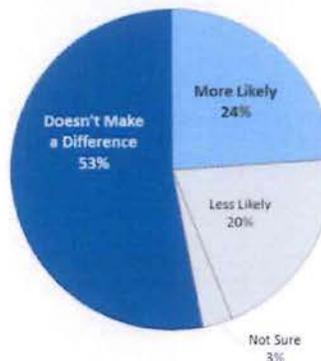
Participants in Pay-as-You-Throw Programs Have a Highly Favorable View of Them.



Do you have a favorable or unfavorable opinion of pay-as-you-throw?

Source: Automated telephone survey of 991 residents of communities with bag-based pay-as-you-throw programs, conducted by Public Policy Polling Feb. 21-25, 2014.

Participants in Pay-as-You-Throw Programs Are Highly Likely to Re-Elect the Officials Who Implement It.



Does having pay-as-you-throw in place make you more or less likely to vote for the officials who implemented it, or does it not make a difference?

Source: Automated telephone survey of 991 residents of communities with bag-based pay-as-you-throw programs, conducted by Public Policy Polling Feb. 21-25, 2014.

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More Than Two-Thirds of Pay-as-You-Throw Participants See the Program as Fair.



Do you think pay-as-you-throw is a fair or unfair way for your community to ask residents to pay for solid waste disposal?

Source: Automated telephone survey of 991 residents of communities with bag-based pay-as-you-throw programs, conducted by Public Policy Polling Feb. 21-25, 2014.

Pay-as-You-Throw Participants Overwhelmingly See the Program as Easy to Participate in.



Would you say participating in pay-as-you-throw is difficult for you, or not?

Source: Automated telephone survey of 991 residents of communities with bag-based pay-as-you-throw programs, conducted by Public Policy Polling Feb. 21-25, 2014.

in the fact that 89% of respondents say their PAYT program is performing better than or as well as they expected—suggesting that the concerns voiced before implementation largely disappear once people experience PAYT in real life.

The survey also asked about the ultimate measure of public satisfaction: if having PAYT in place makes respondents more or less likely to vote for the officials who implemented it. Overwhelmingly, respondents showed that elected leaders do not face negative repercussions for bringing in PAYT. More than three quarters said that they are either more likely to vote for those leaders (24%) or that it does not make a difference (53%).

Findings About Fairness

Respondents overwhelmingly said they believe that pay-as-you-throw is a fair way for residents to pay for their trash disposal. Indeed, the concept of payment based on usage is well understood by residents, as they are already used to water, electricity, gas, and other utilities being paid for in this way. Overall, 68% said it is fair, more than three times the 22% who considered it unfair. Given the general unpopularity of the taxes and fees that fund public services, this 3:1 “fairness ratio” speaks strongly to the public’s support for pay-as-you-throw, and it may reflect residents’ appreciation of their ability to choose how much they wish to pay under PAYT—a choice they are not given for property taxes, building inspection fees, and most other public services.

The perception of PAYT as fair holds up across income levels. Among respondents with household income below \$30,000, the fairness ratio is nearly 2:1 (57% to 32%), and it is almost 3:1 (65% to 25%) for those making between \$30,000 and \$50,000. Households earning between \$50,000 and \$75,000 give PAYT a 3:1 fairness ratio (69% to 22%), those

earning between \$75,000 and \$100,000 give it more than 4:1 (78% to 18%), and fairness ratio from the ones that make more than \$100,000 is almost 6:1 (80% to 14%).

Findings About Effectiveness

The survey consistently found that residents understand and appreciate the benefits of their community’s pay-as-you-throw program. Asked if they think PAYT’s environmental impact on their community is positive, negative, or neutral, fully 62% said positive; just 10% said negative.

Fifty percent of survey participants said they see PAYT’s financial impact as positive, and another 33% see it as neutral; just 13% said negative.

Additionally, respondents showed a clear understanding of the degree to which PAYT reduces solid waste volume and increases recycling. Seventy-four percent said they think their community’s solid waste decreased either a lot (44%) or a little (30%) since implementation of PAYT. Ninety percent said they think PAYT led recycling to increase by a lot (67%) or a little (23%).

