Sustainable CT

Local Actions. Statewide Impact.®

Welcome

June 11, 2020

Founding Partners, Funders and Board

smart seed
FINANCING A SUSTAINABLE FUTURE

COMMONSENSEFUND

Tremaine Foundation

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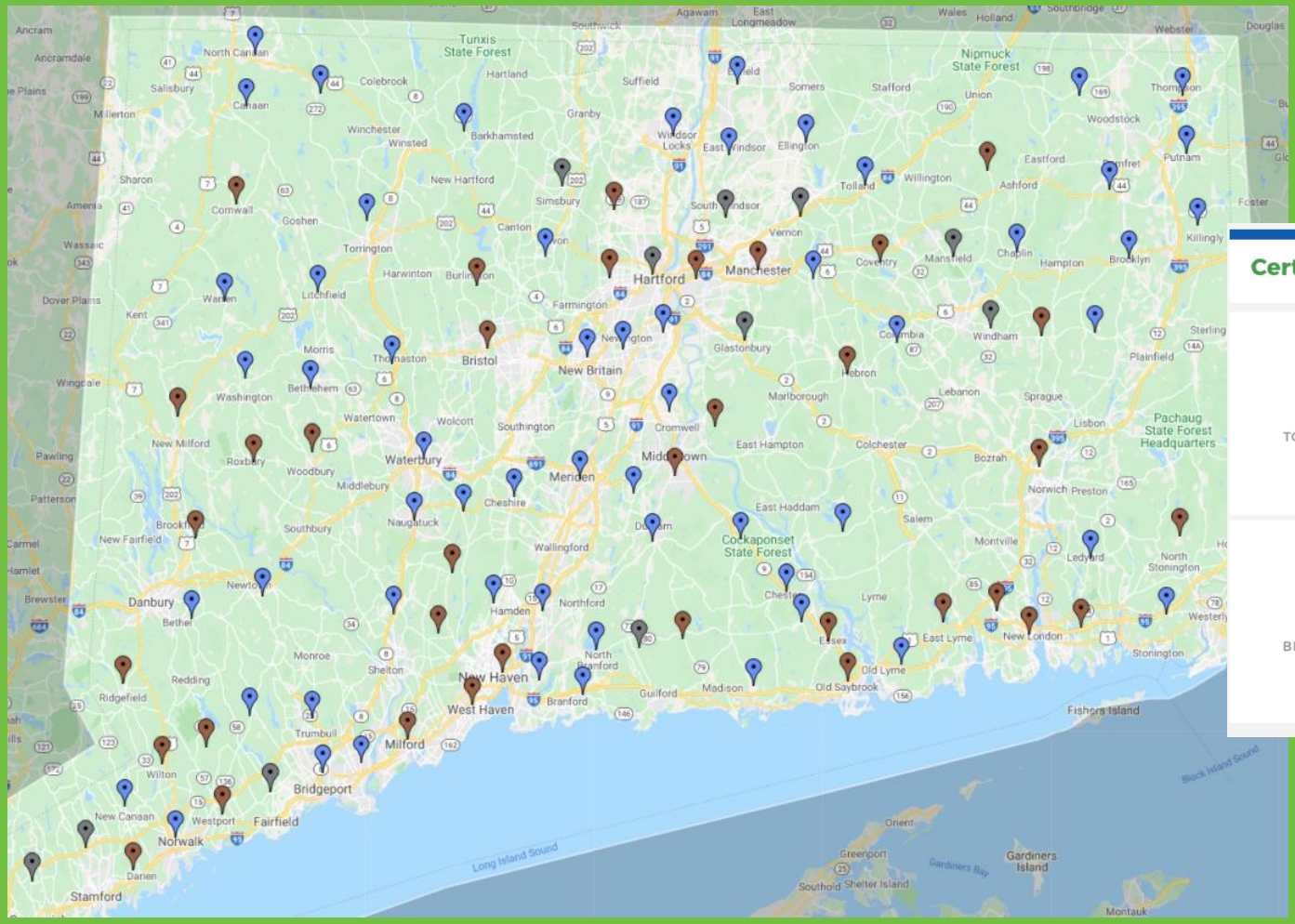
CONNECTICUT
STATE UNIVERSITY

Connecticut Conference
of Municipalities



Certification Program Statistics

106
TOTAL REGISTERED

47
CERTIFIED

33
BRONZE CERTIFIED

14
SILVER CERTIFIED

Principles for Action Inclusion in Sustainable CT

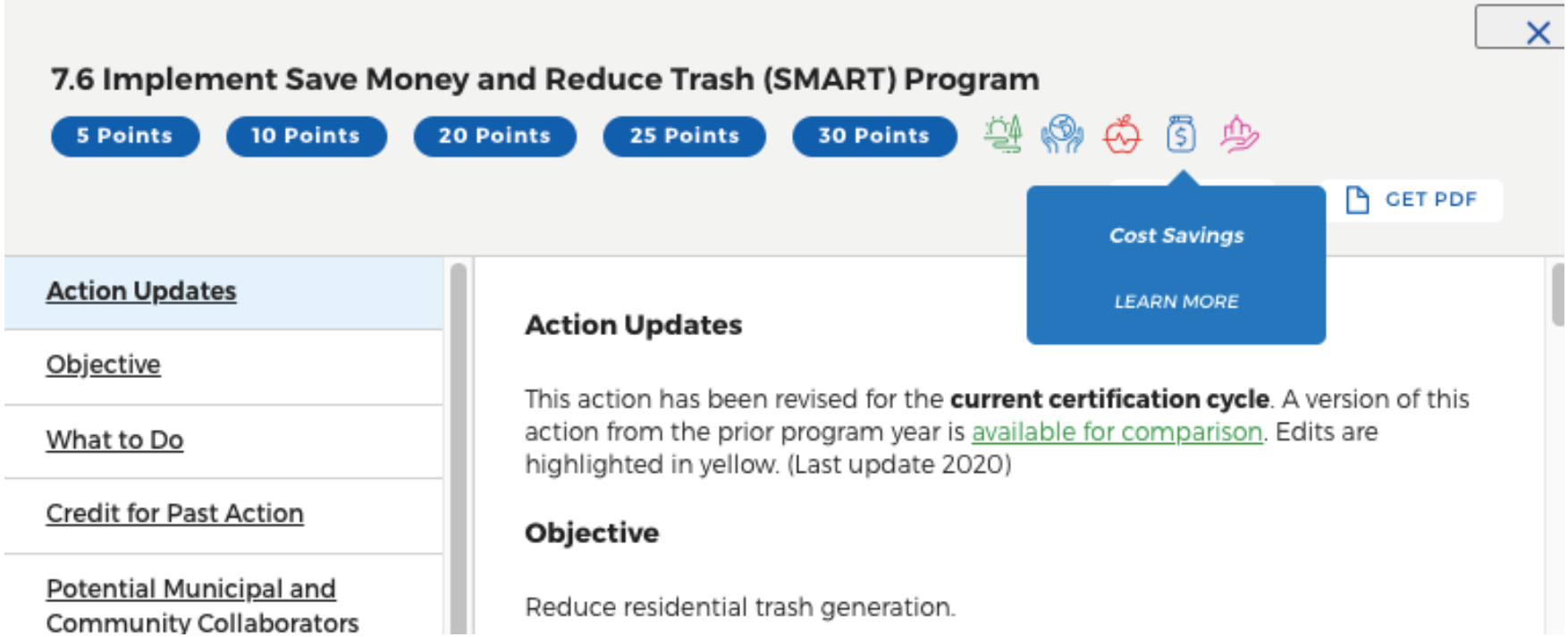
Developed by the Municipal Certification Committee from the 2017 Working Group criteria used to determine whether an action should be considered for inclusion in Sustainable CT

Optimizing the action

- *Collaboration*: The action enables/encourages multi-town collaboration.
- *Multisolving*: The action generate multiple, co-existing benefits. Those benefits may extend to other categories of Sustainable CT.
- *Equity:* The action has the potential to reduce disparities for the most marginalized populations while improving well-being for all.
- *Policy Alignment*: The action aligns with state goals.
- *Measurement:* There are reliable existing or easily obtainable data indicators available to measure progress over time.
- *Applicability/Replicability:* The action is applicable to and easily replicable for most towns (small/large, rural/urban).
- *Forward-Looking*: The action is forward-looking (e.g., awards points for something framed in the positive, rather than ban).

Actions included in Sustainable CT should meet all or most of these guiding principles, with flexibility in the discretion of Sustainable CT staff, who will collaborate with thought leaders to help make determinations.

Why SMART?


7.6 Implement Save Money and Reduce Trash (SMART) Program
5 Points
10 Points
20 Points
25 Points
30 Points
GET PDF
Cost Savings
LEARN MORE
Action Updates
Objective
What to Do
Credit for Past Action
Potential Municipal and Community Collaborators
Action Updates
This action has been revised for the current certification cycle. A version of this action from the prior program year is available for comparison. Edits are highlighted in yellow. (Last update 2020)
Objective
Reduce residential trash generation.

SMART Ways to Reduce Trash, While Saving Money and the Environment

Jennifer Weymouth, CT DEEP

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

Looming trash crisis in Connecticut

- Regional capacity for handling waste is decreasing
  - Majority of CT's waste is burned at 5 waste-to-energy facilities
  - The future of MIRA is uncertain – 50 years old, expensive to retrofit
  - All other facilities are aging, frequent shutdowns
  - There are few remaining regional landfills for residential trash
- Tip fee expected to reach $145 per ton by 2030
- Strain on capacity is leading to increased costs for towns and residents

Also, important to note:

- Connecticut's policy is self-sufficiency (i.e. minimizing dependency on out-of-state options)

CT DEEP's policy drivers for materials management

- Public Act 14-94 established a 60% diversion goal and rewrite of CT's Comprehensive Materials Management Strategy (CMMS). 60% diversion means:
  - improved municipal performance
  - new infrastructure
  - extended producer responsibility

- Save Money and Reduce Trash (SMART) has been a key policy for incentivizing waste reduction since CT's original Solid Waste Management Plan (1991)

SMART is key priority in Northeast states

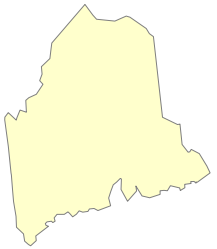
Massachusetts

- 41% of MA's cities and towns use SMART
- Average waste reduction in bag-based communities has been 44%

Rhode Island

- 6 of RI's 39 municipalities have SMART
- Rhode Island Resource Recovery Corporation, which handles all of RI's solid waste, designed uniform statewide program

Maine



- 31% of ME's 1.33 million people live in SMART towns
- Average waste reduction in bag-based communities has been 44%
- 33 additional towns considering SMART

In addition, SMART/unit-based pricing is mandatory in MN, OR, VT, and WA

Reducing trash is the solution

- SMART is single most effective policy for substantially reducing waste and cutting disposal costs.
  - Financially prudent – saves municipalities money through avoided disposal costs
  - Environmentally responsible – reduces waste and GHGs and increases recycling
  - Socially responsible – reduces need to build additional facilities which are oftentimes sited in lower income communities

- SMART is the driver that incentivizes residents to more fully utilize other programs such as diverting compostable items and textiles.

Sustainable CT

SMART – Save Money and Reduce Trash

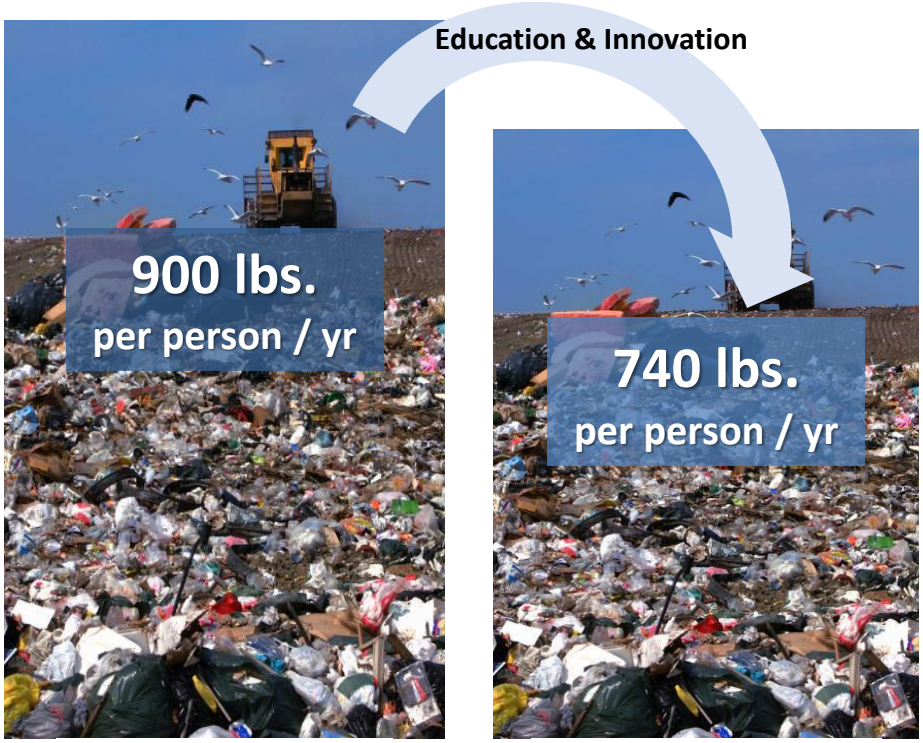
June 2020

Today's Presentation

1	**SMART Overview**
2	Potential Impact for CT Communities
3	FAQ's

Past & Present: Residential Waste

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



US Average, 1990

CT Average, 2019

Bottle Bill (1980)

Electronics, Paint and Mattress EPR

Education Campaigns (What's In, What's Out)

Aggressive Waste Reduction Goals

National Packaging Innovation (downgauging, light weighting)

National Recycling Campaigns

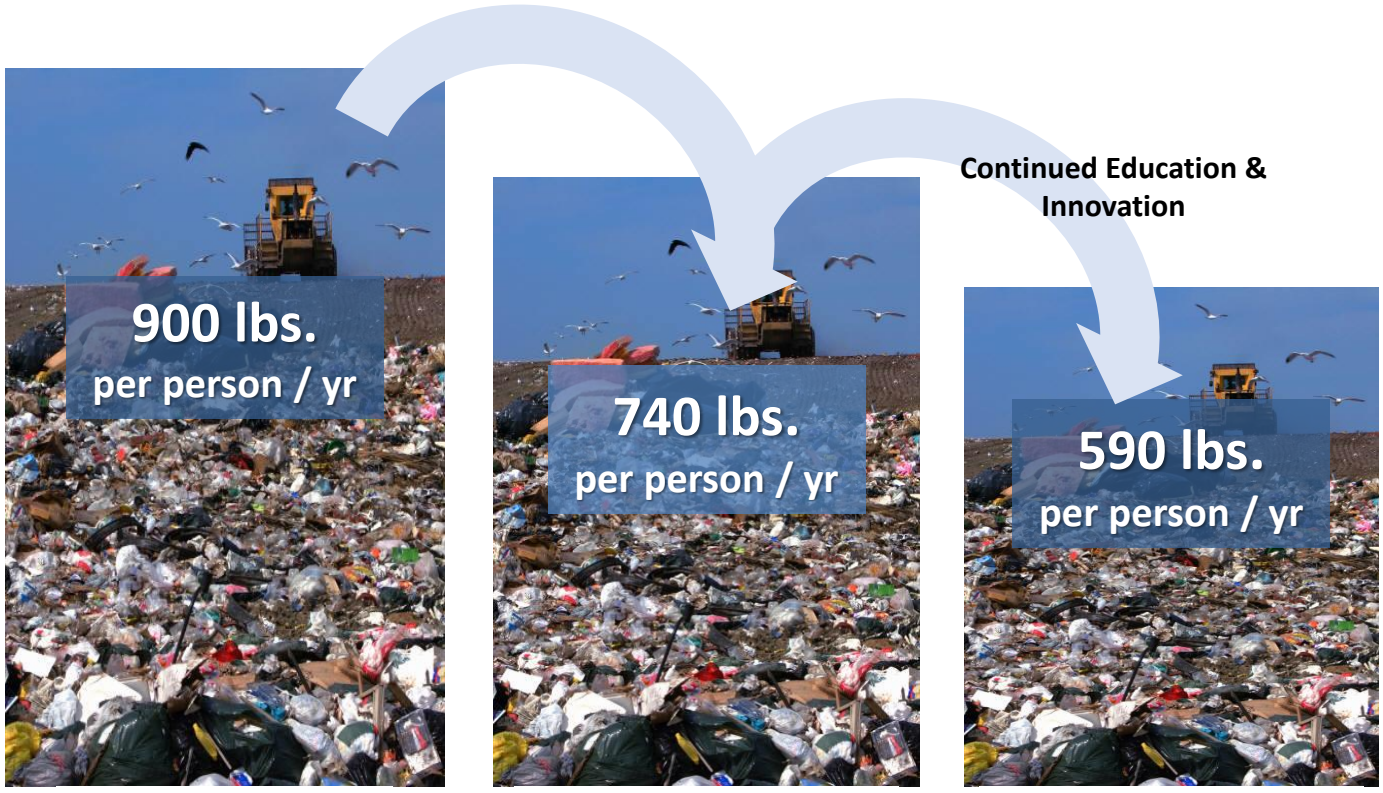
Single-Stream Recycling

Increased Consumer Access (curbside and drop-off recycling)

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

Past, Present and Future: Residential 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.



