

City of Portsmouth



Recycling & Solid Waste Program

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Recycling & Solid Waste

- Portsmouth's Recycling History
- Components of Portsmouth's Solid Waste Program
- Recycling Success
- Recycling Industry Trends
- Recycling FAQs



Portsmouth Recycling History



Scrap metal business on Puddle Lane in the 1950s



Why Do We Recycle in Portsmouth?

- Being an Eco-Municipality, Portsmouth follows four sustainability principles from *The Natural Step*:
 - Reduce dependence upon fossil fuels and extracted underground metals and minerals
 - Lessen the need for chemicals and other manufactured substances that can accumulate in nature
 - Decrease activities that harm life-sustaining ecosystems
 - Meet the hierarchy of present and future human needs fairly and efficiently



Why Do We Recycle in Portsmouth?

We recycle to preserve resources and reduce pollution
and our residents recognize it

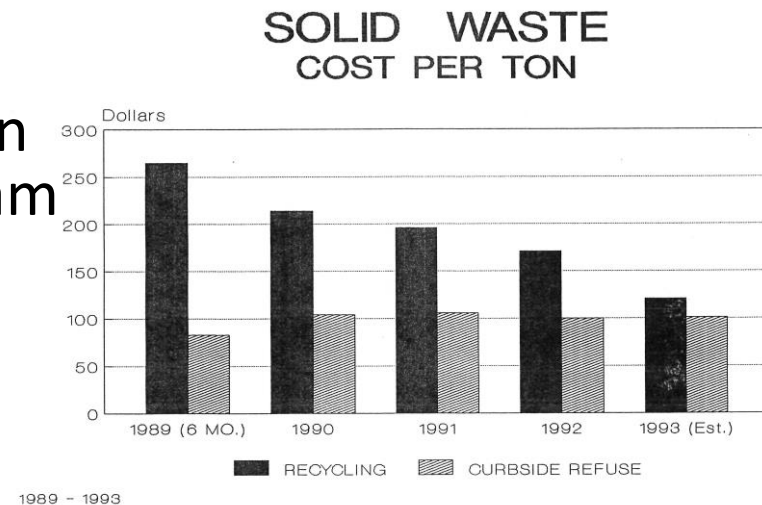
Answer Choices	Responses	
Recycling saves energy	73.11%	155
Recycling reduces landfills	95.28%	202
Recycling preserves resources and protects wildlife	89.15%	189
Recycling is good for the economy	63.21%	134
Recycling helps our climate problems	69.81%	148
Other (please specify)	8.96%	19
Total Respondents: 212		

*March 2015 Recycling Survey



Portsmouth Recycling History

- December 1989 Portsmouth Recycling Committee is founded, Chartered by the Mayor
- 1990 The Portsmouth Rotary Club ran a volunteer recycling drop-off program
- October 1990 the Recycling Committee proposes Curbside Recycling Program to City Council
- April 1991 began curbside collection
- 1993 NH State Law bans leaf or yard waste from landfills
- 2010 collection of single stream recyclables



Recycling & Solid Waste Program Components



Recycling & Solid Waste Program Components

1. **Collection** of waste and recyclables by the DPW
 - Recycling Center drop off collection
 - Residential curbside collection of waste and recyclables
 - Downtown commercial curbside collection of waste and recyclables
2. **Transportation** of waste and recyclables by the DPW
3. **Processing and Disposal** of waste and recyclables by outside vendors



DPW Recycling Center Drop Off

- Portsmouth residents may bring their trash, recyclables, bulky waste and yard waste to the Recycling Center.
- Recycling Center hours of operation are
 - Tuesday, Wednesday, Thursday 7:45am-3:15pm
 - Saturday 8:00am-2:00pm
- Specialty items at Recycling Center
 - Food Waste
 - Antifreeze
 - Rechargeable Batteries
 - Clothing
 - Cooking Oil
 - Eyeglasses
 - Fluorescent light bulbs
 - Oil & oil filters
 - Empty propane tanks
 - Vegetable oil
 - Tires, \$5.00 per tire
 - Electronics \$10.00 per unit
 - Freon units (i.e. refrigerators, air conditioners) \$10.00 per unit



