

CRANKING UP RECYCLING IN TEXAS

New insights, proven resources

Scott Mouw, Senior Director of Technical Assistance
Justin Gast, Technical Assistance

-THANK YOU-



We work across the system... across the country...



STATE and LOCAL



HAULERS



MRF



BRANDS



RESIDENTS



466 communities
impacted by
Partnership work
(19 million HH)



~400,000 carts
More than \$27MM
of new infrastructure
and more than 115
MLBS of new
recyclables diverted.

...growing access to
resources and data.

A FEW OF OUR PARTNER CITIES



COLUMBIA, SC



FLORENCE, AL



CUYAHOGA CO., OH



GREENVILLE, SC



EMMET CO., MI



RICHMOND, VA



SANTA FE, NM



ATLANTA, GA



ST PAUL, MN



CHICAGO, IL



PORTLAND, ME



MEMPHIS, TN

- We work with cities to fight contamination, boost participation, and recycle with carts.
- National scale with projects in 466 communities.
- Project-based collaboration with all stakeholders in the recycling system: haulers, MRFs, communities, state offices and end-markets.

What do we
know?

47%

of Americans don't automatically have curbside recycling.

2016 SPC Access Study

&

60%

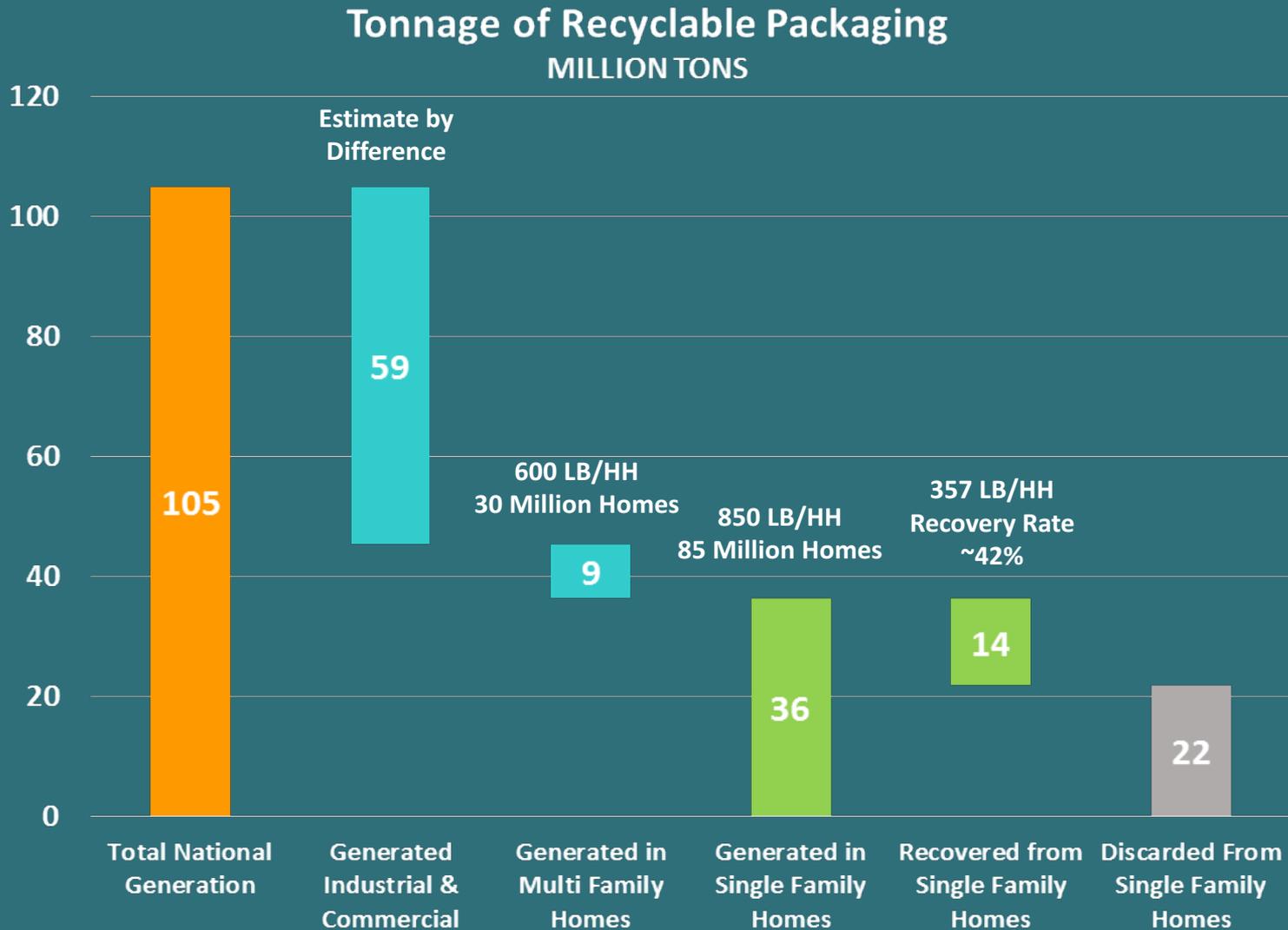
of packaging is not being recovered in the home.

The Recycling Partnership

Half plus half equals
A WHOLE LOT OF OPPORTUNITY.