US Average, 1990

2020

2050

Continued Education Campaigns

Better Recycling Technology

Expanded Bottle Bill

Packaging EPR

Waste Bans

Increased Single-Use Bans

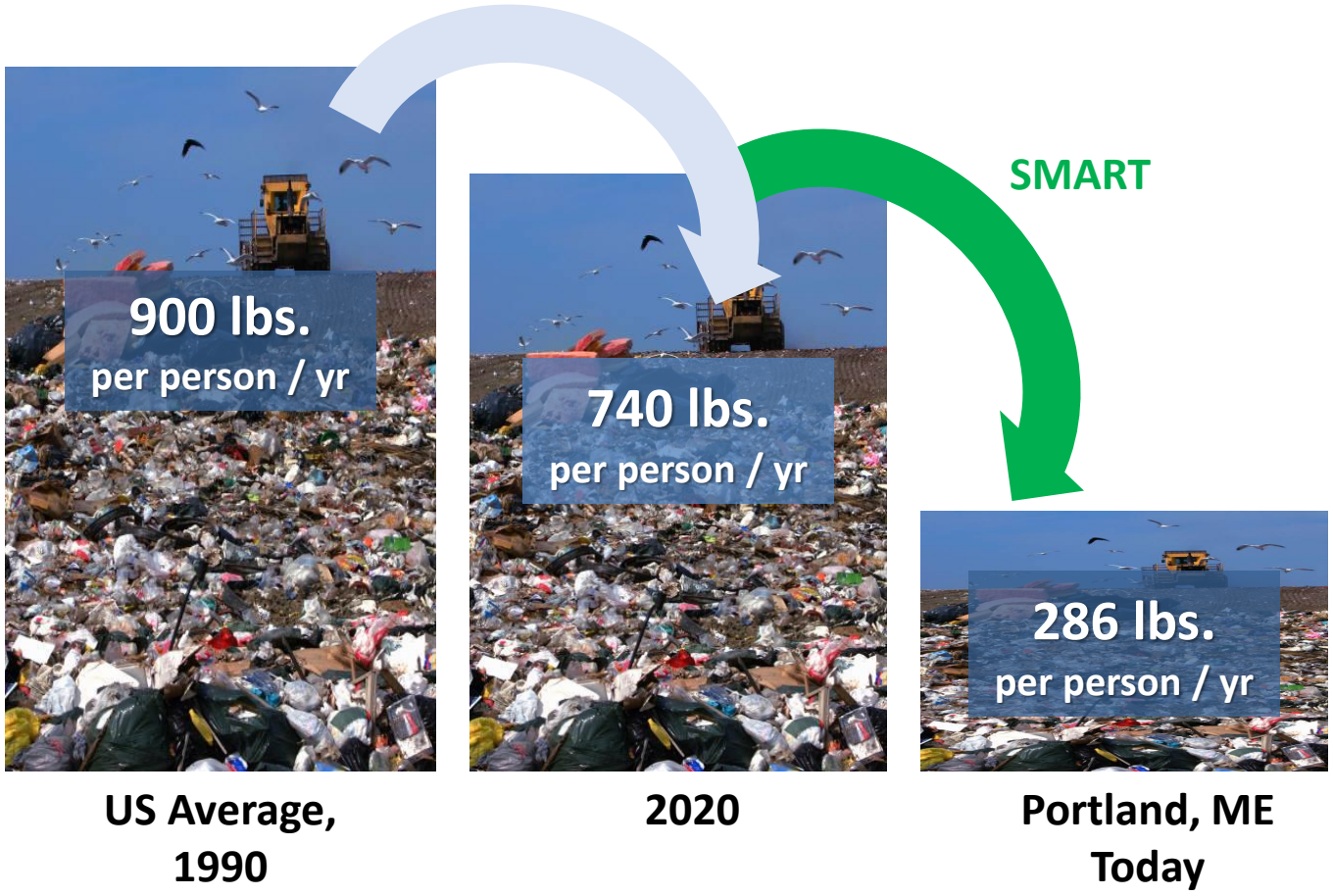
Increased Access

Curbside Food Waste Collection

Possible: Residential Waste

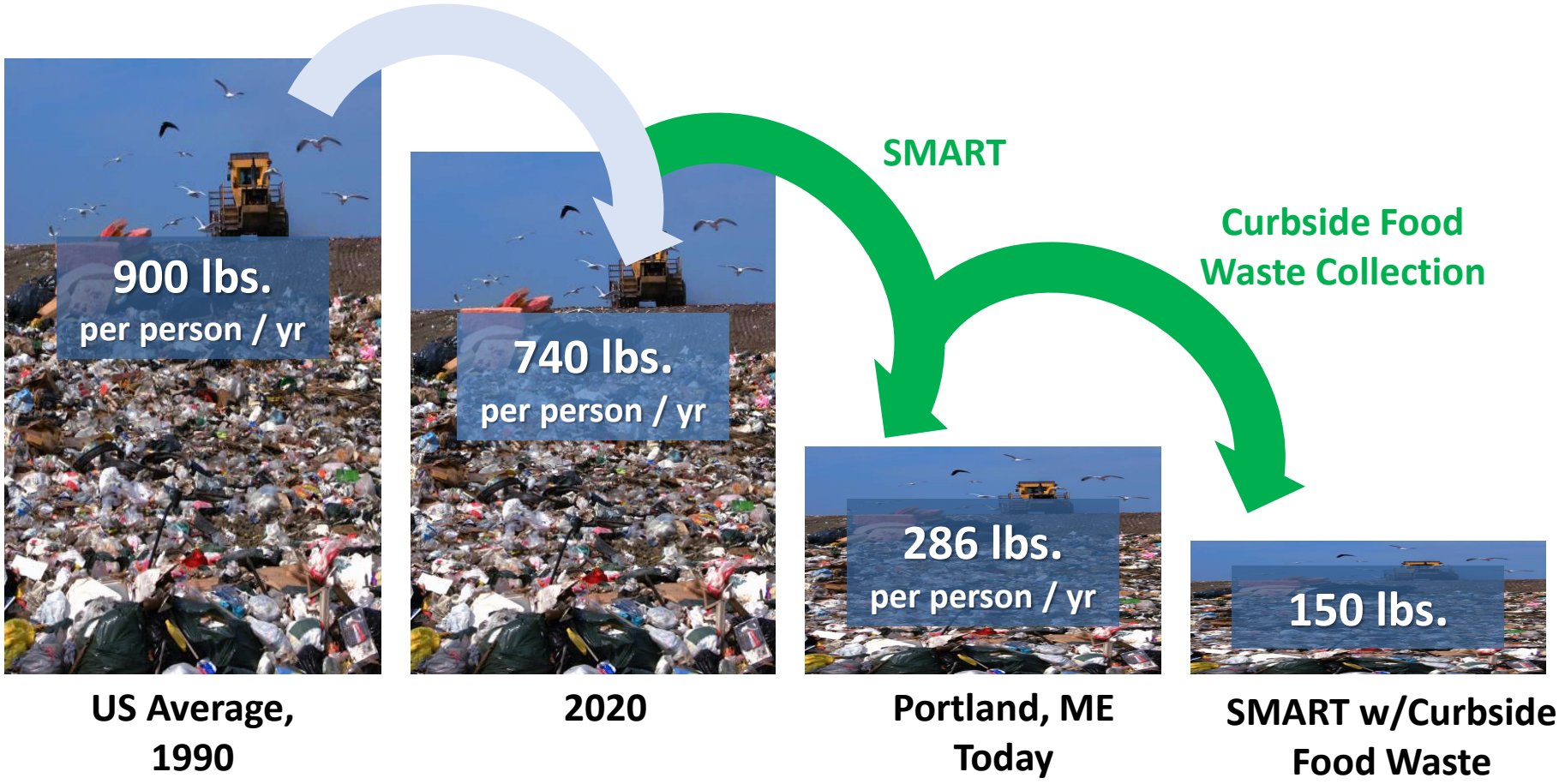
Best Practice Example

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



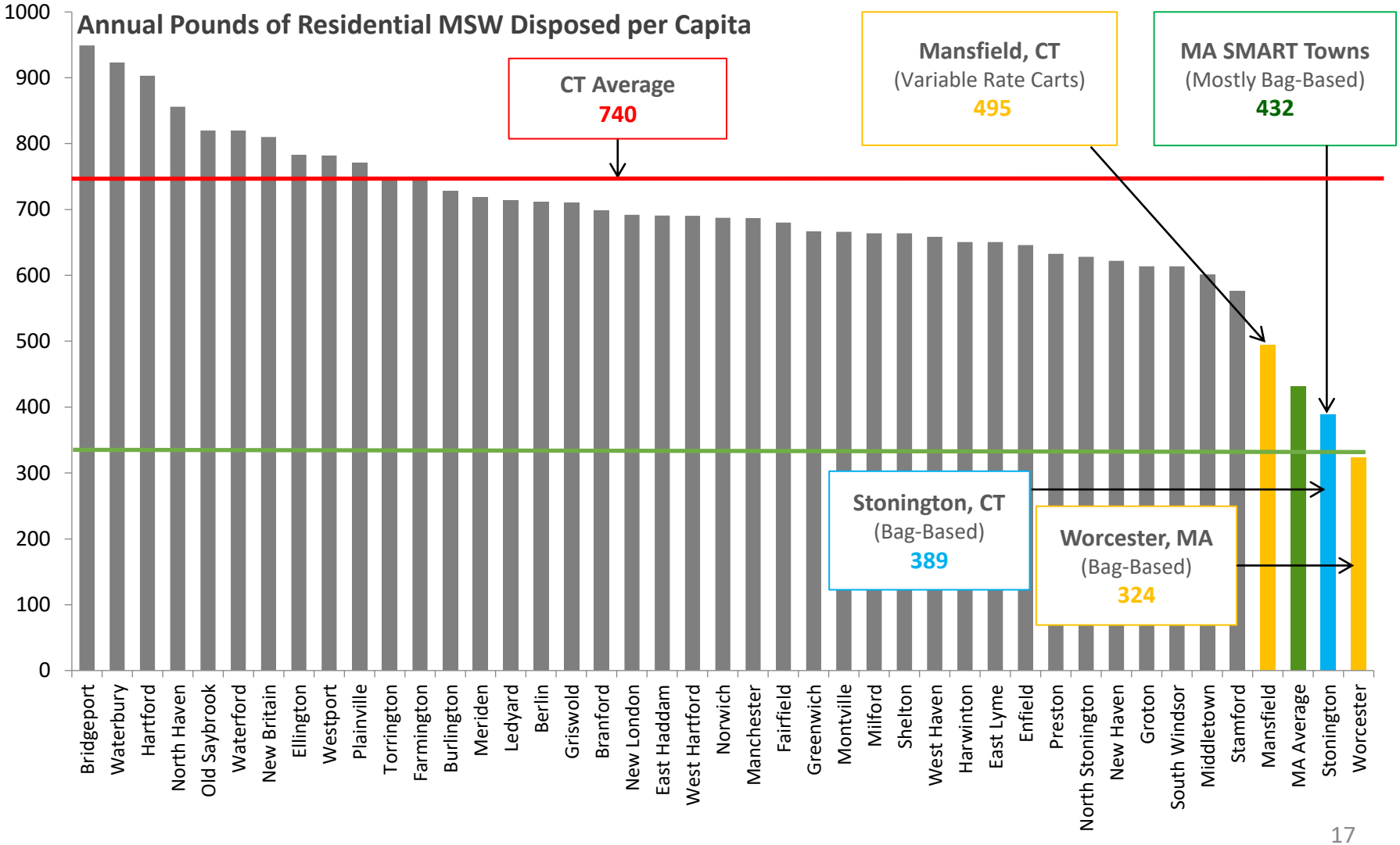
How Could Connecticut Reduce Waste?

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



Average Lbs. of Trash per Capita, CT vs. Benchmarks

SMART communities dispose of less residential MSW per capita than most CT cities and towns.



Note: Figures are calculated using MSW tonnage data provided by the municipalities themselves

The Current Payment Model Encourages Waste

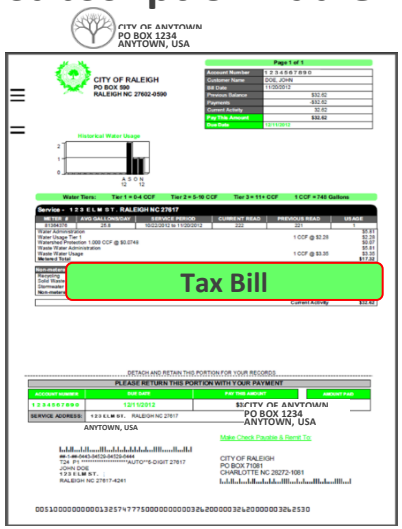
Electricity

Gas


Water

Residents pay for most utilities based on how much they use.
Trash is different: In most places, trash is the last unmetered utility.

1 Waste is covered in Taxes or in a flat fee from subscription hauler



2 Diversion is Requested

3 Fill it Up…

There is no economic incentive for residents to manage materials differently

Forms of PAYT

PAYT programs can take many different forms.

	**Variable-Rate Carts (VRCs)**	Residents choose from among different sizes of carts, paying more for larger carts	**450 -600 +** *pounds per capita*
	**Stickers/Tags**	Residents pay by the bag by affixing a pre-paid tag or sticker to each bag of trash.	**480-600** *pounds per capita*
	**Bags or Bags in Carts**	Residents dispose of waste in official municipal bags. Bags can be used with **manual or cart-based** collection systems.	**280 - 425** *pounds per capita*

Variable Rate Cart (VRC) Approach: Example (Austin, TX)

A VRC approach incentivize residents to reduce waste by pricing different size carts at increasing levels.

