United States Environmental Protection Agency
Solid Waste and Emergency Response (5305W)
EPA530-F-97-007
April 1997

EPA

Pay-As-You-Throw Success Stories

IN A GROWING NUMBER of communities across the nation, pay-as-you-throw (PAYT) programs are working. This collection of testimonials presents first-hand stories from communities that faced significant municipal solid waste (MSW) challenges—issues like increasing amounts of waste, rising disposal costs, and uncertain MSW budgets—and were able to use PAYT to put their solid waste management back on track.

While the specific issues varied, the leaders of these communities recognized that their old MSW programs needed to change. More reliable funding sources were needed, recycling programs had to be expanded, and, most importantly, they had to begin getting their residents to generate less waste in the first place. PAYT turned out to be the answer.

Real-World Results

The PAYT concept is simple—rather than paying for trash collection and disposal indirectly (often through property taxes), residents under this program are asked to pay for each container of waste they generate. It gives them an incentive to reduce waste, and it can be very effective: after implementing PAYT, communities typically report reductions in waste amounts of 25 to 35 percent, including significant increases in recycling. To date, nearly 2,000 communities across the country have successfully implemented PAYT.

Learn From Successful Communities

For communities considering PAYT, making the switch may seem intimidating. MSW planners may be concerned, for example, that their elected officials will not support the effort. Other planners may feel that the design process is too complicated or that local residents might resist the new program.

Fortunately, decision-makers considering PAYT have an important resource they can turn to: the experience of the many communities that have preceded them. When it comes to questions about how to evaluate, design, and implement PAYT, it's the communities that have successfully adopted a program of their own that can best provide the answers.

City of Gainesville
SOLID WASTE

CITY OF SAN JOSÉ, CALIFORNIA
ENVIRONMENTAL SERVICES DEPARTMENT
777 NORTH FIRST STREET, SUITE 450
SAN JOSE, CALIFORNIA 95112-6311
TELEPHONE (408) 277-5533
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Town of Falmouth, Maine
271 Falmouth Road
Falmouth, Maine 04105
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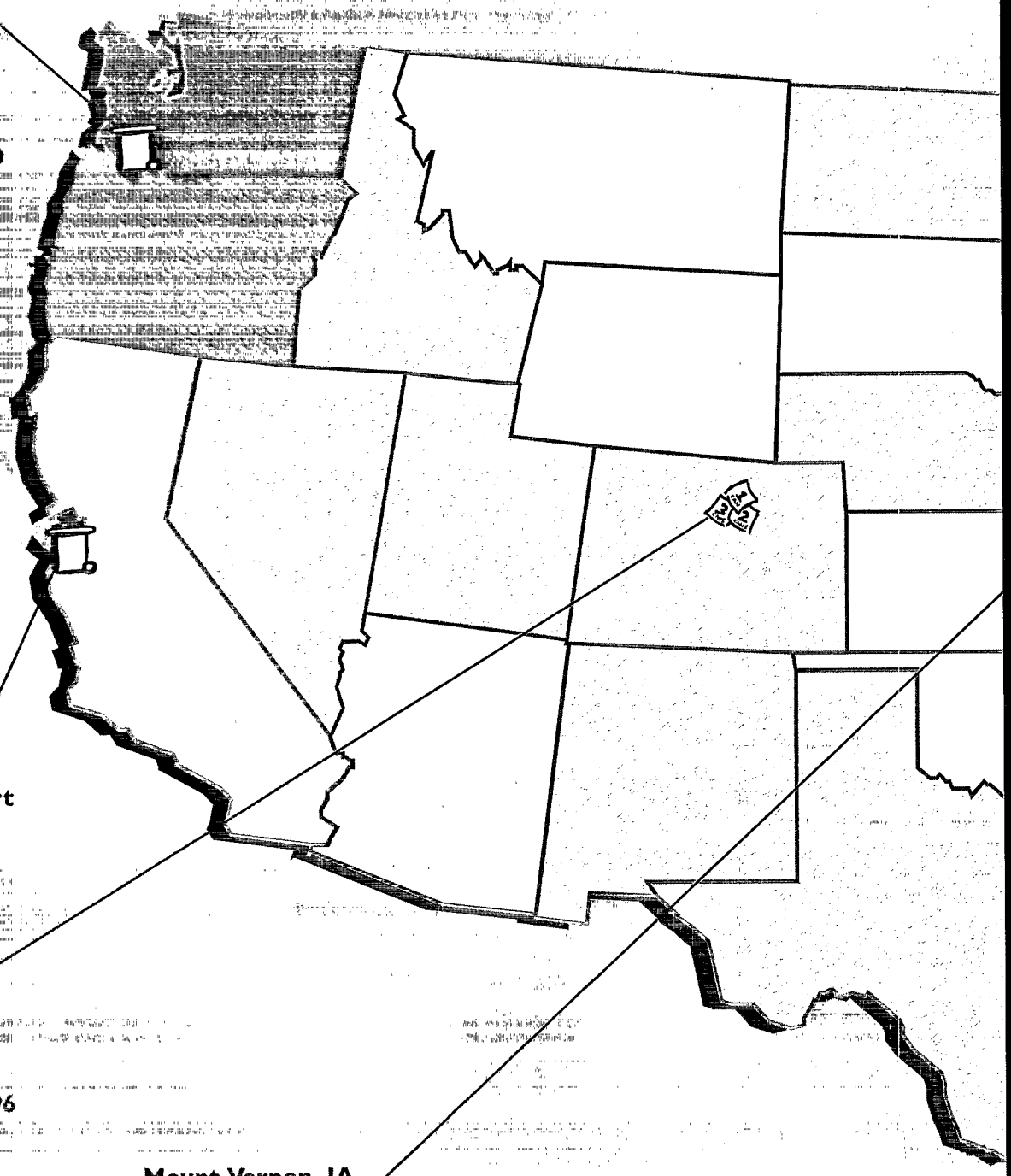
PAY-AS-YOU-THRO



Vancouver, WA

Population: **69,000**

Program Type: **Cans**

Start Date: **January 1990**

San Jose, CA

Population: **850,000**

Program Type: **Four-sort**

Start Date: **July 1993**

Fort Collins, CO

Population: **100,000**

Program Type: **Varies**

Start Date: **January 1996**

Mount Vernon, IA

Population: **3,700**

Program Type: **Tags**

Start Date: **July 1991**

EPA530-F-97-007a

PAY-AS-YOU-THROW SUCCESS STORIES

Poquoson, Virginia

Population:	**11,500**
Type of Community:	**Suburban**
Type of Program:	**Bags**
Program Start Date:	**July 1992**

With pay-as-you-throw, we've had the largest amount of recyclables collected in our nine-community regional recycling program for four years.

Getting Started: Why Pay-As-You-Throw?

In the fall of 1991, we decided to shut down a very successful drop-off recycling center and join a regional curbside program the next spring. Our main reason for going with the curbside program was that we knew we could get better citizen participation and further increase recycling. Because of the success of the drop-off program, we were asked by the city council to review the city trash program and develop a plan to improve it.

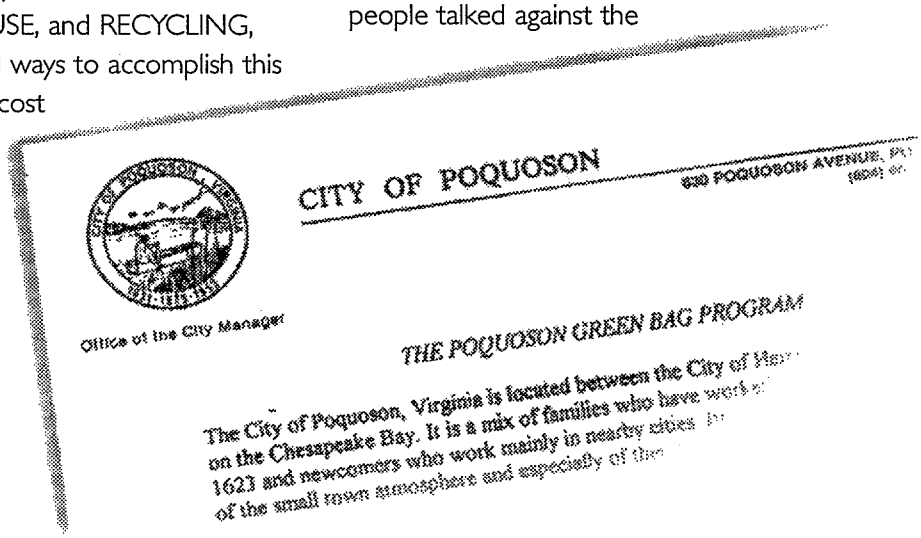
Our group was made up of about a dozen interested citizens, two city employees, and two city councilmen. One of the first things we did was to develop the following mission statement: "To review every aspect of waste management in Poquoson to maximize REDUCTION, REUSE, and RECYCLING, and to recommend ways to accomplish this with the minimum cost to the taxpayer." This statement was read at the start of every meeting to make sure we stayed focused on our agreed-upon goal. After discussing all types of different programs, we decided to focus on a fairly new system that was volume-based and where people paid for the amount of trash they discarded, rather than a flat-fee system.

