
Pay-As-You-Throw (PAYT)

Benefits Analysis

Prepared for the

Town of Greenwich, CT



Department of
ENERGY & ENVIRONMENTAL PROTECTION

Why Should Greenwich Reduce Waste?

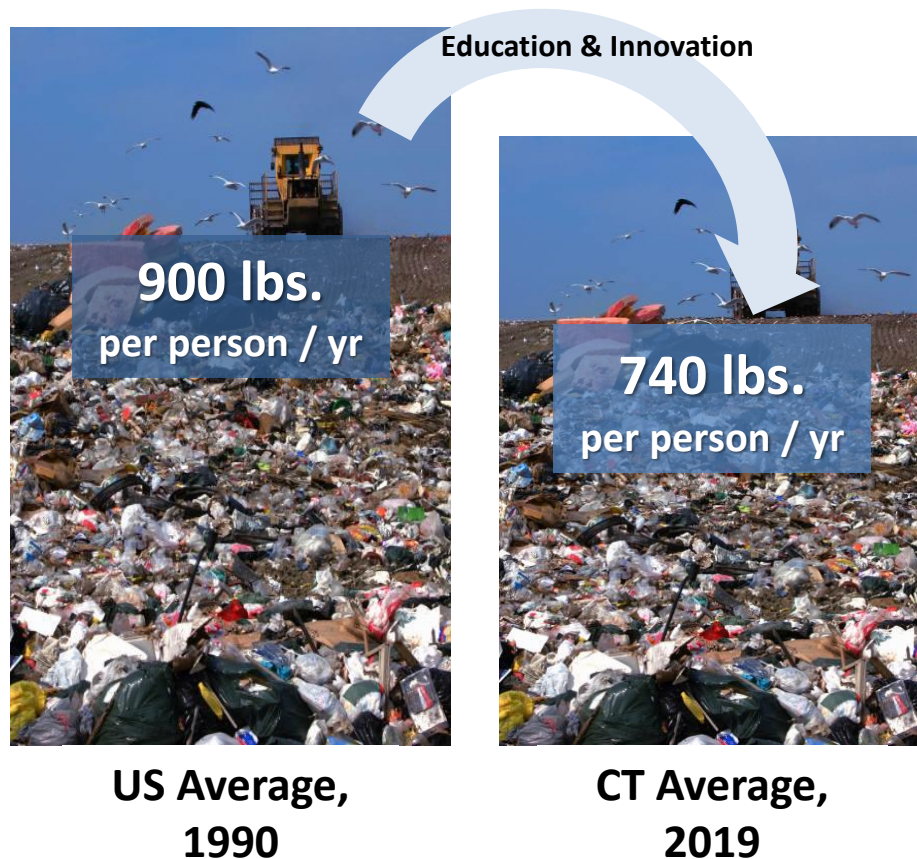
1. Materials management is expensive (\$100 million on residential disposal and recycling).

- Capacity Shortfall (exporting 300,000+ tons out of state)
- Aging Mid Connecticut Recover Facility (MIRA) – New Tip \$140 per ton
- Shrinking Northeast Capacity
- Expensive Waste to Energy Disposal
- Difficult Siting for New Facilities (landfills, incinerators)
- Rising Disposal Costs
- Rising Recycling Costs

2. Waste produces greenhouse gases.

How Could Greenwich Reduce Waste?

The state has been actively encouraging waste reduction for 30 years or more. It has had some impact.



Bottle Bill (1980)

Computer, Paint and Mattress EPR

Education Campaigns

Aggressive Waste Reduction Goals

National Packaging Innovation
(downgauging, light weighting)