Ease of Participation

Survey respondents consistently said that taking part in pay-as-you-throw fits well into their lives and is not a burden on them. The survey found overwhelmingly that it is easy for people to take part in. Nearly three-quarters of all respondents (74%) said they think it is not difficult to participate in PAYT. Moreover, the study found that the longer people do pay-as-

you-throw, the easier they find it to participate.

Overall, 67% also said they consider the cost of pay-as-you-throw bags to be an affordable part of their household budget. This belief in the affordability of PAYT holds constant across income levels, with a clear majority of even the lowest-income households (those earning less than \$30,000) saying they consider the bags affordable.

Notably, the survey also shows that the concerns that many have about PAYT before implementation largely disappear once they begin participating. Nearly two-thirds of respondents—67%—said taking part in pay-as-you-throw is less difficult than they thought it would be before the program began.

Conclusion

In short, this study provides concrete data demonstrating that people who participate in pay-as-you-throw programs strongly support them, for a wide range of reasons and in a large number of ways. Knowing with certainty that people like pay-as-you-throw fills a critical need for municipal decision-makers considering PAYT, because it gives them compelling evidence that they are likely to see similarly strong support for PAYT soon after they implement a program in their own communities. The findings of this survey give them the flexibility to move more freely toward implementation, concentrating their planning and decision-making on important practical and operational concerns, such as when and how best to implement their pay-as-you-throw program. **MSW**

Stephen Lisauskas is vice president of government affairs and regional vice president of municipal partnerships at WasteZero. Joshua Kolling-Perin is director of public engagement at WasteZero.

For related articles:
www.mswmanagement.com/recycling

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PAY-AS-YOU-THROW: First Year Shows Solid Savings

By Frank Mand
Oct. 1, 2014

PLYMOUTH – They've got a year in the bag and the news is good.

Plymouth's new Pay-As-You-Throw (PAYT) solid waste system has reduced the overall amount of municipal solid waste to be disposed of. It has also dramatically increased the town's recycling rates. And even with lower-than-expected values for those recycled materials, the town's operational costs were cut by more than \$83,000.

"The Department of Public Works is very excited by the results of the first year of PAYT," Director of Public Works Jonathan Beder said.

"Given that Plymouth's recycling rate had been stagnant prior to the implementation of PAYT, and the costs to dispose of municipal solid waste (MSW) were set to increase by almost 300 percent, it was necessary to be proactive and implement policies and programs to reverse the trend of low recycling rates and high MSW disposal costs.

"The results speak for themselves," Beder said, "and offer proof that the PAYT program has been a great success for the town."

Since Plymouth's program began July 1, 2013, municipal solid waste has decreased by 44 percent.

The average tonnage of waste per household per month in fiscal 2013 was .095; that number decreased to .053 for fiscal 2014.

According to Waste Zero, which helped design and manage the new PAYT system in Plymouth, there have also been meaningful environmental benefits from Plymouth's PAYT program.

"According to the U.S. Environmental Protection Agency's Waste Reduction Model (WARM), the amount of garbage that Plymouth has diverted from the waste stream in the first year of PAYT has reduced greenhouse gases by an amount equal to the emissions from 1,700 cars," Waste Zero spokesman Joshua Kolling-Perin said.

Kolling-Perin added that the additional recycling collected in the first year of the operation is estimated to have saved the same amount of energy that would have been used to power 660 houses.

For more information about Plymouth's solid waste program, visit www.plymouth-ma.aspx.

MAKING PAY-AS-YOU-THROW

BY JOSHUA KOLLING-PERIN
AND MIKE WRENHOLT

PAY



Having consumers pay for the trash they generate has proven, in many instances, to help reduce garbage generation while increasing diversion of recyclables. Our authors offer some examples of successful **PAYT** programs, new and old, and show how other communities can save money and increase recycling by changing the way their residents take out the trash.