Two years after the program started, a city councilman who had voted against the new program came up to me in a local store with a smile on his face and simply said 'You know, you were right.' Then I knew the program was really working.

Bringing the Opposition on Board

We called and talked to people involved with these different programs and found out what problems and successes they were having. We eventually ended up with two three-inch binders full of information.

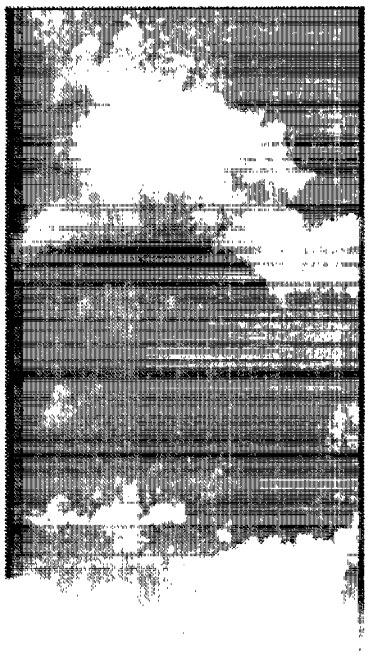
After many meetings and sometimes heated discussions, we were ready to submit our basic recommendations to the city council and the public. At the public hearing, seven people talked against the


CITY OF POQUOSON

Office of the City Manager

THE POQUOSON GREEN BAG PROGRAM

The City of Poquoson, Virginia is located between the City of Ha
on the Chesapeake Bay. It is a mix of families who have work
1623 and newcomers who work mainly in nearby cities
of the small town atmosphere and especially of the



plan, and the city council seemed split on the issue. The word "change" is usually not well accepted in Poquoson. We invited the seven speakers against our plan to join our committee and work with us to develop a final recommendation. In the end, the six that joined us supported the final plan.

Bags, Tags, or Cans?

Another big question was: Do we use bags, stickers, or containers? Our research showed that stickers are being counterfeited in one city and that there is no effective way to control bag size. Containers required a large, upfront capital cost, and we wanted to develop a program that required no additional cost to the city. Furthermore, we are a very windy city—and typically after a trash pickup empty trash cans roll all over the neighborhoods! Since all of our trash was being sent to a waste-to-energy (WTE) plant and not a landfill, plastic bags were not a negative as far as disposal was concerned. We decided to use plastic bags.

How Best To Distribute the Bags?

Although many cities sell their bags from city office locations, this puts a big burden on city personnel and can be inconvenient for citizens. We talked with all our grocery, drug, and convenience stores and set up a program in which they would sell the bags and turn over all the proceeds to the city after they were sold. In other words, they would make no profit on selling the bags, but also would have no investment in them. It was pointed out to them that this would be a community service.

Spreading the Word

The next step was informing the public of the new program, how it would work, and when it would start. We prepared news releases for our local papers, wrote articles for the city newsletter, and made a videotape of the program using local talent that was then shown on the city public access channel. We also trained speakers about the subject and made them available to any groups that were interested.

"We're number one every time"

We are part of a regional recycling program with nine other cities and counties. Because of the way our trash program encourages recycling, our city has had the largest amount of recyclables collected per house, per month for the entire four years we have been in the program. We're not number one most of the time, we're number one every time.

Poquoson's success story was compiled by Bob Kerlinger, Recycling Committee Chair, (804) 868-3779.

EPA530-F-97-007b

Dover, New Hampshire

Population: 26,000

Type of Community: Rural

Type of Program: Bag and Tag

Program Start Date: October 1991

Pay-as-you-throw has proven to be a very effective means of managing Dover's solid waste.

Getting Started: Why Pay-As-You-Throw?

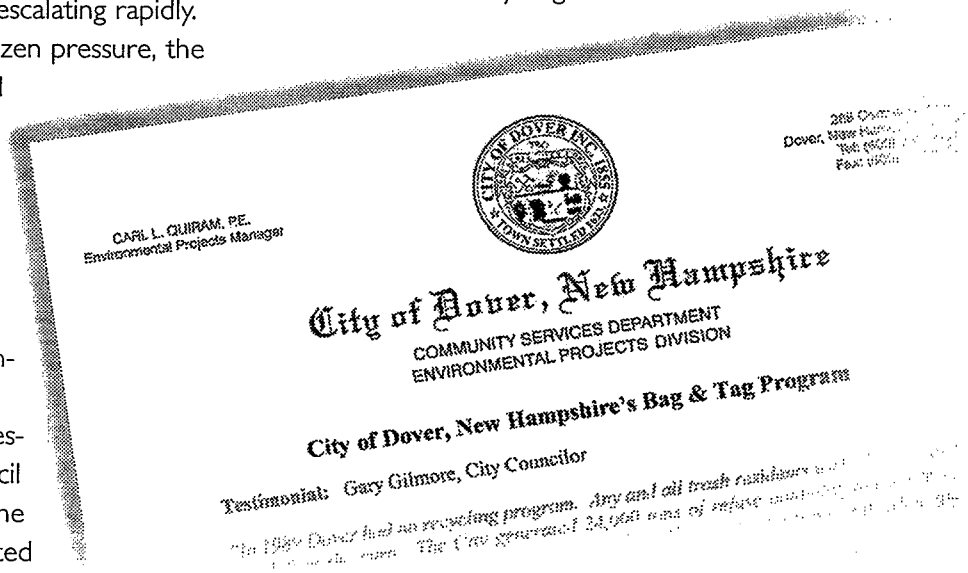
The City of Dover is a community of approximately 26,000 people on New Hampshire's seacoast. Our municipal landfill was closed in 1979, and at that time the city entered into a relationship with a private hauler for collection and disposal at a privately owned and operated landfill. The city collected approximately 24,000 tons of trash each year, of which approximately 11,000 tons were residential refuse.

Before 1989, Dover had no recycling program. Any and all trash residents wished to discard was left at the curb, and 3½ truck routes were needed to collect the refuse daily. The cost of refuse collection and disposal was escalating rapidly. Responding to citizen pressure, the Dover city council created an ad hoc committee on recycling in the fall of 1989. The committee, chaired by Gary Gilmore, city councilor, consisted of eight interested residents and a council representative. The committee reported back to the council 4 months later with 10 recommendations.

The committee urged the immediate establishment of a drop-off recycling center designed to collect a wide range of materials. The recycling center opened in May 1990. It quickly became very popular and a source of civic pride.

The recycling center was run initially as an all-volunteer effort. After a few months, the city hired a solid waste coordinator, who began working in conjunction with the ad hoc committee and several city councilors to urge the establishment of curbside recycling

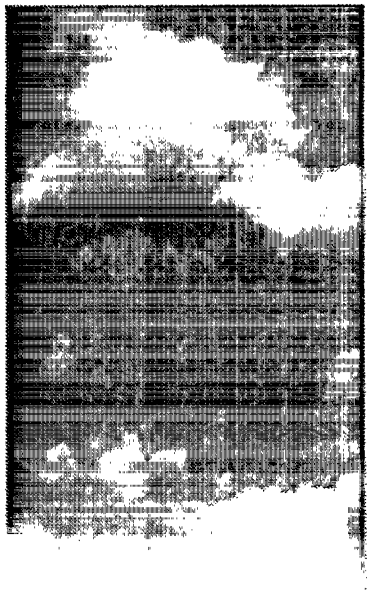
We argued that the costs for producing wastes should be borne by the user and the costs of recycling, because of its social and environmental benefits, should be borne by the city.


CARL L. QUIRAM, P.E.
Environmental Projects Manager

City of Dover, New Hampshire
COMMUNITY SERVICES DEPARTMENT
ENVIRONMENTAL PROJECTS DIVISION

City of Dover, New Hampshire's Bag & Tag Program

Testimonial: Gary Gilmore, City Councilor



and the bag and tag program, which was then unknown in northern New England.