National Recycling Campaigns

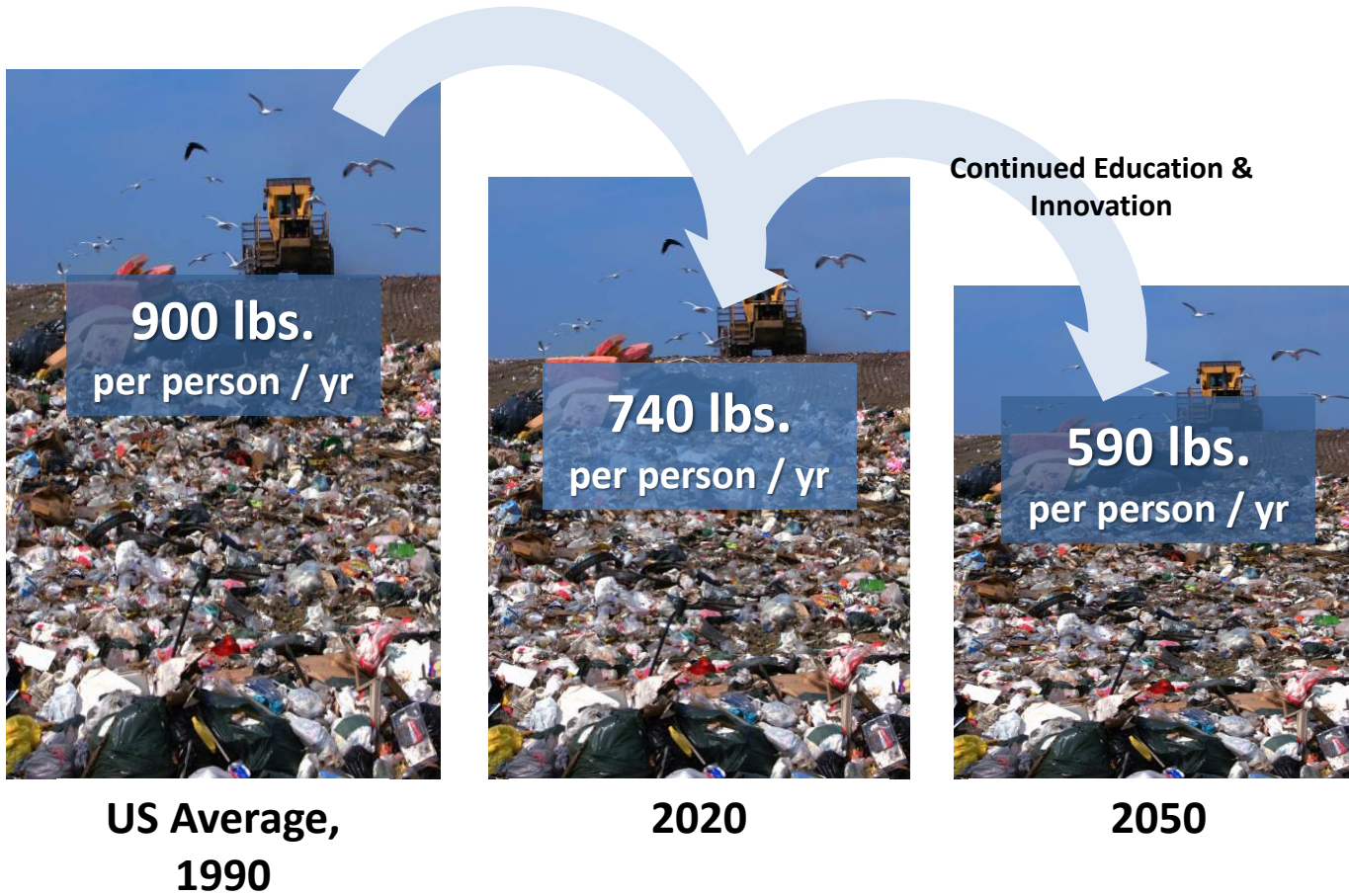
Single-Stream Recycling

Increased Consumer Access (curbside
and drop-off recycling)

Other Programs (yard waste, event
recycling days, etc.)

How Could Greenwich Reduce Waste?

On the current trajectory, per capita waste should still drop some. This assumes that additional innovation, education, and other policies will hold back the expected increase in packaging waste from online shopping and convenient fast food/take out lifestyles.



