"Pay-As-You-Throw"

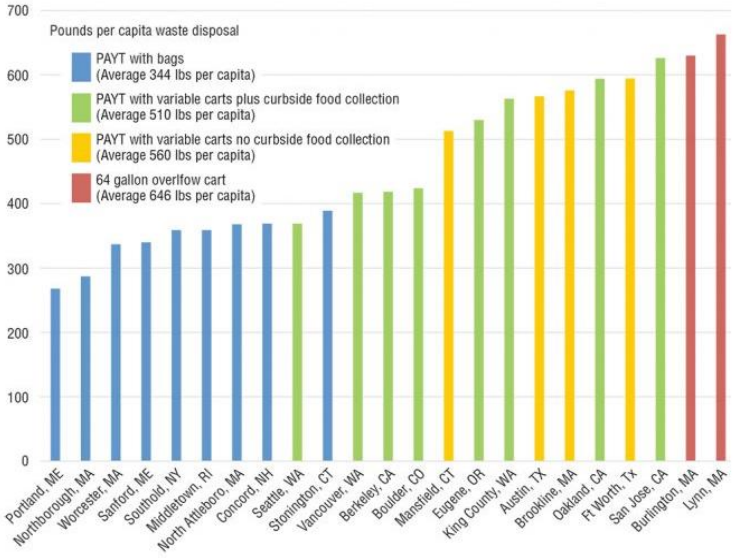
A Proven Way to Reduce Waste, Increase Recycling and Cut Disposal Costs

Pay-As-You-Throw (PAYT) is a unit-based waste collection fee system that, when implemented using best practices, is the most effective way to give households an opportunity to save money by disposing of less waste and recycling more. Some communities refer to this way of paying for trash as SMART – Save Money and Reduce Trash. Similar to other utilities like electricity and water, households are charged based on the quantity of waste they produce. The more they dispose; the more they pay; and the more they recycle, the less they dispose and the more they save.

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

Types of PAYT Programs

Bag-Based	▪ Generators purchase special plastic bags, often designed with a city logo or other distinguishing graphic, through city hall and/or local retailers. The price includes the cost of waste services. Residents can control their costs by choosing to throw less away. Different bag sizes can be used to designate specific volumes of waste. ▪ Creates incentive to reduce waste by providing a direct link between waste generating behavior and cost. No billing system to administer, but bags must be made available to work with cart- or can- based collection systems. ▪ Can be used for "overflow" trash, beyond a "base level" of service.
Cart-Based	▪ Generators pay a fixed price based on size or number of carts they select for waste service. The larger or greater number of carts used, the more they pay. ▪ Entails up-front costs for variable carts provision and delivery as well as ongoing costs for maintenance. ▪ There are billing system requirements. Limited flexibility in switching between can/cart sizes. ▪ Cart size decisions and associated costs are linked to estimated waste generating behavior over time as opposed to weekly fluctuations in generation, so incentive to reduce waste may not be as strong.
Tags/Stickers	▪ Generators purchase special tags or stickers through city hall and/or local retailers. Price includes cost of waste services so the more tags/stickers used, the more they pay. Tags/stickers can designate specific volumes of waste and, unlike bags, can be used for bulky items. ▪ Creates incentive to reduce waste by providing a direct link between behavior and cost. Relatively inexpensive to implement. No billing system to administer, but tags/ stickers must be made available to residents. ▪ May not work well with automated cart-based systems due to difficulty spotting tags/stickers; but can be used as method for charging for overflow waste. ▪ Increased potential for fraud as tags/stickers are more susceptible to theft, counterfeiting, and non-compliance.