Overcoming Public Dissent

The three public meetings we held were filled with heated vocal dissent. However, we soon convinced the public to accept these programs with a couple of basic premises. The first premise was that recyclable materials are a commodity, and anything that is disposed of in the landfill is waste. We argued that the costs for producing wastes should be borne by the user and that the costs of recycling, because of its social and environmental benefits, should be borne by the city.

In September 1991, the city began curbside collection of recyclables, and a month later the bag and tag program was implemented. In conjunction with the establishment of these programs, the city council created a Citizen's Solid Waste Advisory Committee responsible for overseeing these programs.

Since the program was initiated we have had annual public meetings and have raised the price once. We have not had any significant public dissent at any meetings since the program's inception. Overall, the program has been well received by the community and has proven to be a very effective means of managing Dover's solid waste.

How Does It Work?

The city no longer provides for the collection and disposal of private dumpsters. Commercial generators pay the fees associated with the collection and disposal. For the residents, payment of the collection and disposal of wastes is accomplished through the purchase of bags and/or adhesive tags.

A special revenue fund was established to pay for the collection, disposal, and administrative costs associated with our residential solid waste. The fees generated by the sale of the bags and tags go into this fund as revenue. The goal is to maintain a neutral fund balance that can sustain the program, but not to build a large balance.

Success: Saving Money and Reducing Waste

As mentioned earlier, Dover used to produce approximately 11,000 tons per year of residential solid waste. Last year, we produced approximately 3,900 tons. In 1990 our budget for solid waste was approximately $1.2 million. Next year's budget (including trash and recycling) is approximately $878,000. Our current recycling rate is well over 50 percent for our residential waste stream—despite it being strictly voluntary.

Dover's success story was compiled by Gary Gilmore, City Councilor, and Carl Quiram, P.E., Environmental Projects Manager, (603) 743-6094.

EPA530-F-97-007c

Gainesville, Florida

Population:	96,000
Type of Community:	Suburban
Type of Program:	Cart-based Cans
Program Start Date:	October 1994

The results of the first year of our program were amazing. After implementing pay-as-you-throw, we watched our recycling rates soar!

Why Pay-As-You-Throw?

Before variable-rate pricing, the cost to individuals for service was hidden. Residential users did not have an apparent reason to limit their disposal habits. Now, Gainesville's variable-rate pricing generates a visible monthly charge that has resulted in a substantial reduction in both solid waste and the costs associated with its disposal.

How Does It Work?

In July 1994, the city of Gainesville entered into a contract with Waste Management of Central Florida, Inc., for the collection of residential solid waste and commingled recyclables and into another contract with Boone Waste Industries, Inc., for the collection of yard trash for recycling. The new contract for solid waste service included a variable rate for residential collections:

City of Gainesville

SOLID WASTE DEPARTMENT

July 25, 1996

Janice L. Canterbury
MC: 5306W
U.S. EPA
Municipal & Industrial Solid Waste Div.
401 M Street SW
Washington DC 20460

Dear Ms. Canterbury:

In July of 1994, the City of Gainesville entered into a contract with Waste Management of Central Florida, Inc., for the collection of residential solid waste and commingled recyclable collection, and another contract with Boone Waste Industries, Inc., for the collection of yard trash for recycling. The new contract for solid waste service included a variable rate for solid waste collection service: residents paid $13.50, 15.96 or 19.75 per month according to whether they placed 35, 64 or 96 gallons of solid waste at the curb for collection. Recycling service was unlimited. While residents had been receiving service for the collection of recyclables since 1989, the implementation of this program added brown paper bags, corrugated cardboard and phone books to the list of items recycled. The results of the first year of this program were amazing. The amount of solid waste collected decreased 20% and the recyclables recovered increased 35%! The total disposal tonnage decreased from 22,120 to 18,116. This resulted in a savings of $186,200 to the residential sector, or $7.95 per home.

Gainesville's move to a cart based, variable rate residential collection system did more than just increase the rate of recovery and minimize disposal needs. The distribution of system costs is more equitable. Residents make the choice of service delivery based on individual waste generation habits. This reduces the level of subsidy that unlimited, flat rate collection systems encounter.

Prior to variable rate pricing, the individualized cost for service was hidden. Residential users did not have an apparent reason for limiting their disposal habits. Gainesville's variable rate pricing [illegible] monthly charge that is visible which has resulted in a substantial reduction of solid waste [illegible] associated with disposal.

If you have any further questions [illegible]

Gainesville's move to pay-as-you-throw did more than reduce waste and increase recycling–it created a more equitable system for residents.

residents pay $13.50, $15.96, or $19.75 per month according to whether they place 35, 64, or 96 gallons of solid waste at the curb for collection.

Recycling service is unlimited. While residents have had curbside collection of recyclables since 1989, the implementation of this program added brown paper bags, corrugated cardboard, and phone books to the list of items recycled.

Planning Ahead

Planning ahead was critical to the success of Gainesville's program. It was crucial for us to order our carts and public outreach publications far in advance of program implementation.

Success: Saving Money and Reducing Waste

The results of the first year of our program were amazing. The amount of solid waste collected decreased 18 percent, and the recyclables recovered increased 25 percent! The total disposal tonnage decreased from 22,120 to 18,116. This resulted in a savings of $186,200 to the residential sector, or $7.95 per home.

Gainesville's move to a cart-based, variable-rate residential collection system did more than just increase the rate of recovery and minimize disposal needs. The distribution of system costs is more equitable. Residents make the choice of service delivery based on individual waste-generation habits. This reduces the level of subsidy that unlimited, flat-rate collection systems encounter.

Gainesville's success story was compiled by Gina Hawkins, Recycling Coordinator, (352) 334-5040.

EPA530-F-97-007d

San Jose, California

Population:	850,000
Type of Community:	Urban
Type of Program:	Four-sort
Program Start Date:	July 1993

We worked to educate residents away from the concept of unlimited garbage toward the idea of unlimited recycling.

Getting Started: Why Pay-As-You-Throw?

San Jose is the nation's eleventh largest city. Our residents are among the most educated and affluent in the country and represent a diverse community, with the two largest minority groups being Latino (27 percent) and Asian (14 percent).

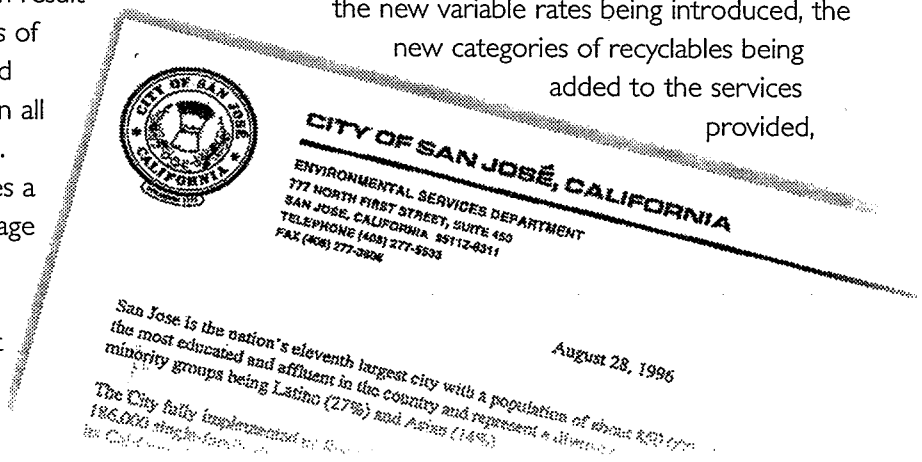
Before July 1993, San Jose provided unlimited weekly garbage collection service at a flat monthly rate of $12.50 per household. Residents set out an average of three 32-gallon garbage cans per week. The city fully implemented its Recycle Plus (RP) residential integrated waste management program for 186,000 single-family dwellings on July 1, 1993. This program was designed to permit the city to reach its California Integrated Waste Management Act goal of 50 percent waste reduction by 2000.

The new RP program resulted from over 3 years of planning that included extensive research on all major policy changes. This program includes a fully automated garbage collection system, an aggressive PAYT rate structure, a four-sort recycling system, and a contractor payment mechanism which provided financial incentives that encourage contractors to promote recycling.

Educating the Public

The public was involved in the design of the RP program through a questionnaire mailed to all 186,000 households; community meetings throughout the city; pilot projects in 17 neighborhoods for collection of yard trimmings and mixed papers; and the use of a public review committee to select the firms that would be given 6-year collection contracts for the collection of garbage and recyclables and for recyclables processing.

