

Get ^{*}SMART^{*} with Pay-As-You-Throw

Help Your Community Stabilize Revenues and Protect the Environment



NEW PAYT STUDY SHOWS MORE SUSTAINABILITY SURPRISES

A rigorous new study gives cities yet another reason to adopt Pay-As-You-Throw (PAYT). The study “Unit Based Garbage Charges Create Positive Economic and Environmental Impact in New England States” by Green Waste Solutions reveals that when residential waste is actually isolated and measured on a per capita basis, PAYT communities generate about **49 percent less waste** than those leaving the cost of trash in the tax base or in a fixed fee.



So, why is this study significant? First, it surveyed 228 communities -- a large number with similar demographic profiles -- all in New England.

Second, it isolates just the residential waste sector by identifying the total households associated with the waste tonnage and factoring out households (generally multifamily) that use commercial haulers. According to EPA's annual Facts and Figures report residential waste is the single largest part of the municipal solid waste (MSW) stream, representing approximately 60 percent.

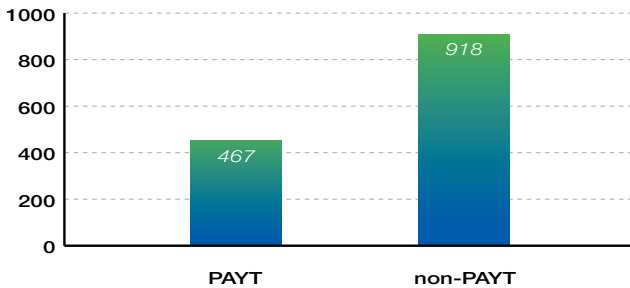
Third, the study is the result of actual contact with local officials. Surveys were first sent to public works and other officials most knowledgeable of their community's waste management details. Respondents were then called and asked to estimate the total number of households using either curbside or drop-off for trash disposal and additional follow-up calls were made to clarify the results.

Finally, this study compares 118 municipalities using PAYT to 110 municipalities with a traditional non-PAYT system, covering a total population of 4.68 million people. These communities were further divided by their collection method:

- Drop-off – 68 PAYT; 45 non-PAYT
- Curbside – 50 PAYT; 65 non-PAYT

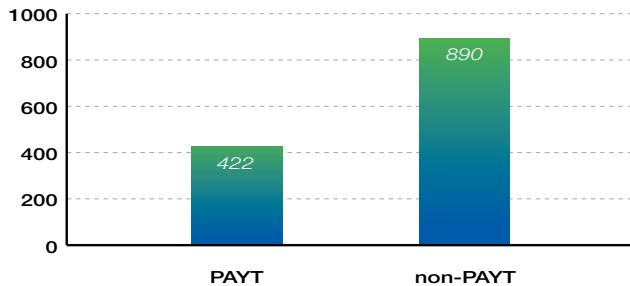
The staggering results showed that curbside PAYT communities generated **49 percent less waste** material than non-PAYT communities. In PAYT municipalities an average of 467 pounds per capita was disposed of compared to 918 pounds per capita in the non-PAYT municipalities.

Per Capita Waste Disposal PAYT vs. Non-PAYT Curbside



The drop-off group was more difficult to assess and demonstrated a higher overall per capita recycling rate. However, the drop-off disposal trend was consistent with the disposal trend in the curbside set. The average amount of waste disposed of in a PAYT community was 422 pounds per person per year; the average in a non-PAYT community was 890 pounds per person per year, or **53 percent less waste** generation in the PAYT communities.

Per Capita Waste Disposal PAYT vs. Non-PAYT Drop-offs

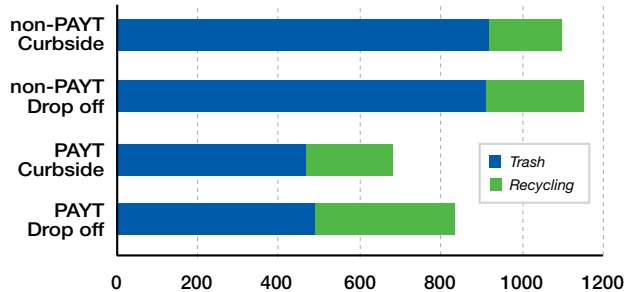


The total generation of trash and commodity materials combined was **33 percent less** in PAYT municipalities. The lower number represents materials no longer in the waste stream. These materials have either been brought to municipal compost sites; backyard composted, or have been source reduced by the residents. This shows true consumer behavior change after adopting the SMART city solution.

