

Implementing Curbside Unit Based Pricing and Food Waste Diversion Programs

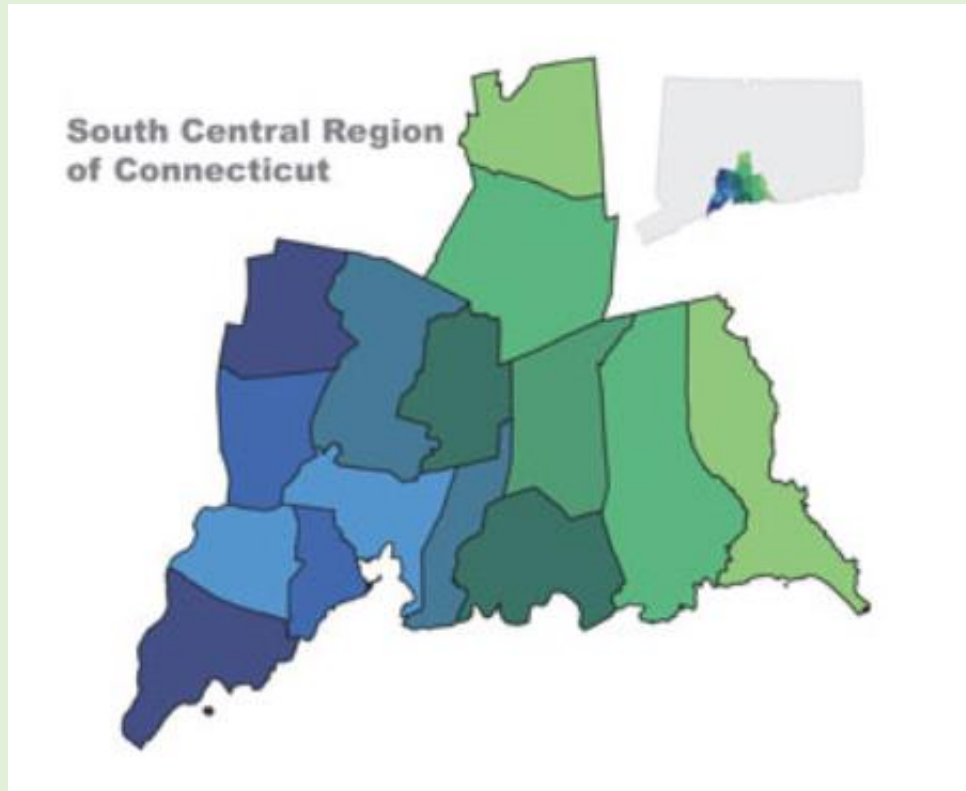
WASTE REDUCTION
COST SAVINGS
ENVIRONMENTAL BENEFITS



PRESENTED BY:
South Central Regional Council of Governments and
Naugatuck Valley Council of Governments

January 17, 2024

South Central Regional Council of Governments



- 15 municipalities in South Central Connecticut
- 570,000 people or about 1/6 of the States population
- Significant Concern with waste management issues, from both financial and environmental perspectives
- Regular engagement in state-level waste planning
- SCRCOG provided outreach and educational support for 4 Sustainable Materials Management grants in our region



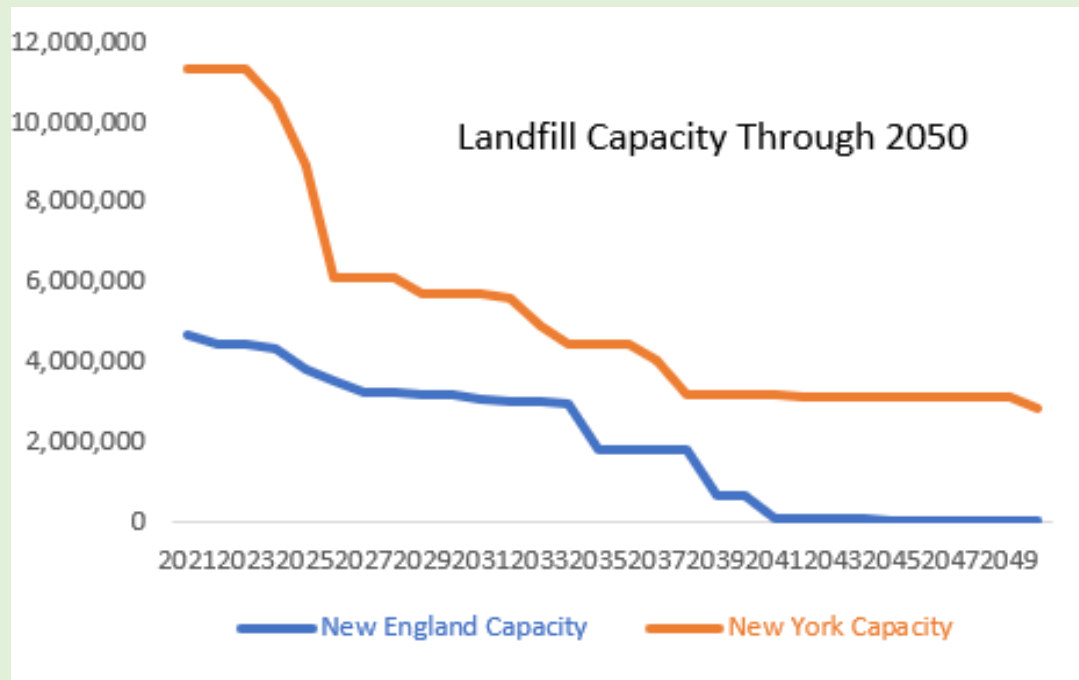
Naugatuck Valley Council of Governments

- 19 municipalities in west-central CT
- Significant concern with waste management issues, from both financial and environmental perspectives
- Regular engagement in state-level waste planning
- NVCOG provided outreach and educational support for 4 **Sustainable Materials Management grants** in our region

National Waste Crisis

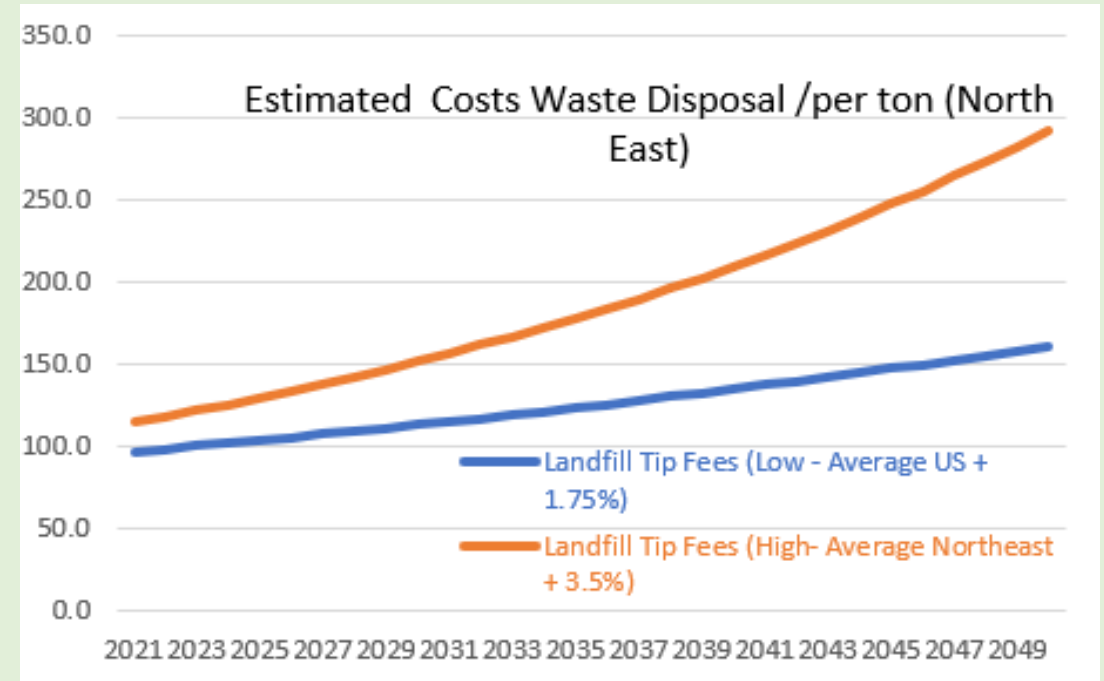
As WTE's and landfills close 39-Million residents living in New York and New England will all be fighting for the space in the landfills in lower states.