A comprehensive public outreach campaign aimed at single-family households explained the new variable rates being introduced, the new categories of recyclables being added to the services provided,

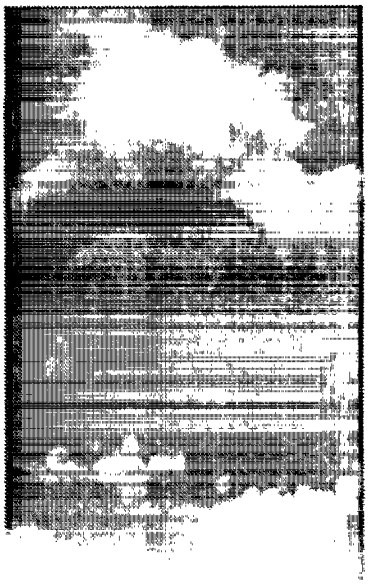

CITY OF SAN JOSÉ, CALIFORNIA
ENVIRONMENTAL SERVICES DEPARTMENT
777 NORTH FIRST STREET, SUITE 450
SAN JOSE, CALIFORNIA 95112-6311
TELEPHONE (408) 277-5533
FAX (408) 277-3904

August 28, 1996

San Jose is the nation's eleventh largest city with a population of about 850,000. Our residents are among the most educated and affluent in the country and represent a diverse community, with the two largest minority groups being Latino (27%) and Asian (14%).

The City fully implemented its Recycle Plus residential integrated waste management program for 186,000 single-family dwellings on July 1, 1993.

In the three years since our program began, an average of 87 percent of residents have requested 32-gallon cans—the smallest size we offer.



and the benefits of participating. All materials were produced in three languages (English, Spanish, and Vietnamese). The campaign was guided by the information received during a series of focus groups in the three languages, baseline and follow-up telephone surveys, and shopping mall intercept surveys. More than 250 community meetings were held in 1993, and a block leader program and school education program were organized.

Getting the Prices Right

Staff began researching unit-pricing structures for the new RP program in the spring of 1992 through surveys and interviews with successful PAYT communities nationwide. Residents were offered 32-, 64-, 96-, and 128-gallon carts with an "aggressive" unit-pricing structure. This structure provided a slight price break for each additional 32 gallons of capacity at the 64- and 96-gallon level, which the council considered important to help residents make the transition from flat rate to unit pricing.

We had to ensure that we had sufficient quantities of wheeled-garbage carts in the sizes the residents would request. We sent out a return-reply card to all single-family households in January 1993 with our estimated rates, and let residents know that no reply would result in delivery of the default 32-gallon cart.

Staff was able to work out a compromise with the city council, which included offering one of the most comprehensive low-income rate assistance programs for garbage service in the state. Criteria were based solely on household size and income and permitted eligible residents to receive a 30 percent discount on their bill. About 3,400 households currently participate in this program.

Managing the Program Costs

The challenge faced by the program is to both continue and expand its multi-pronged recycling efforts to meet diversion goals, while reducing costs to close the projected $5 million cost-to-revenue gap in five years. The city already has reduced costs by over $4 million annually through contract renegotiations that resulted in extending the term of the RP and yard-trimming collection contracts from June 1999 to June 2002.

Success: Waste Reduction and Increased Recycling

Staff did not anticipate how quickly residents would change their recycling participation to accommodate the 32-gallon size cart, especially since prior to RP the average set-out was three garbage cans. Since RP implementation, an average of 87 percent of residents have requested the 32-gallon size.

The difference between the "before and after" garbage set-out volume could readily be found in the quantity of recyclables collected in the new RP program. The volume of recyclables and yard trimmings being collected more than doubled the levels recorded prior to RP. Most importantly, residents reported wide satisfaction with the program and its results (80 percent in 1993 to 90 percent in 1996. Figures are based on a random sample telephone survey).

San Jose's success story was compiled by Jo Zientek, Supervising Environmental Services Specialist, (408) 277-5533.

EPA530-F-97-007e

South Kingstown, Rhode Island

Population:	30,000
Type of Community:	Suburban
Type of Program:	Drop-off, Tags
Program Start Date:	August 1994

With pay-as-you-throw, the average family of four has reduced its solid waste stream to one tagged bag of waste and one bag of recyclables per week.

Getting Started: Why Pay-As-You-Throw?

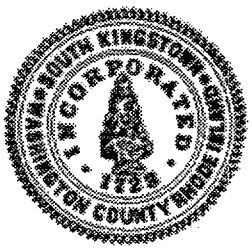
Solid waste for South Kingstown and its regional partner Narragansett is processed at the town's Rose Hill Regional Transfer Station (RHRTS). Given the community's oceanfront shoreline, the approximate year-round population of 22,000 residents swells to an estimated 30,000 persons in the summer months. Residents of both communities can dispose of solid waste by either contracting with a private refuse hauler or by directly accessing the transfer station.

After facility operations began at RHRTS in 1983, the disposal cost to "direct access" residential users continued to escalate. This increase in disposal costs was due in part to increasing tipping fees, higher processing costs, and abuse of a flat-rate annual vehicle pass program, which provided unlimited disposal with little or no incentive to recycle materials. Because of these concerns, South Kingstown and Narragansett initiated a volume-based tag solid waste disposal system and a voluntary source reduction recycling program for RHRTS residential users.

How Does It Work?

Under the tag solid waste disposal system, each residential user directly accessing the transfer station is required to purchase refuse tags ($10.00 for 10 tags) for solid waste disposal. Residential RHRTS customers place a tag on each garbage bag

The success of both the volume-based disposal system and the enhanced recycling facility has exceeded all pre-operational expectations.



Town of South Kingstown, Rhode Island

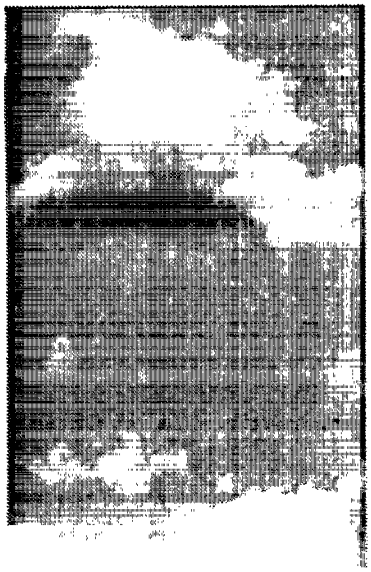
P.O. Box 31
Wakefield, RI 02880-0031

July 18, 1996

Tel. 401-789-6331

TOWN OF SOUTH KINGSTON

PAY-AS-YOU-THROW TESTIMONIAL



(35-pound/33-gallon limit) prior to disposal. Refuse tags were chosen in lieu of bags to provide residents free choice with regard to the size and type of refuse bag they were accustomed to using.

Some residents continue to use trash cans for refuse disposal. The RHRTS operates as a solid waste enterprise fund, and operational costs are covered by the cost of the refuse tags.

Utilization of the recycling center by residential RHRTS users continues to remain a voluntary decision. Residents who maximize their recycling efforts can minimize tag purchases and reduce their overall solid waste disposal costs. RHRTS residential users with wasteful disposal habits who choose not to recycle must consequently purchase additional tags.

Complementary Programs

Residential users can dispose of bulky waste and yard waste at a rate of 5 cents and 3.5 cents per pound, respectively. Residents may also elect to purchase yard waste bags at a cost of 75 cents each (which includes the disposal fee) for disposal of grass clippings and leaves.

In addition, the town constructed new recycling disposal facilities for direct access residential users that became operational on August 1, 1994. The enhanced recycling center accepts a wide variety of materials that can be recycled by residents at no cost, including aluminum, steel, plastic, newspaper, glass, and many others. Yard waste, uncontaminated wood demolition, and ferrous and nonferrous scrap metals are also recycled, but are assessed a tip fee due to associated processing costs.

Success: Saving Money and Reducing Waste

The success of both the volume-based disposal system and enhanced recycling facility has exceeded all pre-operational expectations. The capture ratio of recyclables from direct access residential users has consistently reached approximately 40 percent, with levels as high as 51 percent (not including bulky or recyclable yard waste). Recycling capture ratios approach 60 percent if yard waste and bulky recycled waste estimates are included.