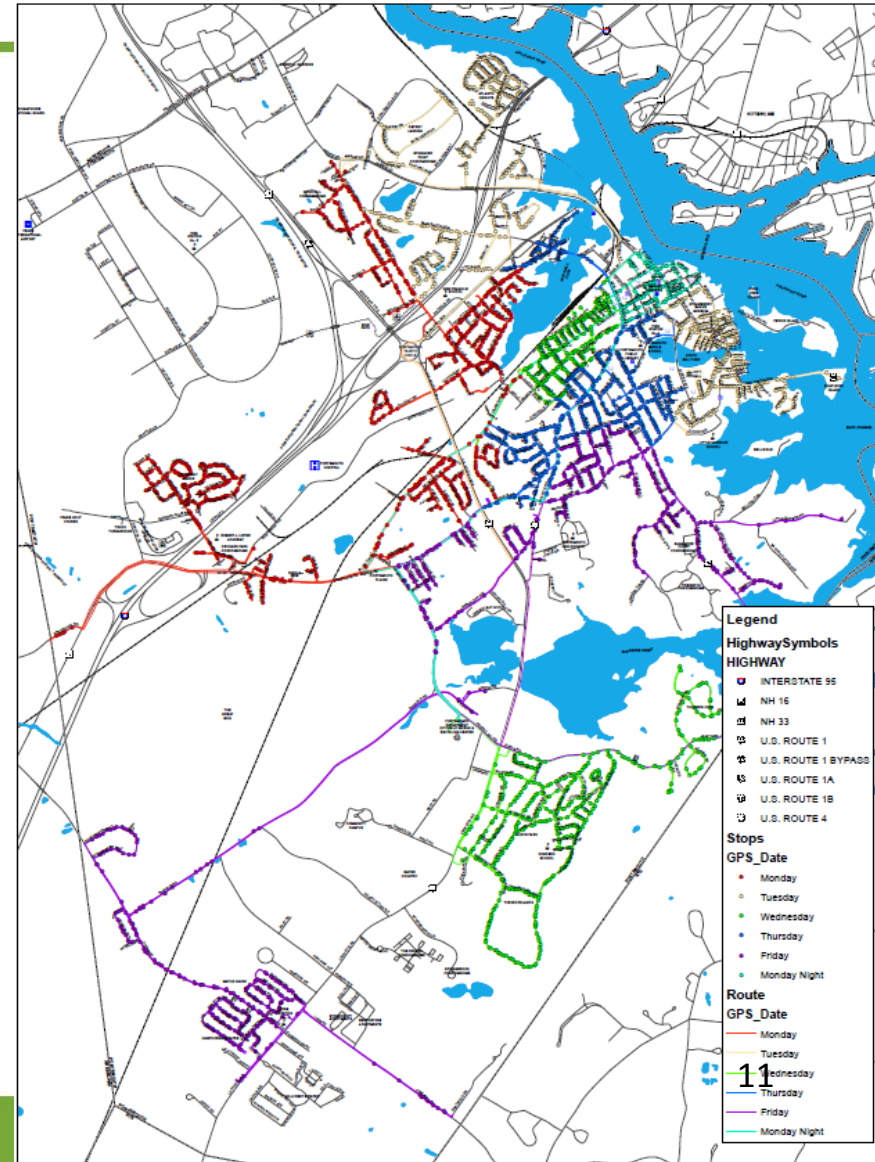
Curbside Collection

- Curbside collection includes
 - Mixed recycling
 - Solid waste
 - Yard waste and brush (seasonal)
 - Bulky waste items per scheduled appointment
- Every weekday curbside routes are picked up by the DPW
 - Rear loading packer trucks for solid waste and recyclables
 - Dump truck/rear loading packer follows curbside residential routes picking up yard waste and brush during the Spring, Summer and Fall seasons.
- Monday night pick up for downtown business district



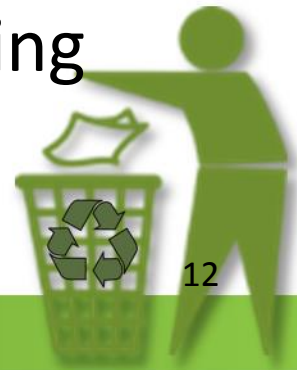
Curbside Collection

5,244 residential household's trash, recycling and yard waste is collected weekly



Transportation/Processing of Waste & Recyclables

- DPW is responsible for transporting all curbside collected waste and recyclables to the Turnkey Landfill 19 miles away in Rochester
- DPW contracts Waste Management for the disposal of our waste and the processing of our mixed recyclables
- Our yard waste, brush, wood, electronics, metal and other miscellaneous waste streams are processed by various vendors per best pricing and location



Portsmouth Recycling Success



Portsmouth Recycling Success

- How does the EPA calculate recycling rates?

$$\frac{\text{tons recycled} + \text{tons composted}}{\text{total tons of waste generated}}$$

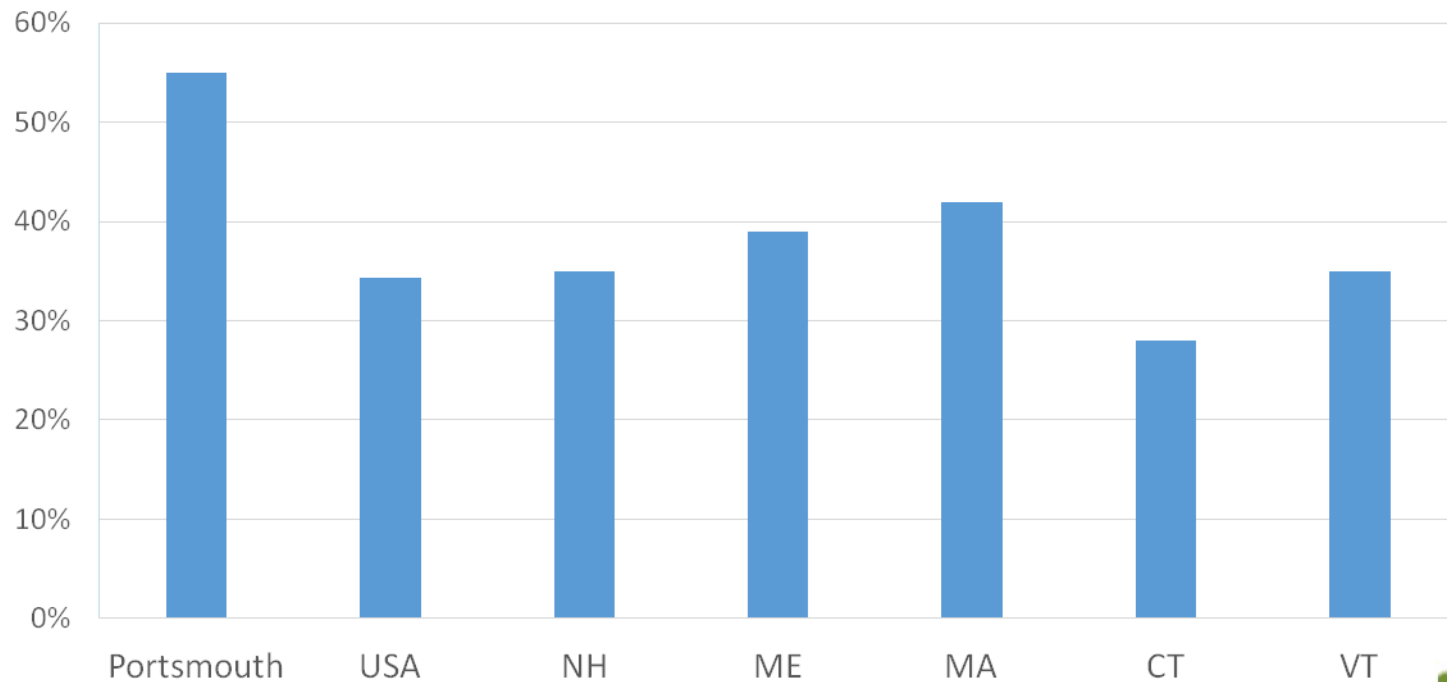
- Recycling rate = diversion rate
- EPA reports: *“In 2013, Americans generated about 254 million tons of trash and recycled and composted about 87 million tons of this material, equivalent to a **34.3 percent recycling rate.**”*



Portsmouth Recycling Success

Portsmouth average 55% diversion rate over the last 5 years;
22% composting and 33% recycling