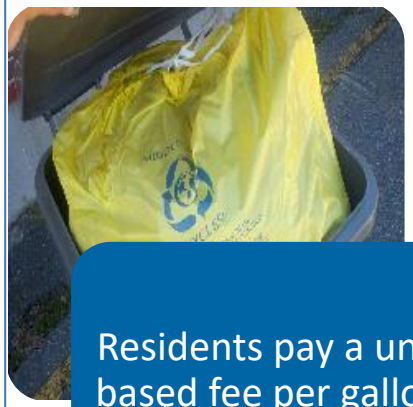
Rates Pay-As-You-Throw (two tiered) Rate Structure Austin, Texas

Residential Rates	Cents Per Gallon Trash Cart Size	Monthly Trash Fee	Monthly Recycling and Organics Fee	Total Monthly Fee	Customer Selection
Trash Can Size					
24 gallon	$0.16 x 24	$3.85	$11.35	$15.20	5%
32 gallon	$0.16 x 32	$5.10	$11.35	$16.45	20%
64 gallon	$0.16 x 64	$10.25	$11.35	$21.60	65%
96 gallon	$0.25 x 96	$24.00	$11.35	$40.15	10%

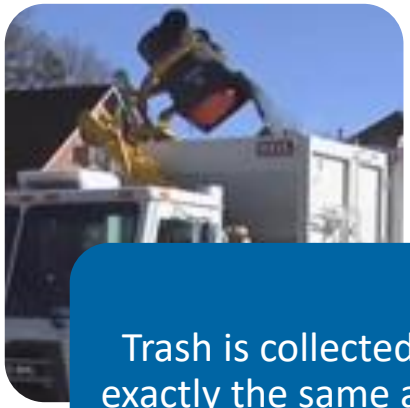
- Provide multiple size cart options
- Set up a billing mechanism for homes (monthly is ideal)
- Its best if occupant of home is responsible for size selection and paying the fee
- The goal is to continue moving residents into smaller containers or reduced frequency
- Continued education is necessary

The PAYT Bag Approach - Overview

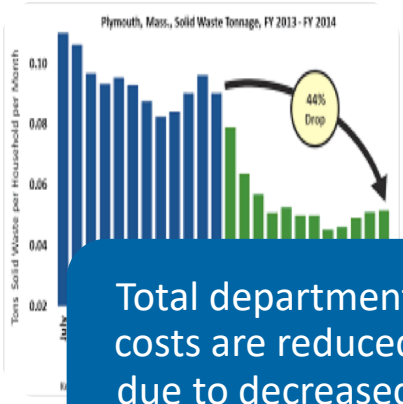
A SMART Bag approach incentivizes residents to reduce waste each time they open a new bag.



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



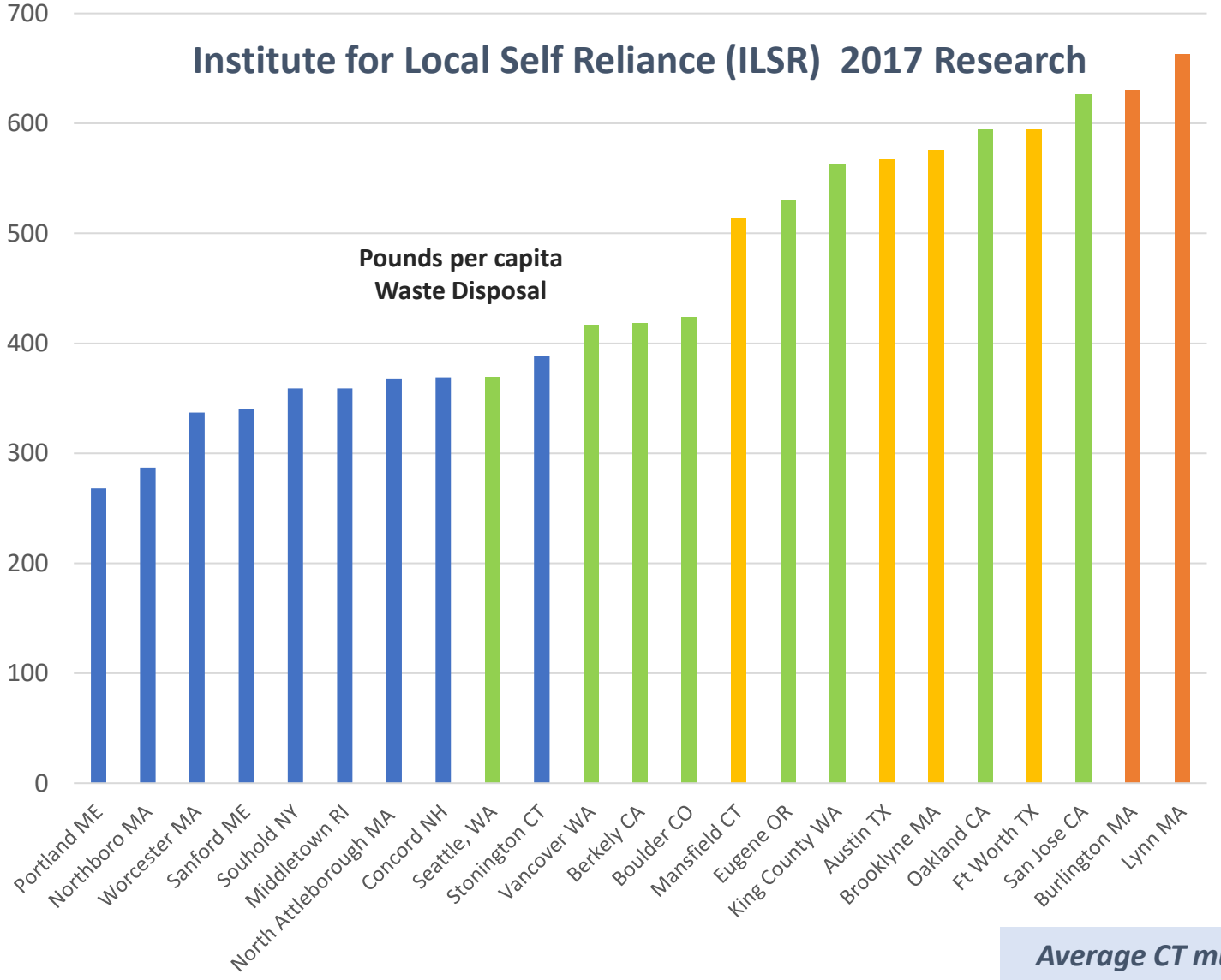
Trash is collected exactly the same as before: Same drivers, same collection vehicles



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

- **Select a vendor to carry inventory, ship to stores and handle retail billing**
- **Residents purchase bags at local retailers**
- **Bag cost covers the bag itself, and the disposal of waste in the bag**
- **Works with existing collection method, automated or manual – bags fit into current bins**
- **Cameras can easily be added to trucks for to monitor bag compliance**

Portland Maine ranked #1, disposing of less waste per person and moving closer to Zero Waste than peer communities.



PAYT with Bags (Average 344lbs per capita)

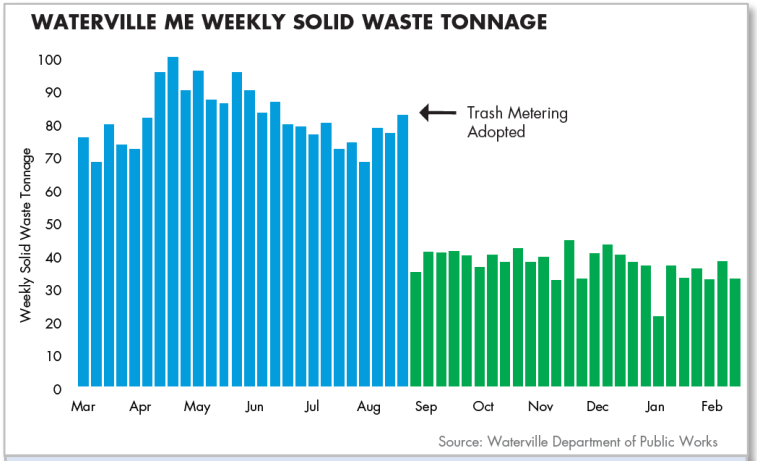
PAYT with variable carts plus curbside food collection (Average 510lbs per capita)

PAYT with Variable Carts no Curbside Food Collection (Average 560 per capita)

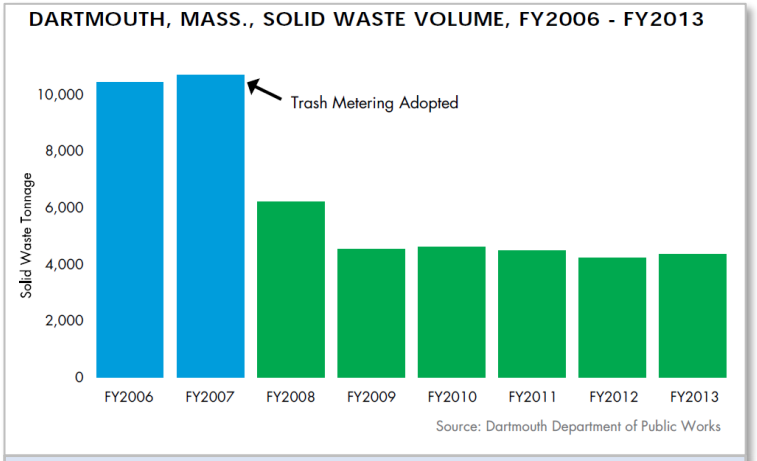
64 gallon Overflow Cart (Average 646lbs per capita)

Average CT municipalities without SMART – about 740 per capita

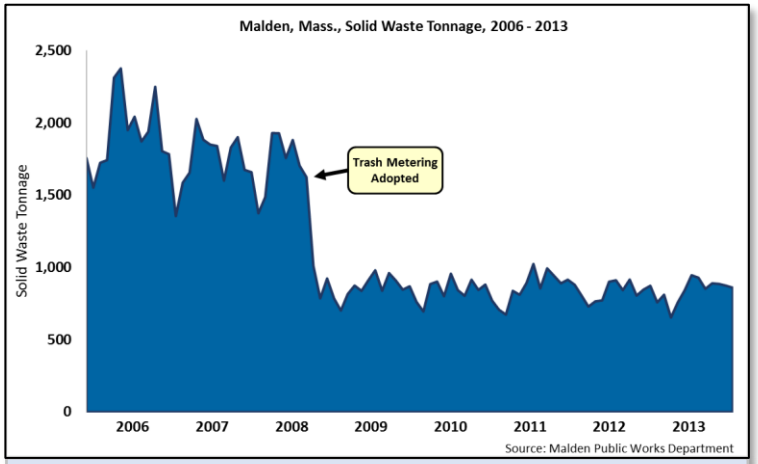
Results: MSW Reduction of 44% on Average



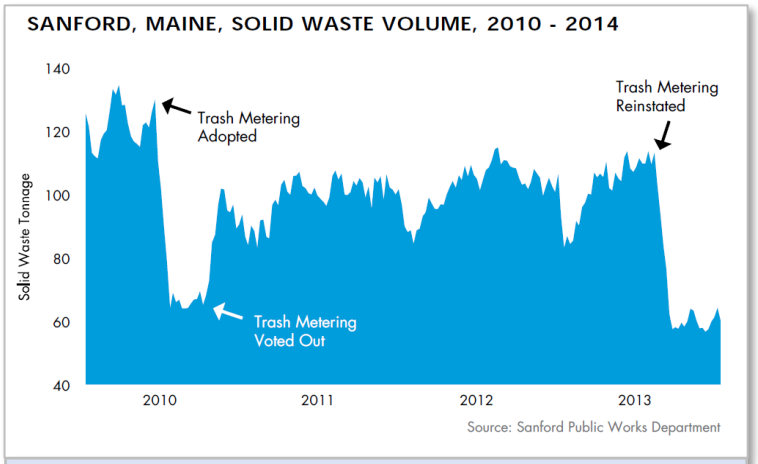
WATERVILLE, MAINE
53% DECLINE IN WASTE



DARTMOUTH, MA
59% DECLINE IN WASTE



MALDEN, MA
52% DECLINE IN WASTE



SANFORD, MA
40%+ DECLINE IN WASTE…TWICE

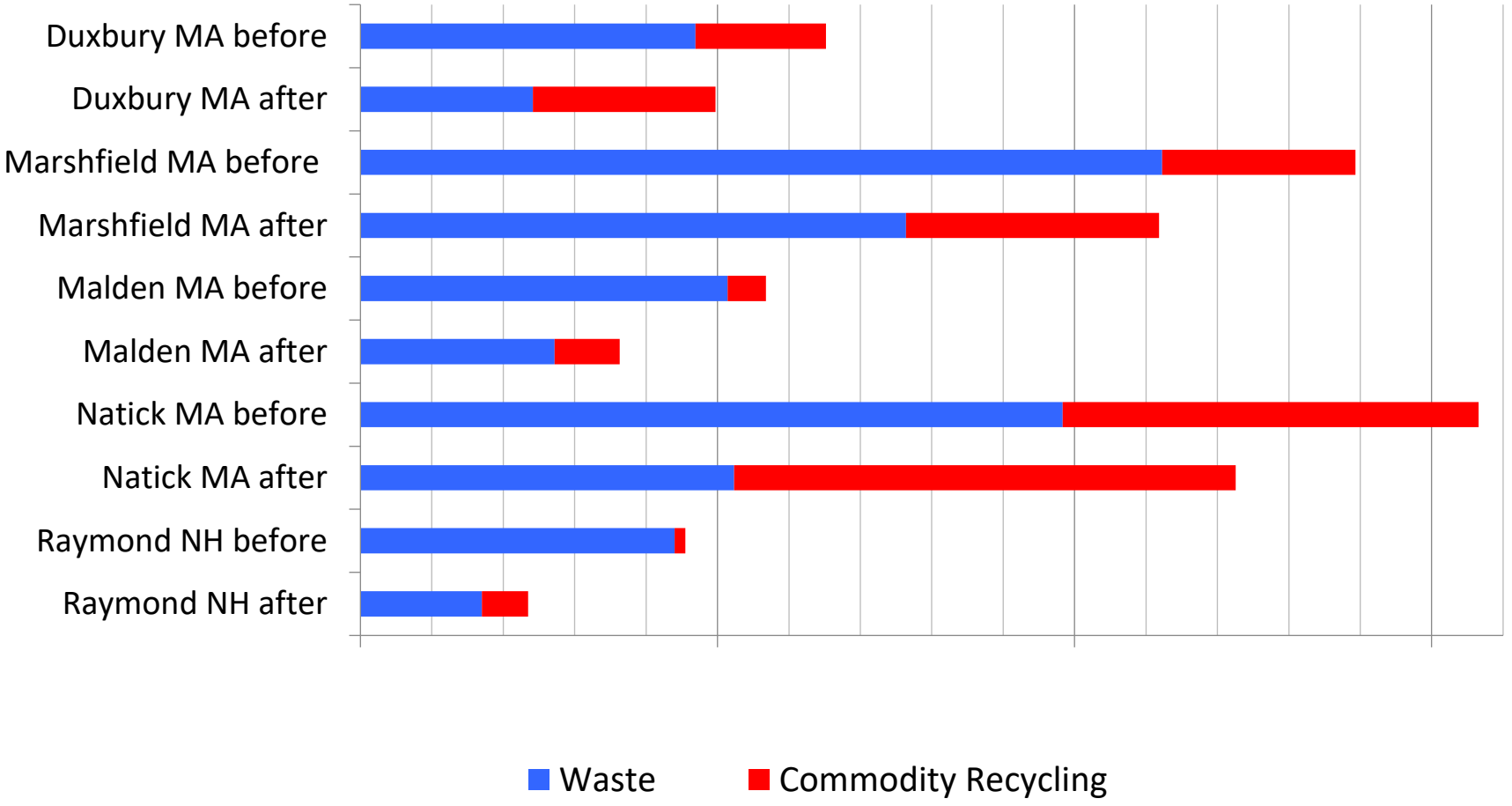
Comparison SMART Bags and SMART Carts?