Continued Education Campaigns

Better Recycling Technology

Expanded Bottle Bill

Packaging EPR

Waste Bans

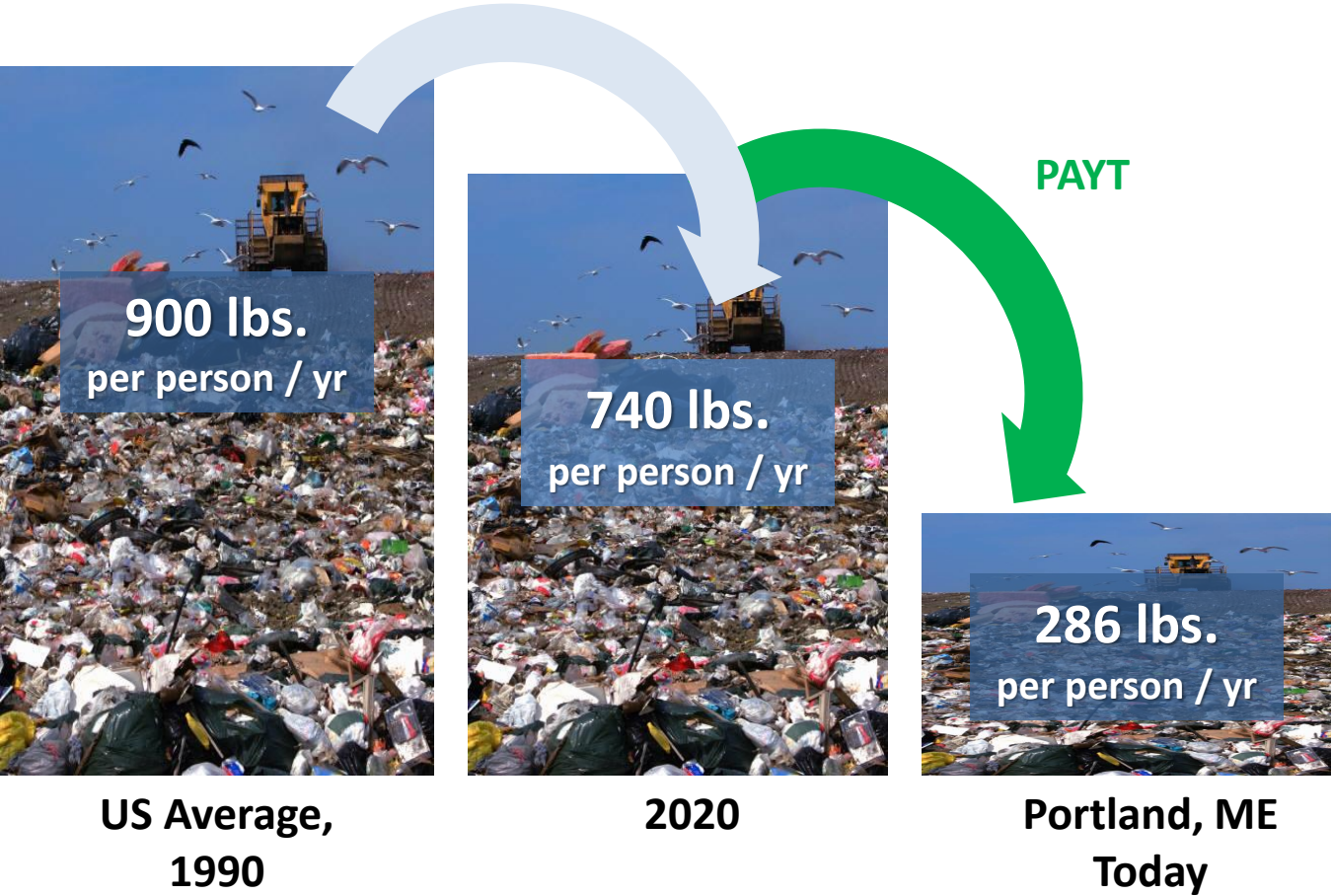
Increased Single-Use Bans

Increased Access

Food Scrap Collection

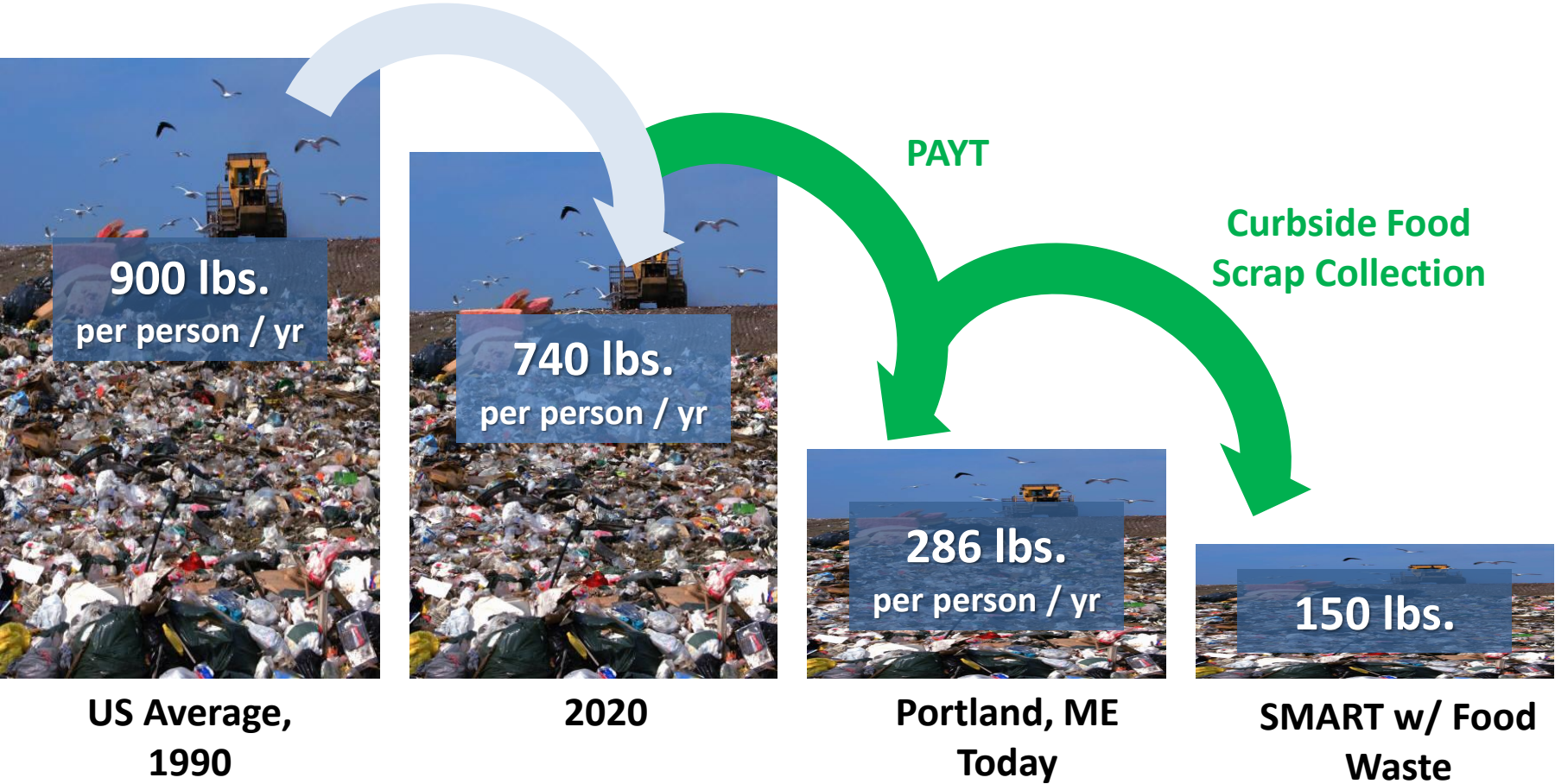
How Could Greenwich Reduce Waste?

Portland Maine along with 556 communities in New England throw away 40-60% less waste with PAYT programs (there are no exceptions).



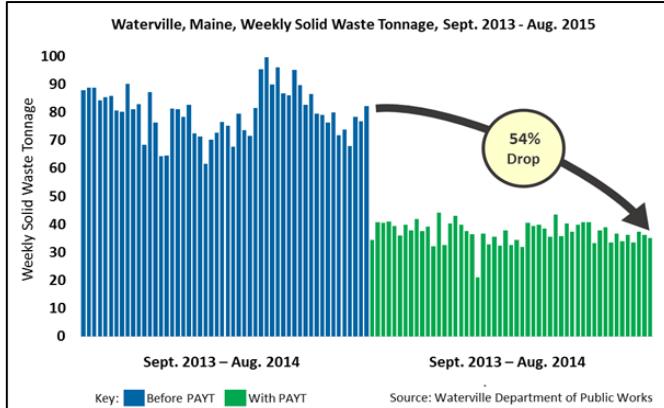
How Could Greenwich Reduce Waste?

Curbside food waste collection—and other new program types—can reduce per capita waste even more.