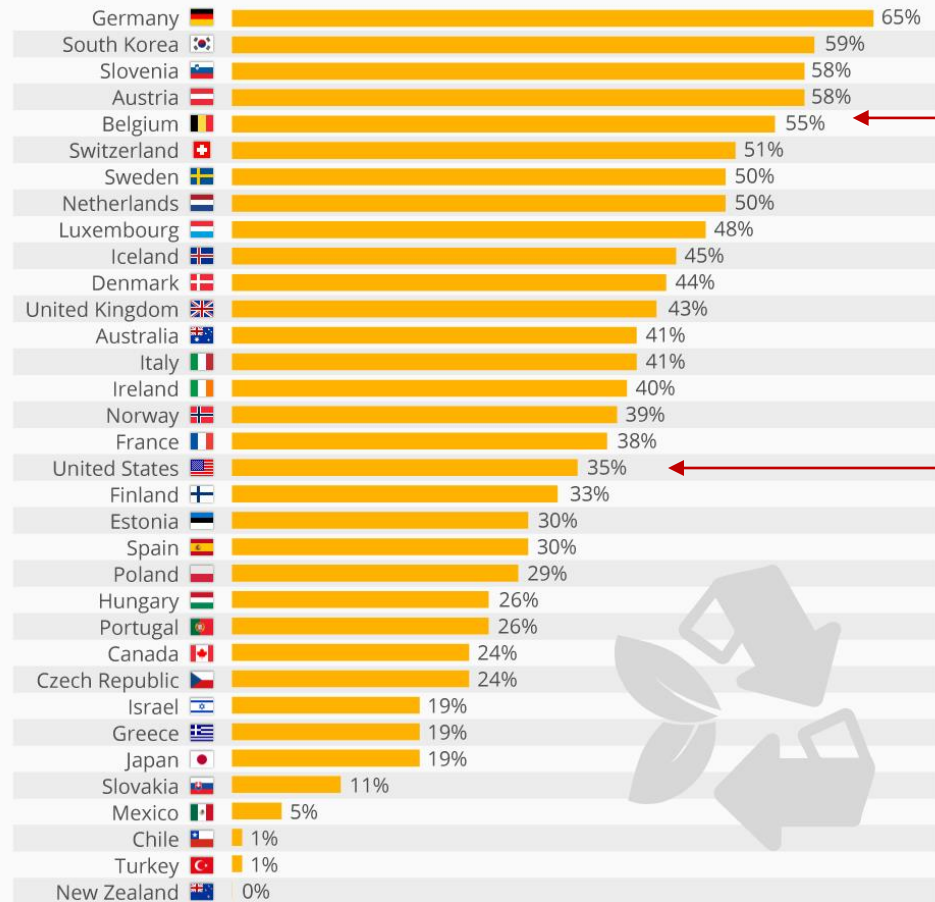
Diversion Rate Comparison



Portsmouth Recycling Success

The Countries Winning The Recycling Race

Recycled & composted waste as a share of total municipal waste in OECD countries (2013)