Location of Recyclable Packaging Tonnage

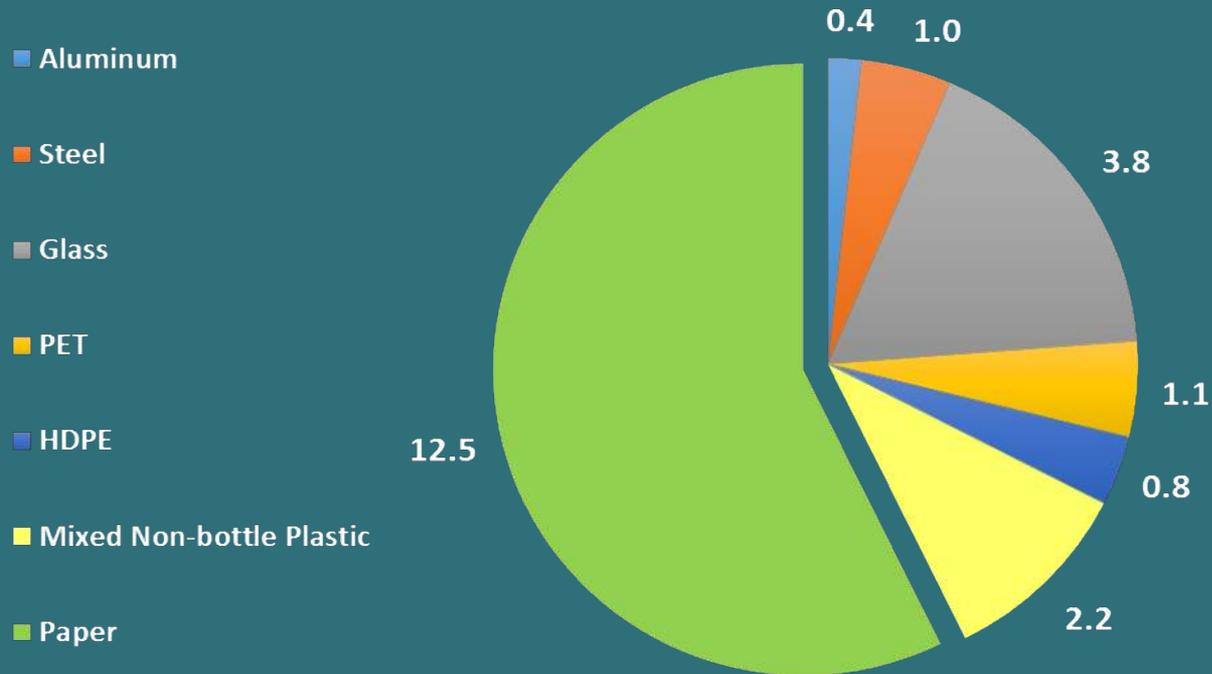
(Estimate)



How Much Recyclable Packaging Is Left in Single Family Homes?

Hypothetical Example

US Single Family Households Unrecovered Packaging
MILLION TONS



Total of 22 Million Tons



+20%

contamination rates
cost the system **money & time,**
and **safety hazards**
for workers.

The Recycling Partnership

IT TAKES A TEAM TO DELIVER TONS

Preserving the environment
is the responsibility of
everyone: the government,
the public, nonprofits and
businesses.





COMMUNICATIONS

EDUCATING WITHIN A MRFShED

Residents should hear the same recycling message no matter where they live, work or play.

- Communities that provide information online and their accepted materials list is the same as what their MRF accepts.

A MRFshed is defined as a group of communities that funnel material into the same MRF.



MRFshed Report



Examined the commonality and differences amongst communities providing recyclable material to the same MRF:

- How similar are the acceptable materials lists from each of the communities funneling material into the same MRF?
- How are communities communicating those acceptable materials lists (words, images, both, other)?
- Staff researched all 68 municipal websites associated with the two respective MRFsheds.

More than 1.3 million single-family households and a combined population of more than 4.6 million are represented by study.

MRFshed Report

HOW WAS STUDY CONDUCTED:

- Recent research from the Foodservice Packaging Institute, the Institute of Scrap Recycling Industries, Inc., and others, shows residents are becoming more reliant on the Internet to find answers to their recycling questions, especially from city, county or a recycling company's website.
- Research also tells us 60 percent of all current Internet searches are done using either one or two keywords. Depending on the content being sought, the average resident/consumer may spend as little as 15 seconds on a given webpage seeking information before they abandon the site.
- Research was conducted via a simple online search. Using the community's name and 'recycling,' as keywords, staff timed how long it took to obtain the necessary information, completely ending a search if it took two minutes or more to locate information.

MRFshed Report – Columbus, OH (Rumpke)

RECYCLING FACILITY PROCESSES

30 TONS/HR

POPULATION SERVED BY MRF

1,312,588

SINGLE-FAMILY HOUSEHOLDS SERVED BY MRF

429,399 HH

NUMBER OF COMMUNITIES SERVED BY MRF

42

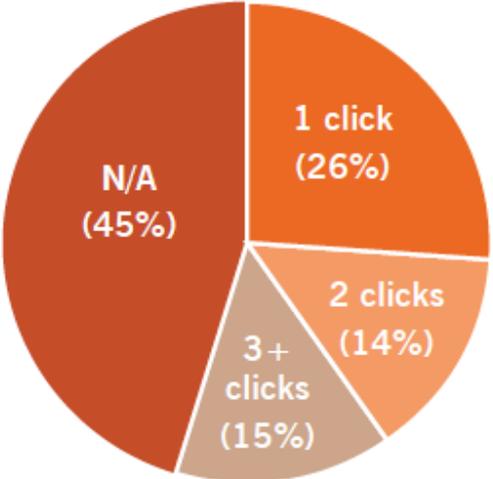
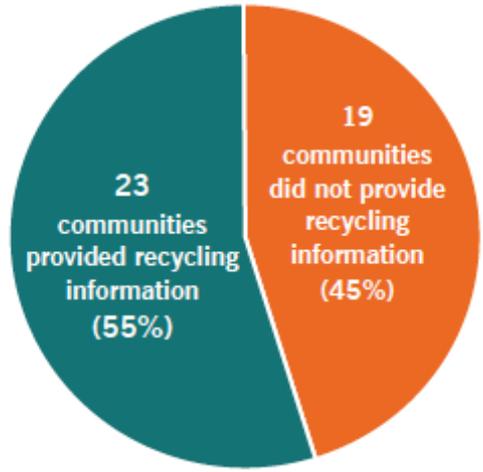
COMMUNITIES STUDIED THAT OFFERED A CURBSIDE SERVICE

40

COMMUNITIES STUDIED THAT ONLY HAD A DROP-OFF OPTION

2

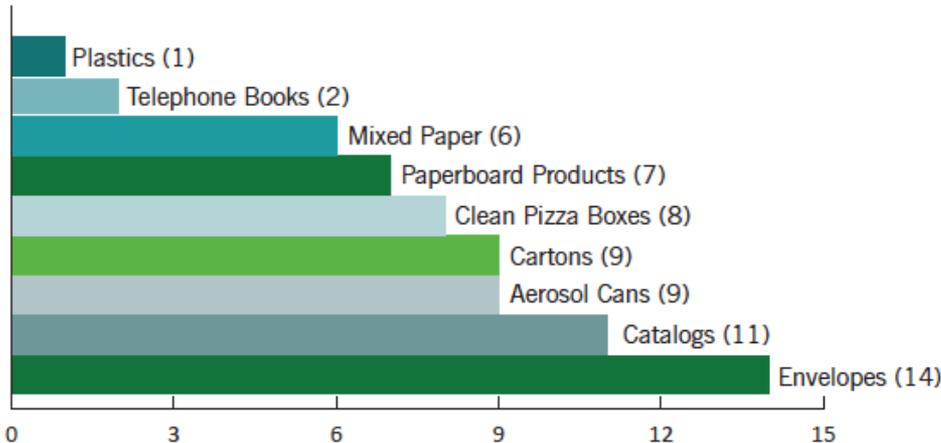
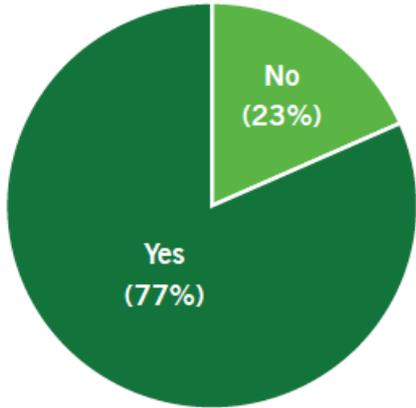
Graph 2: How many clicks to obtain information?