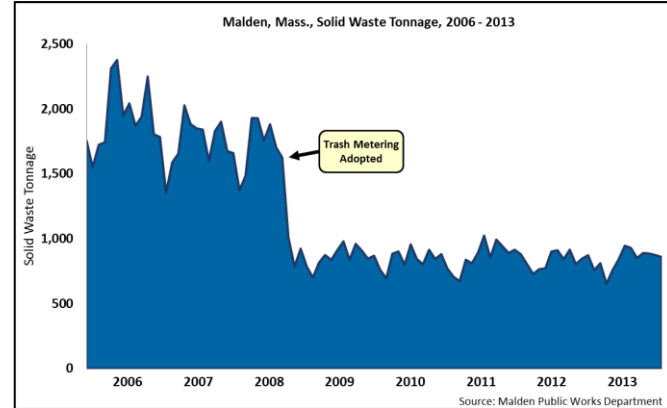


PAYT Results

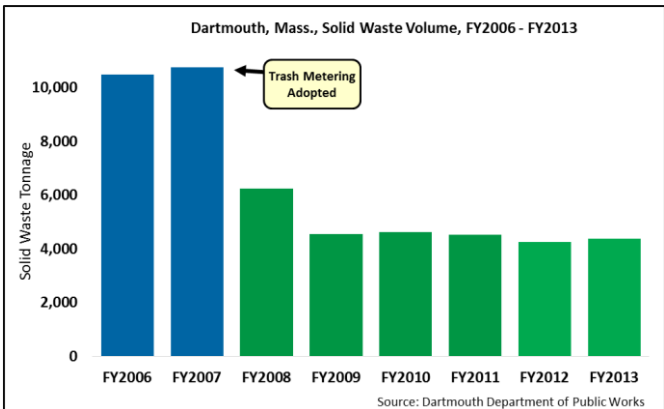
Results are highly consistent. The data spans decades across hundreds of municipalities with diverse demographics.



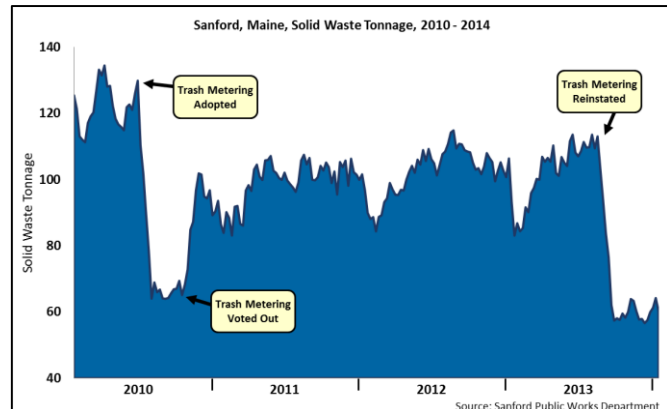
WATERVILLE, MAINE
54% DECLINE IN MSW IN 1 YEAR



MALDEN, MASS.
52% DECLINE IN MSW OVER 5 YEARS



DARTMOUTH, MASS.
59% DECLINE IN MSW



SANFORD, MAINE
POWERFUL MESSAGE

How PAYT Works

The bag-based PAYT, also known as SMART, approach is the most effective available means of reducing municipal solid waste, and it works with all collection methods

1 Greenwich can cut taxes or increase specific services with the savings



2 Pay per Bag for Trash

- Residents purchase bags at local retailers
- Proceeds go to the City to cover collection and disposal costs



3 Recycle for free (residents recycle more)

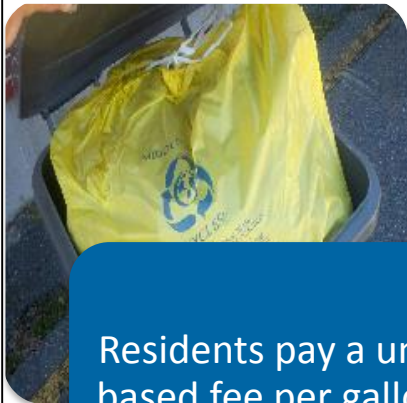


- Fairer to residents
- Easy to implement
- No new cost to the Town
- Does not effect hauler collection protocol

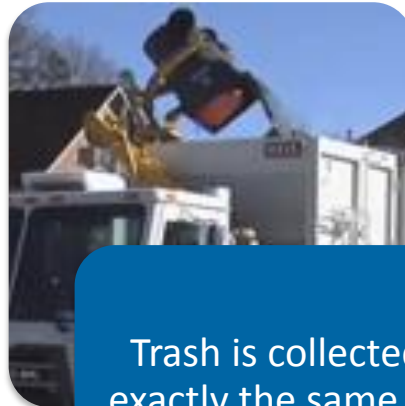
- Works with any collection method, automated or manual
- Enforcement would be handled by Greenwich not through hauler

How PAYT Works (continued)

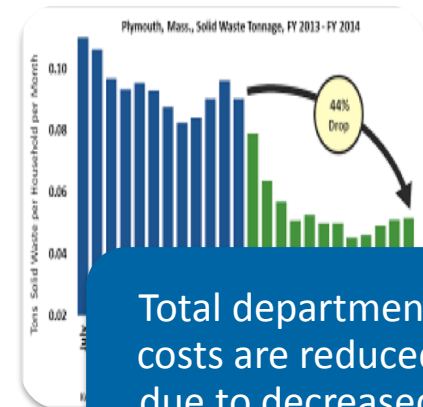
PAYT incentivizes residents to reduce waste and creates a new revenue stream that covers a portion of department costs.