Difficult to Site New Facilities – NIMBY



Graph provided by WasteZero 2021

As Availability Decreases Costs Will Rise Costs Expected to Double in the Next 4 Years



Graph provided by WasteZero 2021

In Connecticut, because of our shrinking waste capacity (MIRA closing, aging incinerators) we are currently shipping over 860,000 tons to out-of-state landfills in PA, OH and VA

CT Coalition for Sustainable Materials Management

Led by Commissioner Katie Dykes

- 1. Organics/Food Scrap Collection** = 22% of waste stream
- 2. Increase Recycling** = 40% of waste stream
- 3. UBP/PAYT/SMART** – results in MSW reduction are 44% on average.
- 4. EPR** – tires, HHW, propane, packaging, more

Over 100 CT municipalities participate.

Working groups are interactive and work together for a modern, cost effective, and environmentally sustainable materials management system with an environmental equity/justice lens and outreach & education.

Menu of Options Published

Source: <https://portal.ct.gov/DEEP-CCSMM>

CCSMM Takeaways

Unit Based Pricing (UBP) teaches us to be mindful with our consumption

UBP combined with Food Composting Programs has the Greatest Waste Reduction



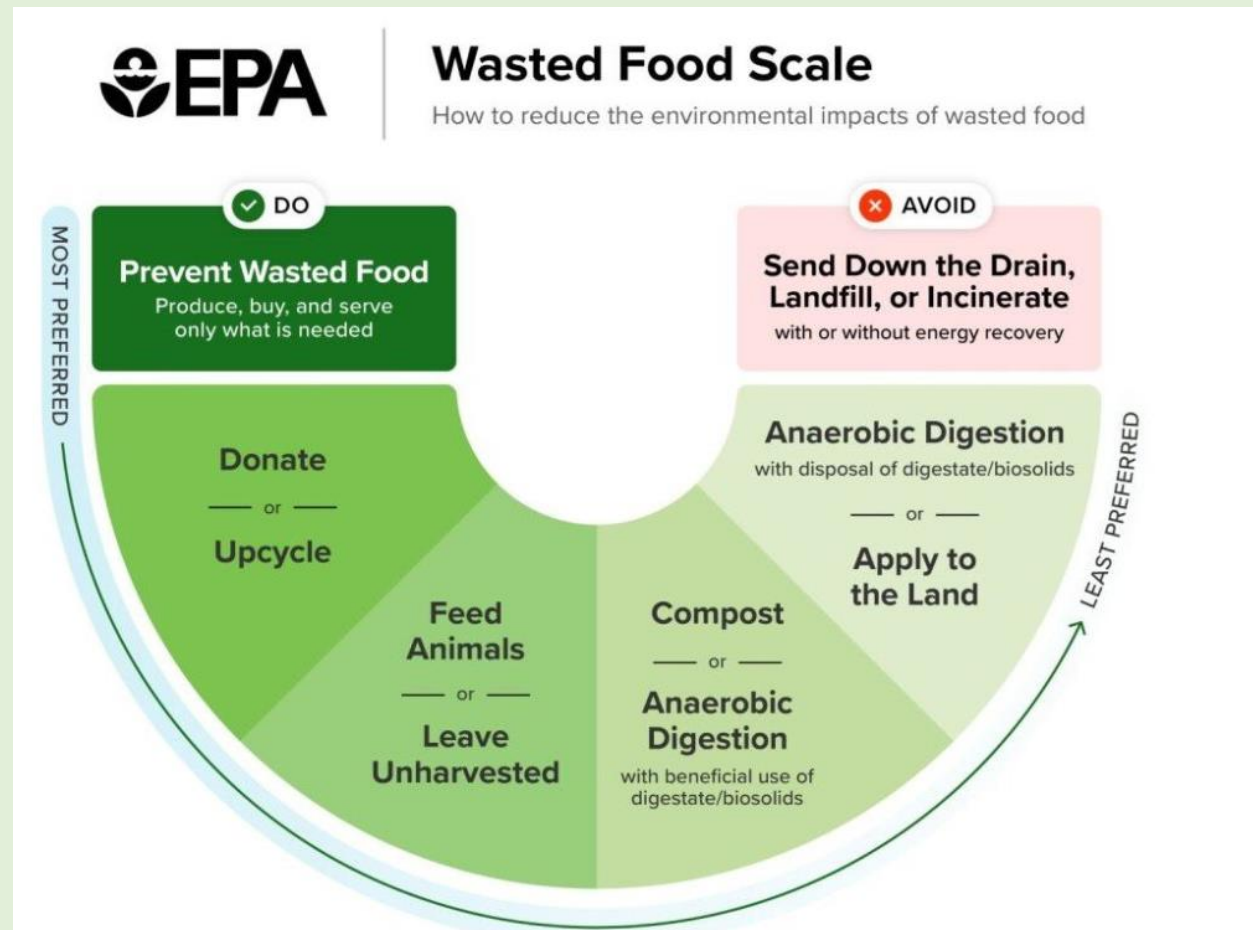
UBP Incentivizes:

- Organics diversion
- Textile Recycling, Donation, ReUse, Repair
- Creates a steady feedstock stream

Remember the 8r's of the waste hierarchy:

- 1) RETHINK – Recycling is not enough
- 2) Refuse (don't consume what you don't need)
- 3) Reduce, Reuse, Repair, Regift, Recover, Recycle
- 4) Donation, Swap Shops, Repair Cafes

EPA Wasted Food Scale



- EPA Report – 58% of methane emissions from landfills come from food waste
- Methane is responsible for about a 1/4 of global warming

SMM Co-Collection Food Scrap Pilot Programs

- 15 CT Municipalities awarded DEEP's SMM Grant
- Reduced Waste 12% - 17%
- Increased Recycling upwards of 32% and 44%
- Food Capture during pilot over 1,536,464 lbs
- Convenience of Curbside, Trash/Food in same trash cart, sorting facility, AD
- With Co-Collection, No Extra Pickup Routes (Extra Routes are expensive)
- Residents pay attention to their waste
- Divert more – food, brush, recycling, donation
- Education, Education, Education



Positive Statements From Residents

- With this program, I have so much more recycling
- I have so little trash, I put my orange bag out every two weeks
- I feel like a good citizen
- Separating my food scraps is easy and I have so much less trash now
- We have drastically reduced the amount of “true trash” we throw out each week
- Happy to be part of this urgent and important quest-not just for our state, but globally
- What can I do with what is left in my orange bag?