20 municipal sites had recycling information that could be found in an average time of 13.15 seconds.

MRFshed Report – Columbus, OH (Rumpke)

Graph 3: Did communities' acceptable materials lists differ from what MRF accepts?



PLASTICS CONFUSION

19 of the 22 communities had lists that contained more than just #1 PET and #2 HDPE. For example:

- Seven stated the acceptance of all plastic containers labeled #1-#7.
- Seven others stated all plastics #1-#7 are accepted, though plastic take-out containers, butter tubs, yogurt containers and bags are not.
- Five communities stated the acceptance of “HDPE & PETE Plastics (#1 thru #7).”

MRFshed Report – Chicago (Waste Management)

MRF HANDLES APPROX.
117K TONS/YR

POPULATION SERVED BY MRF
3,295,754

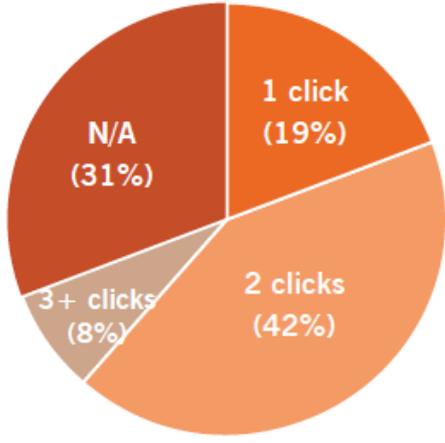
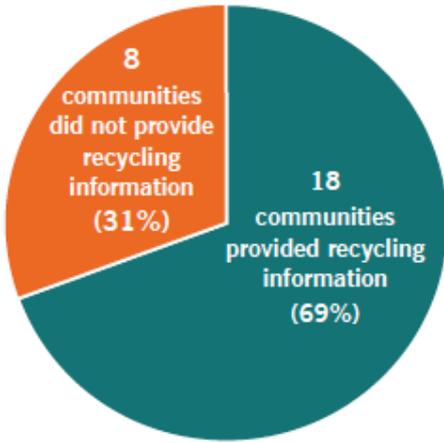
HOUSEHOLDS SERVED BY MRF
893,474 HH

TOTAL COMMUNITIES STUDIED
26

COMMUNITIES STUDIED THAT OFFERED A CURBSIDE SERVICE
21

COMMUNITIES STUDIED THAT ONLY HAD A DROP-OFF OPTION
1

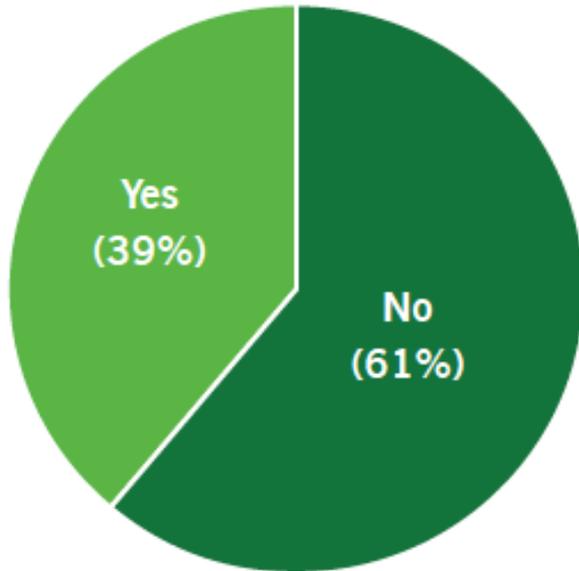
MUNICIPALITIES THAT DID NOT PROVIDE GARBAGE AND RECYCLING COLLECTION INFORMATION
4



18 municipalities had websites where it took an average of 10.18 seconds to find dedicated recycling information.

MRFshed Report – Chicago (Waste Management)

Graph 7: Did communities' acceptable materials list differ from what MRF accepts?