Based on information in this study, a nationwide residential PAYT program could decrease the U.S. residential waste stream by 50 percent and decrease overall U.S. MSW waste by 33 percent.

Overall Generation

(per capita waste + per capita commodity recycling)



*The higher per capita recycling rates in drop-off communities is attributed to the fact that some homes drop-off recycling and utilize private haulers for trash collection; also some small businesses utilize the drop-off for recyclables.

** Recycling numbers overall were slightly lower than expected. The states in this study are "bottle bill" states where the redemption rate is already approximately 75 percent and this material is recorded as commercial recycling. Subsequently, the overall commodity recycling number appears lower in both the PAYT and the non-PAYT sets than it would in a "non-bottle bill" state.

Of the total diversion in PAYT communities, about 25-30 percent is related to an increase in commodity recycling (e.g., paper, cardboard and commingled materials) and about **70-75 percent is related to source reduction and compost/yard waste collection**. Source reduction and compost/yard waste were combined in this study because not all communities could isolate these items in reliable detail.

It is critical that community leaders and officials understand that PAYT is a highly effective solution for increasing diversion specifically in the residential sector. Residents in PAYT communities generate 49 percent less waste than residents in non-PAYT communities. Therefore 49 percent less waste is sent to landfills or waste to energy facilities, thus saving 49 percent in overall tip cost. PAYT implementation is critical to changing residential disposal habits and achieving long-term sustainable waste reduction through recycling and source reduction.

"PAYT may represent the first truly significant improvement in our approach to waste management in the modern era. Recycling is a great idea, but we never could figure out how to get people to do it. PAYT is where the rubber hits the road. It can get people to recycle, but it can also get people to compost and to start demanding less wasteful packaging in the first place."

Daniel McKinley and Chris McClure – Environmental Economics, University of Georgia

It is clear that PAYT is an extraordinarily powerful way to decrease residential MSW in single family units. So, what are you waiting for? If it's additional information or references, visit the PAYT Web site www.epa.gov/payt and look for the study entitled, "Unit Based Garbage Charges Create Positive Economic and Environmental Impact in New England States" conducted by Green Waste Solutions.

IS PAYT A SMART BET?

Use EPA's Benefit Evaluation Tool (BET) to find out the GHG Reductions and Cost Savings that Your Own City Can Achieve!

Are you someone who really "gets" the **SMART** (Saving Money and Reducing Trash) program of PAYT, but also someone who struggles with the political challenge of selling it to your elected officials? Well, this Benefit Evaluation Tool (BET) was developed by the U.S. Environmental Protection Agency (EPA) to help. Community solid waste managers can tailor the data of this software tool to help determine whether unit-based pricing is the right model for their own town or city.

The **SMART BET** allows users to input readily available information, such as:

- tons of waste land filled and recycled annually
- local population
- landfill tip fees

The user may also provide a more detailed breakdown of the disposal and recycling streams, if this information is available. The tool then combines this information with nationwide average waste disposal data, typical PAYT results, and greenhouse gas emission factors originally created for EPA's Waste Reduction Model (WARM) to provide the greenhouse gas and cost savings that your community is likely to see after implementation of PAYT.

The EPA promotes the unit-based pricing approach to solid waste management, as it has proven to be the single most measurably effective way to reduce residential solid waste, increase recycling, and decrease waste-related greenhouse gas emissions.

Communities that implement PAYT typically see a decrease in overall solid waste production, with a final disposal (i.e., land filling/combustion) rate of 400 to 600 pounds per person per year, with associated increases in recycling and source reduction of waste. Well designed programs generate the revenues communities need to cover their solid waste costs, including the costs of complemen-



tary programs such as recycling and composting. Residents benefit too, because they have the opportunity to take control of their trash bills.

Placing an economic value on something at the curb definitely changes behavior, claims Daniel Morgado, Town Manger Shrewsbury, MA. The first full year of PAYT the town generated 25 percent less overall material (waste and commodity recycling combined). People consciously purchase differently, I know I do." The Town reduced the amount of trash taken to the waste to energy facility by over 40 percent and realized a 34 percent (commodity only) recycling rate. The results of the Shrewsbury program are just what SMART BET would have predicted. The town avoided over \$260,000 in disposal fees equally about \$26 per household.