Middletown Sanitation District

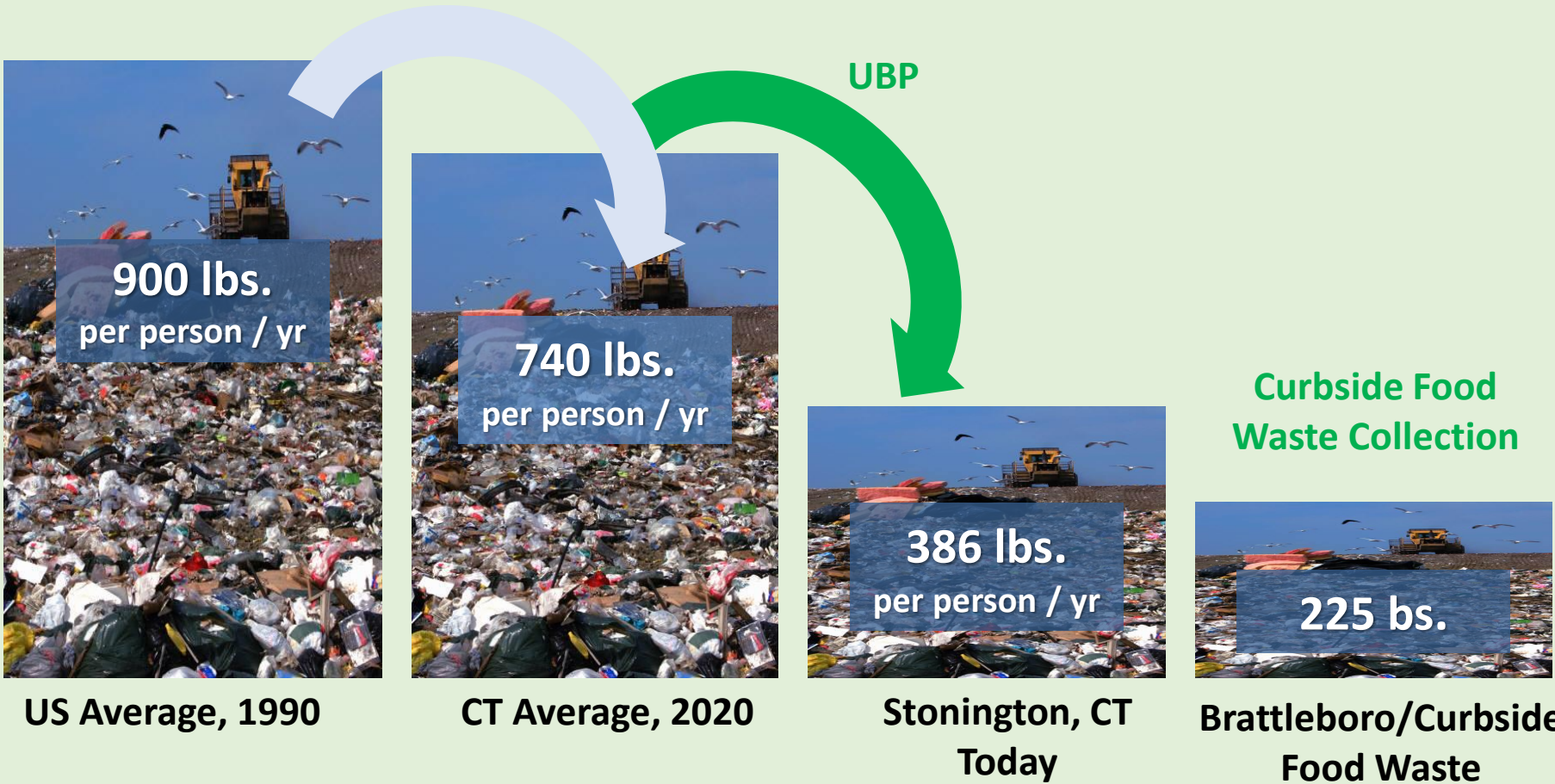


- First in CT to make co-collection program mandatory. UBP for trash and food scraps
- Sanitation bills were reduced, the City shifted the cost of trash disposal to the bags.
- Food Scrap Buckets and Countertop Containers for food scraps are available at no charge
- ~70% participation from the start
- 15,000 lbs. of food scraps already collected during the first two months of the program
- Beginning enforcement by tagging carts (spot-checks) and leaving non-compliant trash
- Swap Shop at Middletown Recycling Center and Donation Bins
- Year-round free brush collection curbside
- Additional recycling carts at no charge
- Repair Cafes. swap events, collaborations with local zero waste stores



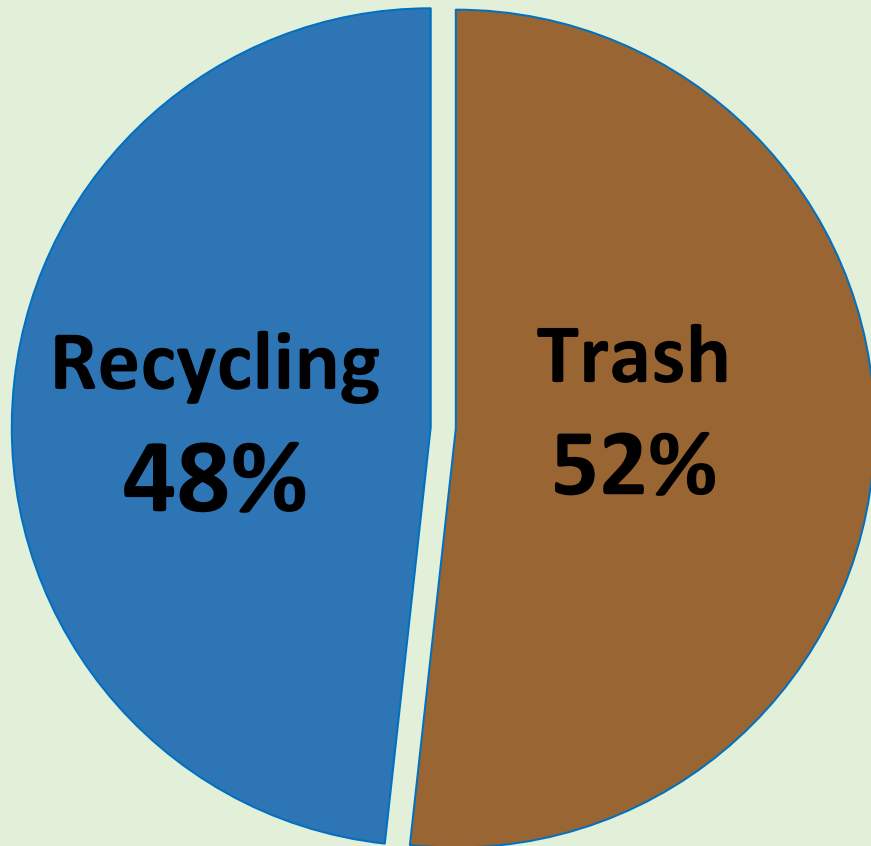
Per Capita Disposal with Unit Based Pricing plus Food Waste

UBP is the single most effective action that a municipality can take to reduce waste
Over 550 municipalities in the Northeast have UBP with an average of 44% waste reduction.