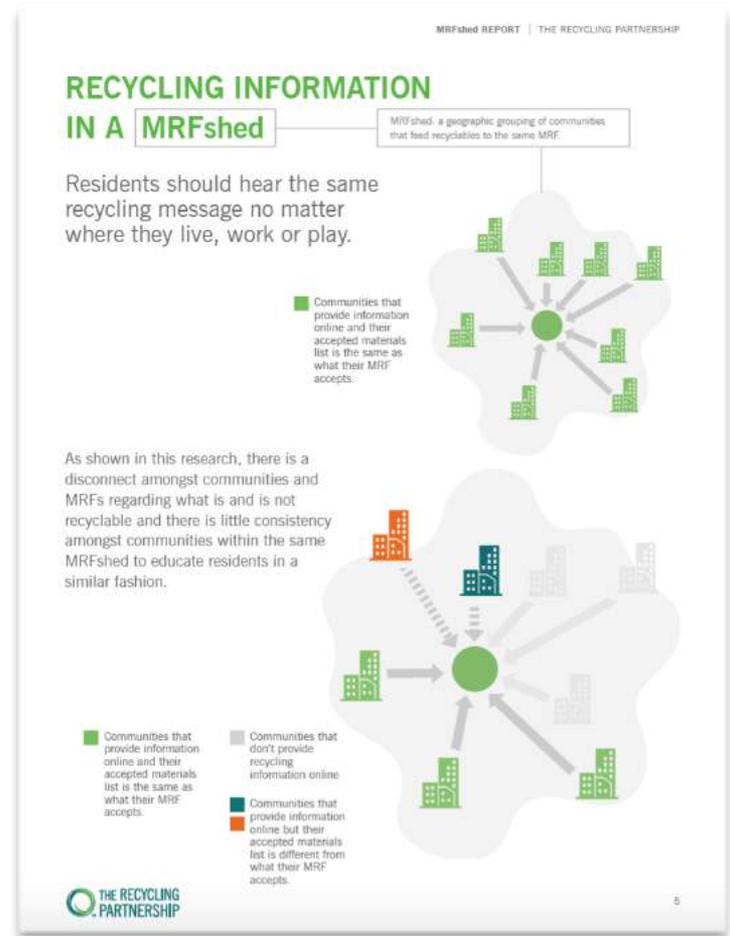
MESSAGING CONFUSION

- Most notable differences concerned plastics. Three of the communities link directly to Waste Management brochures from 2007 and 2008, which state that all plastics #1-#7 are accepted. Two other communities also noted the acceptance of #1-#7 plastics, with one jurisdiction stating that plastic six-pack rings are accepted curbside.
- As for other materials, one community listed the acceptance of empty paint cans, though Waste Management's educational materials do not, while another listed the acceptance of aluminum foil and trays, metal lids and plastic take-out containers and buckets, though the RORR site does not display these items.
- One community's acceptable materials list lacked the inclusion of cardboard, paperboard and cartons.

MRFshed Report

CONCLUSIONS:

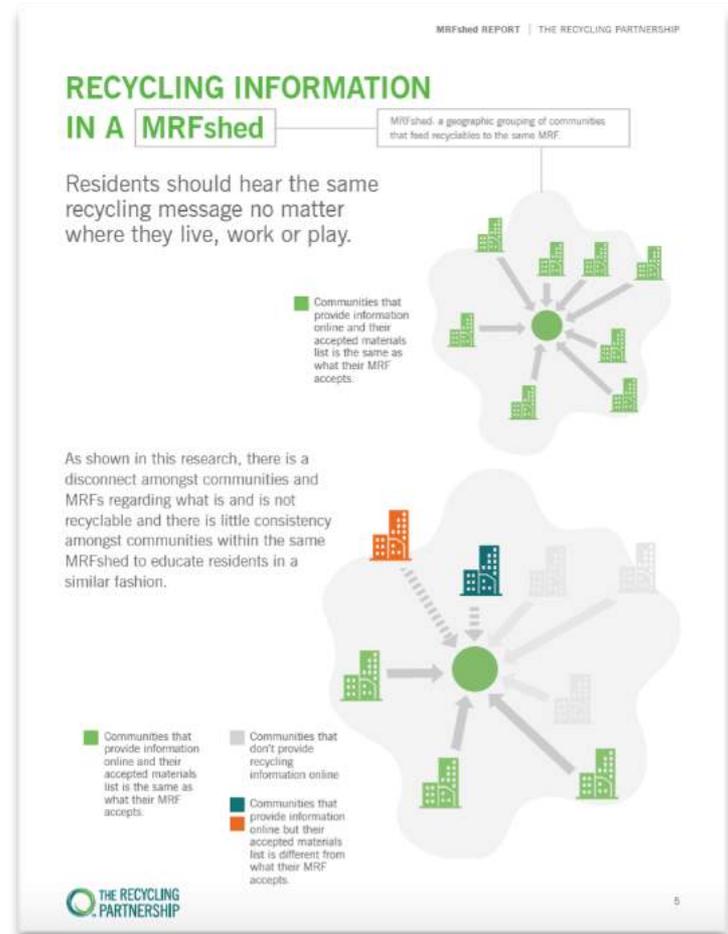
- Of the 68 communities studied for this project, 40 provided online recycling information (59 percent). Unfortunately, 24 of those communities (60 percent) provided acceptable materials lists different from what their designated MRF accepts.
- Basic recycling information should be at a resident's finger tips (what to recycle and when to recycle) and information regarding what to recycle should be consistent throughout every community within the same MRFshed.



MRFshed Report

WHAT CAN BE DONE:

- States could be facilitating forums where municipalities/solid waste authorities, haulers and MRF operators within a given MRFshed come together to create the MRFsheds common suite of materials, a list that could then be used with every community providing recyclable material to the MRF for that territory.
- Communities need to keep messaging simple, using clear images/icons paired with simple wording. Municipalities also need to be consistent with that messaging across all electronic and print forms of communication and make sure that message is in harmony with the MRF's operations.
- EPA should undertake studies that show the benefits of educating around a common suite of materials, most notably whether or not such an education approach helps lessen confusion for residents.



GETTING TO A COMMON SUITE

Gather Key Facts

Simple messaging takes work.

STEP
1

THE RECYCLING PARTNERSHIP

ACCEPTABLE MATERIALS WORKSHEET

MRF: _____

CITY: _____

Please go through each item on the list and check whether the item is used to get the local governments and the MRF on the same page. In answering the phone or driving the collection vehicles to better inform building educational materials that are consistent throughout the community.

You will see two categories under the "Do Not Accept" column. Here **Not Dangerous** item is not sent to a market for recycling, but does **Dangerous** item can shut down or damage equipment, harm employees.

PAPER PRODUCT	ACCEPT	DO NOT DANGER
OCC	<input type="checkbox"/>	<input type="checkbox"/>
Pizza Boxes	<input type="checkbox"/>	<input type="checkbox"/>
Newspaper	<input type="checkbox"/>	<input type="checkbox"/>
Magazines	<input type="checkbox"/>	<input type="checkbox"/>
Hard Cover Books	<input type="checkbox"/>	<input type="checkbox"/>
Paperback Books	<input type="checkbox"/>	<input type="checkbox"/>
Office Paper	<input type="checkbox"/>	<input type="checkbox"/>
Junk Mail	<input type="checkbox"/>	<input type="checkbox"/>
Cartons (gable-top containers like milk, orange juice, etc)	<input type="checkbox"/>	<input type="checkbox"/>
Shredded Paper	<input type="checkbox"/>	<input type="checkbox"/>
Directions on how to Prepare		
Round Can (fiber body, metal bottom)	<input type="checkbox"/>	<input type="checkbox"/>
Cold Cups (e.g. paper fountain drink cup)	<input type="checkbox"/>	<input type="checkbox"/>
Hot Cups (e.g. coffee cup)	<input type="checkbox"/>	<input type="checkbox"/>
Take-out Containers	<input type="checkbox"/>	<input type="checkbox"/>
Paperboard Boxes	<input type="checkbox"/>	<input type="checkbox"/>
Kraft Bags	<input type="checkbox"/>	<input type="checkbox"/>
Tissue Paper	<input type="checkbox"/>	<input type="checkbox"/>
Ice Cream Container	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