Residents pay a unit based fee per gallon for disposal each week through an official city bag



Trash is collected exactly the same as before: Same drivers, same collection vehicles



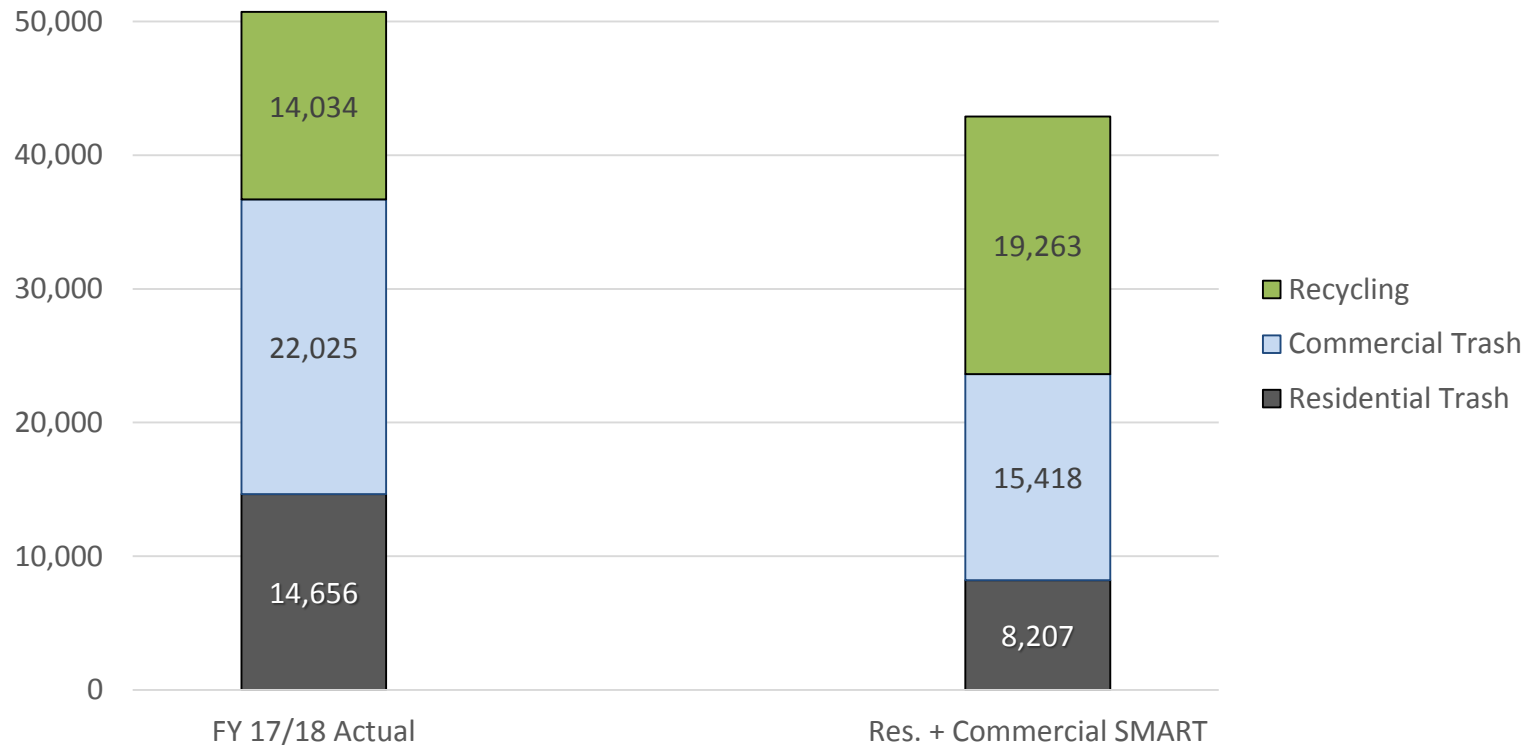
Total department costs are reduced due to decreased waste generation. Communities also benefit from operational savings.

Haulers continue business as usual, collection vehicles stay the same, if automated cameras can monitor loads. Haulers will now be required to track non-compliant homes and report to town weekly. Resident compliance will generally reach 99% after the first six weeks.