SMART (unit-based pricing) is the single best way to reduce waste.

Category	SMART Bag Program	SMART Cart Program
Waste Reduction	280-425 lbs / per capita	450-550 lbs / per capita
Startup Expenses	Cameras and software (Limited)	New carts and distribution of additional sizes (could be significant)
On Going Expenses	No	Yes (Monthly hh billing, cart switch outs and marketing)

Program – Decreases Overall Generation – 20+%

Unit based programs send a price signal that produces source reduction and moves materials into all other programs, increases donations and home composting.



Similar Efforts in Other States

SMART has a strong presence in the Northeast. The experience of municipalities in this region can be productively applied in Connecticut.

Massachusetts

- 41% of municipalities use SMART.
- Average waste reduction of 44% with bag-based SMART.

Rhode Island

- 6 of RI's 39 municipalities have some form of SMART.
- Rhode Island Resource Recovery Corporation (RIRRC) is designing a statewide SMART option.

Maine

- 31% of ME's 1.33 million people live in SMART towns.
- Average waste reduction of 44% with bag-based SMART

In addition, unit-based pricing for solid waste is mandatory in Minnesota, Oregon, Vermont, & Washington.

Global SMART Efforts (Selected Examples)

Europe

- ZeroWaste Europe's 1st Category Municipalities must use SMART.
- Low annual per capita disposal (300-500 lbs.) with SMART in:
  - Belgium
  - Austria
  - Switzerland
  - Estonia
  - France
  - Italy
  - Others

SMART – Zurich
Reduced Waste 41%

South Korea

- Seoul reduced waste 42%.

Scandinavia

Taiwan

- Taipei uses bag-based SMART.
  - Reduced waste by 33%
  - Recycling rate is >50%

Japan

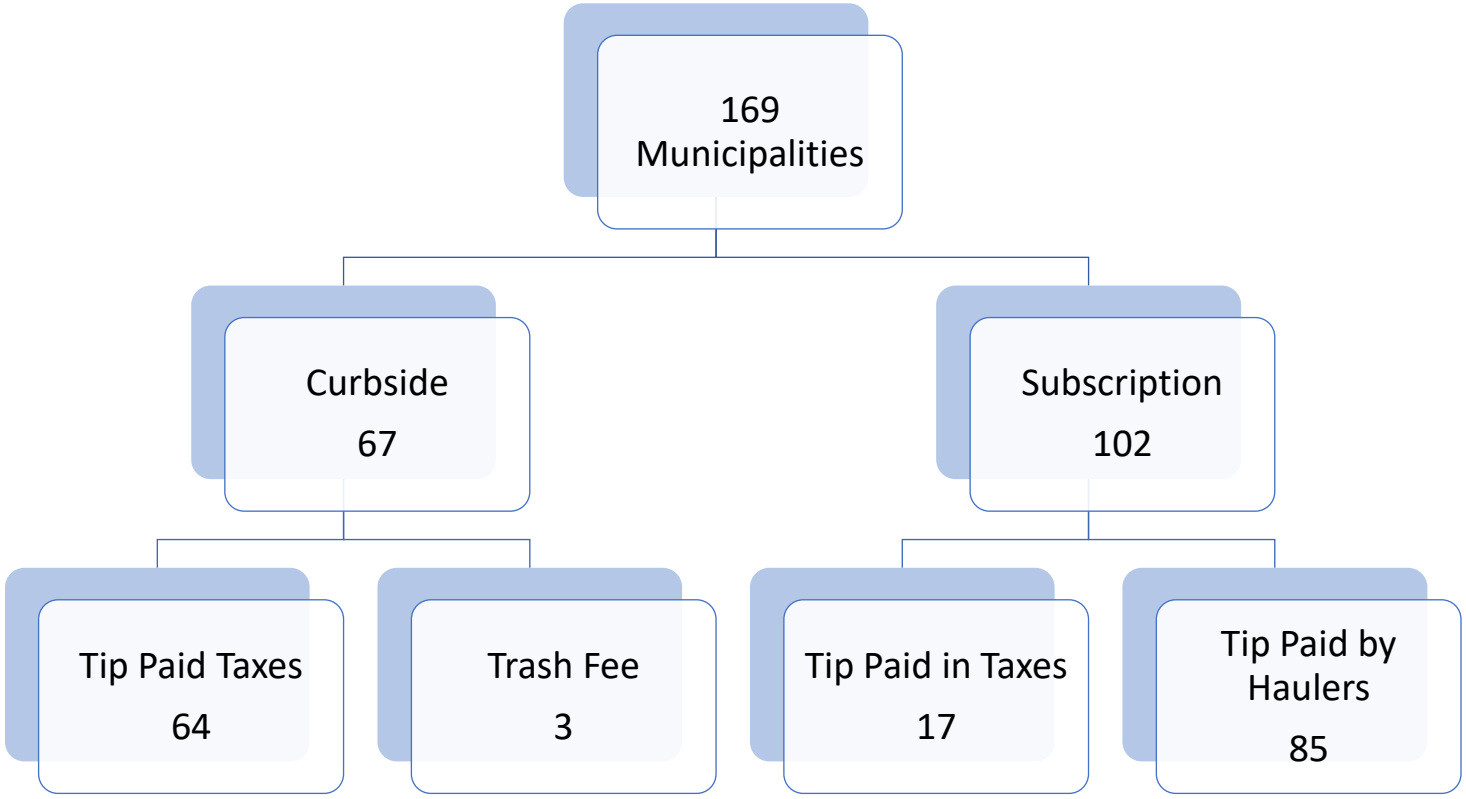
- Kyoto reduced waste more than 40%.

Today's Presentation

1	SMART Overview
2	**Potential Impact for CT Communities**
3	FAQ's

CT Residential Waste Make Up

Communities with curbside collection are the most straightforward to implement. However, other communities have financial incentives and control mechanisms that would allow for a SMART rate structure such as subscription communities that pay tip fees through property taxes or communities where all of the waste is run through the municipal transfer station.



There are 17 (estimated) subscription communities where the tip fee is paid through taxes.
These communities have an incentive to use a SMART system to prevent subsidizing waste from neighboring towns.

What impact will SMART have on Residents?

Trash Reduction | Energy Savings/CO2 Reduction | Town Budget Impact | **Household Budget Impact**

Windsor Locks - Example
Municipal Collection
Two-Tiered Rate Structure

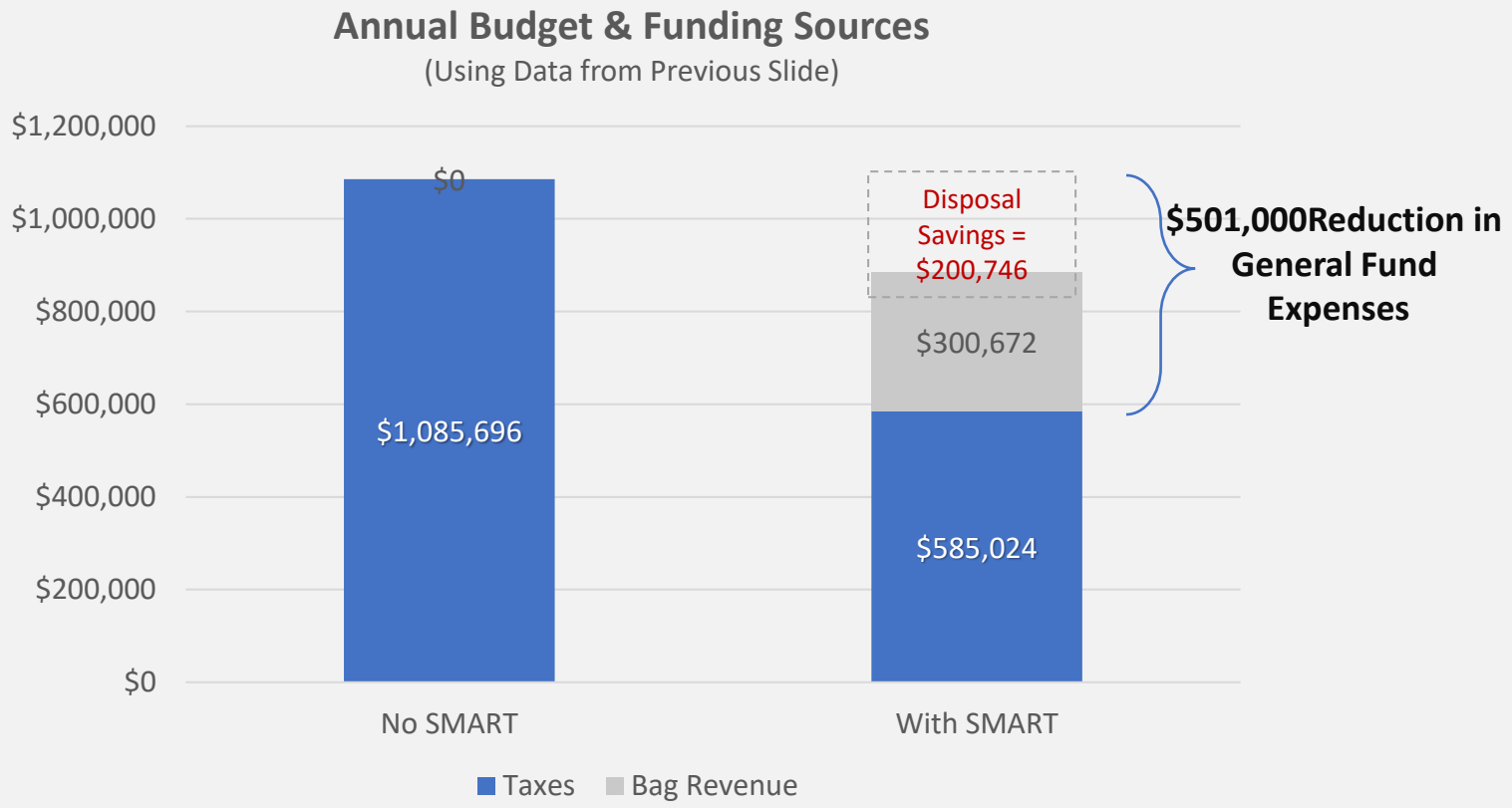
$1.50 per Bag	
Bag & Bag Distribution	$0.31
Trash Incineration+ some operational costs	$1.19
Total	$1.50

$0.80 per Bag	
Bag & Bag Distribution	$0.21
Trash Incineration + some operational costs	$0.59
Total	$0.80

What impact will SMART have on Windsor Locks?

Trash Reduction | Energy Savings/CO2 Reduction | **Town Budget Impact** | Household Budget Impact

SMART bag revenue, combined with disposal savings, would reduce the need for tax revenue.



What impact will SMART have on Residents?

Trash Reduction | Energy Savings/CO2 Reduction | Town Budget Impact | **Household Budget Impact**

The average home in SMART will use less than 1 bag per week

Average Spend per Home >>	Current Annual	SMART Annual
Waste Disposal (through taxes)	$205	$105
Regular Trash Bags	$27.00	$0
SMART Bags	$0	$72
Net per HH Cost	**$232**	**$177**

Zero Disposal Costs for Haulers

Fairfield - Example Municipal Collection Two-Tiered Rate Structure

The program would shift the true cost of waste out of the hauler fee, directly to the user through a SMART bag free.

	Residential Cost without SMART	Tip Cost with SMART
Big Little	$602,366	$0
Winter Brothers	$166,736	$0
United Carting Co	$134,578	$0
Fairfield Sanitation Service	$133,892	$0
United Home Sanitation	$125,846	$0
Mat Lock Refuse	$87,947	$0
Darren A. Topar Refuse & Recycling	$68,517	$0
All American	$6,975	$0
Sub Total	**$1,326,856**	$0
COD	$82,481	$0
Total	**$1,409,336**	$0

How SMART Works: How the Bags Pay for Trash

$1.40 per Bag	
Bag & Bag Distribution	$0.31
Trash Incineration+ some operational costs	$0.99
Total	$1.40

Average Fairfield resident use less than one bag per week and will spend $60 on SMART bags

$.70 per Bag	
Bag & Bag Distribution	$0.21
Trash Incineration + some operational costs	$0.49
Total	$0.70

Residential Waste Savings

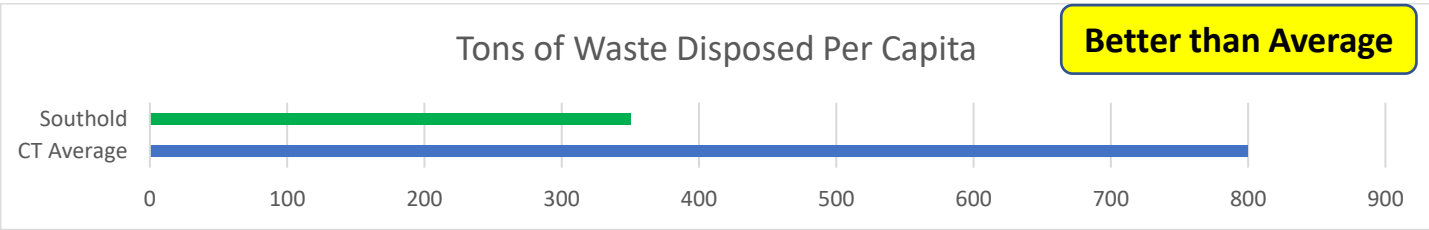
Fairfield - Example Municipal Collection Two-Tiered Rate Structure

Tonnage reduction provides efficiency savings for haulers and financial savings for all residents. Haulers could lower prices and charge only for collection.

	without SMART		with SMART	
	Residential Tons	**Residential *Tip Cost**	**Residential Tons**	**Residential Bag Cost**
Big Little	6,919	$602,366	3,875	$337,325
Winter Brothers	1,915	$166,736	1,072	$93,372
United Carting Co	1,545	$134,578	865	$75,363
Fairfield Sanitation Service	1,537	$133,892	861	$74,979
United Home Sanitation	1,446	$125,846	810	$70,473
Mat Lock Refuse	1,009	$87,947	565	$49,251
Darren A. Topar Refuse & Recycling	786	$68,517	440	$38,369
All American	80	$6,975	45	$3,906
COD	873	$82,481	489	$46,189
Total Cost to Residents	**16,110**	**$1,409,336**	**9,022**	**$789,228**