Under the PAYT program, RHRTS residential users discharged approximately 2,175 tons during fiscal year 1994-95, as compared with 7,608 tons in fiscal year 1991-92 under the former vehicle sticker program. The average family of four has reduced its solid waste stream to one tagged bag and one bag of recyclables per week. This equates to a total yearly refuse disposal cost of $52 per year, which is a $40 savings from the previous year's average cost of $92. Elderly and single residents have reported a reduction in solid waste disposal to as low as one refuse bag every two weeks, for a total yearly refuse disposal cost of $26.

South Kingstown's success story was compiled by Jon R. Schock, Utilities Director, (401) 789-9331.

EPA530-F-97-007f

Vancouver, Washington

Population:	69,000
Type of Community:	Urban
Type of Program:	Cans
Program Start Date:	January 1990

An excellent public information and education program is imperative.

Getting Started: Why Pay-As-You-Throw?

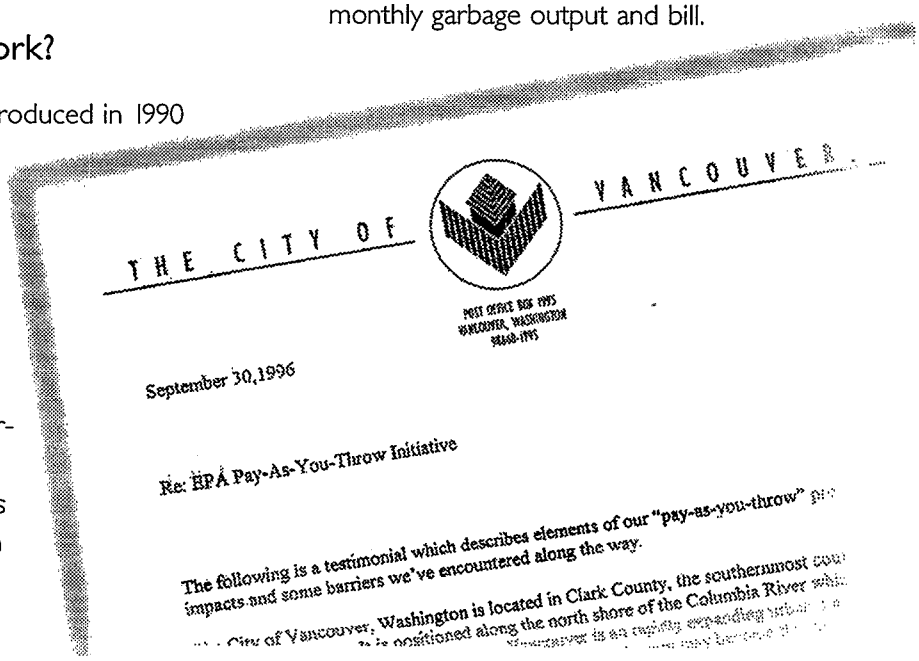
The city of Vancouver is located in Clark County, the southernmost county in the state of Washington, along the north shore of the Columbia River. Garbage collection service in the city is mandatory and has been a contracted service since 1937. In 1989, the state of Washington passed the Waste Not Washington Act, which required cities and counties to implement programs aimed at reaching a statewide goal of 50 percent waste reduction and recycling by 1995. In an effort to reduce our reliance on landfill disposal and to meet local and statewide goals, the city adopted the philosophy, "The more you use, the more you pay."

How Does It Work?

Linear rates were introduced in 1990 when the city council approved a rate increase that made the second can rate 84 percent greater than the first can. After 15 months, our data showed a 13 percent increase in the number of customers choosing the one-can basic service and a corresponding decrease in customers choosing the two-can service.

In 1992, the city 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.

Two years into our program, residents had significantly increased their recycling—and many had also requested services that could help them reduce waste even more!


THE CITY OF VANCOUVER

September 30,1996

Re: EPA Pay-As-You-Throw Initiative

The following is a testimonial which describes elements of our "pay-as-you-throw" program, impacts and some barriers we've encountered along the way.

City of Vancouver, Washington is located in Clark County, the southernmost county in the ... is positioned along the north shore of the Columbia River which ...

Complementary Programs

In 1992, in cooperation with Clark County, the city 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 ($5.55), 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.

Meeting the Challenges: Tips for Other Communities

Vancouver has encountered a variety of challenges throughout the past several years, and we hope that other jurisdictions may benefit from our experiences. A significant concern has been whether we are receiving accurate and up-to-date data from our garbage and recycling program service providers. It is important to select providers who have excellent computer tracking and reporting systems and adequate staffing in place to accomplish these needs. All solid waste programs require the contractor to provide monthly reports that enable the city to track the program's activities and monitor progress.

An excellent public information and education program is imperative. Although our experiences with new program campaigns have been very positive, it has been a challenge to ensure that all citizens are informed about new and existing programs and the different service levels available to them. Our ongoing challenge has been finding sufficient time and resources to dedicate to frequent, targeted public relations campaigns.

When the city first attempted to implement our once-a-month collection option, it was not approved. The city council, along with the local health district, had concerns about its potential negative impact on health and safety. Monthly service was eventually approved due to the pressure from recently annexed citizens, namely avid recyclers and senior citizens who were used to handling recycling and garbage on their own. The variety of service options, although positive from a waste reduction and customer standpoint, increases the instability of the revenue stream for the service providers and makes enforcement of mandatory collection more difficult.

Program Success

We have found volume-based linear rates to be 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 exceeded 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, we believe that they are the driving force behind our success in meeting our waste reduction and recycling goals.

Vancouver's success story was compiled by Andrea Friedrichsen and Tamera J. Kihs, Solid Waste Program Manager, (360) 696-8186.

EPA530-F-97-007g

PAY-AS-YOU-THROW SUCCESS STORIES

Mount Vernon, Iowa

Population:	3,700
Type of Community:	Suburban
Type of Program:	Tags
Program Start Date:	July 1991

Paying for one's waste has brought home to each of us a growing awareness of the full lifecycle costs of "throwing it out."

Getting Started: Why Pay-As-You-Throw?

Mount Vernon is a small, attractive college community in eastern Iowa, home to professional commuters as well as college staff. The city's income level ranks above average for the state. In July 1991, the city began to charge directly for the collection of residential trash, bulky items, grass clippings, and garden waste. At the same time, bins were distributed to begin curbside collection of materials for recycling. We expected these two steps to work together. Charging for each container of trash provided the financial incentive to move material from trash containers into recycling bins—the city would then contract to collect this recycling material free of direct charge.

How Does It Work?

The city's pay-as-you-throw system works quite simply. Households purchase $1.75 tags at city hall or one of several stores. As a public service, stores sell the tags with no markup. The price for collection is one tag for each container, which must be no more than 30 gallons or 40 pounds, and multiple tags for bulky items. Homeowners also receive a $7 solid waste bill monthly. The city discounts the monthly fee for households defined as low income under the school lunch program.

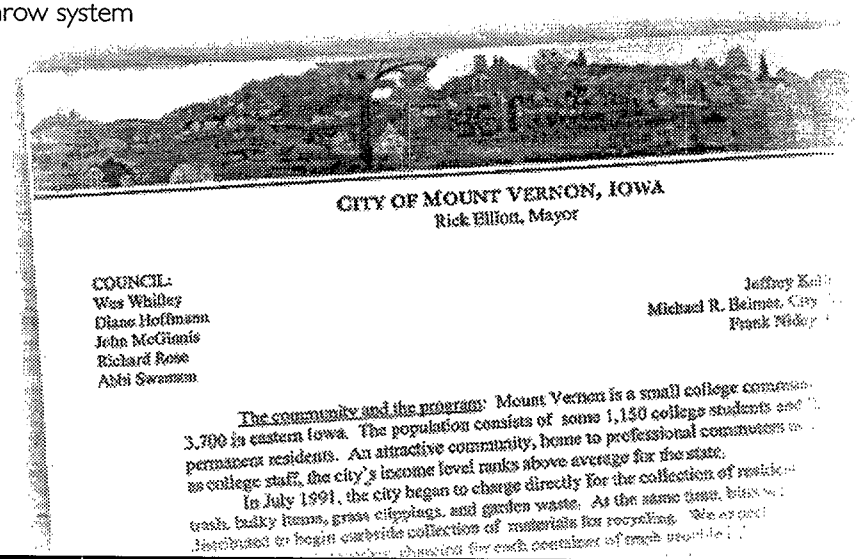
While the revenue from tag sales roughly covers the cost of trash collection and landfill fees, the monthly billing finances the "free of charge" collection of recycling material, leaves, and brush. Residents say tags are a fair way to pay for trash disposal, and the combination of tags and monthly fees provides a steady revenue to the city.

Why Tags?