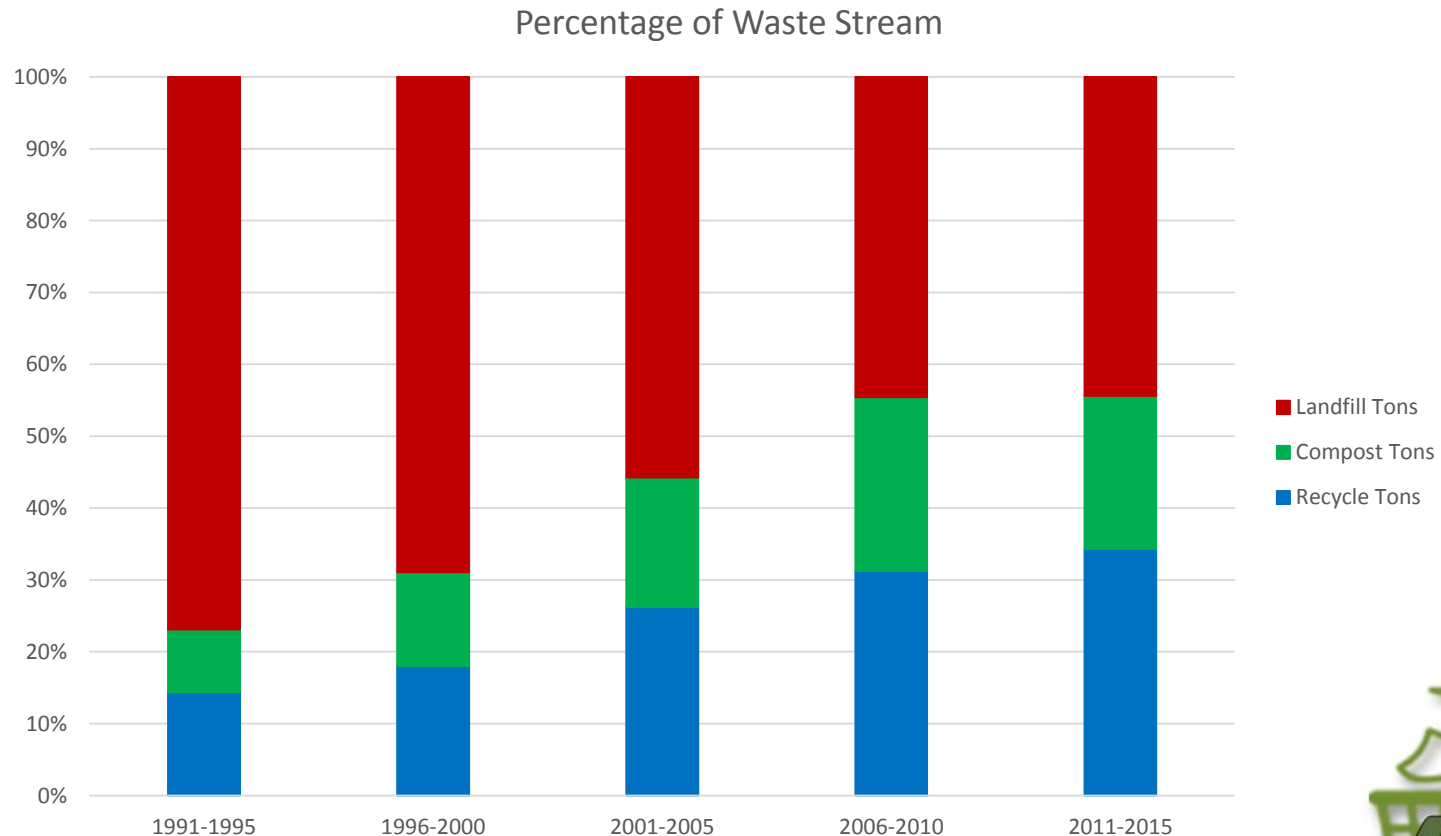
Portsmouth

USA



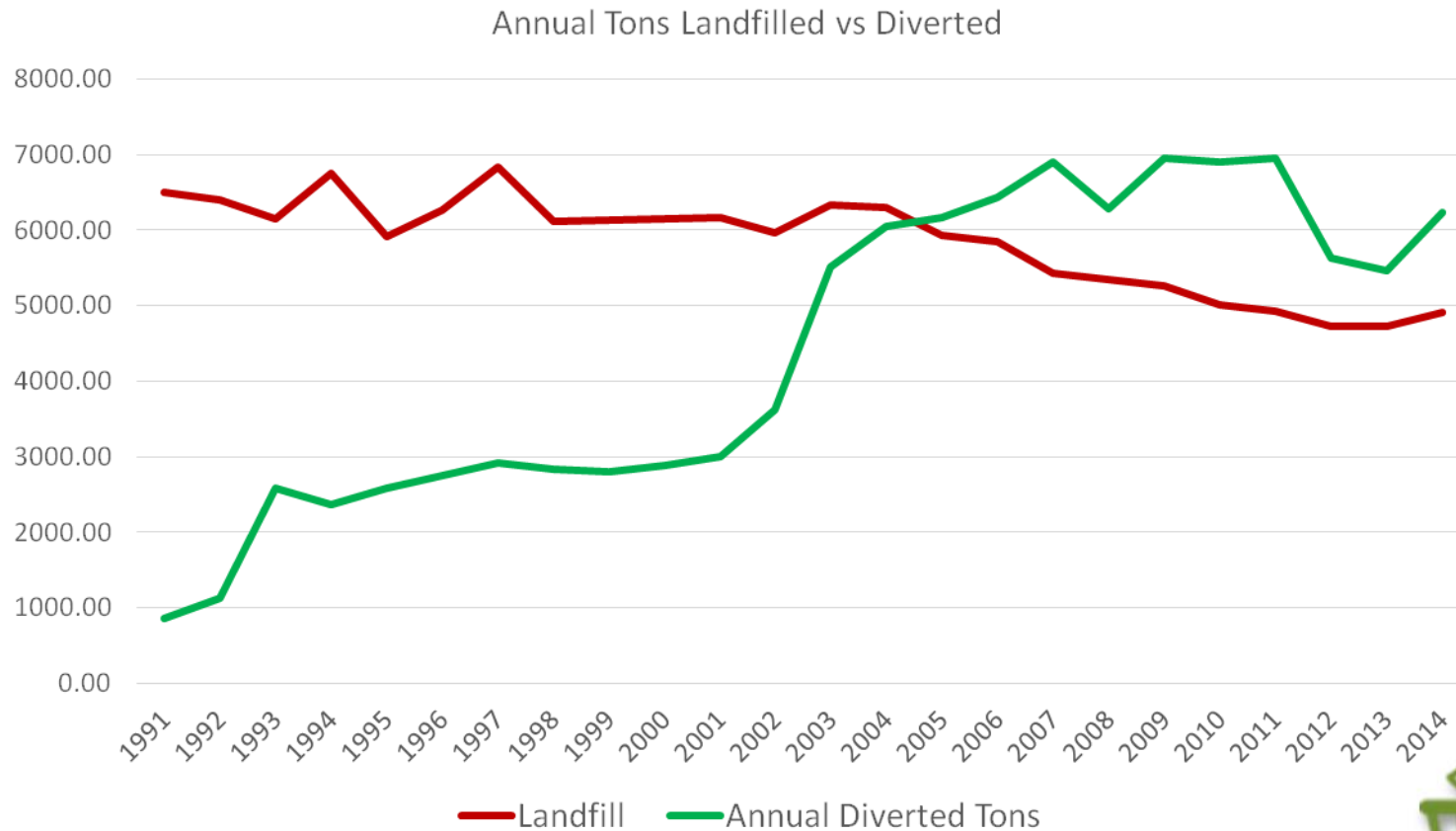
Portsmouth Recycling Success

Five year average diversion rate over time



Portsmouth Recycling Success

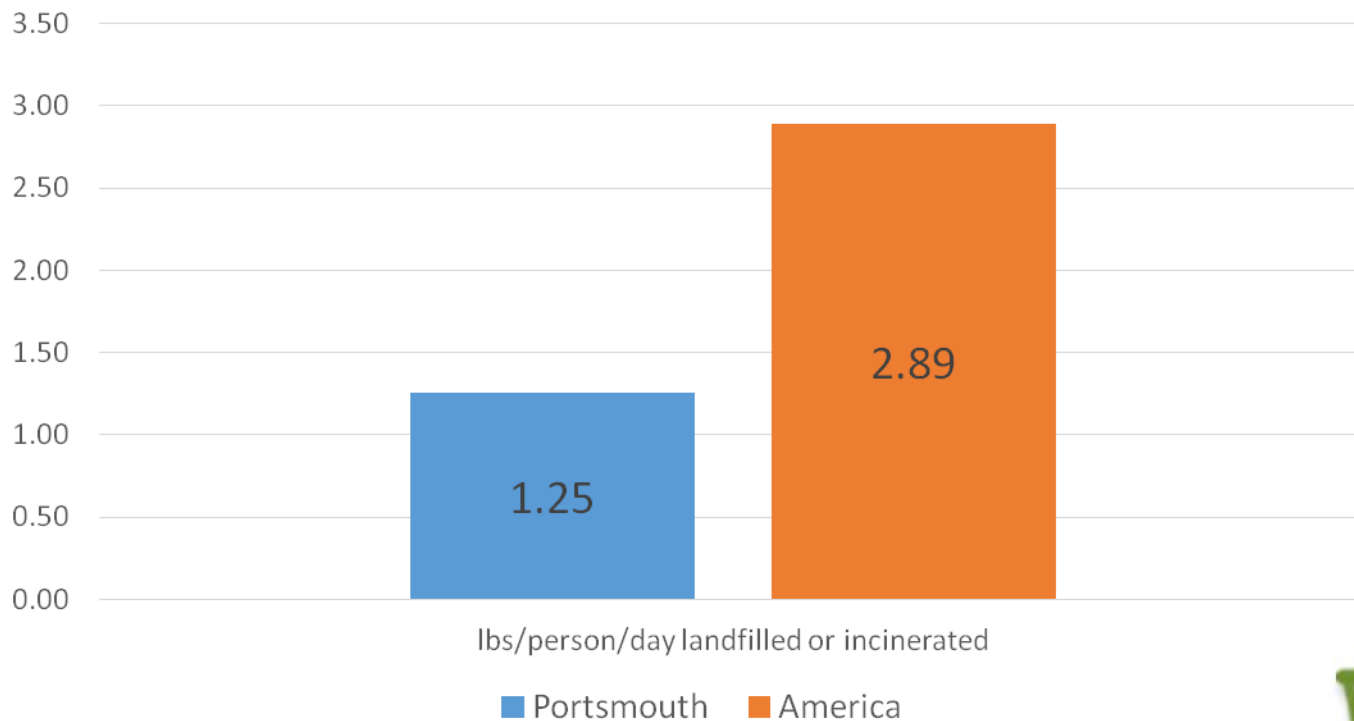
2005 was the first time we recovered more material than we landfilled