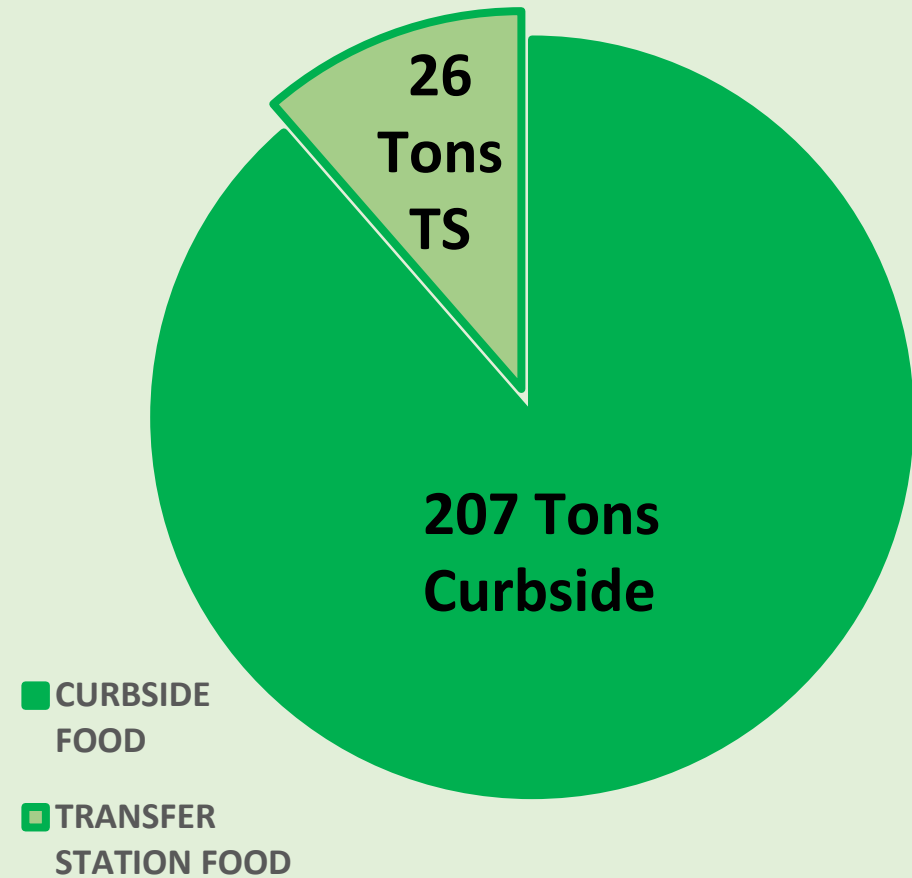


2023 Stonington Curbside UBP and Food Scrap Diversion Program

Recycling is 48% of Total Disposal

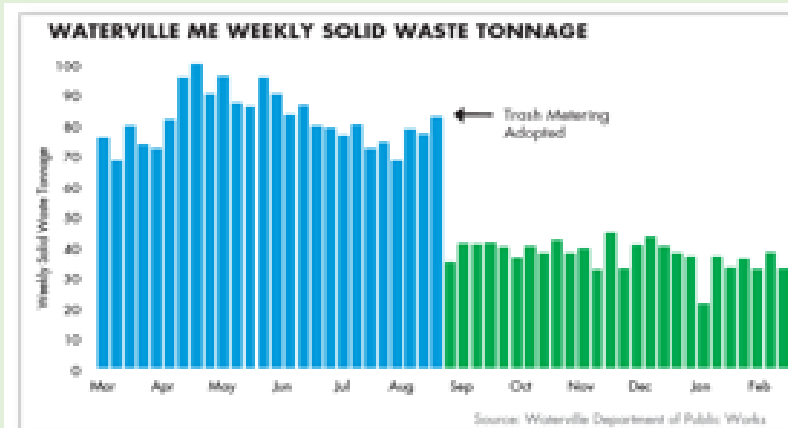


233 Tons Food Scraps Collected

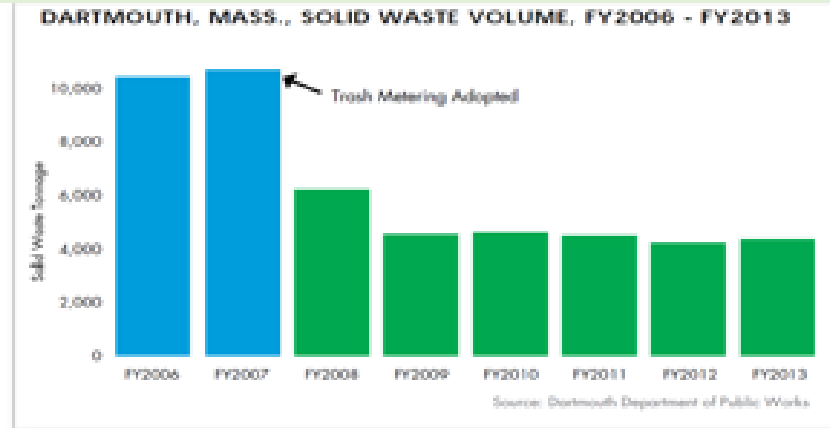


UBP Results are Immediate and Predictable and Sustained Over Time

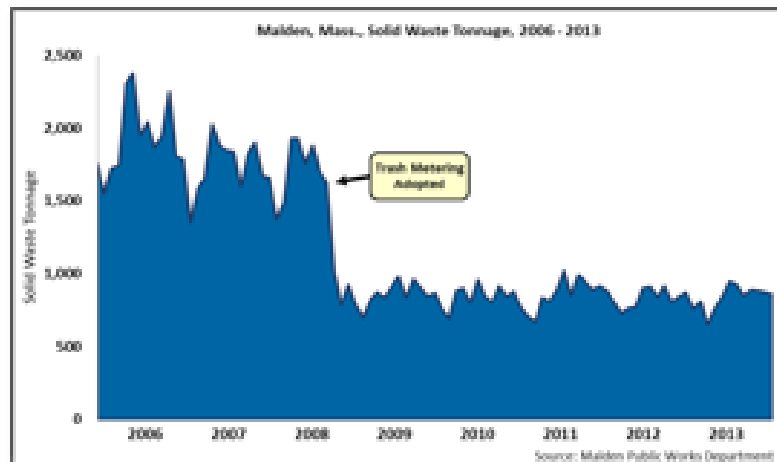
Hundreds of Communities around US have implemented UBP



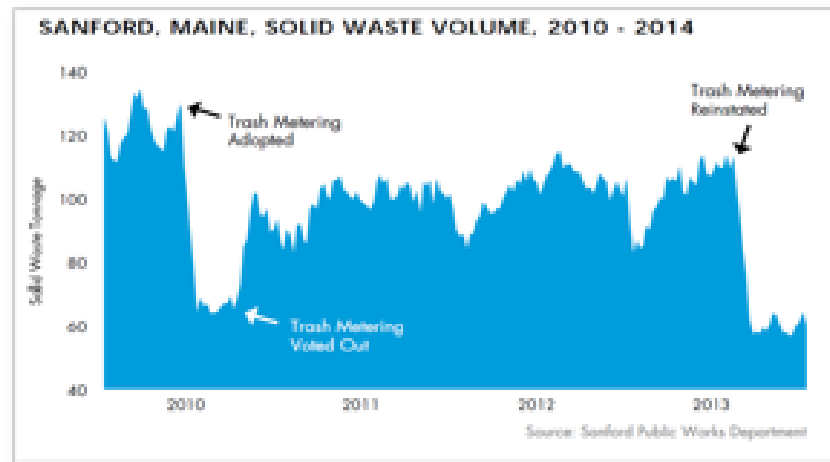
WATERVILLE, MAINE
53% DECLINE IN WASTE



DARTMOUTH, MA
59% DECLINE IN WASTE



MALDEN, MA
52% DECLINE IN WASTE



SANFORD, MA
40%+ DECLINE IN WASTE...TWICE

Today's Speakers



Troy Moon
Sustainability Coordinator
Portland, Maine



Gosia Stolarska
Solid Waste & Recycling
Program Manager
Shrewsbury, MA



Matthew Hill
Director of Public Works
Sanford, Maine



Pay As You Throw Waste Management Strategy

Portland, Maine

Troy Moon
Director of Sustainability
January 17, 2024



Demographics

- 68,000 residents
- 23,000 households served (of 30,000)
- 15,000 trash and recycling stops
- Mix of urban and suburban / single family and apartments
- 5 Island Communities
- Collect trash and recycling with city equipment and personnel



Eligible for City Services

- Buildings defined as residential
 - Single family homes
 - Apartment buildings with up to 9 units
 - Condominiums who opt in and sign a release
 - Apartment building with more than 9 units who opt in



Not Eligible for City Services

- Apartment buildings with more than 9 units who do not wish to participate
- Condominiums who do not choose to participate
- Apartments & Condos who need more than weekly service or container service
- Businesses and industry

*Any multi-family building that doesn't have City service must offer a comparable recycling service to tenants

Back in the day... (1998)

- Weekly trash collection
- Unsightly
- No recycling





- Residents and City Council not satisfied
- Curbside recycling was the #1 most requested service
- Council subcommittee studied options and made recommendations

← **(More trash from 1998)**

PAYT & Curbside Recycling



- Began July, 1999
- Extensive Outreach
- Hired Recycling Contractor
- Initial bag fee: \$0.34 & \$0.68

Transformation... (1999)



PAYT & Curbside Recycling

Portland residents are committed recyclers

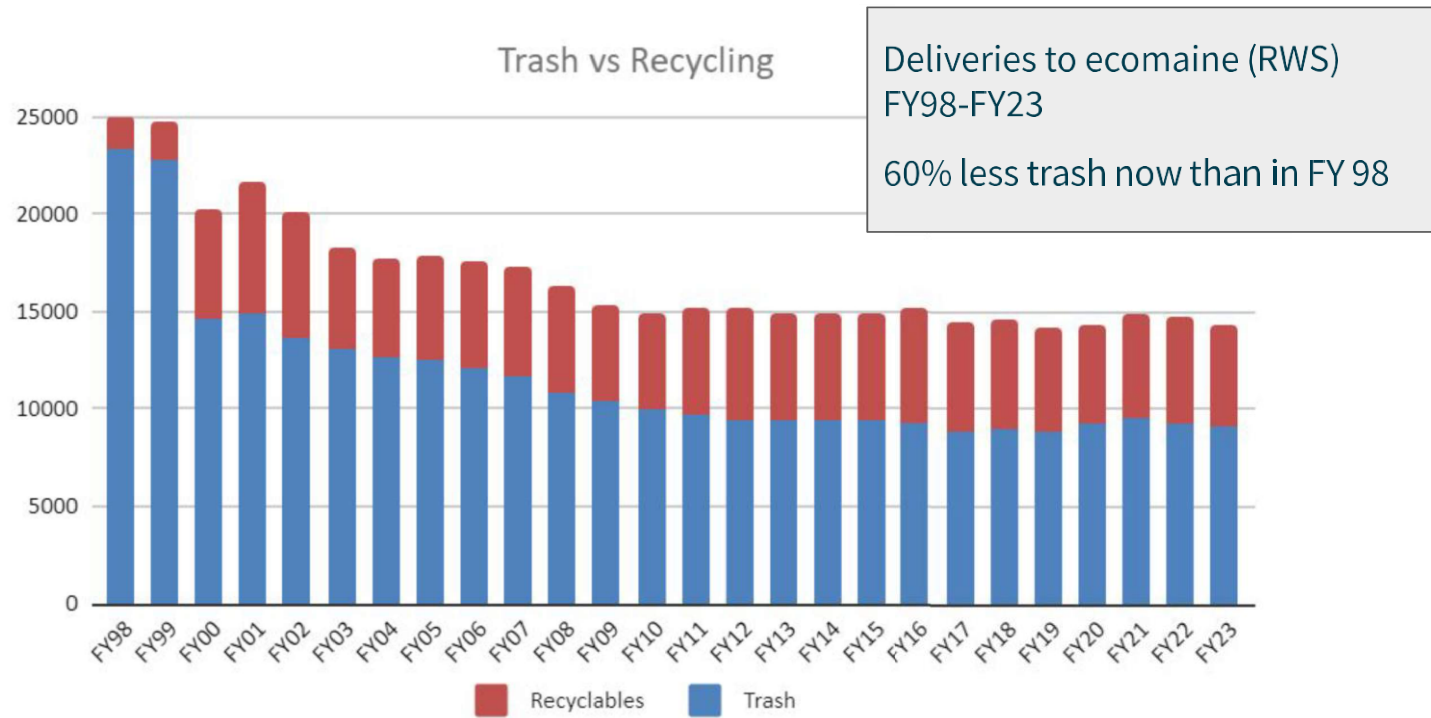
People don't love buying bags but generally understand the value:

- Fairness (those who make more trash pay)
- Reduced waste

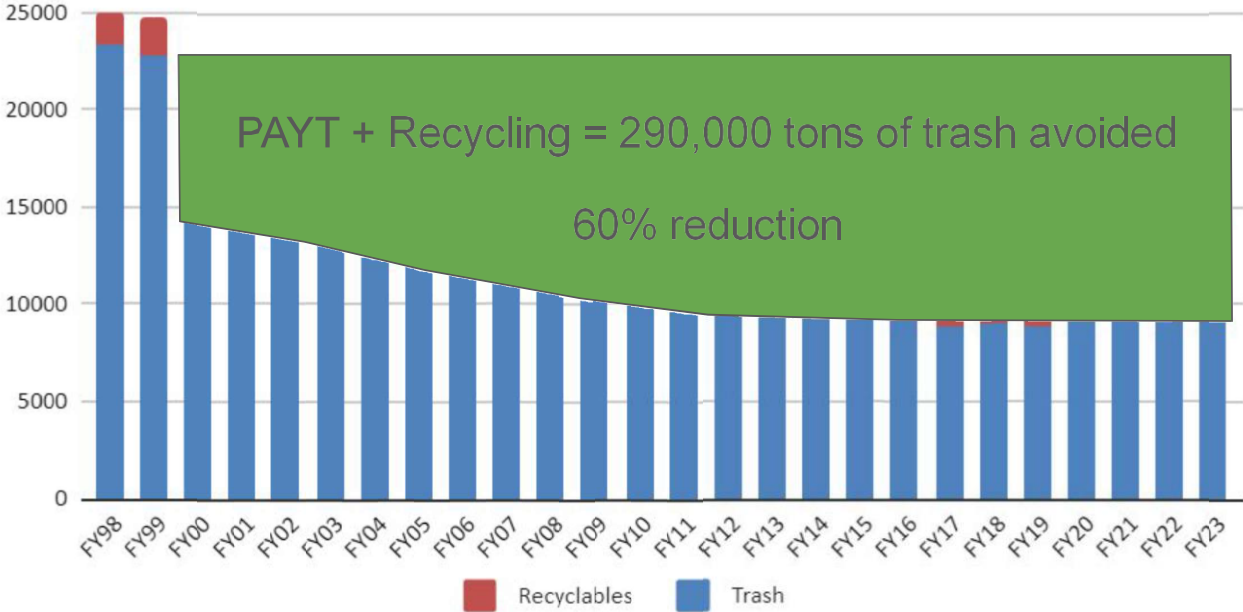
Portland has much higher recycling rate than neighboring communities



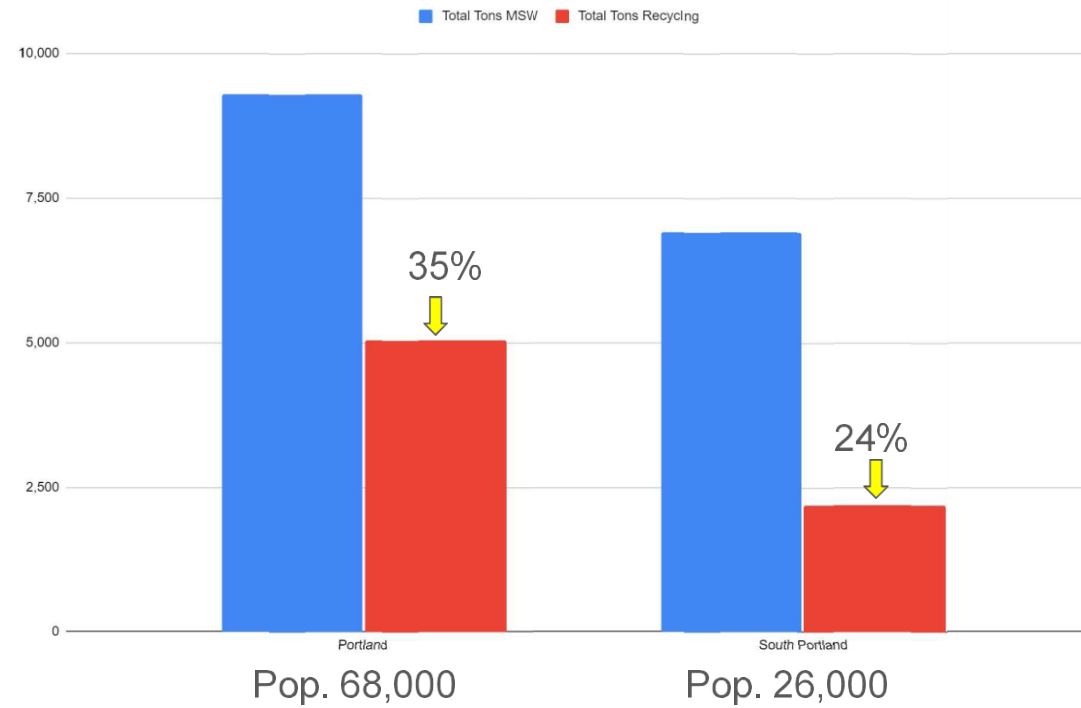
Portland's Waste Reduction Efforts



Trash vs Recycling



Portland (PAYT) vs South Portland (no-PAYT)



Finance

Solid Waste Division Budget: \$3,055,000
PAYT Revenue: \$2,362,000

Bag fee: \$1.75 for small bag
\$3.50 for large bag

Residents purchase bags at local stores

PAYT revenue covers more than 75% of solid waste costs inclusive of operations and disposal.

Hey Portland,
**WE'RE
ON A
ROLL**



TO LEARN MORE,
visit portlandmaine.gov
or call 207-874-8801.



COMING SOON: "RecyclePortland"
Reminders, alerts, and tips on what can be recycled
Sign up at 207-874-8801 or recycle@portlandmaine.gov



 THE RECYCLING
PARTNERSHIP

Recycling Carts

Deployed 25,000 recycling carts in 2017 to capture more volume and eliminate litter from open bins.