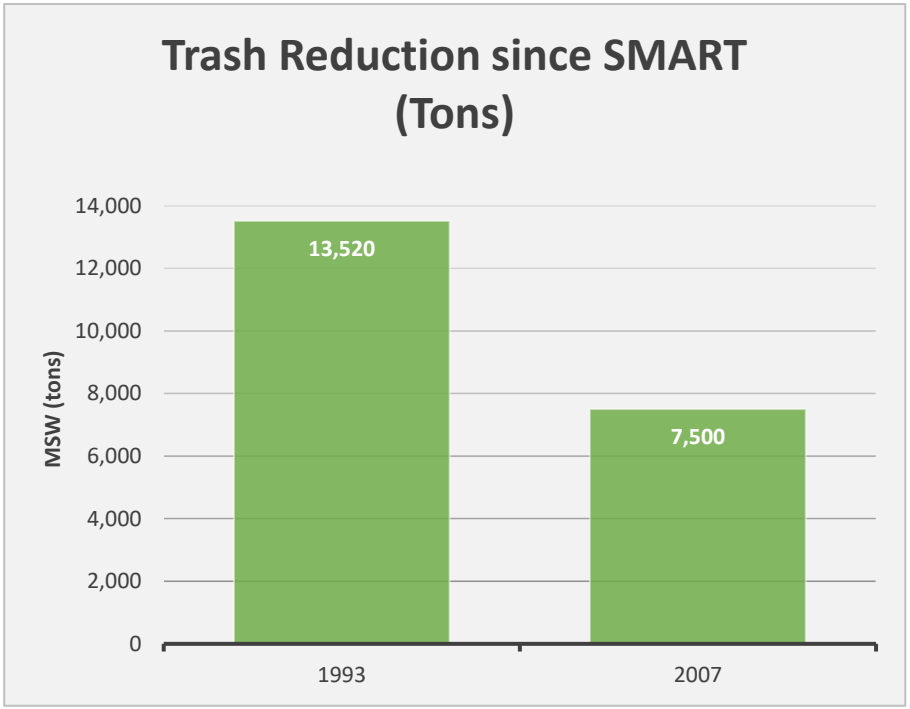
Case Study: Southold NY

Key Program Performance Metric – Per Capita Disposal



SMART Program Description:

- Program Start Date: 1993
- Households Serviced: 25,000 year-round→ increasing to 45,000 in July/August
- Residents purchase official yellow SMART bags from over vendors around Southold
- Bag prices:
  - $2.25 for 56 gallon bag;
  - $1.50 for 36 gallon bag;
  - $0.75 for 15 gallon bag;
- Trash is placed at the curbside only in official mandated bags; required for both self-haulers and private carters
- Recycling (Single-stream) is placed in designated containers and is free of charge



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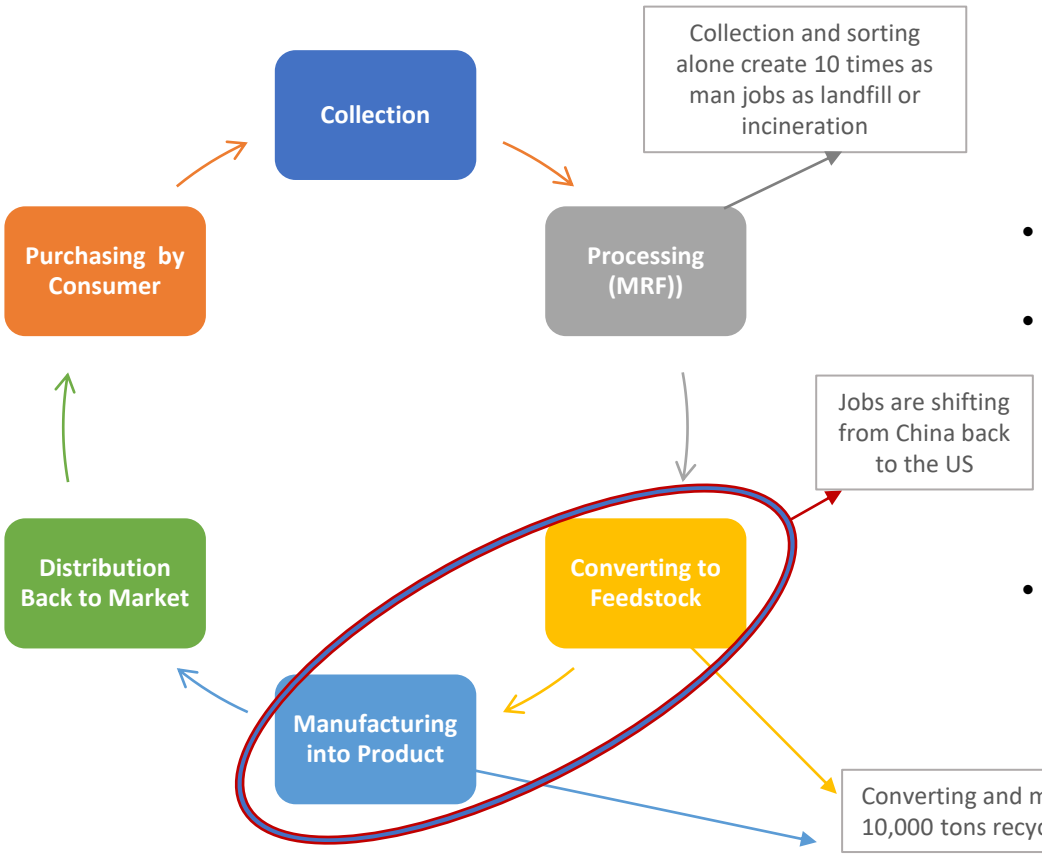
3	**FAQ's**

Frequently Asked Questions

With Recycling Prices on the Rise is it a Good Time to Implement SMART?

Is Recycling here to stay?

The recycling industry is made up of multiple sectors.

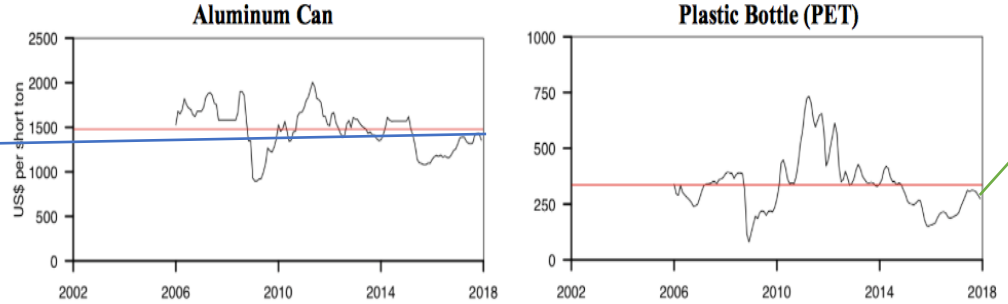


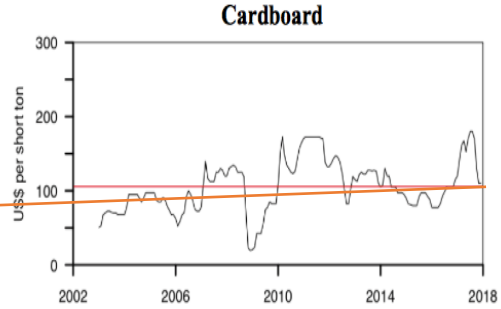
- The US Recycling Industry generates an economic impact 117 Billion annually
  - Equal to the publishing industry, dental industry and the automotive repair industry. ISRI
  - *The recycling industry has seen economic growth for the past 113 months*
- The waste industry generates an economic impact of 50 Billion dollars annually
- Based on the respective tonnages:
  - Every ton of recycling recovered from disposal yields a positive economic benefit of $801
  - Every ton of material disposed yields and economic impact of $109.
- The delta of $692, means that for every ton we dispose instead of divert there is a negative economic impact of $692.

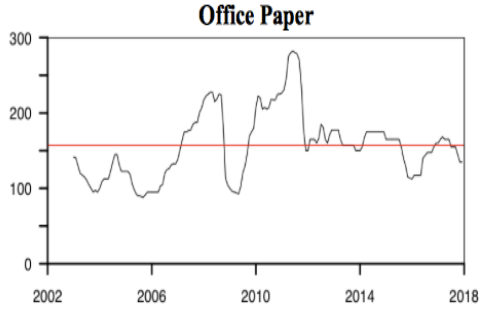
Sources ISRI, USEPA Fact and Figures, RW Beck, Environmental Research Foundation, Institute for Local Self Reliance

Why Recycle Right Now?

The US Recycling industry is valued at 117 Billion (IRSI 2018). Markets currently have not reached the low of 2008 and 2009. They are holding steady a little below the the 18-year average.







Dec 2019: 1,600/ton
April 2020: 1460/ton

Dec 2019: $200 /ton
April 2020: $220 /ton

Dec 2019: $25 /ton
April 2020 $85 / ton

Dec, 2019 $50/ ton
April 2020: $145/tom

Duke University, Forecasting the Value of Recyclable waste Streams for a Circular Economy Transition in Orlando, FL, Resource Recycling Dec 2018

As of April 1, 2020. Due to Covid 19, Waste Management and all other commodity trade associations are calling for everyone to recycle at a time when recyclable materials are needed more than ever. “Without materials collected from homes and businesses, Waste Management says its customers that produce products such as tissue, toweling and packaging boxes for groceries and medical supplies would not have the raw materials that they need to manufacture these items.” https://www.wastetodaymagazine.com/article/wm-recycling-covid-19/

Frequent Objections

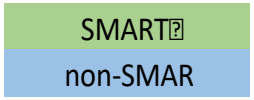
Will the Recycling will be Contaminated?

Actually, some say recycling is less contaminated in communities with unit based pricing because residents have an incentive to read the directions.

SMART Will Not Increase Recycling Contamination

Eco Maine PAYT Communities

Municipality	Population	lbs/capita
Waterville	15,722	235
Portland	66,318	265
Windam	17,001	268
Gorham	16,381	328
Sanford	20,798	340
Cumberland	7,211	370
North Yarmout	3,565	376



- 2017 ECO Maine municipalities with PAYT have 44.8% lees waste than non-PAYT communities
- Sanford Maines has less than a 5% contamination rate
- Eco Maine "After 2.5 years of extensive tracking we have seen no correlation between increased contamination and PAYT"
- 2018 - Rhode Island Resource Recovery Corp has been charging for recycling contamination for the past 3 years. To date Middletown RI the only curbside PAYT community in the state, has never even had a warning for contamination.
- Waste Management in SW Massachusetts also claims lower recycling contamination from PAYT communities.

Anticipated Objections

Does waste simply shift from the residential stream into the commercial stream–

Bob Moylan former Commissioner of Public Works Worcester MA. "Some businesses had to be careful about locking or securing their dumpsters behind fences, however most businesses had no issues. There was no noticeable increase in the overall commercial waste disposed after PAYT implementation. The City included all city facilities in the PAYT program including Police, fire etc."

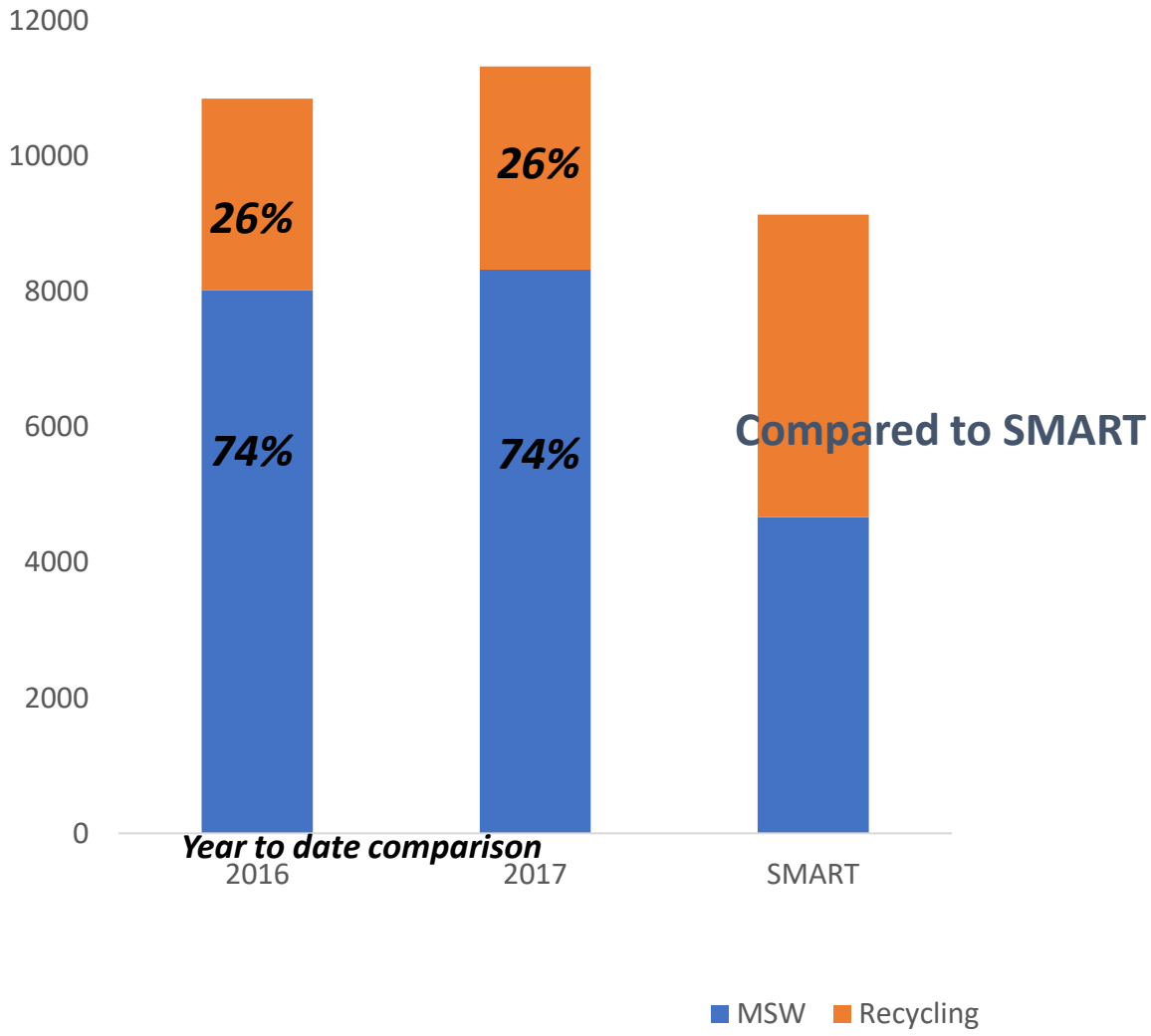
Frequent Objections

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.

SMART is the single most effective way to reduce trash while also saving money.

West Hartford Switch from Bi-weekly to Weekly Recycling



SMART: Big Impact

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 SMART Results:

80,000 tons

$7 million in disposal savings

Frequent Objections

This information does not tell the entire picture. What about programs that failed?

There are hundreds of SMART bag programs around the world.

Only a handful of programs that have been discontinued. Two are located in Connecticut. The programs were discontinued for political reasons, not because of poor results.