Please visit www.epa.gov/payt to download the instructions and Excel-based tool.

BET Sample of Shrewsbury, Massachusetts

SMART BET
Saving Money and Reducing Trash Benefit Evaluation Tool

[Reset Inputs](#)

- General Information**

City: State:

Year of data: City population affected by SMART:
- Disposal Data**

Current residential disposal: tons per year Landfill/combustor tip fee: \$ per ton

Waste Disposal Breakdown (tons)

Use national average

Landfill: Waste-to-energy (WTE):

Disposal Practice (%):

Distance to landfill: miles Distance to WTE facility: miles

Use national average Use national average

Current residential combined recycling and composting: tons per year Recycling cost: \$ per ton
- Waste Stream Composition**

Current disposal stream composition by weight (%): Use national average

Metal	9%
Glass	7%
Plastic	20%
Paper	26%
Wood	9%
Food Scraps	21%
Yard Trimmings	8%
Total	100%

Current combined recycling and compost stream composition by weight (%): Use national average

Metal	9%
Glass	3%
Plastic	3%
Paper	56%
Wood	2%
Food Scraps	1%
Yard Trimmings	26%
Total	100%

[Click to see the results](#)

SMART in the Spotlight



Concord, New Hampshire

When the city of Concord learned its multi-year contract with the waste-to-energy facility was expiring and the facility was planning to reset rates in 2009, officials knew existing waste collection practices would soon end. Its tip fee per truckload was scheduled to skyrocket from \$45.90 to \$62.10 in a single year.

"We immediately knew the new rates reflected how expensive trash collection and its disposal had become and that we needed to rethink the status quo," says General Services Director Chip Chesley.

Concord faced the same dilemma that many New England communities currently have. With landfills and waste-to-energy facilities decreasing in the area, the basic principles of supply and demand drive up disposal rates.

Concord's city council immediately developed a Solid Waste Advisory Committee that was a mix of city officials, city staff, and local residents. Together, the committee assessed the city's existing waste collection practices and used it as a foundation to determine where they wanted to go in the future. According to the minutes posted by the City of Concord's Solid Waste Advisory Committee, they decided on a SMART/PAYT waste management program because PAYT is cost effective, equitable, and created long-term behavior change in residents.

The Solid Waste Advisory Committee spent more than two years determining the best strategy for implementing a SMART program for Concord's 44,000 residents and 16,000 households. Chesley said that the residents' involvement on the Advisory Committee was central. They were able to see firsthand the budgetary issues the city faced and understood there were two options: reduce waste or increase taxes to cover the rising trash and tip rates. The resident committee members became ambassadors for the initiative and disseminated the information throughout the community. Chesley figures the Solid Waste Advisory Committee's thorough review coupled with the dramatic rate increase provided enough incentive for the community to support and pass SMART legislation.

Concord implemented a linear-priced bag system for all its curbside pickup. Residents have the choice of purchasing two bags: a 15-gallon bag for \$1 or a 30-gallon bag for \$2. To accommodate its multi-family residents, who make up 25 percent of Concord's population, the city issued containers for entire buildings, and each building's management company is billed based on the number of containers it purchases.



"The program has been an overwhelming success," said Concord's Mayor Jim Bouley. The city cut its total waste collection dramatically, from 15,000 tons to 8,500 tons of trash. Its recycling tonnage, which has economic value, doubled, from 2,700 tons to 4,200 tons. After reviewing collection practices under the Solid Waste Advisory Committee, Concord decided to stop yard waste collection in the summer and winter months, seeing a need for it in the fall and spring only.

Mayor Bouley is thrilled with the results of the SMART program and says that if the success continues, he will be able to call Concord a leader in the state of New Hampshire. Councilor John Nyhan, who chaired the Solid Waste Advisory Committee, concurs: "We are very pleased about how the program has moved forward."

Chesley said that the city has adapted extremely well to the changes, "We have not had a problem with illegal dumping as we thought," he says. "On the rare occasion we do, we can easily identify the offender through a paper trail and remedy the practice through fines."