City Compost Program



Packaging and Straw Ordinances



Solid Waste Management Strategy

- Follow established waste hierarchy
- Goal: 90% reduction by 2050 established as part of our climate action plan in 2020
- Investigate ways to offer curbside organic collection, promote more commercial recycling and composting
- Explore C&D management policies





Troy Moon

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portlandmaine.gov/Sustainability



the town of
SHREWSBURY
massachusetts

Shrewsbury's Pay-As-You-Throw (PAYT) Program, 2024

Town of Shrewsbury, Massachusetts 100 Maple Avenue Shrewsbury, MA 01545
www.Shrewsburyma.gov



Town of Shrewsbury, Massachusetts

Location: Located in Worcester County, Massachusetts

Population: over 38,000

Households: nearly 15,000

Participating in curbside collection: Nearly 11,000 households

Waste disposed in FY 2023: 5,897.71 tons

Recycled in FY 2023: 2,431.19 tons



Overview of Shrewsbury's PAYT program



Waste:

- Adoption of PAYT Program – 2009 to present
- Blue bags with Town of Shrewsbury logo
- Waste Management operates 5 days a week with 4 split body trucks a day
- Residents can place unlimited amount of PAYT bags per week
- Tagging system for noncompliance with the program



Recycling:

- Unlimited amount of recycling at the curb
- Weekly recycling, material alternates – the Town is changing to Single Stream Recycling (SSR) July 2024
- Residents use their own recycling carts – the Town will provide 64-gallon wheeled carts to all residents by July 2024

Other Services:

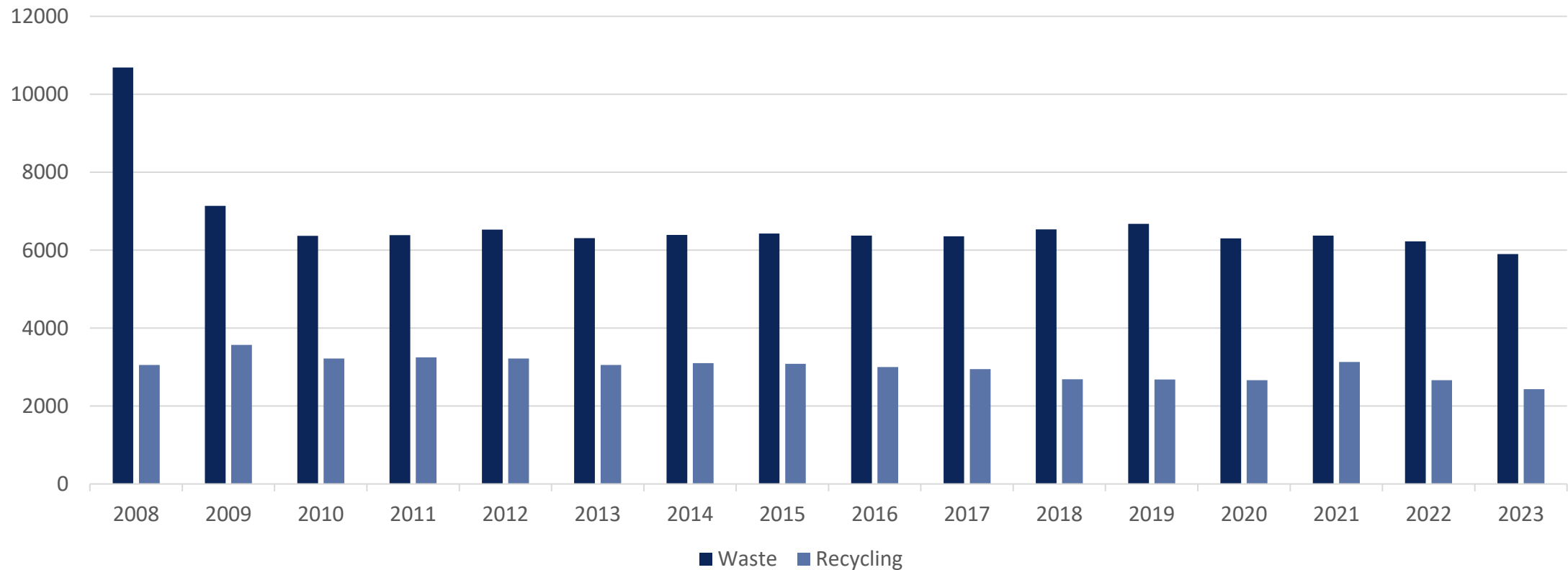
- Curbside pick up and drop-off of yard waste
- Bulky waste pick up with stickers
- Household Hazard Waste Disposal drop off





Waste and Recycling tonnage 2008 - present

Waste and Recycling over the years





Challenges of PAYT program

- Occasional bag quality issue
- Residents don't like the overall concept of bags and the cost of bags
- Enforcement of compliance dependable on the hauler
- Need to increase cost of the bags to cover the cost of the service
- Residents use private hauler only for waste and continue to use Town recycling only
- Challenge for large families, residents on fixed income





Successes of PAYT program

- Trash reduction over the years
- One of the best PAYT programs in MA
- Residents pay only for what they throw away
- Bags cover 50% of the program's cost
- Lower cost to the community
- Incentive-based, encourages individual responsibility
- Generally reduces fixed residential fees for trash collection





PAYT per bag cost

Small – 15-gallon bags

- Cost per bag to resident \$1.10
- Cost per roll (5) \$5.50
- Cost per bag to Town (FY 24 \$0.21)

Large – 33-gallon bags

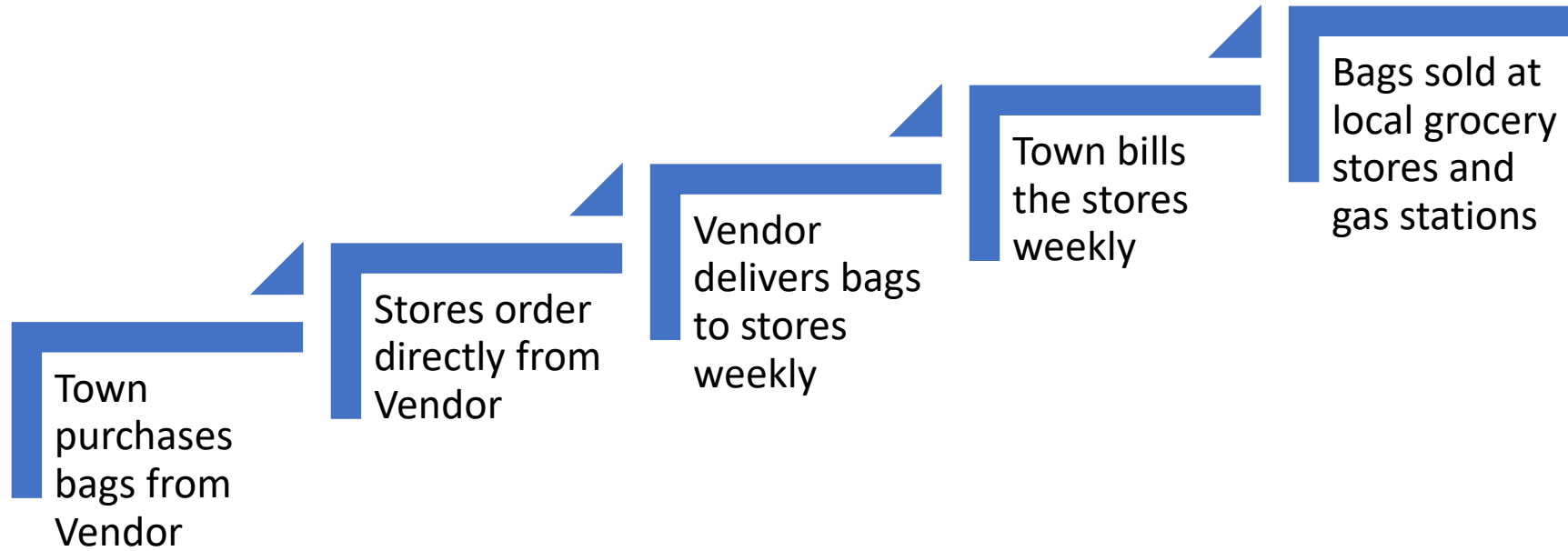
- Cost per bag to resident \$2.25
- Cost per roll (5) \$11.25
- Cost per bag to Town (FY 24 \$0.34)



The average weight per bag over the last 5 years is **17.23 pounds**.



PAYT bags availability and billing





How PAYT revenue is distributed

- Revenue from PAYT covers 50% of the curbside program. The other 50% comes from Tax Levy
- Revenue brought by PAYT in 2023 was at \$1,424,488

- The town receives all the revenue from PAYT bags
- Town purchases bags from Waste Zero





How tipping fees are applied

- Waste and Recycling disposal is separate from the hauling contract.
- Town has a contract with Win Waste Technologies until 2028 for use of their Wheelabrator-Incinerator. The waste comes back to Shrewsbury's own landfill in the form of ash. Our current FY24 tipping fee is \$77.78 per ton.
- Recycling contract with MRF in Auburn ends in June 2024. The Town is converting recycling into Single Stream and the tipping fee in the first year will be \$125/ton based on the recycling market.





Food waste collection / co-collection

➤ The town is actively looking into food waste collection and is considering co-collection as we believe that this would be the easiest program to implement and will be the most cost efficient.