Waste Stream Impact

“Low” Residential Scenarios

Material Streams
(Annual Tons)

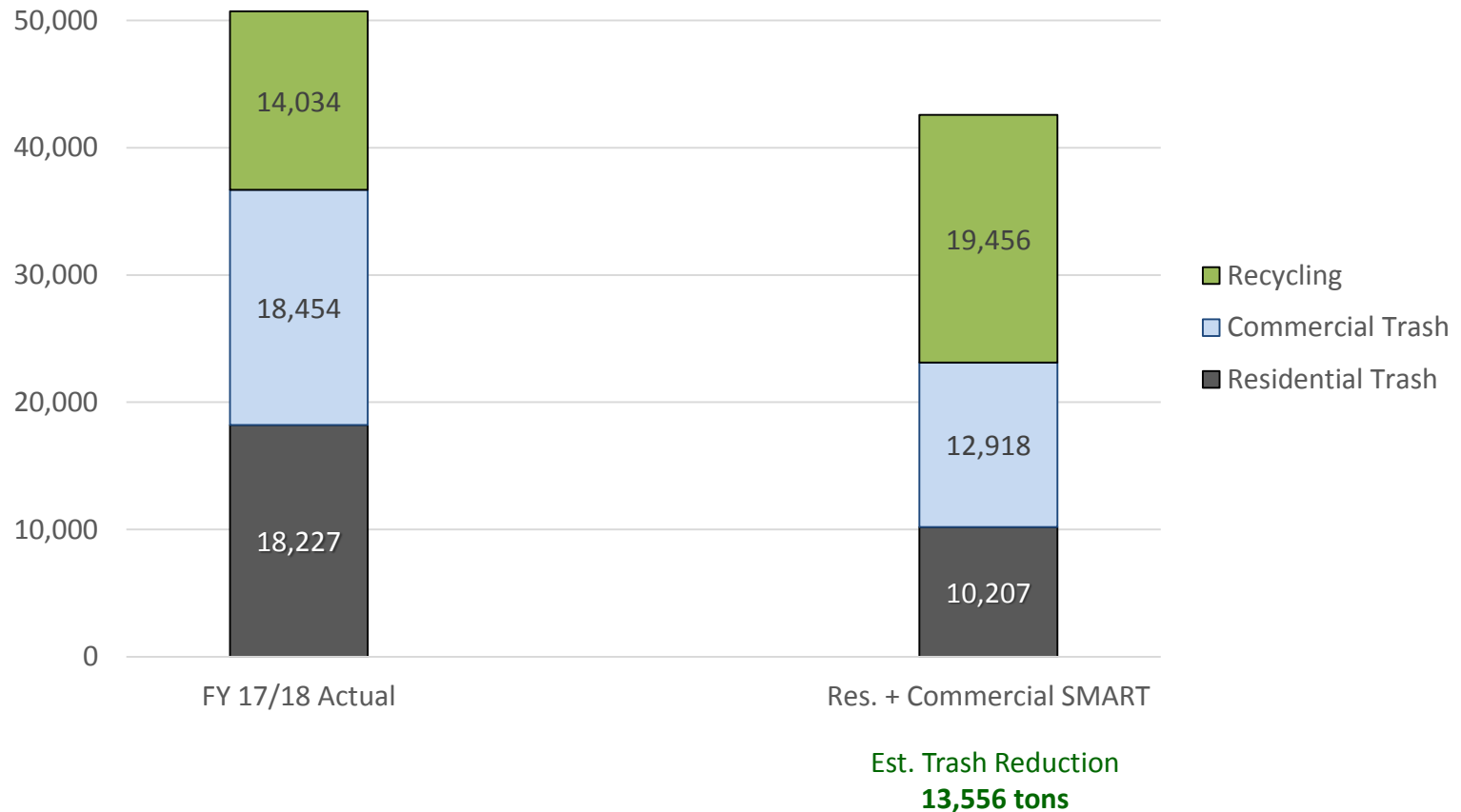


Est. Trash Reduction:
13,056 tons

Waste Stream Impact

“High” Residential Scenarios

Material Streams
(Annual Tons)



Annual Financial Impact of PAYT

	BUDGET IMPACT	
	10/1 Implementation	12 Month Impact
Net Revenue	\$2,796,385	\$3,728,514
Trash Tip Savings	\$934,680	\$1,246,240
Additional Recycling Tip Cost	-\$259,618	-\$346,158
Net Financial Impact	\$3,471,447	\$4,628,596

Assumptions:

1. Trash Tip Fee = \$93.66 / ton
2. Recycling Tip Fee = \$65.00 / ton
3. Large (33-gal.) Retail Bag Price = \$2.00
4. Small (13-gal.) Retail Bag Price = \$1.25