Concord joins the list of other SMART communities that are saving money while reducing, reusing, and recycling. "You can't argue with these numbers," says SMART advocate Kristen Brown of Green Waste Solutions. "Concord is another example of how SMART/PAYT is the most effective waste collection strategy out there."



Quick Review of Rate Structure Design - How to Get the Biggest Bang for Your Buck! Proportional vs. Variable Rate Structure - What's the Difference?

When implementing a PAYT program, there are a variety of ways to structure the costs. Most commonly, cities and towns that implement unit-based pricing mechanisms use either proportional (linear) or variable pricing structures.

What's the difference between proportional and variable price structuring?

Proportional (linear) programs are financed on a one-to-one ratio of disposal units to cost. For example if a family throws away one container it may cost \$30, while two

containers would cost \$60, and three containers would cost \$90, etc. This dramatic increase in cost by increasing to the next size of trash container creates the most incentive to source reduce and has shown significant source reduction and diversion rates.

Variable programs offer various pricing levels using different size containers (e.g., 30-gallon, 60-gallon, and 90-gallon). The rates for additional containers may be steep or modest depending on the city's goals. Some programs increase rates to motivate households that do not reduce trash generation. Typical pricing would be \$30 for the first container, \$35 for the second and \$40 for the third. The more significant the price increments, the more demonstrated results in source reduction due to behavior change.

Some good examples of successful pricing structures are demonstrated below in Vancouver and Clark County, Washington; and San Jose, California.

In 1992, the city of Vancouver implemented a weekly mini-can option, and within five months nearly 500 residents had switched to the mini-can. By the end of the following year, this number had doubled and the city was receiving numerous customer requests for more service choices. Three new residential garbage service level options were implemented: every-other-week 32-gallon can, every-other-week mini-can, and monthly 32-gallon can service. These options are increasingly being utilized as customers learn how waste reduction and avid recycling can help them reduce their monthly garbage output and bill.

In 1992, in cooperation with Clark County, the City of Vancouver implemented a curbside recycling program. The program is mandatory for single-family households, and all households are billed \$3.10 per month for weekly recycling as part of their garbage service. A similar program is also available to all multifamily complexes within the city limits. The city's contracted hauler also offers a voluntary yard debris collection program. For a monthly fee customers can set out up to 96 gallons of material. Since the program is voluntary, it does not conflict with citizens who choose to compost their organic wastes at home or self-haul to local composting facilities.

Volume-based proportional rates are an effective tool for encouraging residents and businesses to examine their disposal habits, to recycle more, and to decrease their garbage service levels. The city surpassed its 50 percent recycling goal by the end of 1995. Based on available data sources, it was determined that 51 percent of the city's wastes were recycled and 49 percent were disposed of in the landfill that year. While some residents are motivated by environmental stewardship, others are encouraged to change habits based on their pocketbooks. Although volume-based linear rates pose challenges, the City of Vancouver believes that they are the driving force behind their success in meeting waste reduction and recycling goals.



Similarly, the City of San Jose in California used to provide services to residents at a flat monthly rate for unlimited trash pickup. In 1993, the city implemented a recycling program that also included PAYT. Their program included the option for residents to purchase garbage carts of varying sizes (20, 32, 64 and 96-gallons.) Prices would increase with the larger carts. According to San Jose officials, 80 percent of residents opt for a 32-gallon cart for trash. As of 2000, they had exceeded an EPA diversion goal of 50 percent by hitting 64 percent and hope to hit 100 percent by 2010.

While both pricing structures increase recycling efforts and diversion rates, proportional price structures have demonstrated more significant and consistent increases in source reduction.

For additional information about rate structuring, please visit: www.epa.gov/epawaste/conservation/tools/payt/tools/rsd.htm.

STATES MAKE A BOLD STATEMENT ABOUT PAYT

Massachusetts Takes a Hands-on Approach

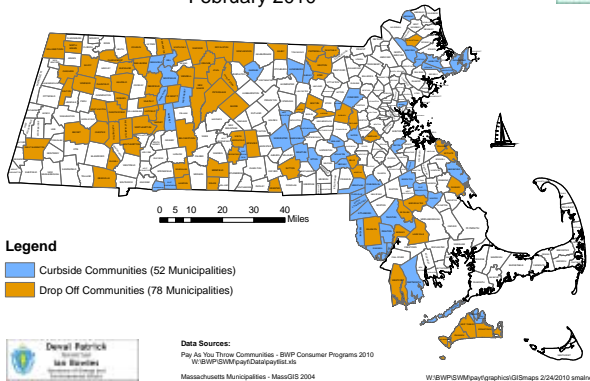


Massachusetts has come a long way since adopting its first Solid Waste Master Plan back in 1990. Before then, most of the state's waste was disposed of in landfills or combusted. Today, Massachusetts boasts a 47 percent overall recycling rate, one of the highest in the United States.

