

# Save Money and Reduce Trash Through Unit Based Pricing

Sponsored by:  
MA RECYCLING CHALLENGE  
MassDEP

Presented by:  
DSM Environmental Services  
[www.dsmenvironmental.com](http://www.dsmenvironmental.com)  
(802) 674-2840

# DSM Experience

- DSM incorporated in 1988 to serve state and local government.
- Concentrate on economic and environmental accounting for public and private sector clients throughout the US and internationally.
  - Large Cities – Boston, New York, Columbus, Hartford, Knoxville
  - Medium Cities and Towns - Concord, NH, Middletown RI
  - Small Towns – Oxford County (Maine), Hartford, VT
  - States – RI, DE, VT, MA, CT, VT, OH
  - Internationally - 16 countries around the globe
- Specialties include:
  - Refuse and recycling collection system analysis to reduce costs
  - Program budgeting and user fee system development, including implementation assistance
  - Waste and recyclables sorting
- Currently working with Middletown and Newport, RI, Old Lyme, CT and throughout CT on SMART, and on MA Recycling Challenge
  - Helped Concord, NH implement unit based pricing
  - Recently completed a study for Boston of the potential to implement SMART

# Type of SMART Programs Available



# SMART Solid Waste Programs

- Terminology:
  - For some, Pay-As-You-Throw (PAYT) is a four letter word. Instead:
    - Unit-Based Pricing
    - Variable Rate Pricing
    - Volume or User Based Pricing
    - “Green bag” program/ “Cart” program
  - Re-Branded *Save Money And Reduce Trash (SMART)* in MA and EPA
- Why Get SMART?
  - Remove costs of solid waste and recycling from municipal budgets and property taxes
  - Charge in a more equitable way for waste collection and disposal
  - Increase recycling and yard waste diversion
  - Encourage waste reduction and reuse

# Examples of Reductions in Refuse

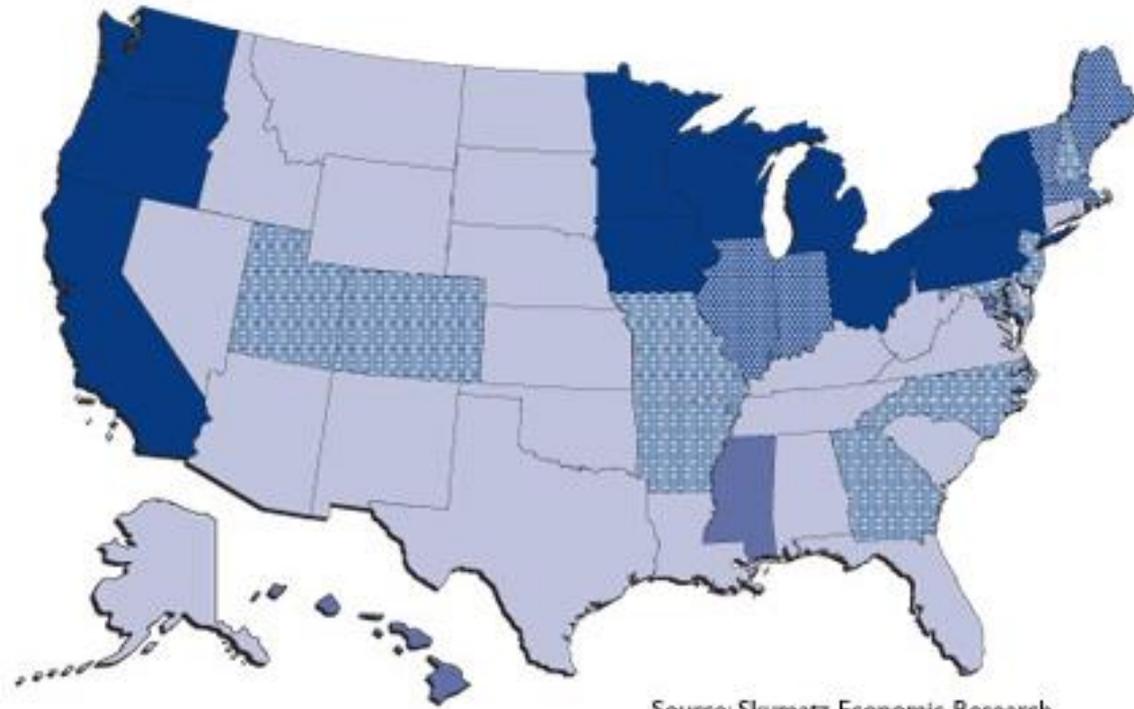
Town	Program Type	UBP Started	Decrease in Refuse	Cost Savings
Cohasset, MA	Drop-off	2001	25%	\$100,000/1 <sup>st</sup> yr
Duxbury, MA	Drop-off	2008	48%	\$240,000/yr
Sandwich, MA	Drop-off	2011	42%	\$120,000/1 <sup>st</sup> yr
Wrentham, MA	Curbside	2004	33%	
Attleboro, MA	Curbside	2005	43%	
Dartmouth, MA	Curbside	2007	51%	