Portsmouth Recycling Success

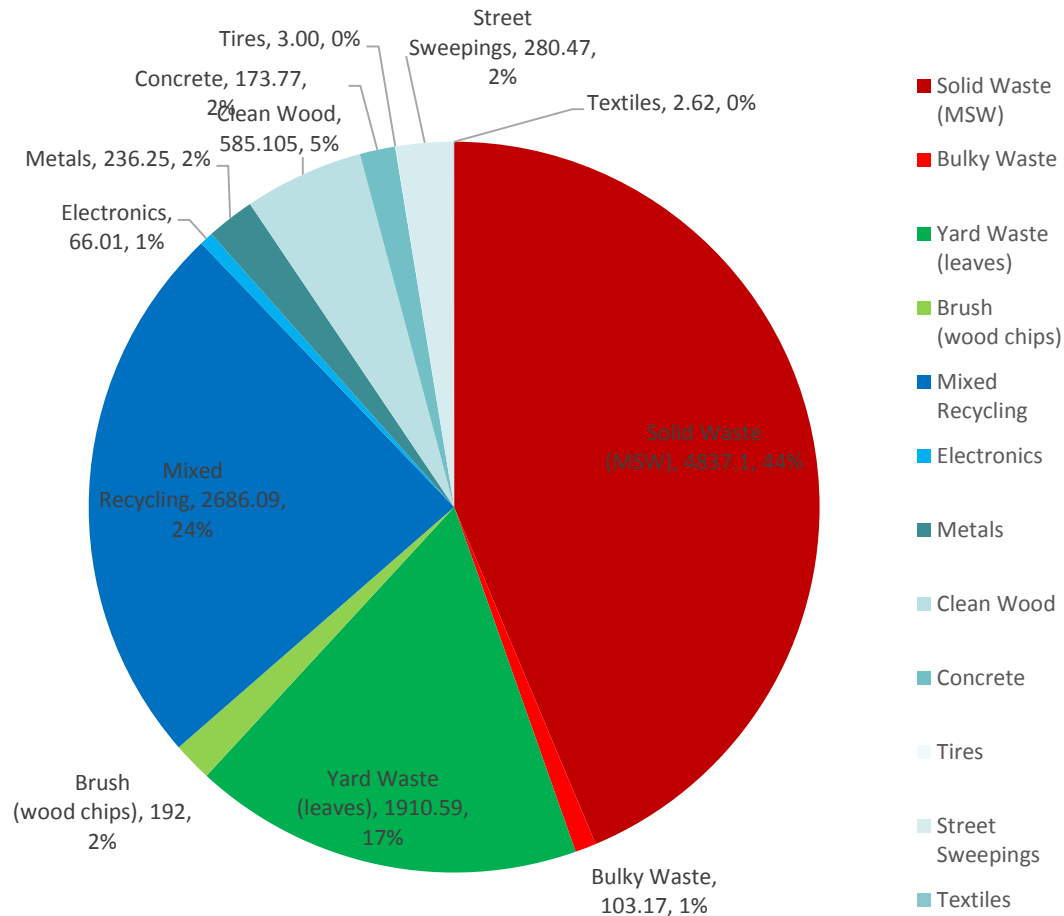
Portsmouth residents understand the importance of reducing and reusing materials in the most productive and sustainable way

lbs/person/day to landfill: Portsmouth Resident vs Average American

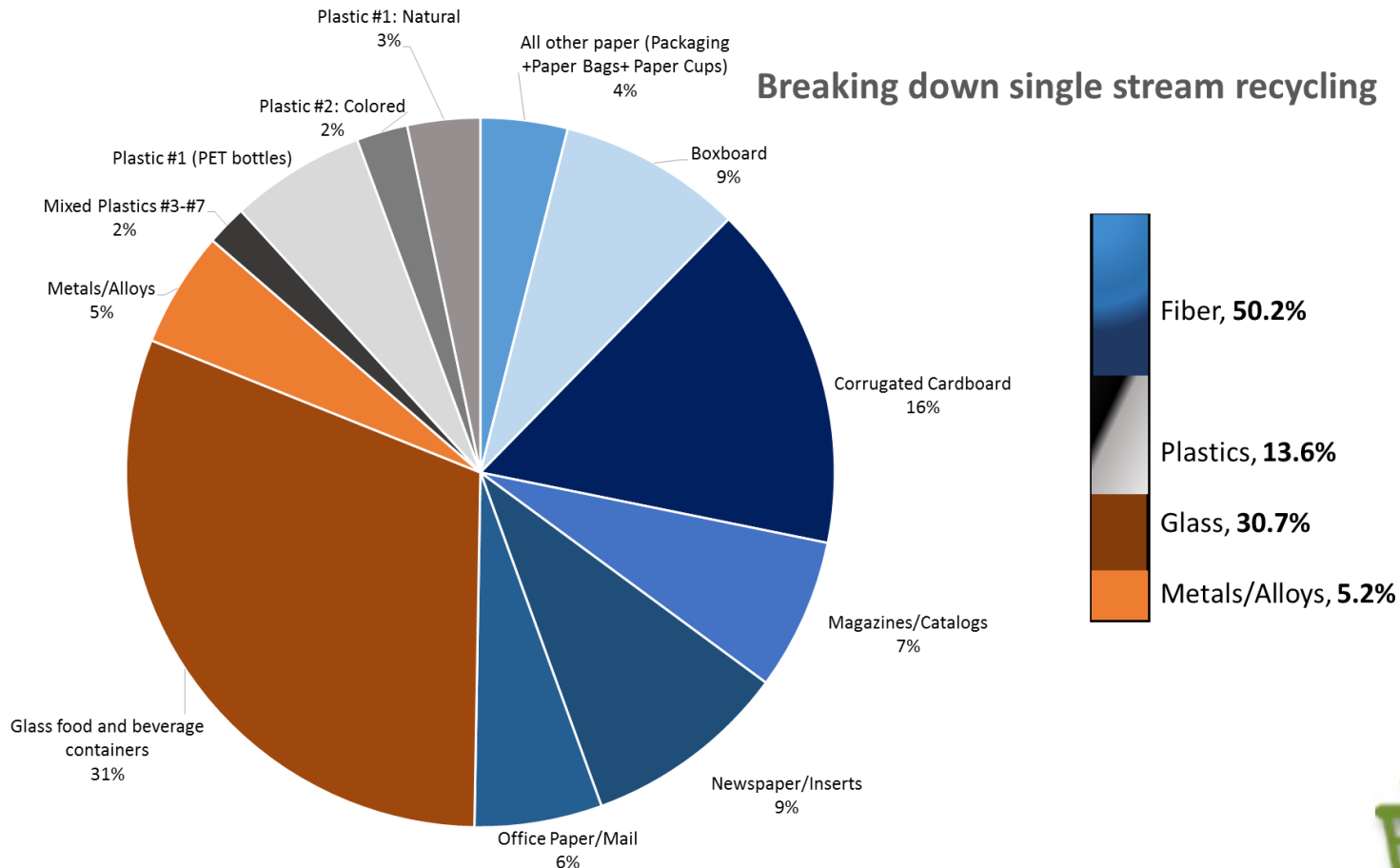


Portsmouth Recycling Success

2015 Waste Stream (tons, %)

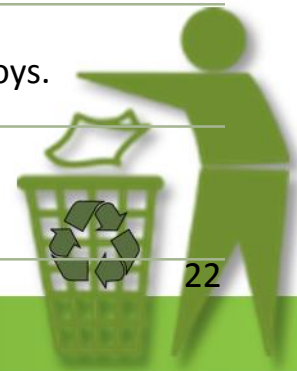


Portsmouth Recycling Success



Portsmouth Recovery Rate Analysis

42%	Portsmouth's overall curbside recycling rate.
44.1%	The maximum achievable single stream curbside recycling rate.
95.8%	Portsmouth's Curbside Recovery Rate
6%	The proportion of recycling contaminants in the overall curbside municipal solid waste stream.
3%	Proportion of recoverable recyclables in the overall MSW curbside stream
4.7%	Proportion of overall MSW curbside stream that could have been recycled through source separation.
True recyclables	Predominant component materials: 50% Fibrous, 31% glass, 13% plastic, and 5% metal alloys.
Recoverable recyclables in trash	Predominant component materials: 40% fibrous, 23% textiles, 18.5% plastic