The city council appointed the Reduction and Recycling Committee to develop a solid

"We have not only reduced the amount of trash sent to the landfill, but also generated an enormous amount of civic pride in our efforts to do something positive for our community environment."

—Rick Elliot, Mayor


CITY OF MOUNT VERNON, IOWA
Rick Elliott, Mayor

COUNCIL:
Wes Whitley
Diane Hoffmann
John McGinnis
Richard Rose
Abbi Swanson

Jeffrey Kel
Michael R. Beimer, City
Frank Nidey

The community and the program: Mount Vernon is a small college commu
3,700 in eastern Iowa. The population consists of some 1,150 college students and
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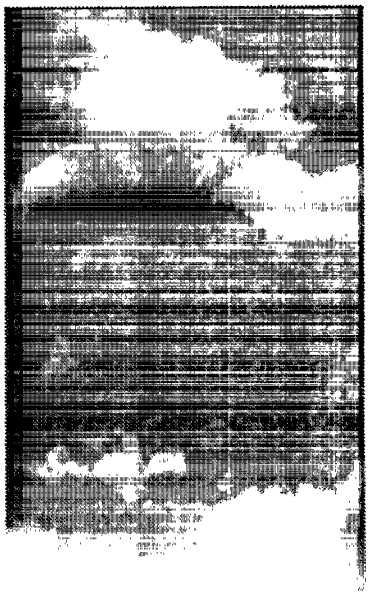


waste program. We spent over a year researching the experiences of other communities and consulting experts, and eventually recommended tags for waste collection to accompany curbside recycling. Tags cost little to print, permit residences to continue using their containers within the volume and weight limits, adhere securely at all temperatures, are convenient for participating merchants to handle, and can easily be removed when the trash is collected. Stealing of tags has not been a problem in this residential community.

Success: Increased Waste Reduction and Recycling

Pay-as-you-throw played a major role in motivating waste reduction and nearly doubling recyling. The city estimates that the trash the typical resident sent to the landfill decreased by nearly 40 percent, from 45 pounds per week in 1990 to 27 pounds in 1995. In addition, requiring a tag for each container of grass clippings and garden waste has nearly eliminated the collection of these materials. The total reduction of residential trash and all yard waste per household exceeds the goal of 50 percent waste reduction the state legislature has established for the year 2000. Dumping, subject to a $1000 fine in Mount Vernon, has not been a problem.

Altogether, by recycling and reducing trash, and by leaving grass cuttings on the lawn or composting it, the average household saved $47 last year in fewer tags purchased, a total saving of some $46,000 for our 980 households. At 9 pounds per household per week, Mount Vernon leads all 17 cities in Linn County in recycling.

In addition to putting more into recycling bins, residents of Mount Vernon have reduced waste in various ways: 1) recycling appliances; 2) recycling materials the city does not accept at drop-off facilities in Cedar Rapids and places of employment that recycle these items; 3) backyard composting of organic wastes; 4) purchase of reuseable rather than disposable materials; and 5) more yard sales. Much of this additional recycling and reduction is doubtless motivated by the tags that residents must purchase to send trash to the landfill. We believe that such incentives would also work with less expensive drop-off recycling programs in other cities.

As Mount Vernon's mayor, Rick Elliot, says: "Our program has been very successful due to the initial involvement of a large number of citizens, continued expansion of recycling opportunities, community education and ownership of the program, and a very civic-minded, cooperative recycling and refuse vendor. This program works and it works well."

How Mount Vernon's Program Could Be Even Better

The major challenge inherent in any reduction and recycling program is informing the public. The city needs to do better at keeping households current on changes in the recycling program. One successful example is an information packet prepared by the Recycling and Reduction Committee that explained to households how, with reasonably frequent mowing, grass cuttings left to decompose produce a healthier lawn. Informing households about alternative ways to deal with wastes goes hand in hand with pay-as-you-throw to maximize the effectiveness of the financial and environmental incentives.

Mount Vernon's success story was compiled by Don Cell, Chair of the Reduction and Recycling Committee. For more information on Mount Vernon's pay-as-you-throw program, call Bluestem Solid Waste Agency at (319) 398-1278.

EPA530-F-97-007h

Falmouth, Maine

Population:	8,500
Type of Community:	Suburban
Type of Program:	Bags
Program Start Date:	September 1992

By recycling and reducing waste, citizens not only save money, but also reduce costs for our community.

Getting Started: Why Pay-As-You-Throw?

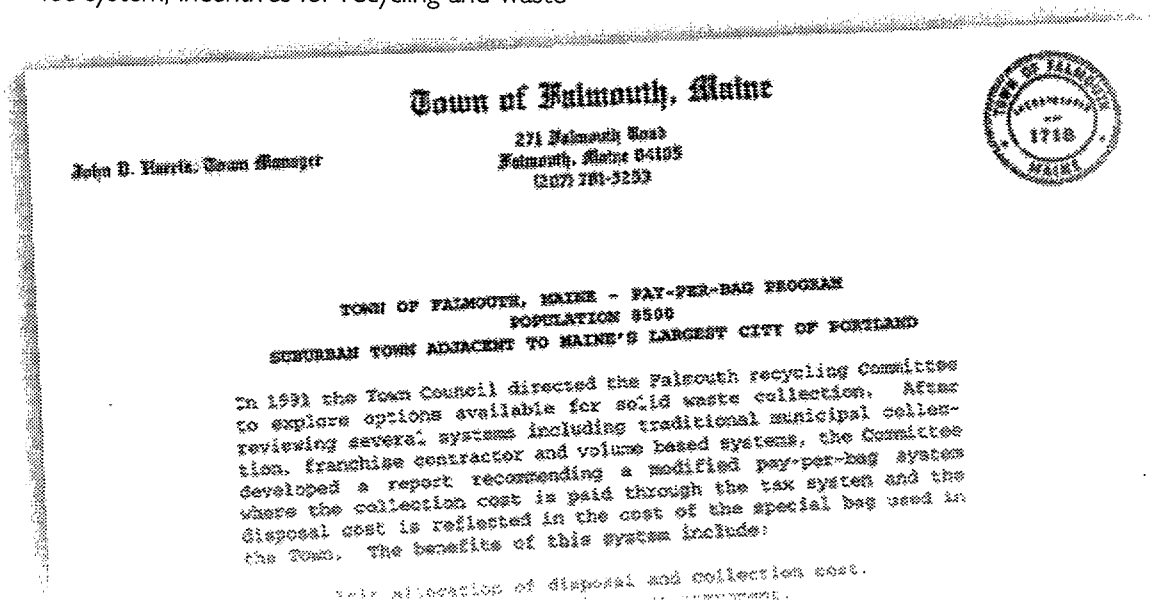
In 1991, the Town Council directed the Falmouth Recycling Committee to explore options available for solid waste collection. After reviewing several systems, including traditional municipal collection, franchise contractor, and volume-based systems, the committee developed a report recommending a modified pay-per-bag system. In this system, the collection cost is paid through the tax system and the disposal cost is reflected in the cost of the special bag used in the town.

The benefits of this system include a fair allocation of disposal and collection costs, tax-deductible collection cost components, lower collection costs than a traditional non-fee system, incentives for recycling and waste reduction, a favorable cash flow structure (bag revenues are received before disposal expense is incurred), and elimination of trash "mixing" by unscrupulous haulers. A unanimous vote of the council in the spring of 1992 directed the town to implement the program in September 1992.

How Does It Work?

The town buys about 175,000 large bags (33-gallon) and 75,000 small bags (20-gallon) each year. About a dozen local stores, including Shaw's Supermarkets, retail the bags. Bags cost the town 12 and 9 cents respectively and the store is allowed a

The success and acceptance of pay-as-you-throw in our community has been remarkable. Our recycling rate immediately jumped by more than 50 percent and trash disposal volumes decreased by about 35 percent.