ACCEPTABLE MATERIALS

GLASS PRODUCT	ACCEPT	DO NOT DANGER
Bottles and Jars	<input type="checkbox"/>	<input type="checkbox"/>
Window	<input type="checkbox"/>	<input type="checkbox"/>
Mugs	<input type="checkbox"/>	<input type="checkbox"/>
Drinking Glass	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

ALUMINUM PRODUCT	ACCEPT	DO NOT DANGER
Can	<input type="checkbox"/>	<input type="checkbox"/>
Foil or Foil like container (e.g. aluminum trays)	<input type="checkbox"/>	<input type="checkbox"/>
Other aluminum containers	<input type="checkbox"/>	<input type="checkbox"/>
Aerosol	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

STEEL PRODUCT	ACCEPT	DO NOT DANGER
Can	<input type="checkbox"/>	<input type="checkbox"/>
Aerosol	<input type="checkbox"/>	<input type="checkbox"/>
Pots and pans	<input type="checkbox"/>	<input type="checkbox"/>
Scrap metal	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>

How do you educate what plastic is accepted:

- By object shape and/or size. (e.g. bottles - neck smaller)
- By resin type #1-7
- By resin type #1 and #2
- By resin type #1, 2, 3, 4, and 5
- Other:

ACCEPTABLE MATERIALS

PLASTIC PRODUCT	ACCEPT	DO NOT DANGER
PET Bottles & Jars	<input type="checkbox"/>	<input type="checkbox"/>
Non-bottle PET Containers & Lids (e.g. Clear plastic fast food cups)	<input type="checkbox"/>	<input type="checkbox"/>
PET thermoform (e.g. fruit container)	<input type="checkbox"/>	<input type="checkbox"/>
HDPE Bottles & Jars	<input type="checkbox"/>	<input type="checkbox"/>
Non-bottle HDPE Containers & Lids	<input type="checkbox"/>	<input type="checkbox"/>
PP Bottles	<input type="checkbox"/>	<input type="checkbox"/>
PP Containers & Lids	<input type="checkbox"/>	<input type="checkbox"/>
Other Drink Bottles (e.g. juice in #7)	<input type="checkbox"/>	<input type="checkbox"/>
Other Food bottles & Jars (e.g. items in #3,4,6 or 7)	<input type="checkbox"/>	<input type="checkbox"/>
Other Household bottles & Jars (e.g. #3 shampoo bottle)	<input type="checkbox"/>	<input type="checkbox"/>
Other Tubs & Lids (e.g. tubs that are #3,4,6, or 7)	<input type="checkbox"/>	<input type="checkbox"/>
Produce, Deli & Bakery Containers, cups, trays	<input type="checkbox"/>	<input type="checkbox"/>
Exclusions, size or preparation requirements		
Other containers & Packaging (e.g. baskets, molded packaging, food storage containers)	<input type="checkbox"/>	<input type="checkbox"/>
Exclusions, size or preparation requirements		

ACCEPTABLE MATERIALS

PLASTIC PRODUCT	ACCEPT	DO NOT DANGER
Bulky plastic (e.g. crates)	<input type="checkbox"/>	<input type="checkbox"/>
Exclusions, size or preparation requirements		
Buckets (any size)	<input type="checkbox"/>	<input type="checkbox"/>
Exclusions, size or preparation requirements		
Toys	<input type="checkbox"/>	<input type="checkbox"/>
Size or preparation requirements		
Flower Pots	<input type="checkbox"/>	<input type="checkbox"/>
Exclusions, size or preparation requirements		
Bags, wraps, film (bag in bag)	<input type="checkbox"/>	<input type="checkbox"/>
Plastic bags (loose or bag in bag)	<input type="checkbox"/>	<input type="checkbox"/>
EPS Foam Blocks & Shapes	<input type="checkbox"/>	<input type="checkbox"/>
EPS Foam food Service & Other containers	<input type="checkbox"/>	<input type="checkbox"/>
Plastic Size Requirements?		
Other Preparation Requirements?		

PROHIBITIVE ITEMS

If you could only tell citizens 5 things not to put at the curb - Rank the top five (5) unacceptable items that are causing the most problems in your facility. I.e. Degrades other commodities significantly, causes damage to MRF equipment, dangerous to staff, etc. Please rank with numbers "1" through "5." Put a "1" in the box of the worst contaminant. Only rank the top five and leave everything else blank.

PROHIBITIVE ITEMS	TOP 5
Plastic Bags	
Shredded Paper	
Propane Tanks	
Aerosol Cans	
EPS Foam (block and/or food service containers)	
Yard Waste	
Food Waste	
Bulky Plastics	
Wire, hose, cords, rope, chains	
Scrap metal	
Pots and Pans	
White Goods	
Textiles/clothes	
Flexible Packaging	
Motor oil containers	
Glass	
Fluorescent Bulbs	
Plastic toys	
Plastic furniture	
Electronics	
Cartons	
Ink/printer cartridges	
General hazardous waste	
Needles	
Pet food bags	
Mercury containing objects	
Dishes	
Wood	
Other	
Other	
Other	

Getting to a COMMON SUITE

PAPER PRODUCT	ACCEPT	DO NOT ACCEPT		DO NOT WANT ON LIST BUT ACCEPT
		NOT DANGEROUS	DANGEROUS	
OCC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Pizza Boxes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Newspaper	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Magazines	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hard Cover Books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Paperback Books	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Office Paper	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Junk Mail	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Cartons (gable top containers like milk, orange juice, etc)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shredded Paper <i>Directions on how to Prepare</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Round Can (fiber body, metal bottom)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ice Cream Container	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Getting to a COMMON SUITE

STEP
2

SHARED ACCEPTABLE ITEMS:

Fiber

OCC
Pizza Boxes
Newspaper
Magazines
Office Paper
Junk Mail
Cartons (gable top
containers like milk,
orange Juice, etc)
Paperboard Boxes
Kraft Bags

Glass

Bottles and Jars

Aluminum

Can

Steel

Can

Plastic

PET Bottles & Jars
HDPE Bottles & Jars
Other Drink Bottles (e.g. Juice in #7)
Other Food bottles & Jars
(e.g. items in #3,4,6 or 7)
Other Household bottles & Jars
(e.g. #3 shampoo bottle)
Non-bottle HDPE Containers & Lids
Other Tubs & Lids
(e.g. tubs that are #3,4,6,or 7)
PP Bottles
PP Containers & Lids

TOP 5 PROHIBITIVE:

- 1) Plastic Bags
- 2) Needles
- 3) Tanglers (rope, hose, cord, wire)
- 4) Textiles
- 5) Scrap Metal