One of the most instrumental ways the state has achieved such dramatic improvement has been through PAYT programs implemented at the municipal level. Nearly 80 municipalities in Massachusetts use PAYT drop-off programs, and more than 50 use PAYT curbside programs, with impressive results.

Municipal Solid Waste Pay-As-You-Throw Communities in Massachusetts

February 2010



According to a Massachusetts Department of Environmental Protection (DEP) study, the towns below reduced their monthly average household waste tonnage by an average of 42 percent by switching to PAYT.

West Boyls	145 lbs	▶ 100 lbs = 31% reduction
Grafton	190 lbs	▶ 102 lbs = 46% reduction
Shirley	199 lbs	▶ 92 lbs = 54% reduction
Shrewsbury	187 lbs	▶ 116 lbs = 38% reduction

DEP is instrumental in ensuring the success of PAYT programs. The DEP funds a network of seven regional Municipal Assistance Coordinators referred to as “MACs”. They provide technical waste reduction assistance to cities and towns throughout the state. MACs work with municipalities to implement local pilot projects while also coordinating regional waste management approaches to improve cost effectiveness and accessibility of services. According to Brooke Nash of DEP’s Municipal Waste Reduction Program,

“Providing hands-on assistance to cities and towns through our regional Municipal Assistance Coordinators is one of the cornerstones of our PAYT development program. Whether it’s evaluating the potential impacts of PAYT on a community’s solid waste disposal budget, educating elected officials about the program, preparing outreach materials for a public forum on PAYT, or working through the logistics of program rollout, the MACs provide key assistance that paves the way for new programs.”

MACs provide over 10,000 hours of hands-on technical assistance to municipalities each year. In addition, DEP provides PAYT start-up funds to help new programs with education outreach, initial bag purchases, and other related costs. Making waste reduction a priority at the state level has allowed Massachusetts communities to succeed in

implementing PAYT, and has led to a statewide recycling rate of nearly 50 percent.

South Carolina Shows Recycling Successfully Creates Jobs



From hauling, processing, and brokering materials to manufacturing and distributing recycled content products, the process of transforming discarded items into new products requires a wide range of businesses and job functions. In fact, recycling is estimated to create nearly five times as many jobs as land filling. So, it’s no surprise that increased recycling rates directly correlate to economic growth.

According to the South Carolina Department of Commerce, there are more than 300 companies, employing over 15,600 people, in the state’s recycling and reuse sector. But while South Carolina boasts a strong and diverse recycling and reuse industry, it also has a significant area of untapped potential.

In 2008, South Carolina’s commercial recycling rate was 52 percent, and its industrial recycling rate was 57 percent, but residential recycling trailed behind at only 13 percent. That meant a lot of materials, including glass, paper, plastic bottles, and aluminum cans, were sent to the landfill instead of being funneled back into the state’s recycling industry where they could create new products, jobs, and economic growth.

According to the South Carolina Department of Health and Environmental Control Office of Solid Waste Reduction and Recycling, in fiscal year 2009, South Carolina’s total municipal solid waste recycling rate was 22.1 percent. It is estimated that 400,000 tons of recyclable materials (the equivalent of four 100,000 ton aircraft carriers) could have gone to market to recycling businesses in South Carolina and other southeastern states instead of being sent to the landfill. About \$52 million in potential revenue from the sale of these materials by local governments was lost. And, with average landfill tipping fees in South Carolina at \$35 per ton, approximately \$15 million was spent to dispose of these recyclables. Without a doubt, the economic impacts are significant for engaging in increased recovery of materials.