# SMART Uses Economic Signals to Achieve Waste Reduction (Recycling)

- Increased Recycling and Composting
- Individual behavior changes
  - Purchase less or in bulk
  - Purchase products with less packaging
  - Purchase products that can be reused or recycled and composted
- More reuse
  - Reuse or donate textiles, appliances, furniture, and other materials
- And can mean less trash from neighboring towns

# How Widespread are SMART Programs?

*Over 7,500 municipalities in US*

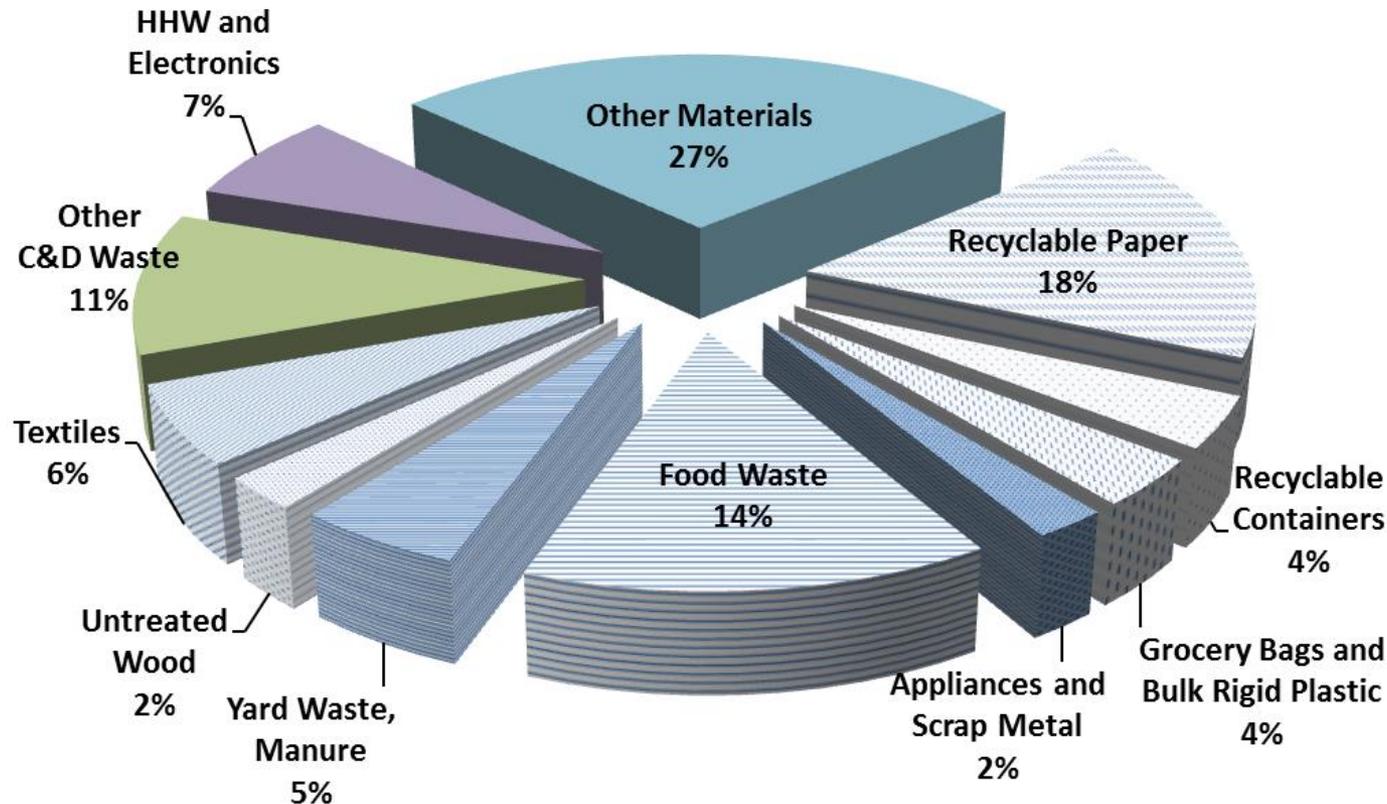


Source: Skumatz Economic Research Associates, Inc. surveys 2005-2006.

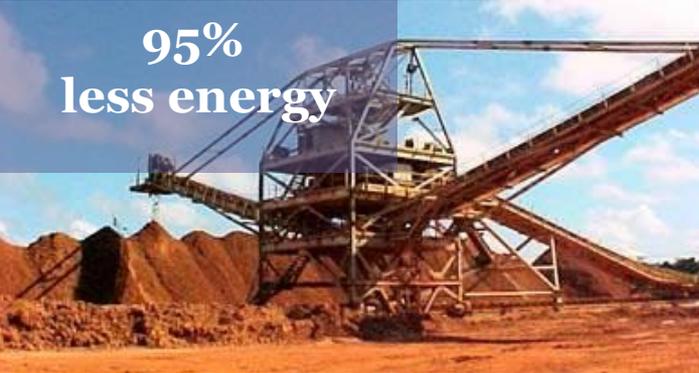


# Why is it Unit Based Pricing Important?

- Over half of refuse going to SEMASS could be recycled or composted (2011 Waste Characterization)
- SMART programs are one of the best known ways to increase recycling



# Why UBP: *Recycling has Environmental Value!*



- Saving **Natural Resources**
- Saving **Energy**
- Reducing **Greenhouse Gases**



Sources: Northeast Recycling Council (NERC)  
Environmental Paper Network

# SMART Curbside Options

- Bags
- Minimum level of service
- Carts
- Bag inside carts
- Bulky wastes

# Bags



- Vast majority of SMART programs in MA use bags
  - MA DEP recommends bags to make program consistent
- All refuse must be in municipal printed bag
- Bag company will print bags and can arrange for warehousing/distribution to retailers and payment to municipality
- Bags can be specified in 45, 32, 15 or even 8 gallons:
  - Typically sold in sleeves of 5 or 10 at most area retailers who carry them at no extra cost
- Bag prices established by the municipality run from \$0.75 to as much as \$4+ per bag depending on costs covered

# Bag Issues

## Pros

- Most people use plastic garbage bags – PAYT bags can be substituted
- Easily identifiable by collection contractor on the street based on color
- Bag thickness and size make it a more equitable system
- Different costs for different sized bags
- Typically obtainable at many retail locations
- Distribution and payment logistics handled by third party

## Cons

- More plastic waste
- Full bags stored outside are a target for dogs and raccoons
- Retailers may have to keep them behind the counter due to value
- Cost for sleeve of bags can be high for very low income HH's

# If Worcester Can Do It, Anyone Can!

- Worcester implemented a SMART bag program 20 years ago
  - Significant low income population
  - Highly transient student population
- Does not cover the full cost of collection and disposal
  - Bags are priced at 75 cents for 15 gallon and \$1.50 for 32 gallon bags
- A drive down any street in Worcester on refuse and recycling day yields primarily single yellow bags with recyclables in bins next to almost every bag
  - Virtually no non-PAYT bags are evident