Even today, four decades into the “recycling revolution,” the municipal solid waste stream still contains a tremendous amount of material that could be recycled rather than being sent to landfills and incinerators. According to the U.S. Environmental Protection Agency, in 2011 U.S. residents threw away 59 million tons of readily recyclable paper, glass, metals and plastics – 36 percent of all discarded municipal solid waste (MSW). The question, of course, is not whether that recyclable material should be diverted from the waste stream, but how.

For decades now, communities around the country have tried different strategies to increase the recycling rate, including increased curbside collection, publicity and awareness campaigns, single-stream recycling collection, larger recycling bins, more frequent collection and incentive programs. All of those methods have played a part in improving the aggregate MSW recycling rate over this period, bringing it up from 6.6 percent in 1970 to 34.7 percent in 2011, again according to EPA figures. But with more than one-third of discarded MSW still made up of potentially recyclable

material, more can clearly be done. This is especially true in the residential arena, which tends to lag behind the commercial and institutional sectors. As towns and cities seek out the “next step” for raising the volume of recyclables diversion, they are increasingly turning to pay-as-you-throw (PAYT) programs as such initiatives prove to be extremely effective for diverting recyclables from the residential waste stream and putting them to productive use.

Broadly defined, PAYT programs are municipal solid waste collection arrangements that are designed to change the payment model for MSW from a flat fee to a unit-based system. In PAYT communities, households pay only for the waste that they dispose of – no more and no less – giving them responsibility and accountability for the amount of waste they create and have to pay for. This simple switch has been proven over many years and in thousands of communities to significantly reduce MSW volume and greatly increase the size of the recyclables stream.

These programs have numerous benefits. There are clear financial gains for cities that decrease their solid waste tipping fees and increase the stream of recyclable goods they can sell, and environ-

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mental gains from reduced use of landfills and incinerators (reduced greenhouse gas emissions, decreased water and soil leachate and improved air quality).

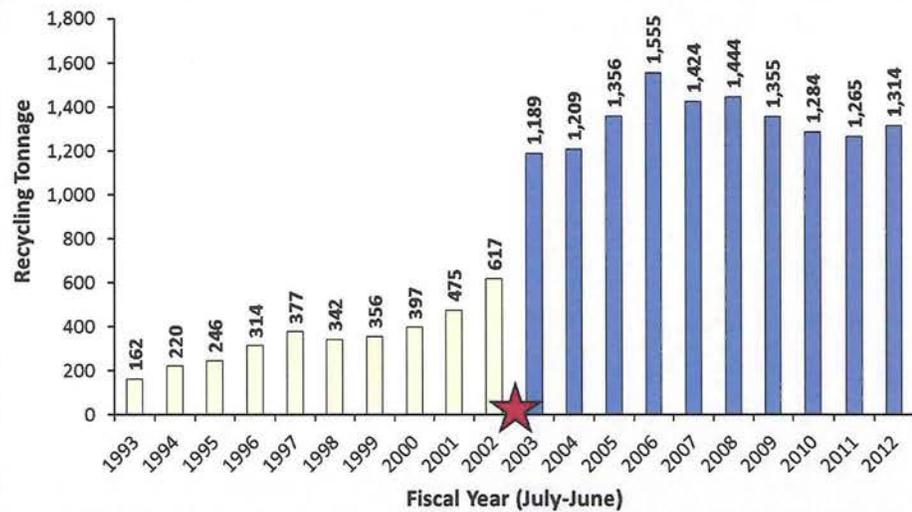
PAYT programs can take many forms. Some communities ask their residents to pay for each unit of trash that they throw away directly at the site of disposal (transfer station or convenience center). Others require residents to pay only for “overflow” – trash that exceeds the size of the can or cart. Still others have implemented variable-rate cart programs, which offer different sizes of carts for different monthly fee levels. In tag-based programs, residents pay up front for tags or stickers that they affix to each bag of trash they dispose of. Finally, there are bag-based PAYT programs, which require residents to dispose of their trash in special bags marked with a municipal seal or other unique design.