At a national level, recycling efforts have traditionally focused on increasing recycling among businesses, and this shows in South Carolina’s high commercial and industrial recycling rates. However, approximately 60 percent of the nation’s total municipal solid waste is from the residential sector. Unfortunately, most households never realize the true cost of land filling this waste. By creating an economic incentive to reduce waste and increase recycling at the household level, programs like PAYT can have a huge impact on the recycling industry.

Current SC Recycling Rate – Identifying Untapped Potential

Sector	2010 Current Diversion/ Recycling Rate	Percent Commodity Recycling	If S.C. increased diversion to 60% in each sector, the recycling industry would create additional jobs	Potential Economic Growth From 60% Diversion	If S.C. increased diversion to 70% in each sector, the recycling industry would create additional Jobs	Potential Economic Growth From 70% Diversion
Residential	13%	6%	6,662	\$2 billion	8,066	\$2.4 billion
Commercial	52%	22%	713	\$218.4 million	1,595	\$482 million
Industrial	57%	56%	623	\$180 million	2,639	\$809 million

Sources: DHEC 2008 Annual Report, Institute for Local Self-Reliance (ILSR) and South Carolina Department of Commerce 2006 Economic Impact Study.

If South Carolina were to increase its residential recycling rate to 60 percent, it would create over 6,000 new jobs in the recycling/reuse sector and grow the state's economy by over \$2 billion. An increase to 70 percent would yield more than 8,000 new jobs. And, if all three sectors—residential, commercial, and industrial—increased their recycling rates to 70 percent, more than 12,000 new jobs would be created and more than \$3 billion generated.

As Gerry Fishbeck, chair of the Recycling Market Development Advisory Council notes,

“Recycling creates an improved quality of life in South Carolina, whether it’s additional quality jobs, a reduced need for landfills or sources of cost efficient waste management for industry. South Carolina is a great place to live and a great place for business.”

Florida Targets a Whopping 75 Percent Recycling Goal



In 2008, Florida passed the Energy, Climate Change and Economic Security Act into law, establishing a new statewide recycling goal of 75 percent by 2020. The Florida

Department of Environmental Protection (DEP) was tasked with creating a plan to turn this goal into a reality. In January 2010, after extensive research and contributions from stakeholders, the state's *75% Recycling Goal Report* was released. This report outlines the most effective opportunities and actions Florida can take to move from its current recycling rate of 28 percent to an impressive 75 percent in a single decade. It can be found by visiting www.dep.state.fl.us/waste/recyclinggoal75/.

Not surprisingly, one of the innovative recycling strategies suggested is the use of PAYT programs. The report cites a 2006 Skumatz Economic Research Associates analysis which found that PAYT programs increase recycling by approximately 50 percent, without increasing costs for the majority of implementing communities. The analysis also showed

that PAYT is the single most effective action communities can take to increase recycling and diversion in the residential sector.

While there are about 7,000 PAYT programs nationwide, there are only a handful of communities in Florida that currently use the program, including Gainesville, Plantation, and Sarasota County. In Gainesville, PAYT netted

an 18 percent decrease in the amount of waste collected and a 25 percent increase in recyclables recovered during its first year alone. It also saved customers over \$186,000 that year. Not coincidentally, Sarasota County, with the highest overall recycling rate in the state (41 percent), also requires PAYT.

The Florida DEP recommended that its legislature apply the new 75 percent recycling goal to counties with a population greater than 100,000 and cities with a population greater than 50,000. These high population centers account for 95 percent of the state's population and MSW generated. If these areas implement a combination of PAYT and RecycleBank (a program that provides discount coupons for increased recycling) it is estimated that they will achieve approximately 10 percent of the state's overall goal.

Florida's 2010 legislative session concluded on April 30 and HB 7243 was enacted which will strengthen Florida's recycling program. Highlights of the bill, signed by Governor Charlie Crist, include:

- It increases recycling goals from 30% to 75% by the year 2020, with incremental recycling benchmarks for the state, counties and cities that must be reached by December 31, 2020.
- It allows municipal solid waste burned in waste-to-energy plants to count towards the goal.
- It directs DEP to create a Recycling Business Assistance Center for coordinating efforts to develop new markets and expand existing markets for recyclable materials.
- It requires, to the extent economically feasible, that all construction and demolition debris must be processed for recycling prior to disposal.

According to Mary Jean Yon, Director of DEP's Division of Waste Management, "While the bill does not include specific legislation regarding PAYT, we anticipate much more interest in PAYT at the local level as counties and cities implement programs to meet Florida's new statewide 75% recycling goal."