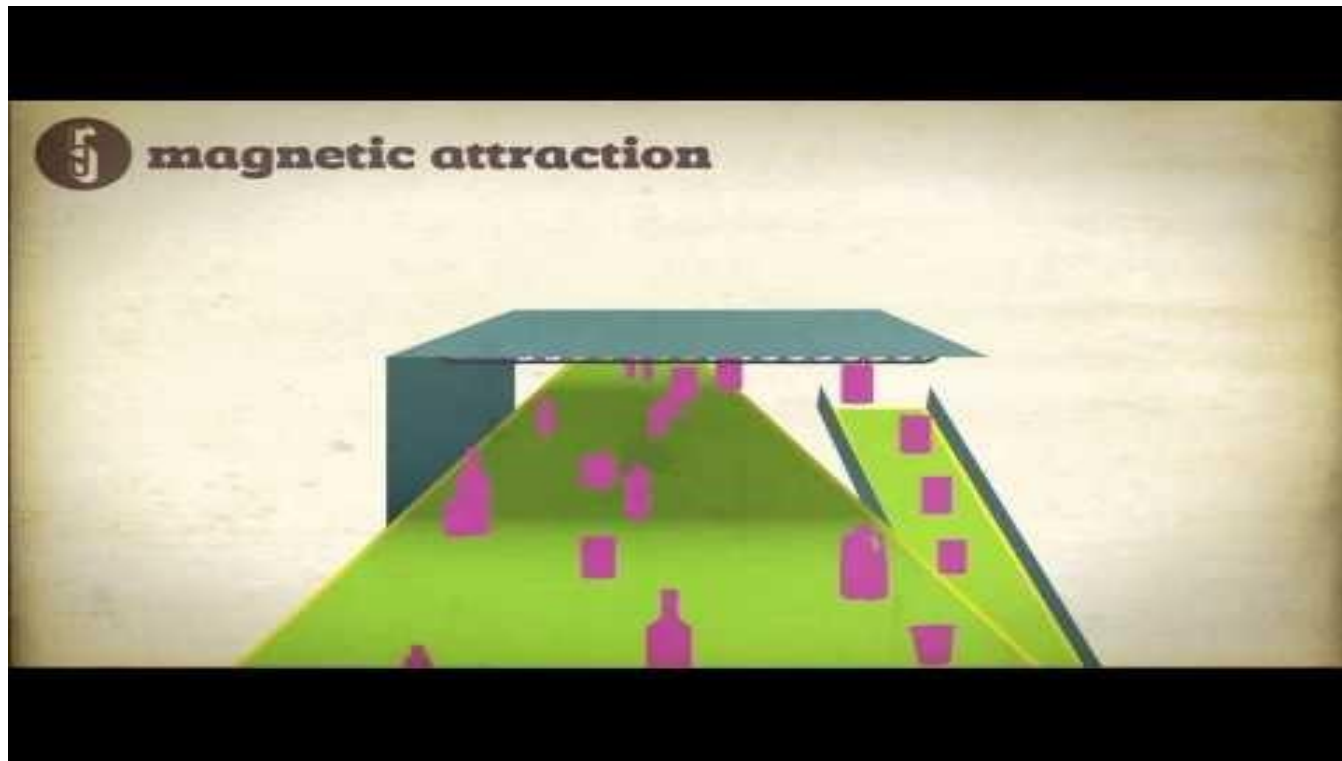


Recycling Industry Trends



Where do Recyclables Go?

What is a MRF and how does it work?



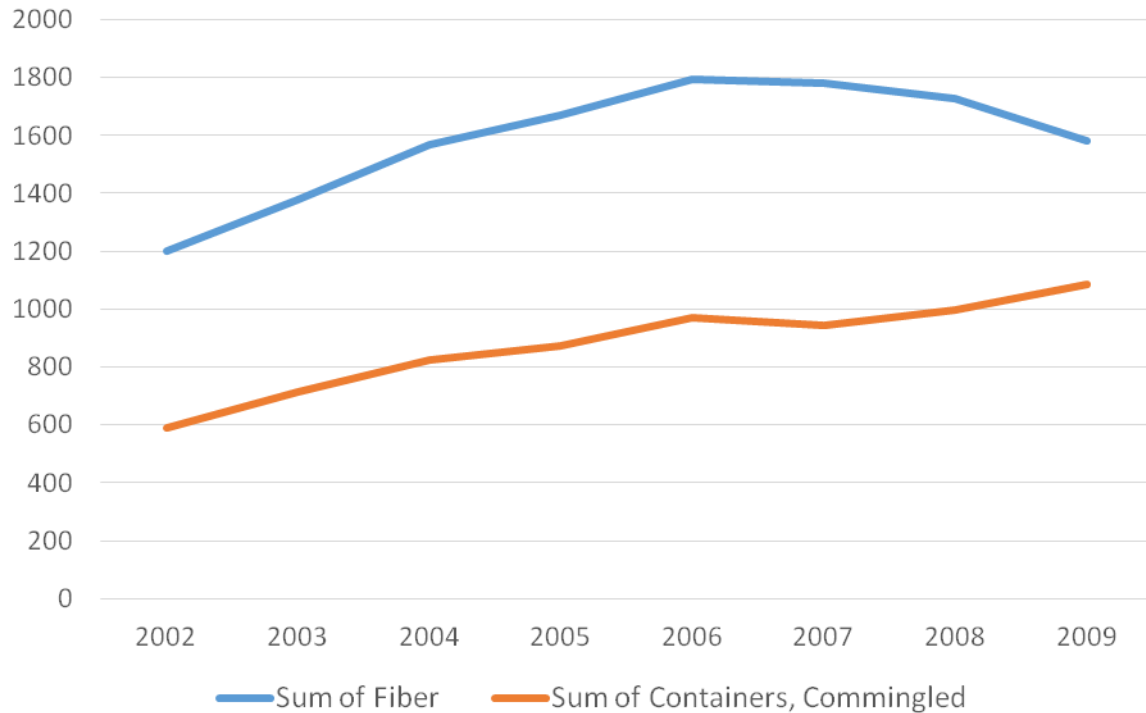
Recent Recycling Industry Trends

- Transportation and processing costs have increased while revenue has declined
 - The “Evolving Ton” is the changing characteristics of material in a ton of mixed recyclables due to shifting consumer and manufacturing trends
 - Less newspaper and more plastic containers
 - Paper (200-500 lbs per cubic yard)
 - Plastic containers and laminated films (50-75 lbs per cubic yard)



