

Changing the Way New Mexico Values Trash



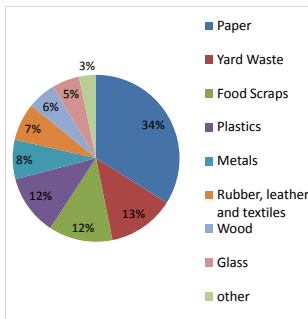
Green Waste Solutions

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Overview

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New Mexico Waste Characterization



- 1,644,798 tons landfilled (2010)
- About 1/3 the material buried in landfills comes from packaging
- Most packaging is easily recyclable
- 49% of waste in New Mexico landfills comes from home
- New Mexico waste disposal cost based on an average tip cost of \$31.29 \$51,500,000 (2010)

Based on USEPA Franklin Associates 2009 metrics

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Commodities have environmental and economic value



\$27.73/ton to 113.17/ton

Recycling paper saves 40% energy



\$1,180/ton loose mixed

Recycling aluminum saves 85% energy



\$340/ton to 560/ton loose mixed

Recycling plastic saves 70% energy

New Mexico buried \$283 million in commodity materials (2010)

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Reducing waste reduces GHG emissions

Approximately 1/3 of green house gasses come from the waste lifecycle



Energy



Transportation



Solid Waste

Global Warming & Garbage???

WHAT IS PAYT?

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PAYT is S-M-A-R-T

- Save
- Money
- And
- Reduce
- Trash



PAYT is long-proven to be the most cost effective, environmentally sustainable MSW program that EPA can promote. While other initiatives may have positive benefits, PAYT is the single best way to prevent waste and reduce green house gases while generating an equitable revenue stream for MSW departments."

SOURCE Office of Solid Waste US EPA 2008

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Do You Have A S-M-A-R-T Waste Reduction Program?

- Utility
- Unit Based Pricing (UBP)
- Equitable
- "Financially incentivizes people to make the right choice" *Jared Bloomenfeld, Director of Environment San Francisco Fortune Magazine 2/10/07*

HOW DO WE KNOW PAYT WORKS?

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Important to compare Apples to Apples

- Mattapoisette MA 53% recycling rate
 - Large yards – yard debris from landscapers included as residential recycling
- North Attleboro MA 35%
 - Small yards yard debris from landscapers included under commercial recycling

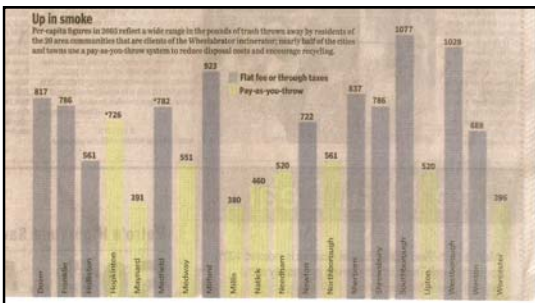


Formula for per capita
 Total residential tonnage [only]
 / Total residents associated with its production

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Up in smoke

Boston Globe 2007



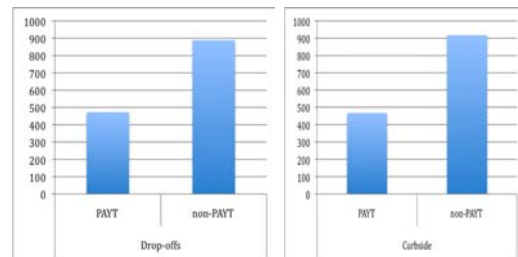
Municipalities generate 45% less waste in PAYT communities

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PAYT: an incentive to Reduce Reuse and Recycle

Drop-offs 114 communities

Curbside 115 communities

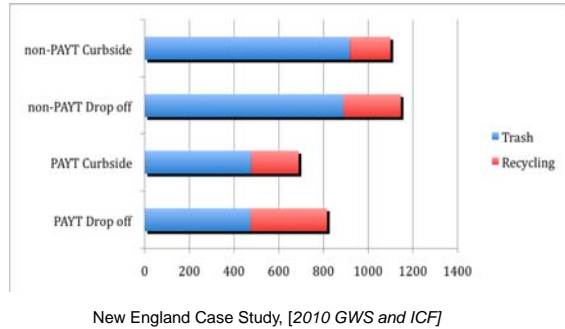


New England Case Study [2010 GWS and ICF]

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33% source reduction in PAYT communities

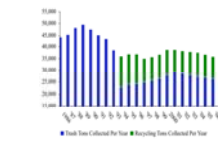
Overall generation (per capita waste + per capita commodity recycling)



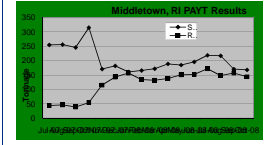
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Immediate sustainable change