While every type of PAYT program decreases MSW volume and increases recycling, bag-based programs have proven over time to be the most effective, for several reasons. For one thing, they provide the most compelling incentives for residents to divert their productive waste – there is a direct and concrete economic benefit to the individual for every pound diverted from the waste stream. In addition, they are the easiest type of PAYT for municipalities to enforce, because the bags – which are easily identifiable and tightly sealed – make it difficult to “game” the system. Accordingly, for the purposes of this article we will focus specifically on the benefits of bag-based PAYT for recycling [Full disclosure: the writers of this article work for WasteZero, a firm which offers a bag-based, professionally managed PAYT system to municipalities].

Community benefits: increased recycling volume and rates

Because PAYT gives individuals direct, powerful incentives to create less waste and divert productive elements of the waste stream into

Figure 1 | Gorham, ME recycling tonnage, before and after PAYT implementation



Source: ecomaine.

uses such as recycling, composting and re-use, those communities that convert to PAYT see both immediate and long-lasting increases in recycling. On average, bag-based PAYT programs tend to roughly double recycling volumes and double or triple recycling rates.

Three bag-based PAYT communities that saw their recycling tonnage essentially double after installing their programs are Ashland, Massachusetts (from 977 annual tons of recycling before PAYT to 1,934 after), Grafton, Massachusetts (from 888 to 1,744), and Gorham, Maine (from 617 to 1,189).

A closer look at the trend in Gorham can illustrate just how quickly and sustainably PAYT spurs increases in recycling. According to ecomaine, the nonprofit solid waste company that collects Gorham’s recycling, the town averaged 350 tons of recycling per year in the decade before they brought in PAYT (along with curbside recycling) in 2002. In the first seven years of the program, that average increased to 1,339 tons. Moreover, the increase was immediate: from 617 tons in the last pre-PAYT year to 1,189 tons in the first year of the program – a 48 percent jump.

The town of Sandwich, Massachusetts, is another PAYT recycling success story. Sandwich implemented a bag-based PAYT program in 2011 in an attempt to enhance

the performance of its dual-stream recycling program and reduce its landfill deposits. In the program’s first year, the town’s recycling volume for plastics, glass, and metals jumped from 352 tons before PAYT to 614 tons after, a 74 percent increase. During the same period, volume for paper went up from 888 tons to 1,067 tons, or 20 percent. Altogether, the residential recycling rate for Sandwich stood at an impressive 41 percent after the first year of PAYT.

Employment benefits: increase in jobs

In addition to PAYT’s benefits in increasing the volume and rate of municipal recycling, these programs also have a significant benefit for job creation in the recycling industry. As the volume of recyclable materials diverted from the waste stream increases, the number of new jobs collecting, processing and remanufacturing grows proportionally.

For example, a January 2013 study conducted by the New Mexico Recycling Coalition looked into what this increase could mean on a state-specific level. The report estimated that if PAYT were to be adopted statewide in New Mexico, the new recycling that would be captured would lead to the creation of 10,300 new jobs.

On a national basis, a Tellus Insti-

tute study conducted in 2011 calculated the benefits of recycling for job creation nationwide. The study broke out the jobs benefit by different types of recyclables. According to the study, for each 1,000 tons of incremental paper and paperboard captured, 7.2 jobs would be created in collection, processing, and manufacturing/remanufacturing. For glass, that figure is 10.9 jobs; for plastics, it is 13.1 jobs; and for ferrous and nonferrous metals, it is 20.6 jobs. If we expand this calculation to the amount of incremental recycling that could be expected with implementation of bag-based PAYT across the U.S., enough new recyclable goods would be captured to create more than 225,000 jobs – roughly the population of Reno, Nevada.

Processor benefits: increased materials and income

PAYT is not just good for municipal finances and job creation – materials recovery facilities (MRFs) are another sector of the recycling industry that sees great benefits from PAYT's increase in diverted recyclable goods. The primary benefit to MRFs is that as the volume of recyclables sent to them increases, so does the amount that they can trade on the commodities market. That added volume

also gives the processing industry increased pricing power in that market, and it provides them with significant amortization benefits.