Getting to a COMMON SUITE

STEP
3



Aluminum and Steel Cans
empty and rinse



Food and Beverage Cartons
empty and replace cap



Bottles and Jars
empty and rinse



Mixed Paper, Newspaper, Boxes, and Cardboard
flatten



Kitchen, Laundry, Bath: Bottles and Containers
empty and replace cap

NO!
NO INCLUIR



No Propane Tanks



No Plastic Bags (return to retail)



No Hypodermic Needles



No Clothing or Linens (use donation programs)



No Tanglers (no hoses, wires, chains, or electronics)

GETTING TO A COMMON SUITE

Cuyahoga County, OH

DISTRICT



59

Local Governments



500k

Single Family Homes



1.3M

People

CONTAINERS



1 cart/bin mix program



2 bin programs



3 with no curbside



7 bin/bag mix programs



14 blue bag programs



32 cart programs

4 MRFs



HAULERS



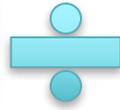
Key Metrics – Pathways to Improving Performance

- Tonnage by type of service
e.g., curbside, multi-family
- Units served
e.g., how many households served by curbside; how many units served by multi-family program, etc.
- Participation/Set-out
Or other usage metrics for drop-off, etc.
- Commodity Capture Rates
- MRF Commodity Profile and Blended Value
- Contamination Rates

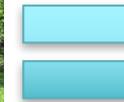
Critical Performance Metric: Pounds per Household Served



Tons collected in program



Number of Households (HH) served by program



**Pounds/
HH Served**

*** Concept can be extended to other services/programs – e.g. pounds per unit served in multifamily programs**



THE OPPORTUNITY

800
pounds
of
recyclables
available in
HH

Gaps

NO CURBSIDE or DROP-OFF AVAILABLE

All 800 pounds lost to trash

CURBSIDE OPT-IN

All 800 pounds in most homes lost to trash

CURBSIDE IN BINS; INCONVENIENT DROP-OFF

600 pounds lost to trash

CURBSIDE IN CARTS, DROP-OFF ESTABLISHED NO EDUCATION

400 pounds lost to trash

CURBSIDE IN CARTS, STRONG DROP-OFF GOOD EDUCATION

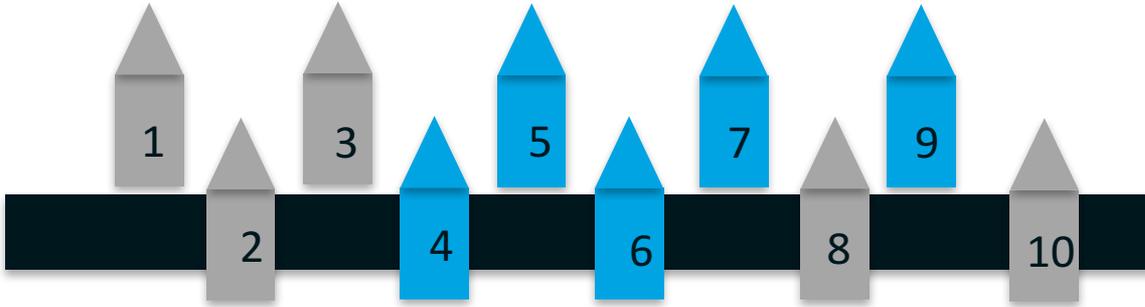
200 pounds lost to trash

Solutions

- ESTABLISH SERVICES
- ENCOURAGE PARTICIPATION
- CREATE UNIVERSAL AUTOMATIC ACCESS
- CONVERT TO CARTS
- INCREASE ACCESS TO DROP-OFF
- INVEST IN EDUCATION
- USE MULTIPLE OUTREACH TOOLS
- ANALYZE OPPORTUNITIES
- TARGET OUTREACH

Set-Out and Participation

Week 1 Collection Cycle

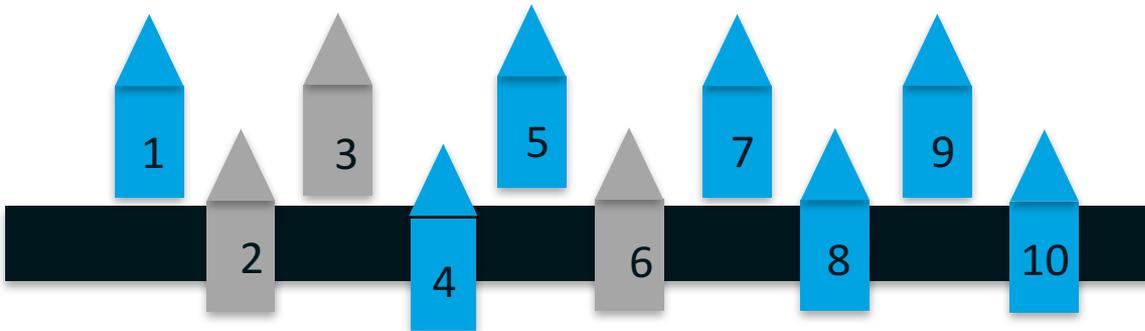


Set-out Rate

50%

*5 out of 10 homes
on average*

Week 2 Collection Cycle



Set-out Rate

70%

*7 out of 10 homes
on average*

**What is the Total
PARTICIPATION Rate?**

How Much Recyclable Material is Available?



Recyclables + Recyclable Portion of Waste
= Total Recyclables in a Household



Current Estimate
800- 850 lbs/year

Twin Challenges: Trash in Recycling and Recycling in Trash



Trash in the Recycling:

- ASSESS through Capture Studies and by talking to MRF
- ADDRESS through smart, targeted outreach



Recycling in the Trash:

- ASSESS through Capture Studies
- ADDRESS through smart, targeted outreach

Capture Rates: Measuring Recyclables Still in the Trash



AND

400lbs
RECYCLABLES
GO INTO RECYCLING



THUS, THE OTHER

400lbs
RECYCLABLES
THEN GO INTO TRASH

50%
CAPTURE
RATE

Capture Rates: How It's Done



Example of Capture Rate Data

Pounds/Household/Year

Material Type	All HH Recyclables	Garbage	All Recycling	Bagged Recycling	Loose Recycling
Recyclable Paper	472.7	138.5	334.3	32.0	300.8
Cardboard	122.6	22.0	100.5	3.9	98.5
Mixed Paper	343.1	114.0	229.1	27.7	198.2
Aseptic & Gabletop	7.1	2.4	4.6	0.5	4.1
Recyclable Metal	49.8	21.6	28.2	3.4	24.9
Aluminum Cans	21.0	6.8	14.2	2.3	12.1
Aluminum Foil & Trays	5.4	4.2	1.1	0.1	0.9
Steel Cans	23.4	10.5	12.9	1.0	11.9
Recyclable Glass	180.0	42.9	137.1	14.2	120.5
Glass Containers	180.0	42.9	137.1	14.2	120.5
Recyclable Plastic	124.0	58.5	65.5	7.8	58.5
Clear PET Containers	44.7	16.5	28.2	3.7	24.8
Other Containers & Small Rigid	51.6	30.1	21.5	2.3	18.8
HDPE Natural Bottles & Jars	6.1	1.7	4.4	0.7	4.1
HDPE Colored Bottles & Jars	12.8	5.5	7.3	1.0	6.3
Bulky Rigid Plastics	8.9	4.7	4.1	-	4.5
Grand Total	826.57	261.46	565.11	57.34	504.74