Case Study: East Lyme, CT

The East Lyme Selectman Decided to Discontinue the Program in 1998 for political reasons

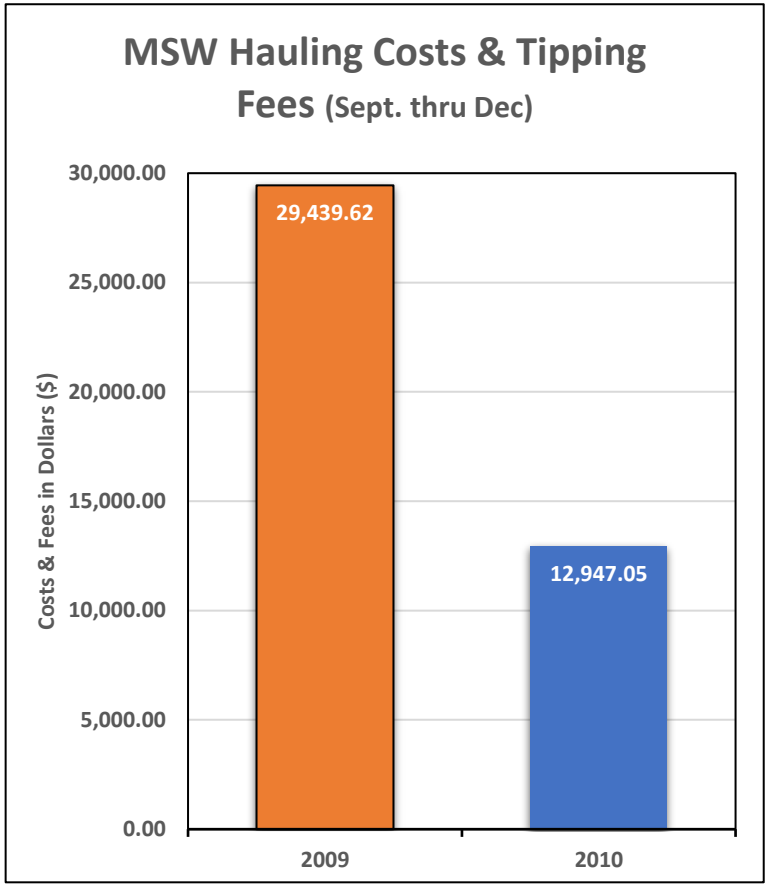
- When East Lyme's Selectman discontinued the program, trash went up from 4,571 tons (1997) to 7,179 tons (1998).
- **East Lyme's current per capita trash is 650.**
- Stonington implemented the program at the same time as East Lyme, has a similar demographic make up, and nearly the same population. **Stonington's current per capita trash is 389.**
- Stonington had a referendum and the strong majority of residents chose to keep the program.
- Stonington has saved approximately 6.5 Million dollars since the program's inception.

Case Study: Columbia CT

Columbia voted at a Town Hall Meeting to Eliminate the Program

Program Results:

- Municipal Solid Waste Decreased by 54%
- MSW Hauling Costs and tipping fees reduced by 49%
- Recycling hauling costs and tipping fees reduced by $7,481.72 in just four months
- Bag Revenue exceeded previous expectations:
  - $25,000 was budgeted for the entire 6 month trial and, only 4 months into the trial, net bag revenues exceeded this number at $28,000
- Recycling rate increased from 27% to 41%
- Despite the SWRAC recommendations, and overall program results, the town of Columbia voted to eliminate the program at a local town meeting in February 2011



Frequent Objections

My neighbors will not comply and therefore it will cost me more and not them.

Compliance from neighboring state programs, as well as Stonington, is approximately 99%.

Studies also show that there is no notable increase in illegal dumping.

How Can the Town Enforce the SMART Program?

SMART 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 SMART.

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%

Automated Collection

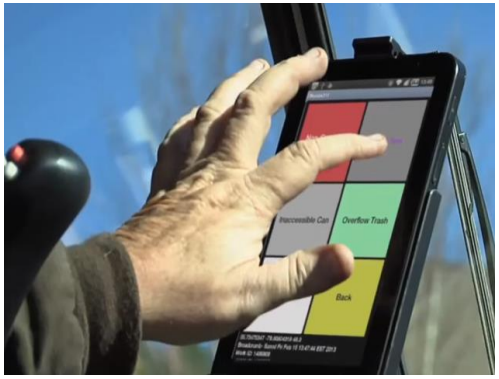
Typical Ongoing Compliance Process

See video

Official bags are placed in automated carts for collection

Trucks are equipped with video cameras mounted to the hopper
(standard on most automated trucks)

Camera clearly shows what goes into hopper – driver can easily see bags on camera inside truck



Driver pushes one button on Tablet / app (or similar solution) if non-compliant bags are spotted

Non-compliant addresses are auto-uploaded to central database so notices (or citations) can go out.

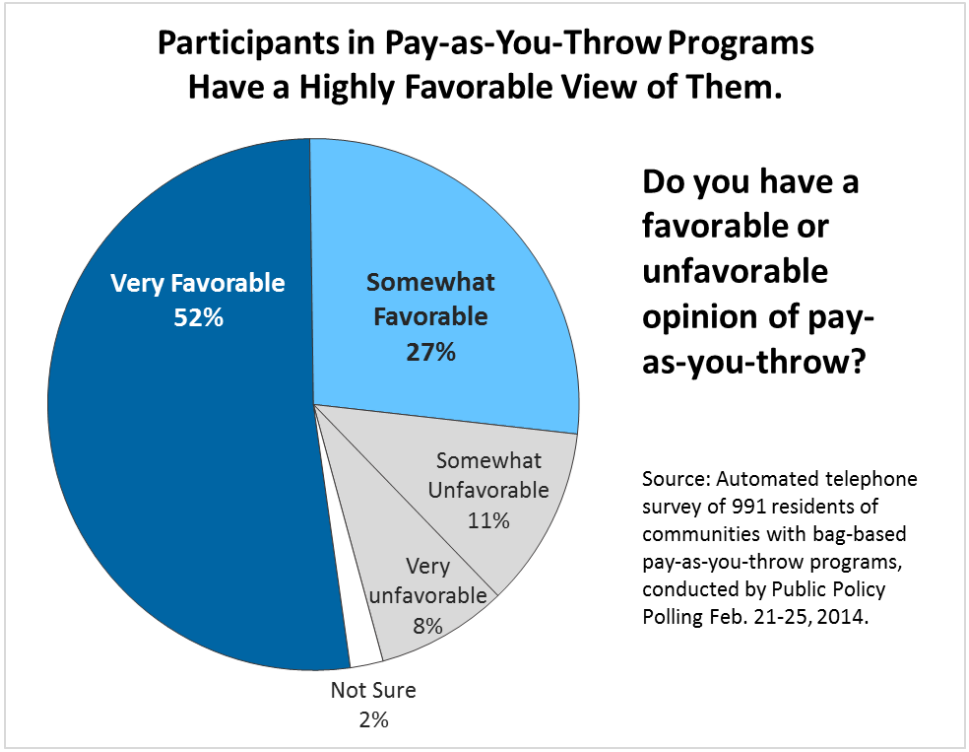
Loads can easily be spot checked during start up phase.

Frequent Objections

Residents will not like it.

Actually, residents like the program once they have given it a try.

What Residents Think About SMART



In a Public Policy Polling survey of ~1,000 PAYT participants from 10 communities, significant majorities said they are satisfied with PAYT, see it as fair and easy, and believe it is effective.

Best Practice: Mansfield

- 2020 Collection Schedule
- Collection Service Recycling
- View Trash Bill
- Pay Trash Bill
- Set Up Service - Homeowner/Landlord
- Extra Trash
- Change Trash Service Level
- Cancel/Pause/Reinstate Trash/Recycling Service
- Cart Placement Flyer
- Trash Bill Inserts
- Multi-family Trash/Recycle Service

Home › Services For Residents › Town Departments and Offices › Public Works › Trash & Recycling Homepage › Residential Trash/Recycling Collection

Residential Trash/Recycling Collection

4 Things You Need to Know:

1. Waste disposal is treated as a utility - you pay for the amount of waste you produce
2. You are not charged for most recyclables
3. Recycle and compost and you'll save money
4. You have the option to use the Town-contracted curbside service or self haul to the Mansfield transfer station. The transfer station is located at 221 Warrenville Road, Mansfield Center, CT 06250 (Driving Directions).

What do you want to do?

Homeowner/Landlord - set up trash and recycling service

Extra trash handling

Use the transfer station

Change trash service level

Cancel/pause/reinstate trash and recycling service

Multi-family owner - set up trash and recycling service

View Trash Bill

Pay Trash Bill

2020 Collection Schedule

Contact us at 860-429-3333 or waltonvd@mansfieldct.org

Best Practice: Mansfield

Mansfield offers curbside residential trash and recycling collection with variable cart sizes.

- The carts are priced so that residents choose a smaller size and are incentivized to reduce waste.
- Total of 2,549 households participate.
- Trash service includes one 64-gallon can for recycling.

Weekly Trash Service Levels	Monthly Charge	% Households
20 Gallon Can	$16.00	25%
35 Gallon Can	$22.75	39%
64 Gallon Can	$29.00	28%
96 Gallon Can	$35.75	7%
160 Gallon Can	$41.75	1%

Mansfield residents generate approximately 480 pounds per capita.

20 Gallon Trash Can, 64 Gallon Recycling Can

Best Practice: Stonington

Stonington's SMART program covers both household and commercial waste utilizing town-issued bags and dumpsters, both priced by volume.

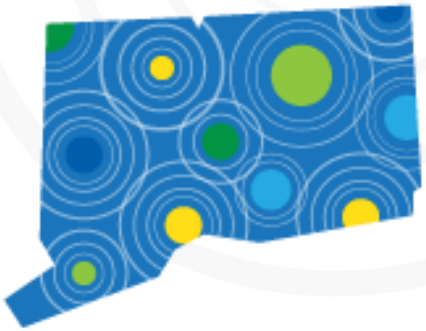
- Total of 7,442 households participate
- The unit-based fees cover approximately 98% of the solid waste program.

Results

- Stonington has achieved over **$7 million in avoided disposal costs** since program inception.
- Stonington residents generate **389 pounds per capita**.

Sustainable CT

Local Actions. Statewide Impact.®



How to Get Your Community on Board

7.5. Report Materials Management Data and Reduce Waste

Objective

What to Do

Credit for Past Action

Potential Municipal and Community Collaborators

Funding

Resources

Why This Matters

Benefits

CT Success Stories

Objective

Establish baseline municipal data by tracking and measuring (as required by state law) the amount of residential municipal solid waste generated and recycled per capita, educate and engage the public by disseminating that data, and ultimately, reduce residential solid waste.

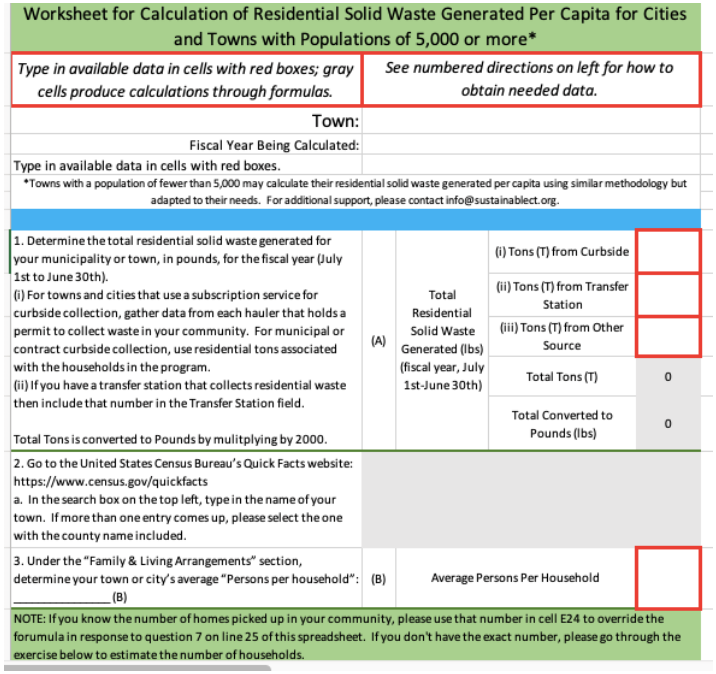
Complementary actions:

- Implement Save Money and Reduce Trash Program
- Recycle Additional Materials

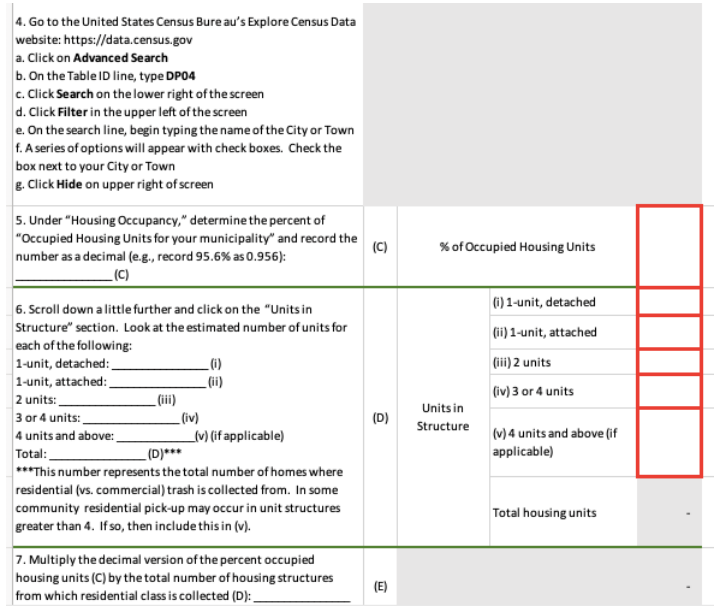
What to Do

If you collaborate with other municipalities or other stakeholders to implement this Action, please describe the partnership in the "partners" box of your submission. Please also consult this guidance document to help your municipality earn points for actions pursued in partnership. Regional collaboration and other forms of partnership are highly encouraged.

7.5. Report Materials Management Data and Reduce Waste



Worksheet for Calculation of Residential Solid Waste Generated Per Capita for Cities and Towns with Populations of 5,000 or more*				
Type in available data in cells with red boxes; gray cells produce calculations through formulas.		*See numbered directions on left for how to obtain needed data.*		
Town:				
Fiscal Year Being Calculated:				
Type in available data in cells with red boxes.				
*Towns with a population of fewer than 5,000 may calculate their residential solid waste generated per capita using similar methodology but adapted to their needs. For additional support, please contact info@sustainablect.org.				
1. Determine the total residential solid waste generated for your municipality or town, in pounds, for the fiscal year (July 1st to June 30th). (i) For towns and cities that use a subscription service for curbside collection, gather data from each hauler that holds a permit to collect waste in your community. For municipal or contract curbside collection, use residential tons associated with the households in the program. (ii) If you have a transfer station that collects residential waste then include that number in the Transfer Station field. Total Tons is converted to Pounds by mulitplying by 2000.	(A)	Total Residential Solid Waste Generated (lbs) (fiscal year, July 1st-June 30th)	(i) Tons (T) from Curbside	
			(ii) Tons (T) from Transfer Station	
			(iii) Tons (T) from Other Source	
			Total Tons (T)	0
			Total Converted to Pounds (lbs)	0
2. Go to the United States Census Bureau's Quick Facts website: https://www.census.gov/quickfacts a. In the search box on the top left, type in the name of your town. If more than one entry comes up, please select the one with the county name included.				
3. Under the "Family & Living Arrangements" section, determine your town or city's average "Persons per household": _____ (B)	(B)	Average Persons Per Household		
NOTE: If you know the number of homes picked up in your community, please use that number in cell E24 to override the forumula in response to question 7 on line 25 of this spreadsheet. If you don't have the exact number, please go through the exercise below to estimate the number of households.				