Town of Falmouth, Maine

271 Falmouth Road
Falmouth, Maine 04105
(207) 781-3253

John B. Harris, Town Manager

TOWN OF FALMOUTH, MAINE - PAY-PER-BAG PROGRAM
POPULATION 8500
SUBURBAN TOWN ADJACENT TO MAINE'S LARGEST CITY OF PORTLAND

In 1991 the Town Council directed the Falmouth recycling Committee to explore options available for solid waste collection. After reviewing several systems including traditional municipal collection, franchise contractor and volume based systems, the Committee developed a report recommending a modified pay-per-bag system where the collection cost is paid through the tax system and the disposal cost is reflected in the cost of the special bag used in the Town. The benefits of this system include:

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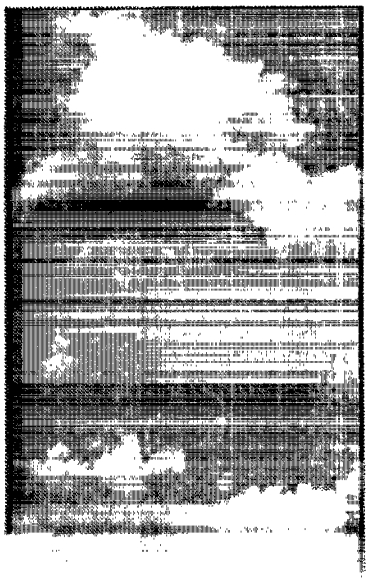


2-cent per bag markup. The retail prices of the bags are 91 and 64 cents, respectively. In addition, a 91-cent sticker is available for bulky items under 35 pounds, and a $4.80 tag is used for large items such as mattresses and sofas. Stores are invoiced for the bags at the time of delivery and have 30 days to pay. This system works well for the citizens, because they buy bags and simply use them the way they had before this program was implemented.

By recycling and reducing waste, citizens not only save money, but also reduce costs for our community. The burden on the town is minimal because its only responsibilities are bag delivery, billing, and recordkeeping. Also, cash flow is positive for the town because the bags are paid for before use. There is no concern with unpaid and uncollectible charges that can occur with post-use billing.

Success: Saving Money and Reducing Waste

The success and acceptance of the program in the community has been remarkable. Our recycling rate (always among the highest in the region) immediately jumped by more than 50 percent, and trash disposal volumes decreased by about 35 percent. Combined, these two statistics resulted in a jump of our recycling rates from 12 percent before the program to 21 percent currently. The average rate for local towns is 7 percent.

These statistics have meant a great deal to the economics of our waste program: The bid price for collection the first year was $116,000, compared to a bid of $146,000 for a traditional collection contract. Our current contract is for $125,500 despite over 10 percent growth in the community. At $55 per ton, a reduction of 900 tons of waste disposal per year meant a savings of about $50,000. The current $98 per ton tip fee calculates to $88,000 per year savings. In addition, during the old franchise system, residents paid the collection cost directly to the hauler. Now residents pay for collection through their taxes, bringing the community over $30,000 per year.

Tips for Other Communities

Some towns have bought large quantities of bags and have been dissatisfied with size or quality. It may be prudent to buy a smaller quantity to start with so that changes can be made if desired. When you "force" citizens to buy your bag, it has to be of acceptable quality.

Educate prior to implementation! The town conducted a citizen survey, developed a brochure, published a newsletter, and passed out two free bags to each household prior to implementing the program. We also conducted a logo contest in the schools that generated a great deal of interest and media attention. The local Lions Club donated money for the prizes.

Contact other communities and learn! During our review, we read many articles published about other towns' programs. This is useful, but following up with phone calls can be even more helpful. We got copies of several towns' brochures that alerted us to some details that otherwise may have been overlooked.

Involve the collection team! The contractor or municipal crew can help or hurt the program, so they need to be on board. We developed a small tag for collection workers to leave at the curb if there was a reason to not pick up trash (i.e., not in proper bag or too heavy).

Falmouth's success story was compiled by Tony Hayes, (207) 781-3919.

EPA530-F-97-007i

Fort Collins, Colorado

Population:	100,000
Type of Community:	Urban
Type of Program:	Varies
Program Start Date:	January 1996

Start planning for implementation at least six months in advance. This means both working with your private haulers and educating the public.

Getting Started: Why Pay-As-You-Throw?

Fort Collins is located on the Front Range of the Rocky Mountains in Colorado. Last year its population passed the 100,000 mark, but the community still takes pride in a small-town self-image, and residents are determined to manage growth well. The natural environment is highly valued, and solid waste reduction is a strong environmental program in Fort Collins.

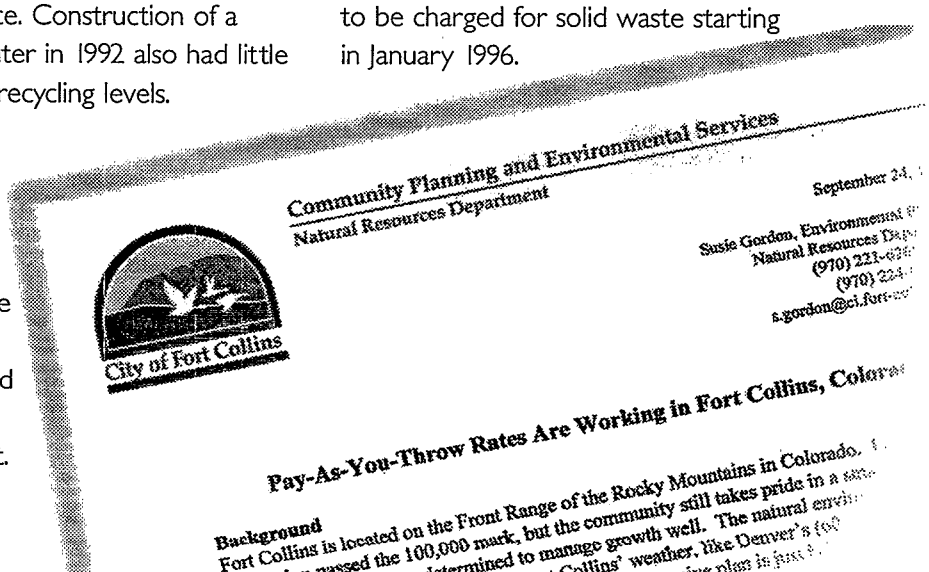
The city conducted outreach and sponsored a recycling drop-off site for nearly 10 years, but without a municipal trash collection service, increased participation depended on haulers' efforts. A 1991 ordinance required haulers to provide curbside recycling, but because they included this service as an additional cost, most customers were unwilling to pay for the service. Construction of a county recycling center in 1992 also had little effect on residents' recycling levels.

The city council adopted goals in 1994 to reduce the total waste stream by 20 percent by the year 2000, despite the city's growth, and to reduce landfilled waste by 20 percent.

A specific target was set for increasing participation in curbside recycling by 80 to 90 percent. Reaching these goals has been challenging, because six private trash haulers work in Fort Collins, ranging from corporate players like BFI and Waste Management to locally run family operations that have been in business for 40 years.

Disappointed in a slow rate of progress for recycling, the city council adopted two ordinances in May 1995 that apply to single-family and duplex residences. The first ordinance called for haulers to "bundle" costs for recycling and provide curbside recycling to customers upon request at no extra charge. It became effective in October 1995. The second ordinance called for volume-based rates to be charged for solid waste starting in January 1996.

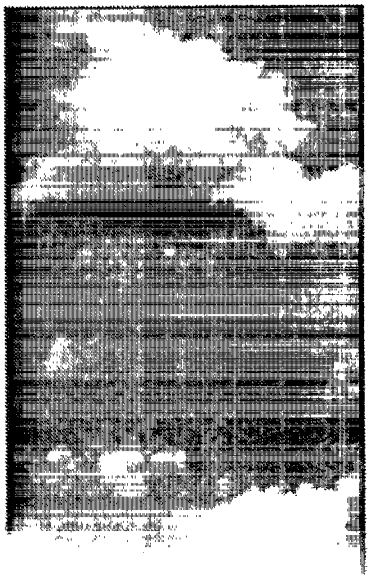
Pay-as-you-throw has helped us to reach our recycling goals—a real challenge, since there are six private trash haulers that work in Fort Collins.


Community Planning and Environmental Services
Natural Resources Department

City of Fort Collins

Pay-As-You-Throw Rates Are Working in Fort Collins, Colora

Background
Fort Collins is located on the Front Range of the Rocky Mountains in Colorado.



Lessons Learned

Start planning for implementation of the rate structure change at least six months in advance. We didn't start working with the haulers until September to implement the system in January. Then, after meeting together several times, the city agreed to amend the ordinance to respond to haulers' concerns about charging strictly by volume, but this process was time-consuming and difficult.

Make sure to publicize the changes to remind the public and their elected officials about what will occur in the next 2 to 3 months. Use news articles, advertisements, and haulers' billings.

Don't underestimate the difficulty people will have understanding how new trash collection rates work, and plan for the extra work it creates for staff. Be prepared for it to take 3, 6, or even 9 months for people to realize that they can save money by generating less trash with a PAYT system.