Total Capture for *participating* HHs, excluding bagged material: **61%**

From *Participating* Capture to *Whole City* Capture

Recycling Pounds Generated Per HH (Estimate provided by Capture Study)	826.57
Total Households Served By Program	176,000
Total Tons of Recyclable Material Available from Households (# of pounds * # of HHs = Total Pounds/2000 = Total Tons)	72,738
Actual Tonnage Collected in Curbside Program	38,000
Available HH Recycling Not Collected	34,738
Whole City Capture Rate of Household Recyclables (Tonnage Collected/Tonnage Available)	52%

Data from your MRF – Blended Value and Contamination

Commodity	Assumed Material Comp. %		\$/TON*	VALUE
ONP	19.0%	\$	48.00	\$ 9.12
Mixed Paper	19.4%	\$	57.00	\$ 11.06
OCC	16.5%	\$	150.00	\$ 24.75
PET	5.5%	\$	289.00	\$ 15.90
3-7 Plastic	1.5%	\$	20.00	\$ 0.30
HDPE-Natural	0.6%	\$	584.00	\$ 3.50
HDPE-Color	1.45%	\$	291.00	\$ 4.22
MRP	1.45%	\$	60.00	\$ 0.87
Aluminum	1.25%	\$	1,300.00	\$ 16.25
Steel Cans/Ferrous Metal	3.00%	\$	164.00	\$ 4.92
Aseptic	0.00%	\$	-	\$ -
Glass	17.00%	\$	(30.00)	\$ (5.10)
Residue-Trash	12.75%	\$	(70.00)	\$ (8.93)
	100.00%			
	Blended Rate:			\$ 76.86

Measuring Contamination

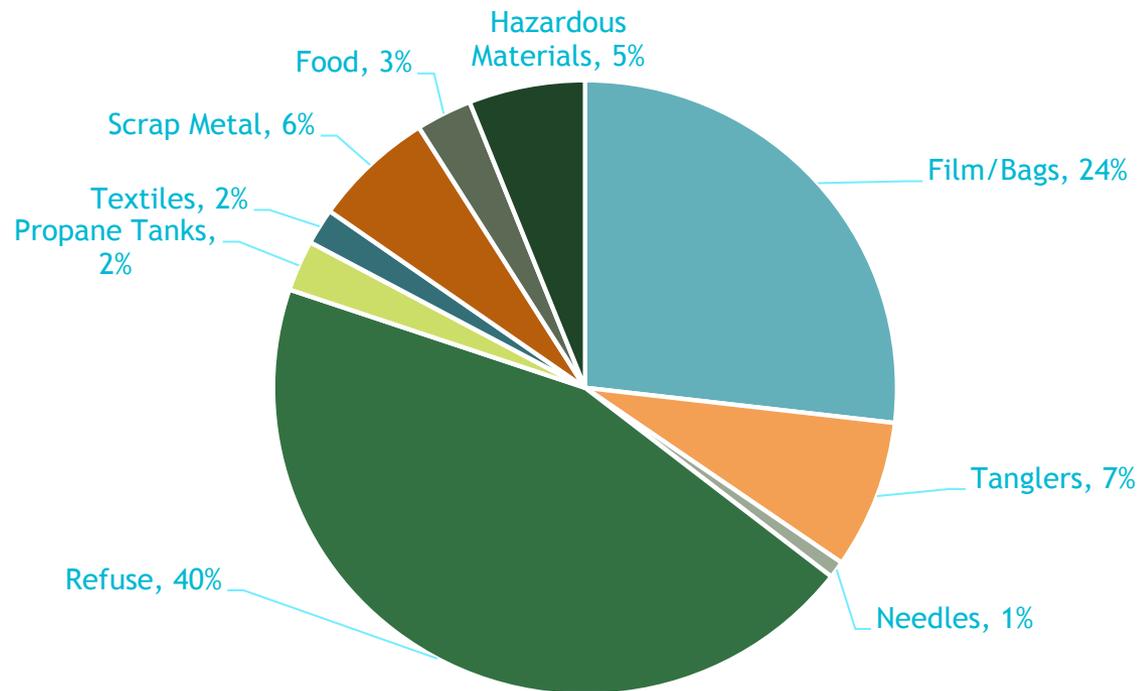
- Feedback from MRF - Periodic audits and reports
- Capture studies - Can measure weight and occurrence

All Households						
Material Type	Top 5 <i>by weight</i>	Top 5 <i>by occurrence</i>	Weight		Occurrence	
			<i>% of recycling</i>	<i>lbs/hh/mo</i>	<i>% of HHs</i>	<i># of HHs</i>
Food	1		2.7%	1.4	23%	30
Paper Contaminants	2	2	2.1%	1.1	72%	95
Plastic Bags & Film	3	1	1.6%	0.8	78%	103
Metal Contaminants	4	4	1.3%	0.7	45%	59
Rigid Plastic Contaminants	5	3	0.7%	0.4	62%	82
Other		5	0.6%	0.3	23%	31
Yard Waste			0.6%	0.3	7%	9
Textiles & Shoes		5	0.5%	0.3	23%	31
Tanglers			0.5%	0.2	2%	3
Electronics			0.4%	0.2	5%	6
Glass Contaminants			0.4%	0.2	8%	11
C&D Waste			0.1%	0.1	3%	4
HHW & Household Chemicals			0.0%	0.0	5%	6
Disposable Diapers			0.0%	0.0	1%	1
Recyclable Materials			88%	47.0	100%	132
Contaminants			12%	6.1	100%	132
Total			100%	53.2	100%	132

What Do MRFs Tell Us?