4. Go to the United States Census Bure au's Explore Census Data website: https://data.census.gov a. Click on **Advanced Search** b. On the Table ID line, type **DP04** c. Click **Search** on the lower right of the screen d. Click **Filter** in the upper left of the screen e. On the search line, begin typing the name of the City or Town f. A series of options will appear with check boxes. Check the box next to your City or Town g. Click **Hide** on upper right of screen				
5. Under "Housing Occupancy," determine the percent of "Occupied Housing Units for your municipality" and record the number as a decimal (e.g., record 95.6% as 0.956): _____ (C)	(C)	% of Occupied Housing Units		
6. Scroll down a little further and click on the "Units in Structure" section. Look at the estimated number of units for each of the following: 1-unit, detached: _____ (i) 1-unit, attached: _____ (ii) 2 units: _____ (iii) 3 or 4 units: _____ (iv) 4 units and above: _____ (v) (if applicable) Total: _____ (D)*** ***This number represents the total number of homes where residential (vs. commercial) trash is collected from. In some community residential pick-up may occur in unit structures greater than 4. If so, then include this in (v).	(D)	Units in Structure	(i) 1-unit, detached	
			(ii) 1-unit, attached	
			(iii) 2 units	
			(iv) 3 or 4 units	
			(v) 4 units and above (if applicable)	
			Total housing units	-
7. Multiply the decimal version of the percent occupied housing units (C) by the total number of housing structures from which residential class is collected (D): _____	(E)			-

7.5. Report Materials Management Data and Reduce Waste

Objective

What to Do

Credit for Past Action

Potential Municipal and Community Collaborators

Funding

Resources

Why This Matters

Benefits

CT Success Stories

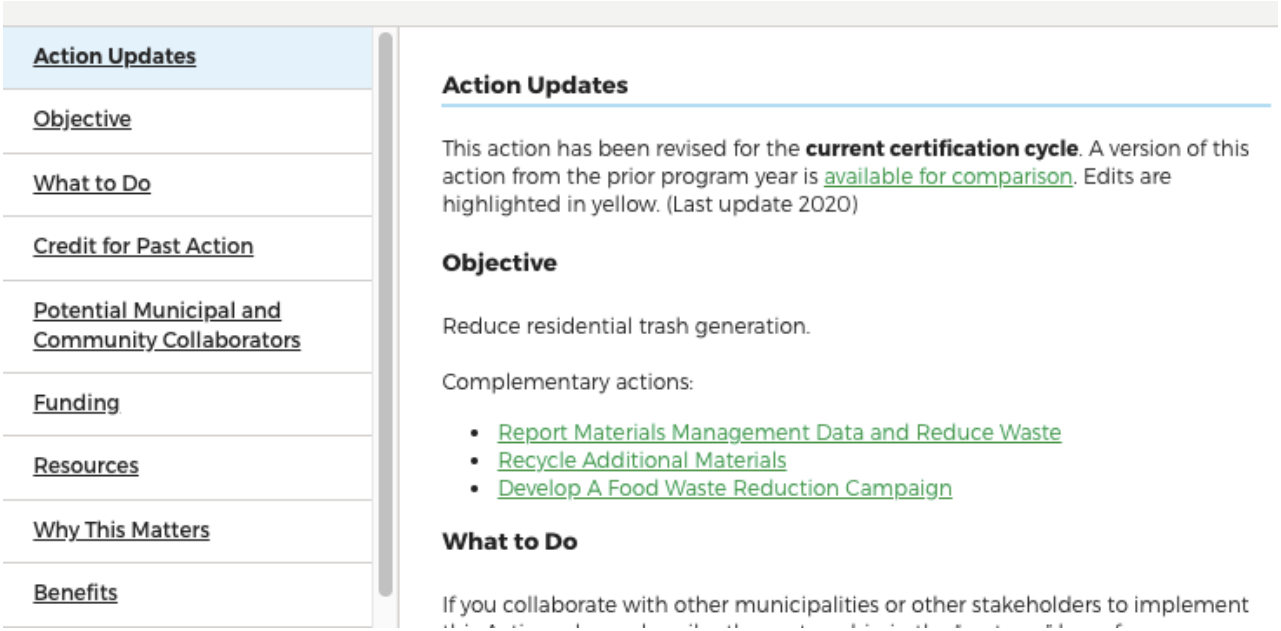
2. Reduce residential solid waste generation per capita by at least 10%, compared to a baseline year within the past 5 years. Establish or identify a baseline year of data for residential municipal solid waste generation per capita. Using data from the most recent fiscal year at the time of submission, calculate the percent change of residential municipal solid waste generation per capita from the established baseline. A 10%+ reduction in municipal solid waste generation per capita earns 10 points; a 20%+ reduction earns 20 points; a 30%+ reduction earns 30 points; a 40%+ reduction earns 40 points, and a 50%+ reduction earns 50 points. **(10-50 points)**

   Submit: A report of your community's residential solid waste generation per capita for the baseline year, for the most recent complete fiscal year at the time of submission, and the percent change between the two reported numbers.

Credit for Past Action

For spring certification, count back from February 1st of the current year. For fall certification, count back from August 1st of the current year. For further clarification on determining if your prior work is eligible to earn points, click here.

7.6. Implement Save Money and Reduce Trash (SMART) Program



SMART Implementation Checklist

CT DEEP's SMART Implementation Checklist

Sustainable CT's Action 7.6 Implement Save Money and Reduce Trash (SMART) Program can earn your municipality a range of 5-30 points, and an additional 5 points for Action 7.5.1 Report Materials Management Data and Reduce Waste. Please see below for DEEP's recommended process for implementing a SMART program, correlating with each step under Actions 7.5 and 7.6.

Checklist	SustainableCT Resources
☐ Join Sustainable CT. If your municipality is not already part of Sustainable CT, joining could help build community support for the SMART initiative. Additionally, the municipal effort towards implementing a SMART program would earn points toward Sustainable CT certification.	Learn more about joining Sustainable CT.
☐ Calculate your municipality's per capita solid waste disposal. It's important to know how your municipality is doing with respect to waste generation. Whether you are part of Sustainable CT or not, you can follow Action 7.5 Report Materials Management Data and Reduce Waste to determine the average number pounds per capita of residential trash generated in your community. This will show how your municipality is doing compared to peer CT communities and to SMART communities in the region.	Earn 5 points for completing the worksheet for Sustainable CT Action 7.5.1.
☐ Create or designate a task force to lead the SMART initiative. It's important to designate a person, agency, or committee to analyze SMART and make an official recommendation to your Council, Select Board, or Board of Aldermen. The process could be in phases if you choose. For example, Phase 1 could involve vetting the concept and making a recommendation to apply for grant or budget funds to hire a professional to design a SMART program. Phase 2 could include the final program design and official recommendation. **Make sure that you have support from the Department of Public Works and or at least one elected official before convening the task force**. SMART programs can be politically controversial and this initial support is crucial to moving	Earn 5 points for completing this step under Sustainable CT Action 7.6.1. Review Sustainable CT Action 7.6 for SMART Taskforce

SMART Implementation Checklist

☐ Conduct an analysis to begin building a case for SMART.

Divide up the following tasks among task force members. For example, if you have someone with a finance or accounting background, then put them in charge of the financial analysis and projections.

Earn 5 points for completing all steps under Sustainable CT Action 7.6.2.

a. Analyze your current situation

Gather and assess information on your municipality's current solid waste situation. This includes collection methods, hauler requirements, budget information, annual solid waste and recycling tonnages, tipping fees, contract expiration dates, the distance municipal waste is being hauled, and the cost structure for collection.

b. Calculate projected savings of SMART program.

Calculate the projected impacts on waste and recycling tonnage, as well as the cost savings or new municipal revenue you would realize as a result of implementing a SMART program. Check with DEEP to verify projections from the analysis.

c. Research other SMART communities

Research how other communities have implemented SMART, including at least one visit to a SMART community. Check with DEEP for a list of communities and contact names with whom committee members may have phone conversations. It's important that committee members have these conversations, as they will provide direct insights from people that have been through this process. The conversations will help committee members gain confidence in the program.

Research Other Waste Reduction Programs

Stakeholders many think there is something else that can be done to reduce waste just as much as SMART. However, hundreds of communities' data shows that SMART is the single most effective means of reducing residential trash. Using residential solid waste generation per capita as a benchmark, compare SMART to other waste reduction strategies. Research the results from education campaigns or rewards programs. See the FAQ document created by DEEP. You can also check with DEEP if you need more information on the effectiveness of any other programs that you may find.

d. Educate elected officials.

Educate all elected officials in small groups (not a forum) to explore internal support for SMART.

SMART Implementation Checklist

☐ Create a plan. After engaging with elected officials and gathering all the appropriate information, develop a high-level plan for SMART. Reach out to DEEP for assistance in fine tuning the plan, including considering best management practices, so that it is ready for recommendation to Council / Selectmen or Aldermen.	Review Sustainable CT Action 7.6 for SMART criteria.
☐ Engage with key stakeholders. Educate key stakeholders on the need to reduce waste and SMART, as well as gather their input. These stakeholders might include municipal boards (such as the Board of Finance, Board of Public Works, etc.), local environmental groups, senior citizen groups, or key commissions. It's important to get statements of support in writing to go with the final recommendation. Urge group members to speak positively about the concept if approached by friends or neighbors.	
☐ Issue a formal recommendation on SMART or a one-year SMART pilot. Issue a formal recommendation regarding SMART to your municipality's governing body.	
☐ Adopt SMART. By municipal resolution, ordinance, or another implementation mechanism, adopt a SMART program.	Earn 20 points for completing this step under Sustainable CT Action 7.6.3.

Per Capita Disposal Calculation

Action Item: Earns 5 points

Worksheet for Calculation of Residential Solid Waste Generated PeA1:E27				
Type in available data in cells with red boxes; gray cells produce calculations through formulas.	*See numbered directions on left for how to obtain needed data.*			
Town:				
Fiscal Year Being Calculated:				
Type in available data in cells with red boxes.				
1. Determine the total residential solid waste generated for your municipality or town, in pounds, for the fiscal year (July 1st to June 30th). (i) For towns and cities that use a subscription service for curbside collection, gather data from each hauler that holds a permit to collect waste in your community. For municipal or contract curbside collection, use residential tons associated with the households in the program. (ii) If you have a transfer station that collects residential waste then include that number in the Transfer Station field. Total Tons is converted to Pounds by mulitplying by 2000.	(A)	Total Residential Solid Waste Generated (lbs) (fiscal year, July 1st-June 30th)	(i) Tons (T) from Curbside	
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			(iii) Tons (T) from Other Source	
			Total Tons (T)	0
			Total Converted to Pounds (lbs)	0
2. Go to the United States Census Bureau's Quick Facts website: https://www.census.gov/quickfacts a. In the search box on the top left, type in the name of your town. If more than one entry comes up, please select the one with the county name included.				
3. Under the "Family & Living Arrangements" section, determine your town or city's average "Persons per household": _____ (B)	(B)	Average Persons Per Household		
NOTE: If you know the number of homes picked up in your community, please use that number in cell E24 to override the forumula in response to question 7 on line 25 of this spreadsheet. If you don't have the exact number, please go through the exercise below to estimate the number of households.				
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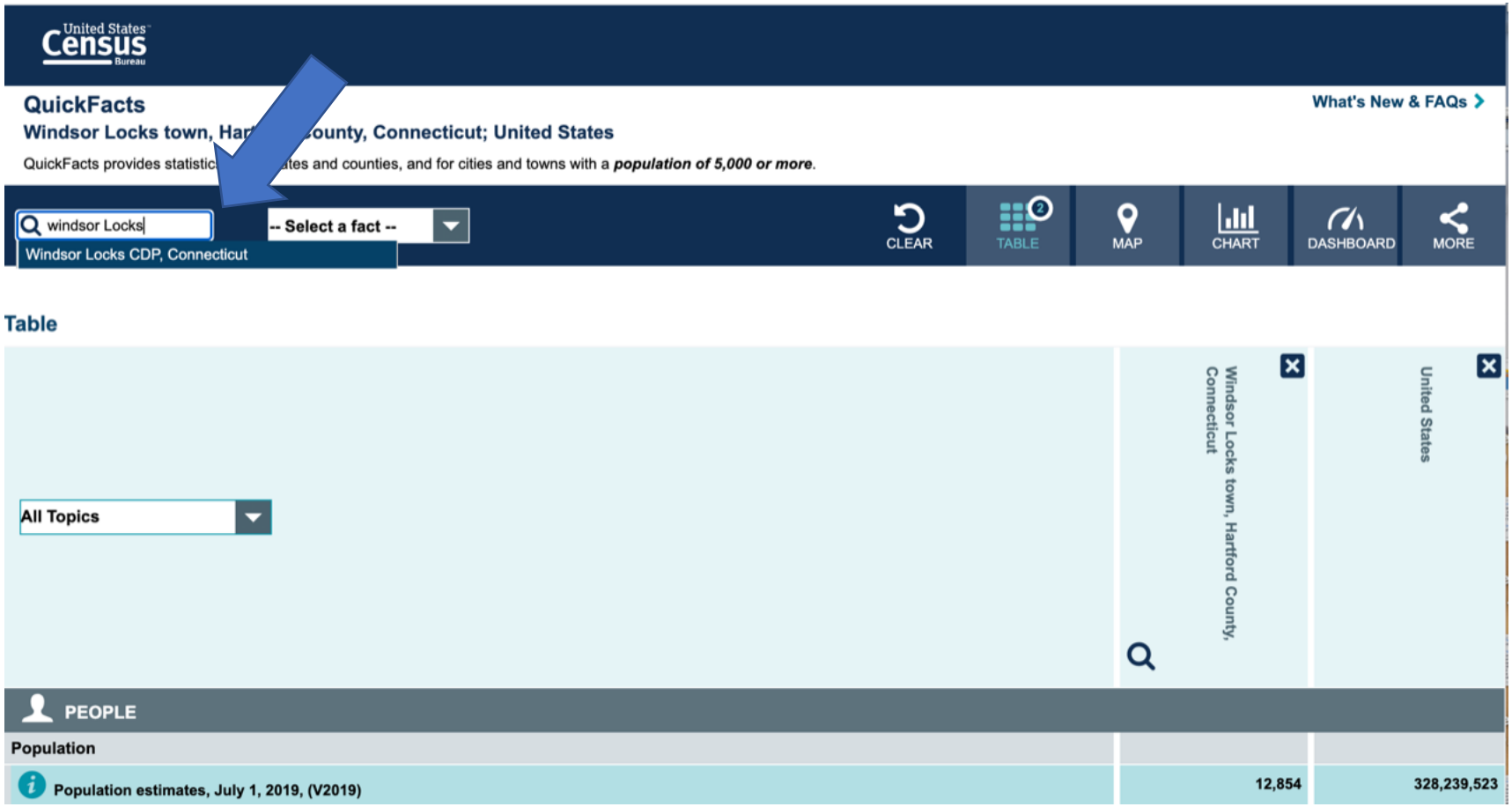
5. Under "Housing Occupancy," determine the percent of "Occupied Housing Units for your municipality" and record the number as a decimal (e.g., record 95.6% as 0.956): _____ (C)	(C)	% of Occupied Housing Units		
6. Scroll down a little further and click on the "Units in Structure" section. Look at the estimated number of units for each of the following: 1-unit, detached: _____ (i) 1-unit, attached: _____ (ii) 2 units: _____ (iii) 3 or 4 units: _____ (iv) 4 units and above: _____ (v) (if applicable) Total: _____ (D)*** ***This number represents the total number of homes where residential (vs. commercial) trash is collected from. In some community residential pick-up may occur in unit structures greater than 4. If so, then include this in (v).	(D)	Units in Structure	(i) 1-unit, detached	
			(ii) 1-unit, attached	
			(iii) 2 units	
			(iv) 3 or 4 units	
			(v) 4 units and above (if applicable)	
			Total housing units	
7. Multiply the decimal version of the percent occupied housing units (C) by the total number of housing structures from which residential class is collected (D): _____ (E)	(E)			-
8. Multiply that number (E) by the average persons per household (B): _____ (F)	(F)			-
9. Divide the waste total (A) by the number in (F).	**Residential Solid Waste Generated Per Capita Per Year (in pounds)**			-

Worksheet for Calculation of Residential Solid Waste Generated Per Capita for Cities and Towns with Populations of 5,000 or more*

Type in available data in cells with red boxes; gray cells produce calculations through formulas.	*See numbered directions on left for how to obtain needed data.*
Town:	Windsor Locks
Fiscal Year Being Calculated:	2019/2020
Type in available data in cells with red boxes.	