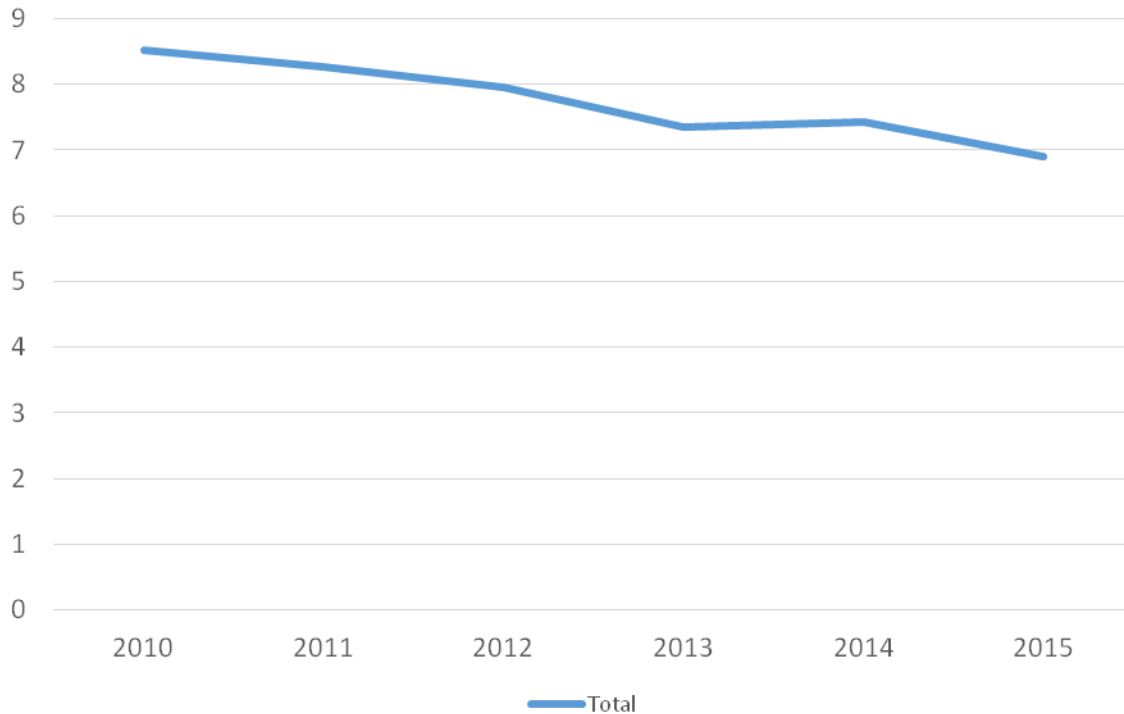
The Evolving Ton

Weight of paper vs rigid containers collected in Portsmouth dual stream recycling



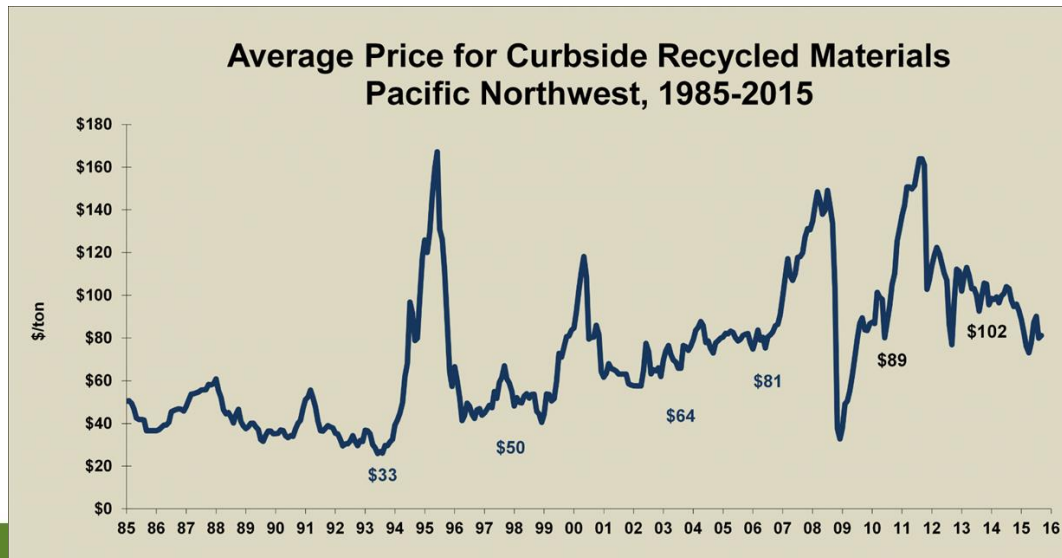
The Evolving Ton

- Average weight of mixed recyclables we fit in a 25 cubic yard packer truck
 - 8.5 tons per truck in 2010 = 322 loads per year
 - 6.9 tons per truck in 2015 = 398 loads per year
 - 19% decrease in density of mixed recyclables over past 5 years
 - \$6,750 increase in transportation cost because total annual weight has remained even



Decreased Revenue

- Global influences on the value of recycled material
 - Commodity markets are low
 - Low oil prices means less demand for the recycled plastics that have replaced paper in our recycle stream
 - Strong dollar hurts exports of recyclables
 - Weakening Chinese economy lowers demand