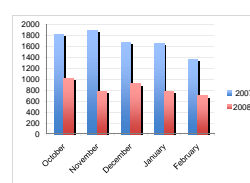
Worcester MA



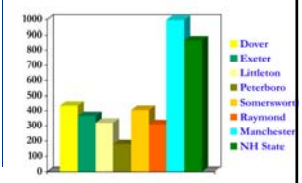
Middletown RI



Malden MA



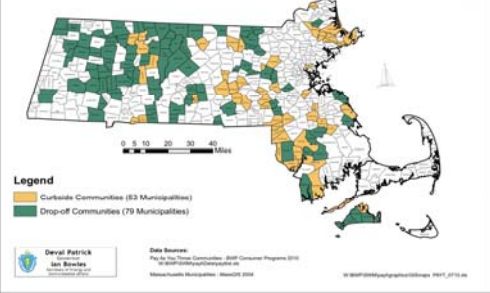
New Hampshire



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Municipal Solid Waste Pay-As-You-Throw Communities in Massachusetts

November 2010



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Towns with transfer stations

Municipality	Contact	Population
Duxbury, MA	Chris Smythe 781-934-1100. Ext. 130	1,476
Scituate, MA	Al Bangert 781-545-8731	5,250
Needham, MA	Mario Araya 781-801-6835	29,128
Wayland, MA	George Russell 508-742-5984	13,503
Rockport, MA	Joe Parisi 978-546-3525	5,565
Dartmouth, MA	Michele Defranco 508-999-0740 Ext. 208	34,420
South Berwick, ME	Gary Boucher 603-978-1669	7,146

HOW DO WE GET STARTED?

PAYT is very customizable for Drop off's

- Rate Structures
 - Two-tiered Program
 - Proportional / Linear
- Design Styles
 - Bags
 - Tags
 - Hybrid
 - Haulers

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Drop Off – Rate Structure

Proportional

- All fixed costs within the unit based cost (administrative costs, convenience center/ transfer station overhead)
- All variable costs included in the unit based cost (cost of trash tip/transport)
- All costs within a bag or tag charge

Two Tiered

- All fixed costs remain in the tax or fee structure (administrative costs, convenience center/ transfer station overhead)
- All variable costs included in unit based bag to tag charge (cost of trash tip/transport)

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Hauler program two-tiered or proportional in conjunction with a drop off

1. Haulers create their own unit based program (either two-tiered or proportional)
Monitored during annual permit process.
 - Transfer station or drop off uses a bag or tag or punch card or credit card for residents (either two-tiered or proportional).
2. Municipality creates a two-tiered program both Haulers and drop off use a special color bag



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Drop off Design (limited hauler participation)

- Municipalities where the majority of households are bringing trash to the drop-off or landfill can easily shift to PAYT through an overflow bag or a sticker program.
- **Option 1 – 52 free bags**
 - Each participating household is provided with 52 free special colored trash bags or stickers/coded tags.
 - Each household gets one bag of garbage per week for free [included in the current rate structure].
 - Households that need additional space - bag or sticker at the town hall or a participating retail location.
 - The bag makes it easier for the landfill attendant to monitor compliance.
 - Allows residents an opportunity to recycle more without incurring additional expense.
 - This system will provide a reduced tip expense to the municipality; most households are expected to decrease the quantity of waste they set out for collection by approximately 45% (2009 New England Study).

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Variation– no free bags

- Municipalities where the majority of households are bringing trash to the drop-off or landfill can easily shift to PAYT through an overflow bag or a sticker program.
- **Option 2 - no free bags**
 - If a municipality is not currently covering their solid waste costs the municipality could charge for all bags instead of providing free bags. The additional revenue would cover the cost of the current shortfall.
 - Some communities start out with free bags and then ease back each year.
 - Its about the 'Politics'

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Drop off Design– Haulers are primary collector

Bag Program: used by hauler and municipality

- Official colored municipal bags are easy to identify. This allows both drop-off customers and hauler customers to use the same bag.
- Tip to the hauler upon entry to the landfill should be eliminated. Instead, the bag revenue will cover the tip cost.
- Household tax or a fee for landfill drop-off (associated with actual trash), would also need to be eliminated.
- If municipality is not covering their solid waste costs (can be added to the bag).
- Bag revenue would go directly to municipality or landfill to cover the cost of tipping.
- All homes within the municipal area sending trash to the landfill though hauler or drop-off would need to purchase special colored bags for disposal
- Haulers would be required to monitor bags as they drop in their trucks.
- Hauler loads should be monitored by landfill floor attendants. Non-compliant bags would be the responsibility of the hauler. Municipality would need to assist in enforcing when residents are repeat offenders.