1. Determine the total residential solid waste generated for your municipality or town, in pounds, for the fiscal year (July 1st to June 30th). (i) For towns and cities that use a subscription service for curbside collection, gather data from each hauler that holds a permit to collect waste in your community. For municipal or contract curbside collection, use residential tons associated with the households in the program. (ii) If you have a transfer station that collects residential waste then include that number in the Transfer Station field. Total Tons is converted to Pounds by mulitplying by 2000.	(A)	Total Residential Solid Waste Generated (lbs) (fiscal year, July 1st-June 30th)	(i) Tons (T) from Curbside	5,014
			(ii) Tons (T) from Transfer Station	
			(iii) Tons (T) from Other Source	
			Total Tons (T)	5,014
			Total Converted to Pounds (lbs)	10,028,000
2. Go to the United States Census Bureau's Quick Facts website: https://www.census.gov/quickfacts a. In the search box on the top left, type in the name of your town. If more than one entry comes up, please select the one with the county name included.				
3. Under the "Family & Living Arrangements" section, determine your town or city's average "Persons per household": _____ (B)	(B)	Average Persons Per Household		


United States Census Bureau
QuickFacts
What's New & FAQs
Windsor Locks town, Har ounty, Connecticut; United States
QuickFacts provides statistic tes and counties, and for cities and towns with a population of 5,000 or more.
windsor Locks
Windsor Locks CDP, Connecticut
-- Select a fact --
CLEAR
TABLE
MAP
CHART
DASHBOARD
MORE
Table
All Topics
Windsor Locks town, Hartford County, Connecticut
United States
PEOPLE
Population
Population estimates, July 1, 2019, (V2019)
12,854
328,239,523

Families & Living Arrangements		
Households, 2014-2018	5,253	119,730,12
Persons per household, 2014-2018	2.39	2.63
Living in same house 1 year ago, percent of persons age 1 year+, 2014-2018	88.3%	85.5%
Language other than English spoken at home, percent of persons age 5 years+, 2014-2018	10.9%	21.5%
Computer and Internet Use		
Households with a computer, percent, 2014-2018	86.9%	88.8%
Households with a broadband Internet subscription, percent, 2014-2018	78.9%	80.4%
Education		
High school graduate or higher, percent of persons age 25 years+, 2014-2018	91.8%	87.7%
Bachelor's degree or higher, percent of persons age 25 years+, 2014-2018	24.0%	31.5%

Worksheet for Calculation of Residential Solid Waste Generated Per Capita for Cities and Towns with Populations of 5,000 or more*

Type in available data in cells with red boxes; gray cells produce calculations through formulas.	*See numbered directions on left for how to obtain needed data.*
Town:	Windsor Locks
Fiscal Year Being Calculated:	2019/2020
Type in available data in cells with red boxes.	

1. Determine the total residential solid waste generated for your municipality or town, in pounds, for the fiscal year (July 1st to June 30th). (i) For towns and cities that use a subscription service for curbside collection, gather data from each hauler that holds a permit to collect waste in your community. For municipal or contract curbside collection, use residential tons associated with the households in the program. (ii) If you have a transfer station that collects residential waste then include that number in the Transfer Station field. Total Tons is converted to Pounds by mulitplying by 2000.	(A)	Total Residential Solid Waste Generated (lbs) (fiscal year, July 1st-June 30th)	(i) Tons (T) from Curbside	5,014
			(ii) Tons (T) from Transfer Station	
			(iii) Tons (T) from Other Source	
			Total Tons (T)	5,014
			Total Converted to Pounds (lbs)	10,028,000
2. Go to the United States Census Bureau's Quick Facts website: https://www.census.gov/quickfacts a. In the search box on the top left, type in the name of your town. If more than one entry comes up, please select the one with the county name included.				
3. Under the "Family & Living Arrangements" section, determine your town or city's average "Persons per household": _____ (B)	(B)	Average Persons Per Household		2.63

NOTE: If you know the number of homes picked up in your community, please use that number in cell E25 to override the forumula in response to question 7 on line 25 of this spreadsheet. If you don't have the exact number, please go through the exercise below to estimate the number of households.				
4. Go to the United States Census Bure au's Explore Census Data website: https://data.census.gov a. Click on **Advanced Search** b. On the Table ID line, type **DP04** c. Click **Search** on the lower right of the screen d. Click **Filter** in the upper left of the screen e. On the search line, begin typing the name of the City or Town f. A series of options will appear with check boxes. Check the box next to your City or Town g. Click **Hide** on upper right of screen				
5. Under "Housing Occupancy," determine the percent of "Occupied Housing Units for your municipality" and record the number as a decimal (e.g., record 95.6% as 0.956): _____ (C)	(C)	% of Occupied Housing Units		
6. Scroll down a little further and click on the "Units in Structure" section. Look at the estimated number of units for each of the following: 1-unit, detached: _____ (i) 1-unit, attached: _____ (ii) 2 units: _____ (iii) 3 or 4 units: _____ (iv) 4 units and above: _____ (v) (if applicable) Total: _____ (D)*** ***This number represents the total number of homes where residential (vs. commercial) trash is collected from. In some community residential pick-up may occur in unit structures greater than 4. If so, then include this in (v).	(D)	Units in Structure	(i) 1-unit, detached	
			(ii) 1-unit, attached	
			(iii) 2 units	
			(iv) 3 or 4 units	
			(v) 4 units and above (if applicable)	
			Total housing units	-
7. Multiply the decimal version of the percent occupied housing units (C) by the total number of housing structures from which residential class is collected (D): _____ (E)	(E)			5,316
8. Multiply that number (E) by the average persons per household (B): _____ (F)	(F)			13,077
9. Divide the waste total (A) by the number in (F).	**Residential Solid Waste Generated Per Capita Per Year (in pounds)**			**766.82**

NOTE: If you know the number of homes picked up in your community, please use that number in cell E25 to override the forumula in response to question 7 on line 25 of this spreadsheet. If you don't have the exact number, please go through the exercise below to estimate the number of households.				
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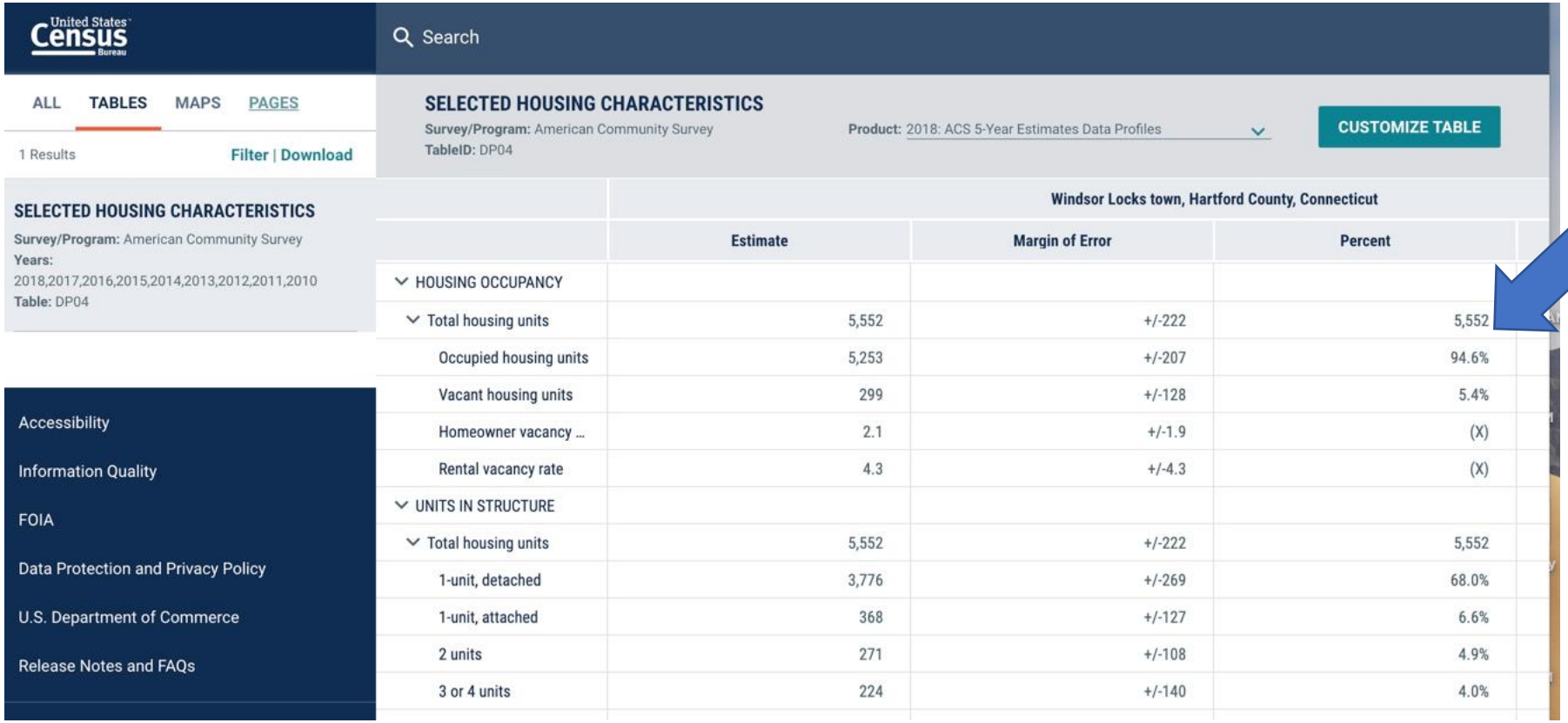

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Years: 2018,2017,2016,2015,2014,2013,2012,2011,2010
Table: DP04

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SELECTED HOUSING CHARACTERISTICS

Survey/Program: American Community Survey
TableID: DP04

Product: 2018: ACS 5-Year Estimates Data Profiles

CUSTOMIZE TABLE

	Windsor Locks town, Hartford County, Connecticut		
	Estimate	Margin of Error	Percent
HOUSING OCCUPANCY			
Total housing units	5,552	+/-222	5,552
Occupied housing units	5,253	+/-207	94.6%
Vacant housing units	299	+/-128	5.4%
Homeowner vacancy ...	2.1	+/-1.9	(X)
Rental vacancy rate	4.3	+/-4.3	(X)
UNITS IN STRUCTURE			
Total housing units	5,552	+/-222	5,552
1-unit, detached	3,776	+/-269	68.0%
1-unit, attached	368	+/-127	6.6%
2 units	271	+/-108	4.9%
3 or 4 units	224	+/-140	4.0%

NOTE: If you know the number of homes picked up in your community, please use that number in cell E24 to override the forumula in response to question 7 on line 25 of this spreadsheet. If you don't have the exact number, please go through the exercise below to estimate the number of households.				
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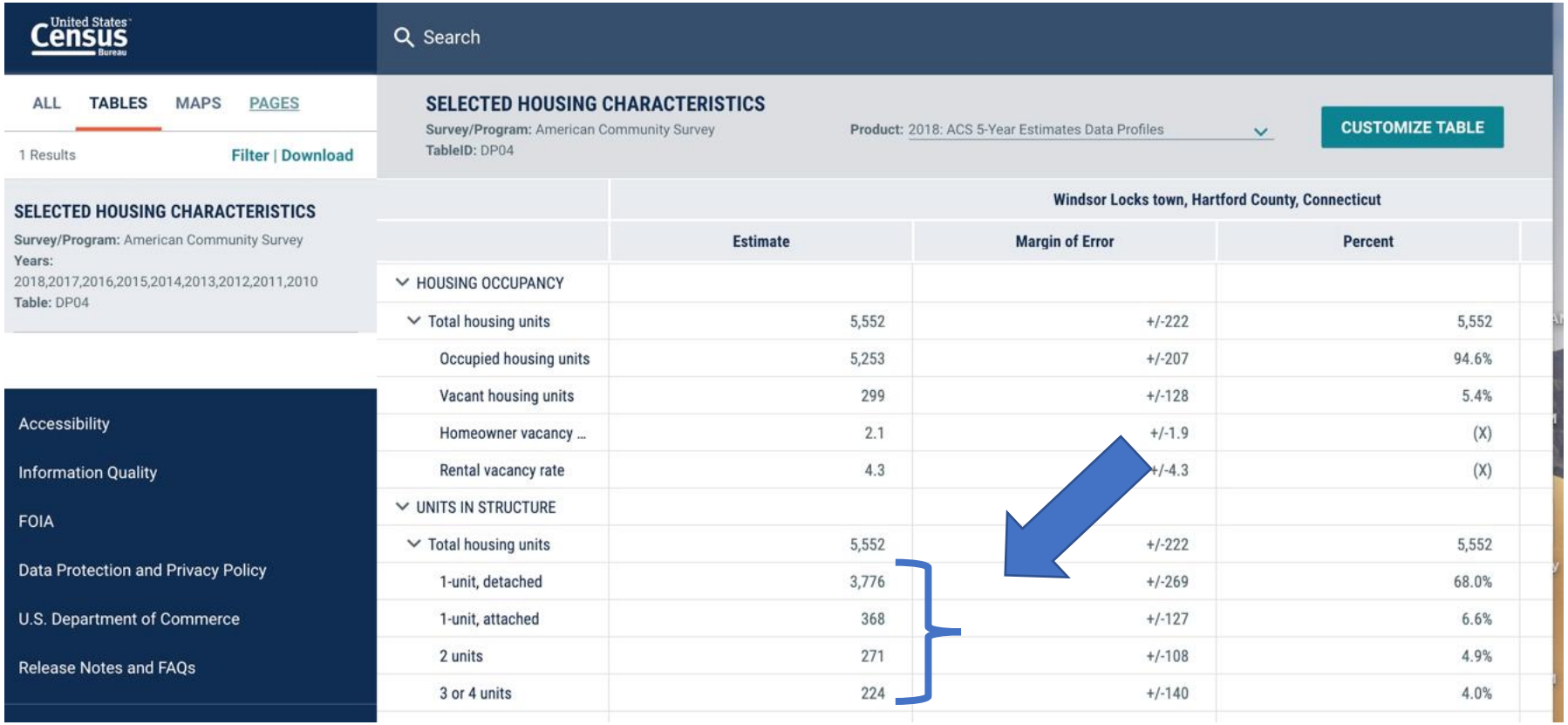
5. Under "Housing Occupancy," determine the percent of "Occupied Housing Units for your municipality" and record the number as a decimal (e.g., record 95.6% as 0.956): _____ (C)	(C)	% of Occupied Housing Units		94.60%
6. Scroll down a little further and click on the "Units in Structure" section. Look at the estimated number of units for each of the following: 1-unit, detached: _____ (i) 1-unit, attached: _____ (ii) 2 units: _____ (iii) 3 or 4 units: _____ (iv) 4 units and above: _____ (v) (if applicable) Total: _____ (D)*** ***This number represents the total number of homes where residential (vs. commercial) trash is collected from. In some community residential pick-up may occur in unit structures greater than 4. If so, then include this in (v).	(D)	Units in Structure	(i) 1-unit, detached	3,776
			(ii) 1-unit, attached	368
			(iii) 2 units	271
			(iv) 3 or 4 units	224
			(v) 4 units and above (if applicable)	
			Total housing units	4,639
7. Multiply the decimal version of the percent occupied housing units (C) by the total number of housing structures from which residential class is collected (D): _____ (E)	(E)			4,388
8. Multiply that number (E) by the average persons per household (B): _____ (F)	(F)			10,796
9. Divide the waste total (A) by the number in (F).	**Residential Solid Waste Generated Per Capita Per Year (in pounds)**			**928.89**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