Expect private trash haulers to take the opportunity to increase collection rates at the same time the volume-based rates take effect. The public assumed the hike in collection rates was a result of the ordinance. Haulers helped spread the misunderstanding—it deflected criticism from them!

Make sure the transition between billing systems is smooth. Because we had some program overlap, both our haulers and the city staff got a new round of calls from angry, confused people who had received two different bills. However, the city has been adamant about reimbursing customers for cans/bags of trash that they didn't generate—the most important feature of the system to reward people with cost savings.

Success: Increased Recycling Participation

As of July 1996, recycling has increased to 79 percent participation in single-family and duplex households, up from 53.5 percent the previous year. With only 6 months' worth of data to analyze trends, it is hard to specify what is happening with solid waste reduction goals, but we have clearly found a way to accomplish our goal for 80 to 90 percent participation in curbside recycling.

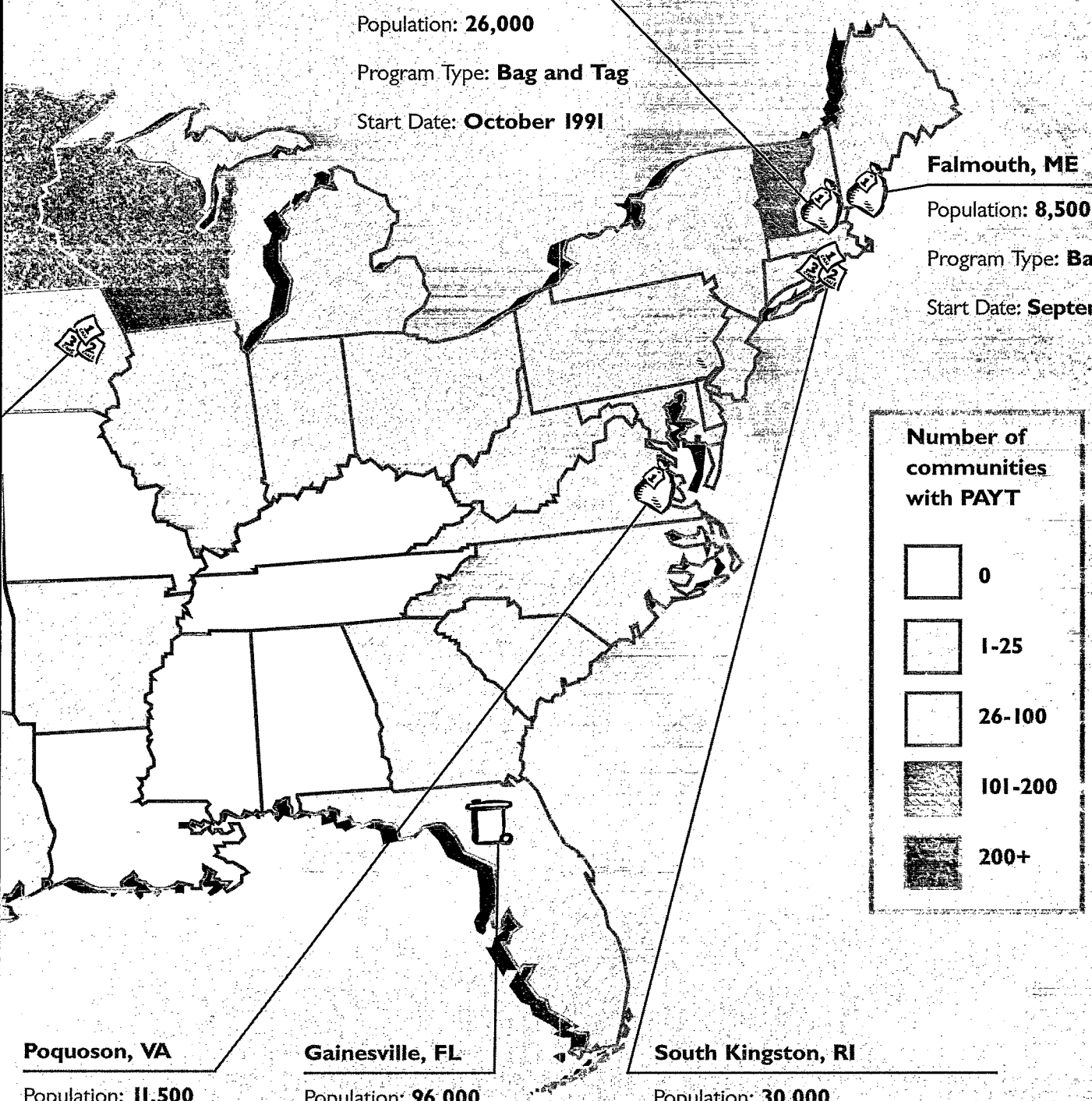
Now that the residents of Fort Collins are so much more conscious of reducing their waste stream, they have demanded opportunities to recycle new materials, including cardboard, office paper, and compostable items.

The bundling ordinance and PAYT system have significantly increased households' recycling efforts, so the experience, although sometimes difficult, was certainly worthwhile. Now that we're 6 months into the new system, the city council is already looking ahead to the feasibility of districting Fort Collins into trash collection zones!

We know that Fort Collins is not completely out of the woods yet. We are anticipating, for instance, that this fall's leaf-raking and bagging will add to peoples' trash bills—and that they are going to demand that the city do something about it. Still, we feel confident that Fort Collins made the right choice by adopting the pay-as-you-throw ordinance.

Fort Collins's success story was compiled by Susie Gordon, Environmental Planner, (970) 221-6265.

SUCCESS STORIES



Dover, NH

Population: **26,000**

Program Type: **Bag and Tag**

Start Date: **October 1991**

Falmouth, ME

Population: **8,500**

Program Type: **Bags**

Start Date: **September 1992**

Poquoson, VA

Population: **11,500**

Program Type: **Bags**

Start Date: **July 1992**

Gainesville, FL

Population: **96,000**

Program Type: **Cart-based Cans**

Start Date: **October 1994**

South Kingston, RI

Population: **30,000**

Program Type: **Drop-off, Tags**

Start Date: **August 1994**

Some of the communities featured here had to develop impressive solutions to daunting challenges before their program could become a reality. In most cases, however, these planners simply saw an opportunity in PAYT. They researched the issue carefully and developed a program that, it turned out, met or exceeded their expectations. However they came about, the programs described in this collection are filled with important lessons for interested community planners.

The Bottom Line

Perhaps the single biggest lesson illustrated by these stories is that there is no one "right" way to implement PAYT—just as there is no single compelling reason for communities to adopt this type of program. Every community has a different story to tell and a different lesson to teach. Nonetheless, nearly all the communities detailed here have experienced three specific types of benefits as a result of adopting PAYT:

It's economically sustainable. PAYT is an effective tool for communities struggling to cope with soaring MSW management costs. Well-designed programs enable communities to generate the revenues they need to cover all MSW program costs, including the costs of complementary programs such as recycling and composting. Residents benefit, too, since they finally have the opportunity to take control of their trash bills.

It's environmentally sustainable. Because of the incentive it provides residents to put less waste at the curb, communities with programs in place have reported significant increases in recycling and reductions in waste. Less waste and more recycling mean that fewer natural resources need to be extracted.

It's fair. One of the most important advantages may be the fairness PAYT offers to community residents. When the cost of managing trash is hidden in taxes, or charged at a flat rate, residents who recycle and prevent waste end up subsidizing their neighbors' wastefulness. Under this kind of program, residents pay only for what they throw away.

For More Information

This collection highlights successful strategies for implementing all types of PAYT programs in all kinds of communities. EPA has developed additional materials for anyone interested in learning more. For individuals looking for general information about how these programs work, EPA is making available fact sheets, a complete PAYT guidebook, and other materials. For local solid waste planners interested in specific ideas about how to bring PAYT to their community, EPA has developed a comprehensive set of tools—based on lessons from pioneering communities like the ones described here—to help them design and implement a successful program.

All of these products are based on real-world information that can help planners and others as they search for economically and environmentally sustainable solutions to today's solid waste management challenges. To find out more about EPA's collection of products, call the Pay-as-you-throw Helpline toll free at 888-EPA-PAYT.

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CARL L. OURAM, P.E.
Environmental Projects Manager

City of Dover, New Hampshire
COMMUNITY SERVICES DEPARTMENT
ENVIRONMENTAL PROJECTS DIVISION

City of Dover, New Hamps

Testimonial: G

CITY OF MOUNT VERN
Rick Elliott, May

COUNCIL:
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