Beyond the direct benefits from seeing the volume of residential recyclables approximately double, MRFs can also leverage the newly increased recyclables stream to make valuable upgrades to their processes and facilities. For example, after PAYT is implemented, a MRF will frequently see a higher recyclables volume, which makes it easier for it to justify the cost of transitioning to single-stream processing (if appropriate). This can lower their processing costs by allowing them to make more productive and efficient use of mechanization. Through economies of scale, it also enables them to accept and process an increased number of materials groups. In addition, the increased recyclables volume gives MRFs the leverage to also collect recoverable materials from other venues, such as multi-family housing, institutions, and commercial sources, and it allows them to enter new, profitable lines of business, such as recycling textiles and other materials.

Increasing the materials throughput in these facilities also allows MRFs to utilize the facilities at closer to their full capacity, speeding up the time it takes for them to recoup the multimillion-dollar investment they must make to build each new facility.

Conclusion

PAYT's track record for increasing the volume of recycling is clear, and it is impressive. Communities that implement PAYT create a larger pool of recyclables from which they can derive revenue, the incremental recycling creates new and durable jobs, and local MRFs benefit from the enhanced stream of recyclables coming through their facilities. For all of these reasons, PAYT is a logical continuation of the values of the recycling revolution. RR

Joshua Kolling-Perin is director of public engagement at WasteZero. He can be contacted at jkollingperin@wastezero.com. Mike Wrenholt is WasteZero's director of program analytics and consulting. He can be contacted at mwrenholt@wastezero.com. WasteZero partners with more than 800 towns and cities around the U.S. to reduce the amount of waste landfilled and burned, increase recycling, and generate savings for municipalities. Learn more about WasteZero at www.wastezero.com.

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Recycling booming in Vernon

By MIKE FAHER / Reformer Staff

Posted: 08/06/2014 03:00:00 AM EDT

Reformer.com

VERNON -- Town residents have cut the amount of trash they generate by more than 50 percent every week since July 1, and officials say its happening due to greatly increased recycling efforts.

In fact, the town's new "pay as you throw" trash system is working so well that hauler Triple T Trucking is pledging to switch recycling collection from a biweekly schedule to a weekly schedule as of Sept. 1.

The company will do so, owner Norman Mallory said, for no extra money because Triple T's routes have been running so smoothly.

"Everything is moving along so efficiently, we would like to give something back to the town," Mallory said. "With the time that we save both on trash and on recycling ... we'd like to offer every-week recycling for the same money."

With the Vermont Yankee nuclear plant scheduled to close by year's end, Vernon has made budget cuts. Among them was a decision to start a new program in which people pay according to how much trash they generate.

Previously, the town had paid Triple T for curbside pickup, and Vernon residents were not billed directly for that service. Now, residents must purchase specially marked trash bags priced at \$2 for a 15-gallon bag and \$3 for a 33-gallon bag.

As part of the switch, Vernon also implemented curbside recycling pickup for the first time. Triple T split the town in half for that service, meaning recyclables currently are collected at each household every two weeks.

Since there is a fee for trash bags but no charge for recyclable collection, recycling has become an easy way to save money. That has led to a huge boost in recycling rates.

Mike Courtemanche, who heads a volunteer Recycling Committee that has helped get the new programs started, said Vernon residents had generated an average of 15.25 tons of trash weekly over the past two years. Since pay as you throw began with the new fiscal year on July 1, the weekly trash weights have been 5.08 tons; 6.6 tons; 7.13 tons; 6.68 tons; and 6.96 tons.

"We have cut our trash by more than half," Courtemanche told the Reformer. "A reduction that high is surprising."

And Mallory reports that his employees have had little trouble collecting the much-higher numbers of recyclables.

"The material is coming in very clean," he told Selectboard members Monday night. "We don't have a great amount of contamination. It's running quite well. It's very efficient."

With routes taking less time than Triple T had budgeted, the company will begin collecting recyclables each week from every residence. That starts Sept. 1, and officials said they will send out an informational flier prior to the change.

"I am just amazed at how the town has responded to this," Selectboard Chairwoman Patty O'Donnell said,

adding that, "it really ran so smoothly, right from the very beginning."