RURAL PAYT PROGRAMS

Big Results in Small Communities

PAYT programs are often associated with cities and towns with curbside waste and recycling pick up. But many rural communities with landfill drop-off sites also take advantage of PAYT. Residents are charged by the bag, or by the weight of their trash, when they drop off at the landfill. Large or small, any community can use PAYT and be SMART (save money and reduce trash).



New Hampshire

There are 47 towns across the state of New Hampshire using PAYT to incentivize recycling and reduce waste. The newest “drop-off town” in the state to make the switch to PAYT is Hopkinton, which is scheduled to implement its program in November 2010. Other towns with PAYT drop-off programs include Canterbury and Lyme. According to Donald Maurer, Supervisor of Solid Waste Technical Assistance for the New Hampshire Department of Environmental Services,

“We have seen remarkable results in Canterbury and Lyme recently. Lyme, with a population around 1800, had a budget line item of \$110,000 prior to implementing PAYT. After PAYT, they reduced the line item to \$10,000 and increased their recycling rate from 34 to 50 percent.”

Across the state, other towns are having similar success. Towns with PAYT programs in New Hampshire have a 39 percent recycling rate on average, versus the statewide average of 21 percent.



“Tipping fees keep increasing and small towns and cities have little recourse but to increase budgets in order to meet the costs,” said Maurer. “The only thing that can be done to keep costs in check is to increase recycling. Certainly, PAYT is not the only tool in the box that can increase recycling, but it is one of the best.”

The New Hampshire Department of Environmental Services conducts outreach to help towns reduce the ever increasing cost of waste disposal. The agency rarely discusses the “green” reasons to recycle, instead letting the economic incentive speak for itself. Maurer continued,

“We begin with a discussion of the solid waste industry, including its size and the dominance of market share by a few large companies. Once the financial picture is brought into perspective, we then demonstrate that a town can save money by increasing diversion. It is then fairly easy to convince them that PAYT is a viable option.”

Maurer noted that common objections to PAYT include the fear that it will lead to illegal dumping or that it will be perceived by residents as just another tax. However, studies of communities with PAYT programs around the nation indicate that illegal dumping is not a problem for most towns. New Hampshire also has a law which allows towns to set up a dedicated “enterprise fund,” separate from the town’s general fund. This can be used to ensure taxpayers that any revenue generated from PAYT goes toward the cost of sustaining the program.



Vermont

Many small towns across Vermont are also weighing in to take advantage of PAYT. For example, the town of Springfield implemented a PAYT drop-off program at its transfer station and recycling center after the town dump closed several years ago. Trash bags are weighed on platform scales and residents use tickets to pay for disposal. A sheet of 25 tickets cost \$11.25 and each ticket allows four pounds of trash.

According to Mary O'Brien of the Southern Windsor/Windham Counties Solid Waste Management District, "Paying by weight, rather than volume, is a significant motivator to residents to recycle as much of their waste as possible." Consequently, Springfield's 43 percent recycling rate is the highest of any town in the local waste management district.

Chittenden Solid Waste District also uses PAYT at its seven waste and recycling drop-off centers across Chittenden County. Drop-off customers pay \$1.75 for 18 gallons of household trash, \$3.25 for 33 gallons, \$5 for 45 gallons, and \$25 for a cubic yard. The drop-off centers also accept bulky items and construction and demolition debris on a PAYT basis, as well as mixed recyclables for free.

Recycling has been mandatory in Chittenden County since 1993, and the solid waste district is currently undertaking a study to expand PAYT to its curbside customers. Nancy Plunkett, Waste Reduction Manager for Chittenden Solid Waste District said,

"We have known for many years that curbside PAYT has been the piece missing from our waste diversion puzzle. While we enjoy high participation in our mandatory recycling program, tons of recyclables are still winding up in trash headed to the landfill. We expect that if we implemented a curbside PAYT program, the amount would be significantly reduced as people make the connection that trash collection costs significantly less when they generate less and recycle more."

Eight towns in Vermont's Northeast Kingdom Waste Management District also use PAYT at their transfer stations. Compared to other towns in the district with tax-funded waste disposal, the PAYT towns experience significantly lower waste generation rates. In 2009, the average per capita generation rate for residential and commercial waste in the district's PAYT towns was 1.64 tons per year, compared to 2.87 tons per year in the tax-funded towns.