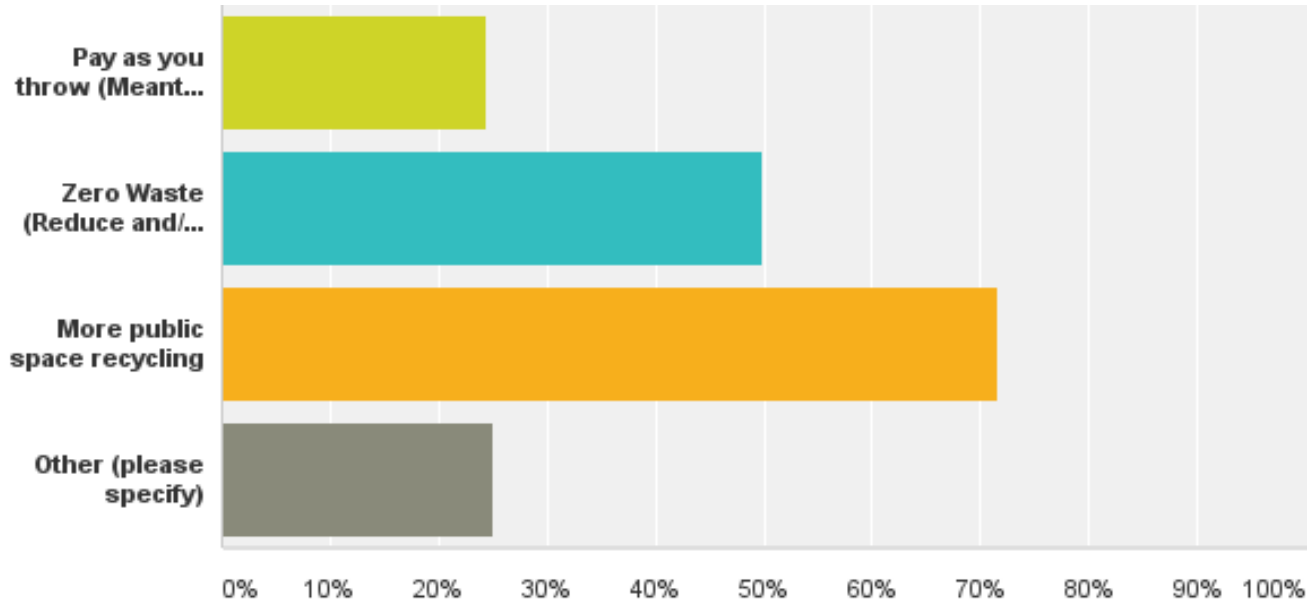


Future of Solid Waste in Portsmouth

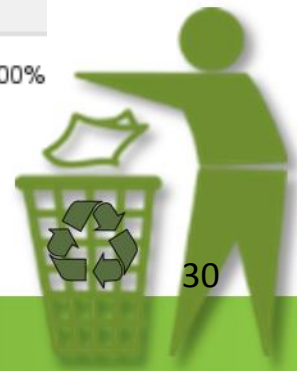


Future of Solid Waste in Portsmouth

Which of the following practices do you think Portsmouth should explore/expand on?



*March 2015 Recycling Survey



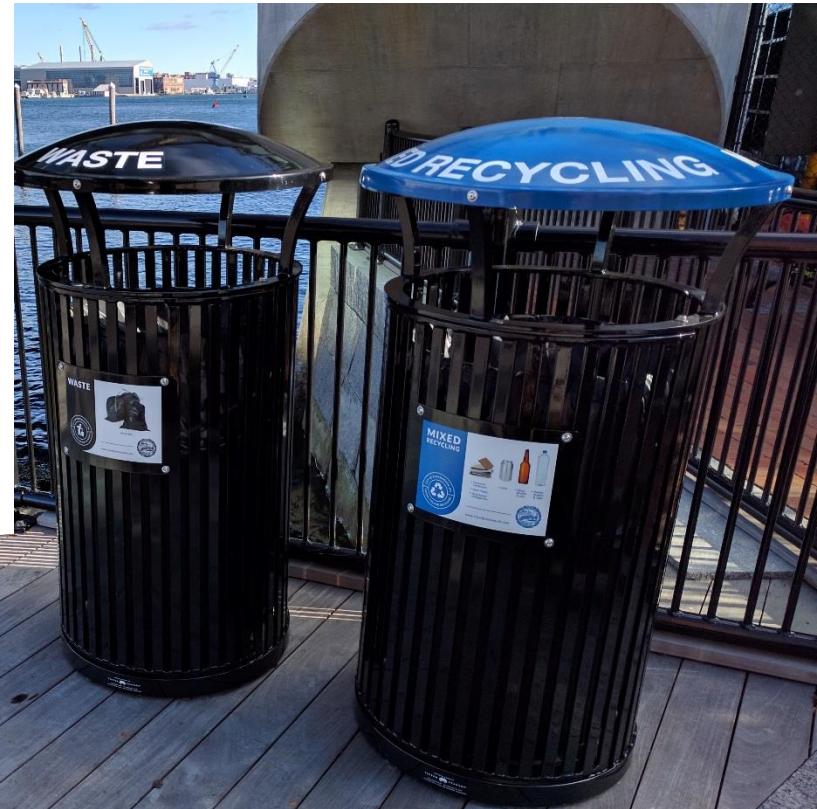
Standardized Recycling Signs

**MIXED
RECYCLING**



- Flattened Cardboard
- Clean Paper
- Newspaper & Magazines
- Cans
- Glass Bottles & Jars
- Plastic Bottles & Jugs

www.cityofportsmouth.com



DPW Curbside Collection

Future Initiatives

- Investigating alternative collection vehicle equipment
 - Improve worker safety
 - Increase operational efficiency
 - Unique City with various urban and suburban collection needs



Side Loading Vehicle



Front Loading Vehicle



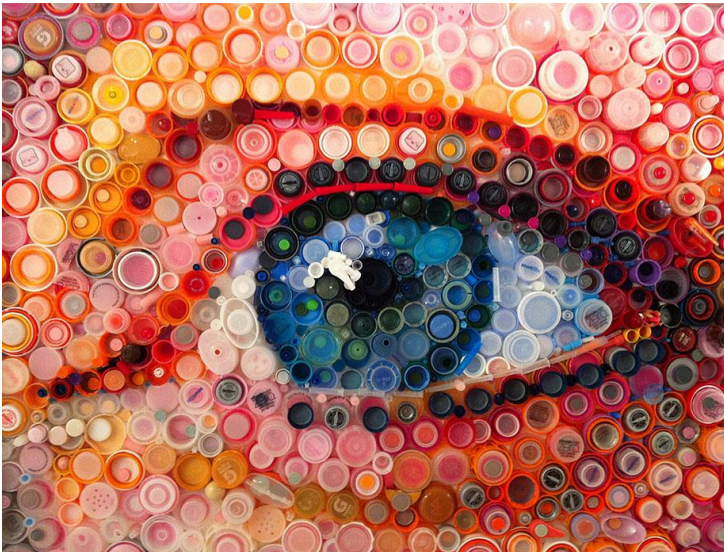
Rear Loading Vehicle
with safety attachment

Recycling Myth Busters



Recycling Myth Busters

- Are **plastic bottle caps/lids** recyclable in my curbside mixed recycling program?
 - **Yes.** After bottles are empty, plastic caps should be placed back on bottles



Recycling Myth Busters

- Are **plastic bags** recyclable in my curbside mixed recycling program?
 - **No.** Plastic bags get tangled in the MRF equipment, breaking or stopping machinery. Empty plastic bags should go back to a participating retail outlet or grocery store for recycling <http://www.plasticfilmrecycling.org/s01/s01dropoff.html>



Questions?