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Variation – Hauler primary collector

Container Program for haulers:

- Where the majority of trash is being handled by the hauler and not taken directly to the drop-off or landfill by the resident, and where the haulers are 100% automated, a container program could be implemented. Each hauler could have the option of creating their own rate structure. Generally haulers do not like sharing this information with the municipality. Haulers would be able to develop their own structure based on container size. Haulers would need to meet a specific per capita benchmark [see hauler compliance section below].
- Residents not using hauler services and bringing trash to the drop-off or landfill could use a sticker system similar to the above option.

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Hauler compliance suggestions

Haulers opting to **create their own PAYT rate structures** should be required to meet per capita benchmarks equal to the average municipal per capita.

This will encourage them to create a rate structure that is fair to residents, but that also provides an incentive to reduce waste. In order to determine **benchmarks**, haulers must be required to report the number of households using their services.

The municipality can determine an **official per capita disposal** annually for each hauler by dividing the participating population by the total tonnage the hauler delivers to the landfill. If haulers pick up residential and commercial in the same truck, all commercial waste must be averaged and taken out of the load.

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Sample Rate Structures for Bags and Stickers (two-tiered)

The cost of the trash bag should include cost of the bag itself plus the cost to dispose of the contents within, based on weight.

- Based on an average of \$40 per ton disposal rate in New Mexico and a 25-cent (bag and distribution) cost, and assuming the average bag weight is 23 lbs (EPA standard)
- The average cost of the trash bag will be around 71 cents (round up to 75 cents).
- Drop-off and administrative costs currently included in residents fees – could be included in the bag to create a proportional structure
- The price point should be just high enough to incentivize change without making people feel like they are being unfairly taxed.

Sample cost structure

Average cost per ton disposal	\$40.00
Average cost per pound [cost per ton divided by 2000 lbs]	\$0.02
Average cost per bag [manufactured and distributed to muni office or direct to retail location]	\$0.25
Average cost per sticker [manufactured and delivered]	\$0.03
Total suggested bag cost [based on 23 lb weight] 33 gallon bag	\$0.71
Total suggested sticker cost [based on 23 lb weight] 33 gallon bag	\$0.49

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Benefits of the two-tiered bag system for haulers and drop off.

- The Town will be able to tell homeowners that they have helped reduced long term cost.
- Residents can then pay as they go for what they use.
- The Town will not have to bill haulers for tipping.
- Town could benefit from bag revenue – more cost control (price to cover actual cost of waste).
- Minimal up front investment, bags will pay for themselves within a few months.
- Single and elderly residents can generally save.

Challenges of the two-tiered bag program for haulers and drop off

- The Town will have to work with haulers closely to implement.
- Town will have to require bag compliance through the permitting process.
- Town will have to set up penalties for non compliance for hauler and residents.
- Town will have to provide a sticker to haulers for resident non compliance.

Suggestions

- Create an advisory committee to review feasibility of SMART for .
- Assess current recycling levels.
- Consider additional programs as part of the SMART implementation. [glass, chipboard, swap shop etc.]
- Review ways to deal with multi-family, low income, and rental properties.
- Review procedures for illegal dumping.
- Create bag specifications for bid.
- Create public relations strategy for moving forward.

SMART BET
Saving Money and Reducing Trash Benefit: Evaluation Tool

1. **General Information**
 City: State:
 Year of data: City population affected by SMART:

2. **Disposal Data**
 Current residential disposal: tons per year
 Landfill/composting tip fee: per ton
 Waste Disposal Breakdown (tons):
 Landfill: Disposal Practice (%):
 Waste-to-energy (WTE): Distance to landfill: miles
 Distance to WTE facility: miles
 Current residential combined recycling and composting: tons per year
 Recycling cost: per ton

3. **Waste Stream Composition**
 Current disposal stream composition by weight (%):

Misc	9%
Glass	7%
Plastic	20%
Paper	26%
Wood	9%
Food Scraps	31%
Yard Trimming	8%
Total	100%

 Current combined recycling and compost stream composition by weight (%):

Misc	9%
Glass	3%
Plastic	2%
Paper	56%
Wood	2%
Food Scraps	13%
Yard Trimming	2%
Total	100%

SMART BET [benefit evaluation tool]

SMART BET	
Saving Money and Reducing Trash Benefit Evaluation Tool	
Results for Stamford, Connecticut for 2009	
Results	
Estimated cost savings from implementing SMART	\$12,434,615*
Estimated GHG savings from implementing SMART	798,466 year*
(compared to current disposal practice)	
Equivalent to annual emissions from	146,238 passenger vehicles*

* Positive number indicates cost savings or GHG savings; negative number indicates increased cost or GHG emissions.

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Green Waste Solutions

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