➤ Pros:

- The town already uses bags
- No additional trucks in town
- No need for a bucket





Contact Information

Gosia Stolarska

Solid Waste & Recycling Program Manager

gstolarska@shrewsburyma.gov

508-841-1502

www.ShrewsburyMA.gov



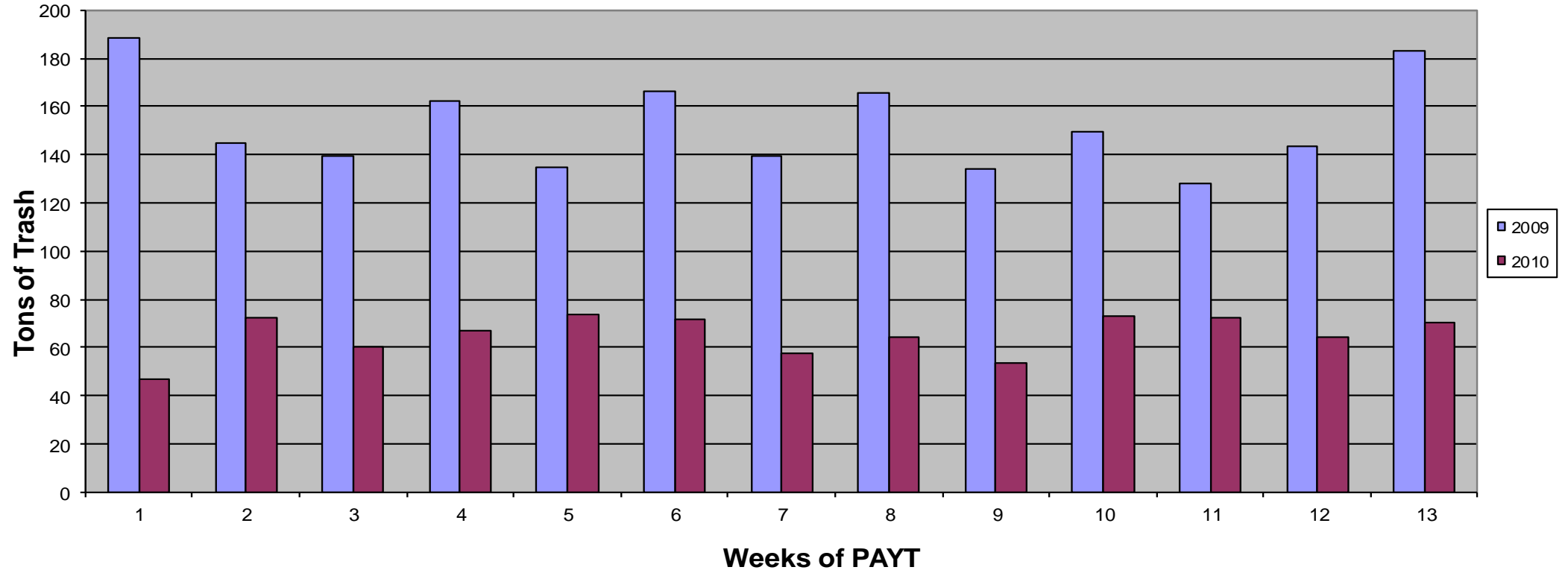
Sanford, Maine

PAYT Program 2009 - 2024

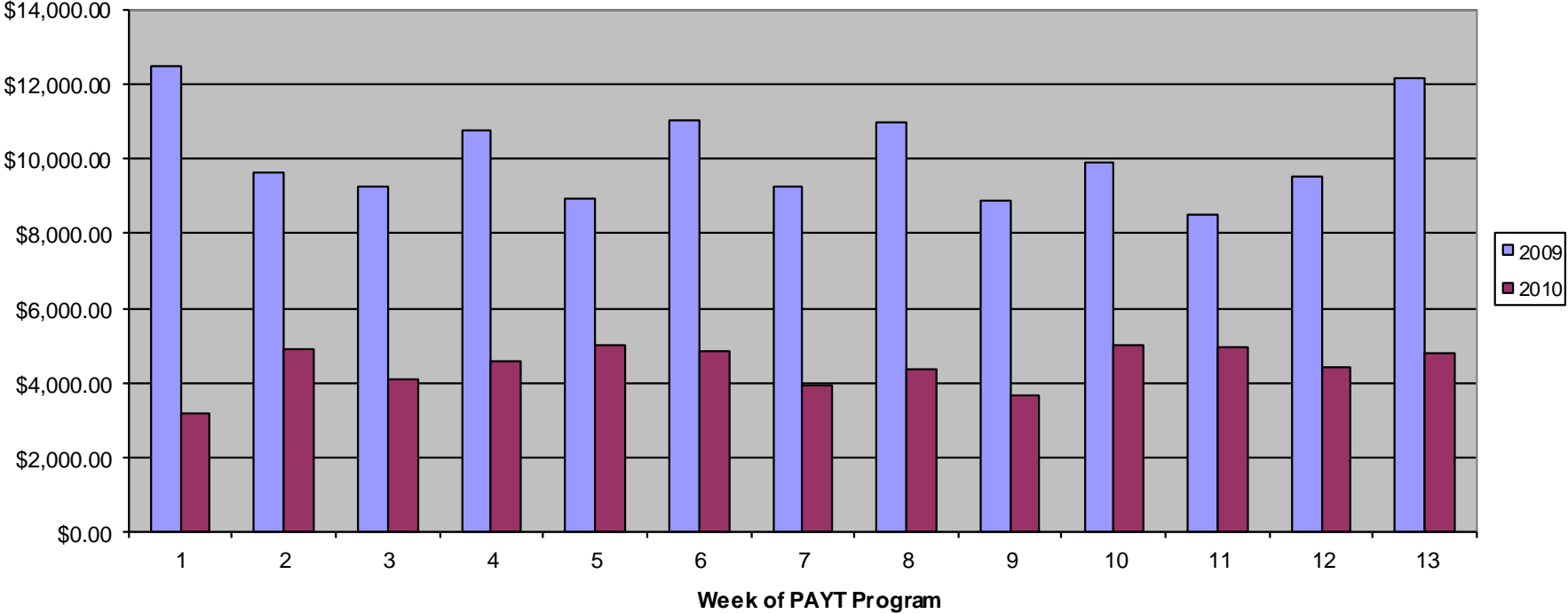
In the beginning...

- Sanford's PAYT program started Tuesday, July 13, 2010 at the order of the City Council. Most households were compliant although there was a learning curve.
- There was (and continues to be) a vocal minority of those opposed to the program who generally do not understand how the program works. It is a use-based service: **those who use it the most pay the most.**
- Began with the directive to put everything possible into the recycling stream. The market was apparently able to bear the resulting contamination.

Solid Waste to MERC Weekly Comparison



Tip Fee Comparison



Concluding Observations as of September 2010

- Illegal Dumping has not changed visibly, and most is bulky items not PAYT items.
- Total trash delivered to MERC is down by 58%
- Tip Fees paid to MERC are down 57%
- The Recycling Tons have increased 164% (2.6 times) over the corresponding weeks a year ago.
- Limit the size of Trash and Recycling Containers to 32 Gallons. Larger containers are too heavy for manual collection and will be left behind.
- Recycling is free and those materials should not be placed in Purple PAYT bags. They should be placed in containers with the free Sanford Recycles sticker (available at Public Works or Town Clerk's offices).