# Minimum Level of Service

- Typically one free 32 gallon garbage can at no cost with any additional refuse in a PAYT bag
- Brockton implemented this program roughly 15 years ago
- The incentive to reduce and recycle is not as great as a requirement that all waste be in PAYT bags
  - But it can be a good way to begin a SMART program if there is opposition to user based pricing

# One issue with minimum service: *How many households? (Snowconing)*



# Bag and Cart Program

- Middletown, RI (Large summer population)
  - 64 gallon cart for refuse provided at no cost by municipality
  - But must place all refuse in PAYT bags inside cart
    - PAYT bags can be purchased at most retail locations in Middletown
  - 64 gallon cart for recycling
  - Yard waste collected in yard waste bags on designated weeks
- Middletown is a Hybrid System
  - Flat fee billed to all households who choose to be on system (Seasonal residents can pay for 1/2 year)
  - PAYT bags at \$2.50 per bag

# Cart Systems

- Rolling carts are being introduced across the country primarily to increase collection efficiency, reduce worker injuries, and provide additional room for bulky recyclables
- SMART cart programs come in many shapes:
  - Annual charge for cart is based on the cart size selected by households
  - PAYT bags inside cart
  - First cart free – but only small cart – 32 gallon with all other waste in PAYT bag



# Barriers to Implementation

# Potential Barriers

- Implementation of SMART viewed by households as “just another tax”
- Fear of the negative impact on low income, elderly and large family households
- Worries about illegal dumping
- Political risk to officer holders of voting in favor of SMART programs

# Solutions: *Just Another Tax*

- Solid waste disposal is really just another utility – why shouldn't it be priced like any other utility (electricity, water)
- Businesses in a municipality often subsidize household refuse collection and disposal, but don't receive the benefit. SMART programs reduce taxes on businesses – many of them local
- Municipal budgets under a great deal of strain due to health, education, pension, and infrastructure needs – refuse collection is a logical service to take off of the property tax
- Is it really worth continuing to expend scarce public funds on a utility with relatively low costs per household but with high cumulative costs?

# Solutions: *Low Income, Elderly or Large Family Households*

- Provision of small bags/carts and “free” recycling and yard waste removal can address this issue
- Worcester and Brockton have successfully addressed this issue for over 20 years
- As a utility, it is possible to structure SMART programs so that those households who truly need assistance can receive assistance
- Large households can recycle more, and if low income, can be subsidized
- Can set lower bag fees and higher sticker (use) fees
- Let's dispel the myth of huge annual costs:
  - A typical household generates about one 32 gallon can of garbage per week – even a large household with small children will generate no more than an average of 2, 32 gallon bags per week.
  - At \$2.00 per bag, costs are \$4.00 per week, \$16 per month, or \$192 per year. Given that over 1/2 of the household garbage is recyclable or compostable, a household worried about cost could reduce their annual cost to less than \$100 per year, or \$1.92 per week.

# Bulky Waste

- One of the largest impacts on low income households associated with SMART programs is the cost of bulky waste disposal (mattresses, couches)
- Bulky waste amnesty days can be implemented that give low income households an opportunity during the year to dispose of bulky waste through a taxpayer financed program
  - Middletown, RI holds two bulky waste amnesty days per year at the municipal beach parking lot

# Solutions: *Illegal Dumping*

- This issue is often raised but is rarely cited by successful programs as a significant barrier
- MA DEP survey of 136 SMART programs in MA indicated that only 18 programs reported any illegal dumping problem as a result of implementation of SMART program
- There is a need for increased enforcement at the beginning of the program
  - Many municipalities assign additional municipal employees to police illegal dumping if first few months
- Businesses will need to consider locking their dumpsters
- Provision of several bulky waste amnesty days can go a long way to resolving illegal dumping