But there have been some growing pains. Officials and members of the Recycling Committee discussed several other details of pay as you throw Monday night, including:

-- Residents also have been doing much more composting via a Project C.O.W. bin at the town garage. In fact, the level of participation has prompted the introduction of a larger bin.

Prior to that change, the composting-collection site was overflowing, Recycling Committee member Peggy Frost told the Selectboard.

"It was a mess, I have to say," Frost said. "And it was so hot, that was another issue. It was smelly."

-- The size and weight of a lid on the larger composting bin has caused some complaints. So officials on Monday discussed placing two smaller bins at the site; together, they would provide the same composting capacity.

-- Courtemanche mentioned the need for more informational signs at the town garage, where roll-off recycling bins also have remained. With the "pay as you throw" transition happening so quickly, officials have pledged to keep those bins in place for fiscal year 2015.

-- Officials have noticed some illegal trash dumping at the recycling site. Bins have been repositioned to make better use of a surveillance camera on the property.

-- Officials issued a reminder that Vernon trash bags are available at Guilford Country Store, the Vernon recreation area, the town clerk's office and from the Vernon treasurer. The treasurer's office is open Monday through Thursday.

Mike Faher can be reached at mfaher@reformer.com or 802-254-2311, ext. 275.

TELEGRAM & GAZETTE

FRIDAY, NOVEMBER 29, 2013

FRONT PAGE

Yellow bags come up with green results



T&G STAFF PHOTO/RICK CINCLAIR

Worcester public works worker Joe Quinn grabs bags of trash on a city street.

It's been 20 years for the 'pay-as-you-throw' plan

By Nick Kotsopoulos
TELEGRAM & GAZETTE STAFF

WORCESTER — Twenty years ago today, bright yellow bags began sprouting up on curbsides of city streets.

The yellow bags have since become a familiar site throughout the city, dotting the

landscape in different residential neighborhoods each weekday.

It was the beginning of the city's "pay-as-you-throw" trash collection program — one in which residents pay a per-bag fee to have their trash picked up by the city. It was launched in conjunction with a new curbside recycling program.

Before that, the city's rubbish collection program was funded solely out of tax-levy funds. And recycling was virtually nonexistent.

When the bag fee was launched, there were many who felt it was doomed to failure.

While supporters of the program argued that making people pay for each bag of trash they throw away would give residents the incentive to create less waste and recycle more, opponents believed the trash-bag fee would do the opposite and lead to widespread illegal dumping.

That divisiveness was reflected by the fact that trash-bag fee was narrowly adopted by a 6-5 vote. Even after that vote, attempts were made to repeal it.

Twenty years later, the "pay-as-you-throw" trash collection program has proven the skeptics wrong.

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Since the inception of both programs, the amount of residential trash picked up by the city has been cut by more than half, and residential recycling has increased tenfold, according to Robert L. Moylan Jr., commissioner of public works and parks.

Mr. Moylan, who will be retiring at the end of this year after 20 years as the city's public works chief and 42 years with the city overall, said the implementation of the pay-as-you-throw program is one of his proudest accomplishments.

"If communities are serious about recycling, they will embrace pay-as-you-throw," Mr. Moylan said. "It takes political courage, but it's proven to be effective."

The impact of the two programs is reflected in their statistics:

■ Accounting for population growth, Worcester has cumulatively diverted 400,000 tons of trash, moving from 43,228 tons disposed in 1992 to a projected 20,341 tons in 2013. The amount of trash the city picks up today is less than half of what the city picked up before the programs started.

■ The city has captured 200,000 tons of added recycling, moving from 880 tons in 1992 to a projected 9,465 tons in 2013.

■ The city has saved more than \$10 million in waste disposal costs (tipping fees) because it doesn't take as much trash to the Wheelabrator resource recovery plant in Millbury for disposal as before.

■ Worcester disposes of 396 pounds of waste per capita, per year, which is just 44 percent of the national average of 900 pounds.

■ The city now has a 43 percent recycling rate, among the highest in Massachusetts and well above the state average of 30 percent.