SANFORD, ME

The Power of PAYT—Worth Coming Back To

WASTE ZERO PAYT SUCCESS STORIES

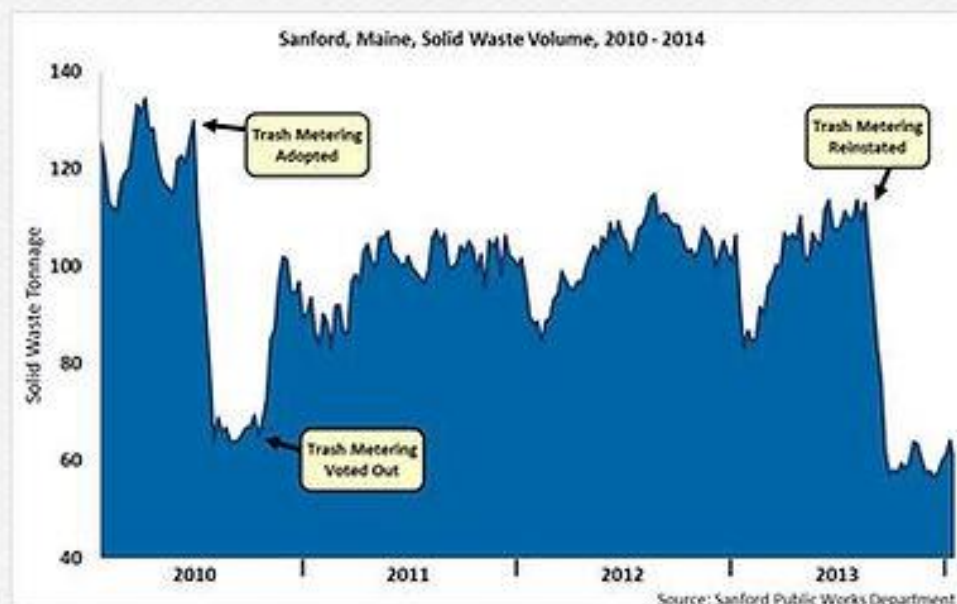
In July 2010, the City of Sanford, ME instituted a bag-based pay-as-you-throw (PAYT) program. Immediately, trash volume dropped by half. Four months later, the town repealed the program with predictable results: The amount of trash shot up, almost back to where it started. In September 2013, Sanford reinstated PAYT, with impressive results.

In the first two months of the program, Sanford

- Cut its municipal solid waste by 42%
- Nearly doubled its recycling rate.
- Saved more than \$28,000 in solid waste tipping fees

20,700 population
\$44,000 median income/HH
Bag-based PAYT with curbside trash and single stream recycling collection

<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>



Annual Pounds of Trash per Capita

900

313

NATIONAL AVERAGE

SANFORD, ME

Then, in 2017 the recycling crisis

- China instituted Operation National Sword, a refusal to continue tolerating contaminated recycling, which created a significant imbalance in the market because of our inability to follow the rules and prevent recycling contamination.
- Our landfills and downstream acceptors of MSW and recycling materials continued to process per our agreements but capacity had now become a premium.
- Contamination provisions of our recycling contracts were suddenly enforced to the letter.

What Happened

In a total of 8 weeks, Sanford went from having a recycling contamination rate comparable with similar Maine communities (15-20%) to consistently having less than 5% contamination and has held that rate without any additional educational outreach programs.

What was the difference?

Accountability



Our Partners

- 1 Sanford Residents:** The City of Sanford maintains rules and regulations for our curbside single-sort recycling program which works in tandem with a curbside Pay-as-You-Throw MSW program.
- 2 Waste Zero:** The City of Sanford has a contract with Waste Zero to produce, administer, and collect funds for PAYT bags. Local retailers are encouraged to carry them although they are not allowed to charge a profit. The PAYT program meters both MSW and Recycling costs for Sanford. Proceeds offset costs for MSW and Recycling disposal.
- 3 Casella Waste Systems:** The City of Sanford has a contract with Casella to perform curbside collection of Residential single sort recycling materials and deliver to ecomaine.
- 4 ecomaine:** The City of Sanford has a contract with ecomaine for the downstream acceptance of single-sort recycling materials.



Original Curbside Recycling Bins



Orange PAYT Bags

Recycling Education

Sanford has performed various educational outreach campaigns since the recycling program began. Although there is generally an overall decrease in contamination after an educational campaign, the contamination rates always seemed to return.

The original single-sort recycling concept encouraged Residents to place items in recycling to get it out of the MSW stream and the metered orange bag. As the recycling materials were valuable once sorted, there was some tolerance in dealing with the contamination. The tendency for people to try to recycle things that aren't recyclable was coined "wish-cycling."

Wish-cycling appeared to be one of the primary drivers for the return of the contamination.

"Why not try it out?"

There was no consequence to getting it wrong, no accountability for not educating yourself on what was acceptable.



Kids Environment Kids Health



The Problem

Our Contractor and downstream companies and countries accepting these materials had tolerated contamination for years but in 2017, China launched their National Sword policy signaling a need for change around the globe. This caught up to Sanford in 2018.

Based on the initial contamination charges and our Contract language, the Department of Public Works estimated that excess contamination charges could exceed \$100,000 annually for Sanford.

Local and regional waste acceptors agreed: even placing people elbow to elbow on a conveyor line sorting collected materials, it wasn't possible to achieve the desired >0.5% contamination rate.



Casella

Working Together Towards a Solution

The City brought our Contractors together and evaluated our options. Instead of pointing fingers, we worked to define the problem:

We are just not paying enough attention to what we do with our waste.

So we worked through the alternatives for holding our Residents accountable for recycling contamination:

2



3



1



What Worked

In the end, considering all options and the people-power we had available, the simplest alternative was the best:

Reject contaminated loads at the curb. The consequence for contaminated recycling is that we don't pick it up. Period. A plastic bag, a toothpick on top: we don't take any of it. We don't sort it. We leave a sticky note tag indicating why you are out of compliance. The note encourages Residents to go on our web site and find out more. There is no greater motivator to getting your clean single-sort recycling picked up than the potential of rejection.

The response was immediate and profound.

People lost their minds.

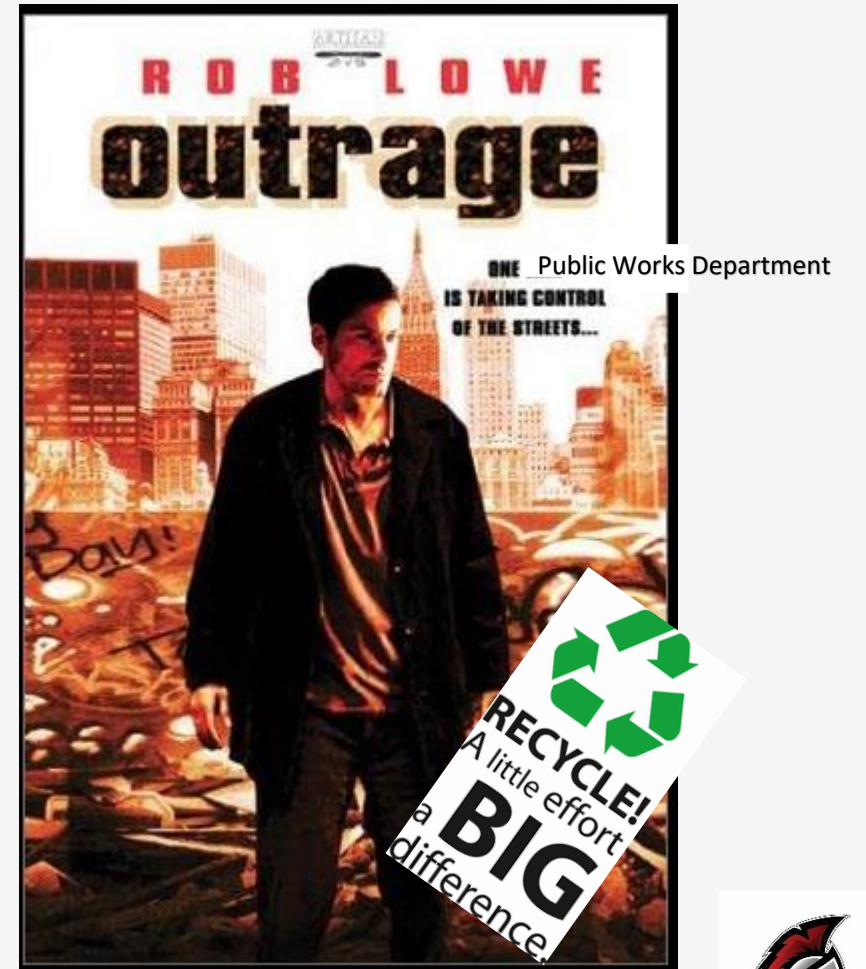


The Drama

We received numerous angry phone calls, had a driver assaulted, and almost needed to press the panic button at Public Works to summon the Police.

We sent out a City-wide flier to all addresses after the first full week of rejecting recycling loads. Everyone was talking about it then and the flier was extremely effective as they all wanted an explanation.

It lasted for a solid two weeks. And then it was done.



City of Sanford wins the 2019 EcoMaine Excellence Award

Awarded in the category of Municipal Leadership

To Kayla LeBrun and Matthew Hill

for Sanford's proactive and cooperative approach to reducing
contamination in our curbside recycling program



QUESTIONS?