When the Town of Canaan (population ~1,200) implemented a PAYT system in mid-2008, it decreased its municipal solid waste from 565 tons in 2007 to 281 tons in 2009 – a 50 percent decrease. According to Paul Tomasi, Executive Director of the Northeast Kingdom Waste Management District, "We have and will continue to promote PAYT programs throughout our membership. It's pretty clear that PAYT helps reduce per capita generation."

Tomasi further notes,

"Our PAYT towns do not experience higher incidences of illegal dumping than their tax funded counterparts, although this fear is usually the first thing that is raised when the issue is mentioned. We also get a lot of 'PAYT is more of a burden on those who can least afford to pay,' but these are the people who stand to benefit most from reducing their waste generation."



Ohio

In 2007, rural Logan County, Ohio signed a zero-waste resolution, setting a goal to send no waste to the landfill by the year 2020. To reach this goal, as well as to address dwindling capacity in the county's existing landfill, the Logan County Solid Waste Management District began to aggressively expand its recycling services. Prior to 2007, the County operated curbside recycling programs in three towns, and maintained five part-time drop-off recycling centers which were only open on Saturday mornings.

In 2007, the District constructed a new, 24-hour drop-off recycling center in the Village of Lakeview.

"We wanted a recycling center that was convenient, easy to use, always open, and one that would attract recyclers, but not illegal dumping. Fences, gates and locks were out. A beautifully appointed and landscaped recycling center was in," says Alan Hale, Coordinator, Logan County Solid Waste Management District.

The Lakeview recycling center also features a PAYT trash collection service. Residents buy green trash bags for \$2.00 per bag through an onsite vending machine. Funded in part through PAYT bag sales, the recycling center was a huge success. The District quickly began adding additional 24-hour recycling centers, and currently has 11 centers in operation with plans to add three more by September.

The centers are equipped with cameras for 24-hour surveillance to maintain safety and reduce any risk of illegal dumping. In addition, each recycling center has a volunteer "monitor" who visits the site three times a week and reports back electronically through the Solid Waste District Web site. Monitors note how much space remains in the containers, whether illegal dumping has occurred, and whether vending machines are fully stocked with PAYT trash bags.

To process and market the recycled commodities collected, the District converted an old lumber yard into a materials recovery facility. The District plans to repay its loan for the MRF through PAYT bag revenues, which currently average





between \$6,000 and \$10,000 per month. After only four months of operation, the MRF's commodity sales began exceeding its operation costs, and as additional recycling centers are added the District anticipates increased revenues with only marginal increases in costs.

According to Hale, "recycling in our District is becoming a way of life in the community, especially since the drop-off centers are located throughout the county. The District receives many compliments on the operation of the recycling centers, particularly how beautifully they are landscaped and maintained. A professional landscaper has been involved in the construction of each new center and to many people they appear to be recycling gardens or parks - pleasant places to visit."

RESOURCES / ASSISTANCE

Grantee Econservation Institute is providing technical assistance for PAYT to municipalities in Region 9. As part of this grant, Lisa Skumatz and her team are holding a series of free national webinars. In addition, they will also offer technical assistance to 15-30 communities and provide detailed technical assistance to three communities.

According to Lisa Skumatz, "The support is for Region 9 communities only, and includes both simple and more detailed assistance to move PAYT forward. It might be as simple as providing tools and phone guidance, or as complicated as rate studies."

While the technical assistance is being offered to communities only within Region 9, the Web site and free webinars can be used as national and international resources. To date, the webinars have included about six foreign countries. For additional information visit: www.paytnow.org.

EPA Home

State and Local Climate and Energy Program - Solid Waste and Materials Management and Relevant Community Solid Waste Information.

<http://www.epa.gov/statelocalclimate/local/topics/waste-mgmt.html>

PAYT Outreach on Web site:

<http://www.epa.gov/waste/consERVE/tools/payt/tools/toolkit.htm>

Illegal Dumping References/Sites:

<http://www.epa.gov/waste/consERVE/tools/payt/top8.htm>

http://www.epa.gov/reg5rcra/wptdiv/illegal_dumping/downloads/il-dmpng.pdf