Annual Financial Impact of PAYT

	FY21	
	Without PAYT	With PAYT
Mill Rate	12.082	11.977
% Tax Increase	3.42%	2.53%

Assumptions:

1. Trash Tip Fee = \$93.66 / ton
2. Recycling Tip Fee = \$65.00 / ton
3. Large (33-gal.) Retail Bag Price = \$2.00
4. Small (13-gal.) Retail Bag Price = \$1.25

How PAYT Bags Pay for Trash



\$2.00 per Bag

Bag & Bag Distribution	\$0.31
Trash Incineration+ Recycling Cost + Surplus	\$1.69
Total	\$2.00



\$1.25 per Bag

Bag & Bag Distribution	\$0.21
Trash Incineration + Recycling Tip + Surplus	\$1.04
Total	\$1.25

Average HH Financial Impact

PAYT shifts disposal costs to users and gives residents & businesses more personal control.



The average home will use...



...about one bag per week

	No PAYT	Low Scenarios	High Scenarios
Per HH Spend, PAYT Bags (annual)	\$0.00	\$88.93	\$110.60
<i>Per Month</i>	<i>\$0.00</i>	<i>\$7.41</i>	<i>\$9.22</i>
Less Regular Trash Bags (annual)	\$0.00	\$27.00	\$27.00
Regular Trash Bags (annual)	\$27.00	\$0.00	\$0.00
Tax Increase w/o PAYT on property assessed at \$1M	\$105	\$0.00	\$0.00
Net per HH Cost	\$132	\$61.93	\$83.69
<i>Per Month</i>	<i>\$11.00</i>	<i>\$5.16</i>	<i>\$6.97</i>

Environmental Impact

All Scenarios

Each year, the scenarios we have outlined will provide significant environmental benefits, according to the US EPA's Waste Reduction Model (WARM). Those benefits would be equivalent to the actions below.

Each year, equivalent to:



Scenario	Tons of Trash Reduced	Metric Tons of CO2 Reduction	Cars Removed from Roads	Gallons of Gas Saved	Homes Powered	Solar Panels Installed
Low – Res. + Commercial PAYT	13,056	25,000	4,800	2,760,000	1,800	25,000
High – Res. + Commercial PAYT	13,556	26,000	5,000	2,866,000	1,900	26,000

The bag-based PAYT approach is the single-most effective available means of reducing municipal solid waste.

PAYT Programs have the Single Greatest Impact on Waste

Westport banned plastic bags about 10 years ago. Banning plastic bags is also a difficult political action. Although the ban was important for multiple reasons, it's effect on waste volume is minimal.

10-Year Estimated Plastic Bag Ban Results:

390 tons

\$27,300 in disposal savings



10 Year Estimated PAYT Results:

80,000 tons

\$7 million in disposal savings



Frequent Objections

There must be a better way. We should study this more thoroughly and try other solutions first.

The State of Connecticut, as well as other states and cities around the country, have worked for decades to find programs that increase recycling and reduce waste.

Pay As You Throw is the single most effective way to reduce trash while also saving money.

Frequent Objections

This is unfair to the good recyclers because they will pay more.

This is not the case. Currently the good recyclers are subsidizing everyone else and as the cost of waste increases the subsidy increases.

Frequent Objections

This is a regressive approach to waste management.

This is not true – PAYT is not more regressive than any other option.

- *Raise Property Tax – fundamentally regressive already, no control over personal costs, and forced to subsidize high waste producers. Also no incentive to reduce waste.*
- *Tipping Fees – flat fees are regressive, give no direct control over personal costs, no incentive to reduce trash.*
- *Pay-As-You-Throw: Gives low-income residents the opportunity to control their expenses for solid waste disposal—an opportunity that they currently do not have. Program can be offered by Town to reduce burden on low-income communities, while maintaining benefits to taxpayers and huge environmental impact.*

How Can the Town Enforce the PAYT Program?

PAYT compliance is very high and enforcement is usually not a challenge.

Most compliance issues happen during the first 6 weeks of a new program.

Most communities manage these with existing staff.

- Additional support can be provided if compliance is a concern.

A tiered enforcement system is recommended where one is not in place.

In all instances, the cost of enforcement has been a fraction of the financial savings related to PAYT.

Sanford, ME – City-Reported Compliance Rates			
Week 1	96.3%	Week 6	99.65%
Week 2	98.52%	Week 7	99.79%
Week 3	99.52%	Week 8	99.76%
Week 4	99.38%	Week 9	99.94%
Week 5	99.43%	Week 10	99.86%