Robert Fiore, assistant to the commissioner of public works, said the widespread illegal dumping that opponents had feared would happen never materialized. He added that complaints about the trash-bag program are virtually nonexistent today.

"Curbside recycling collection started the same day as the yellow bag program and when residents saw how much of what they were throwing away in their trash bag could now be recycled, the controversy over how much a household would spend a week on trash bags was put to rest," Mr. Fiore said.

"The fairness and simplicity of the program is what makes it work and we had more faith than others that Worcester residents had the pride and respect for this community to not turn into illegal dumpers," he added.

The cost of the standard-size trash bags started at 50 cents per bag back in 1993. It then went up to \$1 per bag in 2002 and \$1.50 in 2007, where it remains today. Meanwhile, the smaller-size trash bags, which are popular among those elderly residents who generate much less waste, started at 25 cents per bag and is at 75 cents today. "It's still the lowest bag cost

of any community I know," Mr. Fiore said "We've only had two increases in 20 years."

Mark Dancy, president of WasteZero, the leading provider of municipal solid waste reduction programs in the country, said what has happened in Worcester stands not only as a testament to the success of the program, but also to the city's standing as a leader on solid waste. "We couldn't be more proud of Worcester as they celebrate 20 successful years of pay-as-you-throw," Mr. Dancy said.

"They have been a leader from the very beginning and they are continuing to innovate as they look ahead to their third decade." Mr. Fiore said the DPW has always tried to stay on the forefront of municipal waste management practices, and has even added services during the past 20 years.

He pointed out that the small yellow trash bags were introduced in 1995, every other week recycling was upgraded to every week recycling in 1996, and annual and semi-annual household hazardous waste collection were expanded to four collections a year with a permanent collection center.

Also, yard waste drop-off site were added in 1998, single stream recycling was established in 2008 and free electronics collection have been held each year since 2009.

Contact Nick Kotsopoulos at nicholas.kotsopoulos@telegram.com



Sandwich keeps saving with pay-as-you-throw

By **George Brennan**

gbrennan@capecodonline.com

August 18, 2014 2:00 AM

SANDWICH – The town Department of Public Works continues to pile up the savings three years into its pay-as-you-throw program for residential trash.

According to figures released by Waste Zero, the town's consultant on the program, and the department, the town has reduced its solid waste by 48 percent, doubled its recycling rate and saved \$426,000 in the three years.

"I guess three years is proof that it's working," Public Works Director Paul Tilton said.

Reducing solid waste and increasing recycling are important because the town's fees to take trash to Covanta SEMASS, the waste-to-energy plant in Rochester, are about to go up. The town has signed a new contract to pay \$65 per ton, instead of \$37 per ton, when the contract expires at the end of 2014.

The pay-as-you-throw program has exceeded the town's expectations, Tilton said.

"While reluctant to accept PAYT at first, the public has embraced the program and continues to realize the benefits to the town of Sandwich and themselves," he said. "The residents are making fewer trips to the transfer station, reducing their trash, and increasing their recycling. This effort by the public will go a long way to help offset future tipping fee increases starting in 2015. This will, in turn, help keep sticker and bag fees at a minimum."

Two other Cape towns – Brewster and Wellfleet – have followed Sandwich's lead.

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LEWISTON CITY COUNCIL

MEETING OF JANUARY 13, 2015

AGENDA INFORMATION SHEET:

AGENDA ITEM NO. ES - 1

SUBJECT:

Executive Session to discuss Real Estate Negotiations of which the premature disclosure of the information would prejudice the competitive bargaining position of the City.

INFORMATION:

The Maine State Statutes, Title 1, section 405, define the permissible grounds and subject matters of executive sessions for public meetings.

APPROVAL AND/OR COMMENTS OF CITY ADMINISTRATOR:

The City Administrator recommends approval of the requested action.

EAB/kmm

REQUESTED ACTION:

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To enter into an Executive Session, pursuant to MRSA Title 1, section 405(6)(c), to discuss Real Estate Negotiations, of which the premature disclosure of the information would prejudice the competitive bargaining position of the City.