# Solutions: *Political Risk*

- This can be a real issue in many municipalities
- It often takes an impending budget increase to overcome this issue
- Use of focus groups and other public outreach programs can provide politicians with the support they need
  - Are there environmental groups in the municipality who will come to public meetings to support
  - Will the local Chamber of Commerce support if it removes household refuse cost from property taxes
  - Can the key issues be addressed in advance of council meetings through use of advisory committees

# Sample MA Bag Rates

Town/City	# Households	# HHs participating	Bags, Stickers, other?	Large Bag Price/Size (\$)		Small Bag Price/Size (\$)		Fee Amount
Amherst	9,174		Stickers	\$3.00	33-gal			\$50.00
Aquinnah	400		Bags	\$4.00	33-gal	\$2.00	17-gal	
Ashby	900	100	unit based	\$4.00	33-gal			
Ashfield	750		Bags	\$2.00	30-gal			\$25.00
Athol	4,824	500	Bags	\$2.25	33-gal			\$30.00
Ayer	2,891	1,432	Stickers	\$1.50	33-gal			\$60 (seniors \$35)
Barre	1,510	1,400	Bags	\$1.00	33-gal	\$0.50	13-gal	\$25.00
Becket	585	700	Stickers	\$1.00	30-gal			\$40.00
Belchertown	3,800	1,400	Bags	\$1.10	30-gal	\$0.80	16-gal	\$90.00
Berkley	1,843	900	Bags	\$1.50	33-gal	\$1.00	16-gal	\$30.00
Bernardston	780	670	Bags	\$2.00	33-gal			
Bolton	1,604	1,604	Stickers	\$2.00	33-gal	\$1.00	15-gal	
Bridgewater	10,400	2,800	Bags	\$3.00	30 lbs.	\$1.50	15 lbs.	\$30.00
Brookfield	1,525	825	Bags	\$1.00	33-gal			\$170.00
Buckland	750	675	Bags	\$2.00	33-gal			
Charlemont	500	500	Bags	\$2.00	33-gal	\$1.00	33-gal for seniors	

# And More MA Examples

Town/City	# Households	# HHs participating	Bags, Stickers, other?	Large Bag Price/Size (\$)		Small Bag Price/Size (\$)		Fee Amount
Granville	640	380	punch card	\$2.00	33-gal			
Great Barrington	3,003	1,120	Stickers	\$2.90	30-gal	\$1.25	13-gal	
Groton	2,994	1,600	Bags	\$2.40	45-gal	\$1.60	32-gal	\$47 (sr. \$11)
Hadley	1,248	1,000	Bags	\$1.50	30-gal	\$0.75	15-gal	\$75.00
Hampden	1,818	860	Bags	\$2.00	33-gal	\$1.00	16-gal	
Hatfield	1,250	565	Stickers	\$2.00	30-gal	\$1.00	15-gal	\$50.00
Hudson	6,990	3,495	unit based	\$2.00	30-gal	\$2.00	16-gal	\$10.00
Huntington	809	500	Bags	\$2.00	30-gal	\$1.00	15-gal	
Lakeville	3,600	1,980	Bags	\$1.50	30-gal	\$1.00	17-gal	\$40.00
Leverett	685	585	Bags & Stickers	\$2.00	32-gal	\$1.00	16-gal	\$25.00
Littleton	3,300	3,300	Bags	\$2.00	33-gal	\$1.00	15-gal	\$100.00
Millis	2,940	782	Bags	\$1.65	33-gal			\$103(Sr. \$39)
Needham	9,636	7,243	Bags	\$1.50	30-gal, <25 lbs	\$0.75	15-gal, <12 lbs	\$60.00
New Salem	450	445	Bags	\$1.50	33-gal			\$25.00
Norfolk	3,275	1,486	Stickers	\$2.50	35 lb. Limit			\$60 (Sr. \$5)

# Closing - Next Steps

- Massachusetts Recycling Challenges offers technical assistance at no cost to the community through DSM to work on these issues,
- We can be contacted at:  
[dsm@dsmenvironmental.com](mailto:dsm@dsmenvironmental.com)  
(802) 674-2840, ext. 101 or 102  
Ted Siegler or Natalie Starr