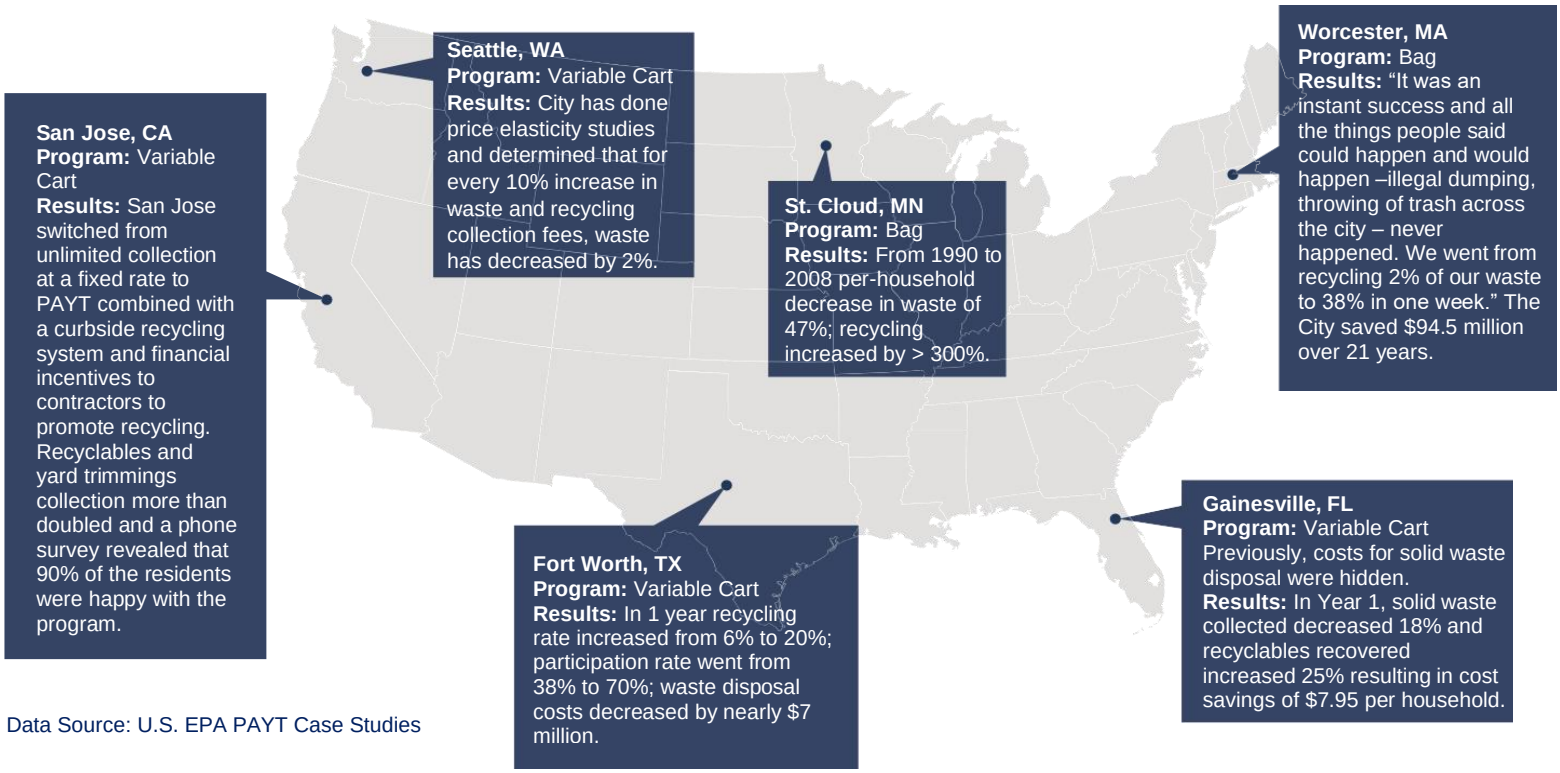


Which Programs are Most Effective?

Research from ILSR shows that PAYT bag programs tend to result in lower per-capita waste disposal than variable cart sizes (see chart to left). Households with 64-gallon overflow carts generated the most waste. The key is having a rate structure that is proportional to the amount of waste collected, such that a significant financial incentive is provided to reduce the amount of waste disposed.

Source: ILSR 2018

PAYT Around the Country



San Jose, CA
Program: Variable Cart
Results: San Jose switched from unlimited collection at a fixed rate to PAYT combined with a curbside recycling system and financial incentives to contractors to promote recycling. Recyclables and yard trimmings collection more than doubled and a phone survey revealed that 90% of the residents were happy with the program.

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

St. Cloud, MN
Program: Bag
Results: From 1990 to 2008 per-household decrease in waste of 47%; recycling increased by > 300%.

Worcester, MA
Program: Bag
Results: "It was an instant success and all the things people said could happen and would happen –illegal dumping, throwing of trash across the city – never happened. We went from recycling 2% of our waste to 38% in one week." The City saved $94.5 million over 21 years.

Fort Worth, TX
Program: Variable Cart
Results: In 1 year recycling rate increased from 6% to 20%; participation rate went from 38% to 70%; waste disposal costs decreased by nearly $7 million.

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

Data Source: U.S. EPA PAYT Case Studies

Why PAYT?

Cuts waste dramatically – for some, in half. One study shows that PAYT communities, on average, dispose of 49% less waste than communities that include the cost of waste collection in property taxes or charge it as a fixed fee. In 2020 the PAYT households in Massachusetts generated 30% less trash than non-PAYT households.

Dramatically increases recycling. Research shows that variable rate systems result in a 20-40% increase in recycling tonnage. Communities in southeastern Maine saw recycling increase by

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

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

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

Addressing Concerns about PAYT:

Concern	Potential Solutions
Higher Contamination Rate	▪ Design the program with hauler input ▪ Implement recycling first, then PAYT a year later ▪ Provide extensive recycling education and enforcement
Uncertain Revenue Stream	▪ Develop the initial rate structure to reflect realistic future diversion rates and allow for a "true up" over time
Increase in Illegal Dumping	▪ More perception than reality. Illegal dumping is largely made up of bulky waste and non-residential materials. ▪ Preempt illegal dumping through education and promotion
Politically Challenging to Implement	▪ Identify a champion to promote and shepherd PAYT adoption ▪ Conduct extensive education and outreach at all stages of program adoption ▪ Phase in program to ease transition ▪ Emphasize the equity aspect of the program ▪ Make residents aware of current trash costs, even if hidden ▪ Consider adopting an ordinance to require private haulers to offer PAYT.

PAYT Resources

Pay as You Thow.Org -- www.payasyouthrow.org
Case studies, webinars,
ILSR -- https://ilsr.org/tag/pay-as-you-throw/
Articles, studies, case studies
U.S. EPA -- https://archive.epa.gov/wastes/conserve/tools/payt/web/html/index-4.html
Basic information on PAYT, case studies, bet practices
MA DEP -- https://www.mass.gov/lists/pay-as-you-throw-paytsave-money-and-reduce-trash-smart
Resources, results, implementation guide, case studies, fact sheets, presentations, Implementation Guide