Most expensive contaminants

1. Refuse
2. Film
3. Tangles



Methods for Addressing Contamination

- Consistent Communication
- Focus on key contaminants
 - (not the laundry list of everything bad)
- Empower the drivers
- Coordinated use of outreach tools
- Cart tagging

Contamination costs the system **money & time**, and **safety hazards** for workers.



Cart-Tagging

- Targeted, Direct, Proven, Effective



OOPS!
PLEASE LEAVE THESE ITEMS OUT!

 No Bag Recyclables (no cardboard)	 No Eggs (return to store)
 No Plant or Liquid (empty all containers)	 No Electronics (wash-off only)
 No Nails, Screws, Holes or Chains	 No Stumps, Wood, Plastic, Furniture or Glass

**CORRECT THIS AND WE
WILL COLLECT NEXT TIME.**



www.atlantaga.gov
404.330.6236

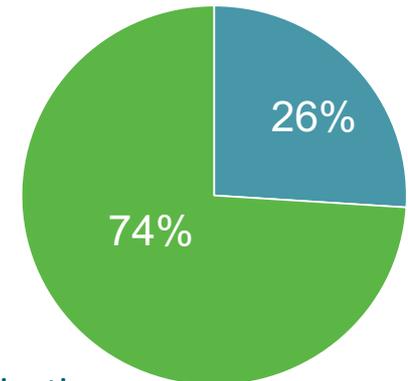
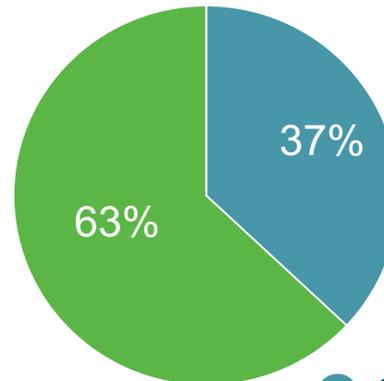
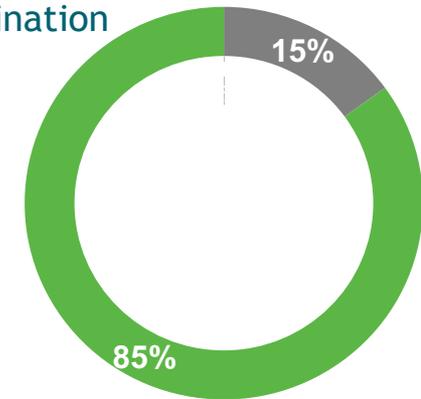
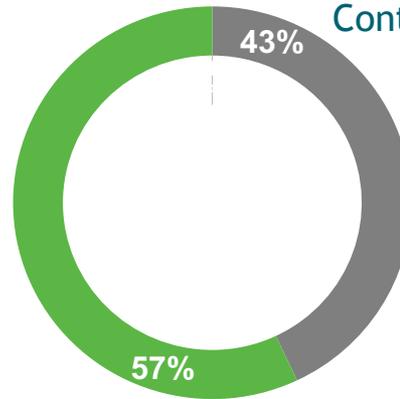
Cart-Tagging Results

Route Results in Atlanta



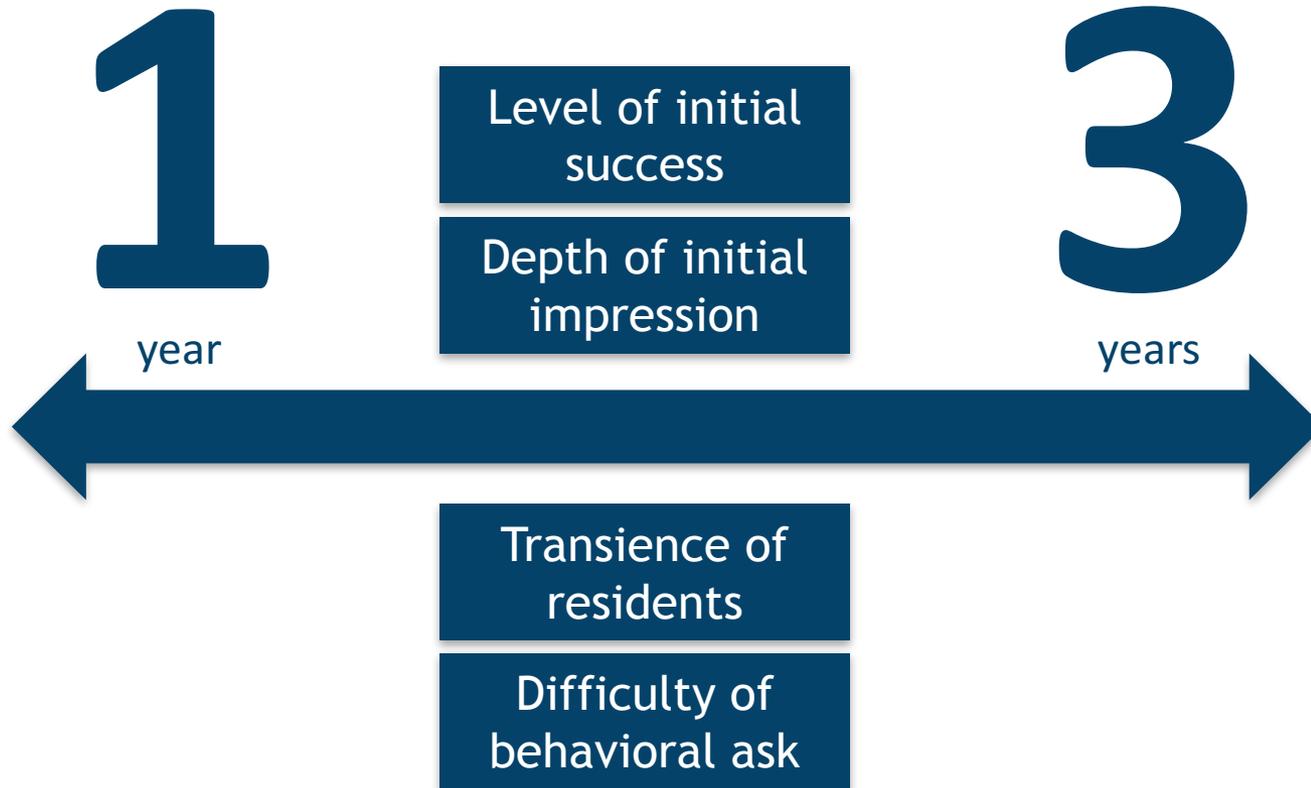
LOWELL and W. SPRINGFIELD, MA

● Stuff in Bags
● All Other Contamination

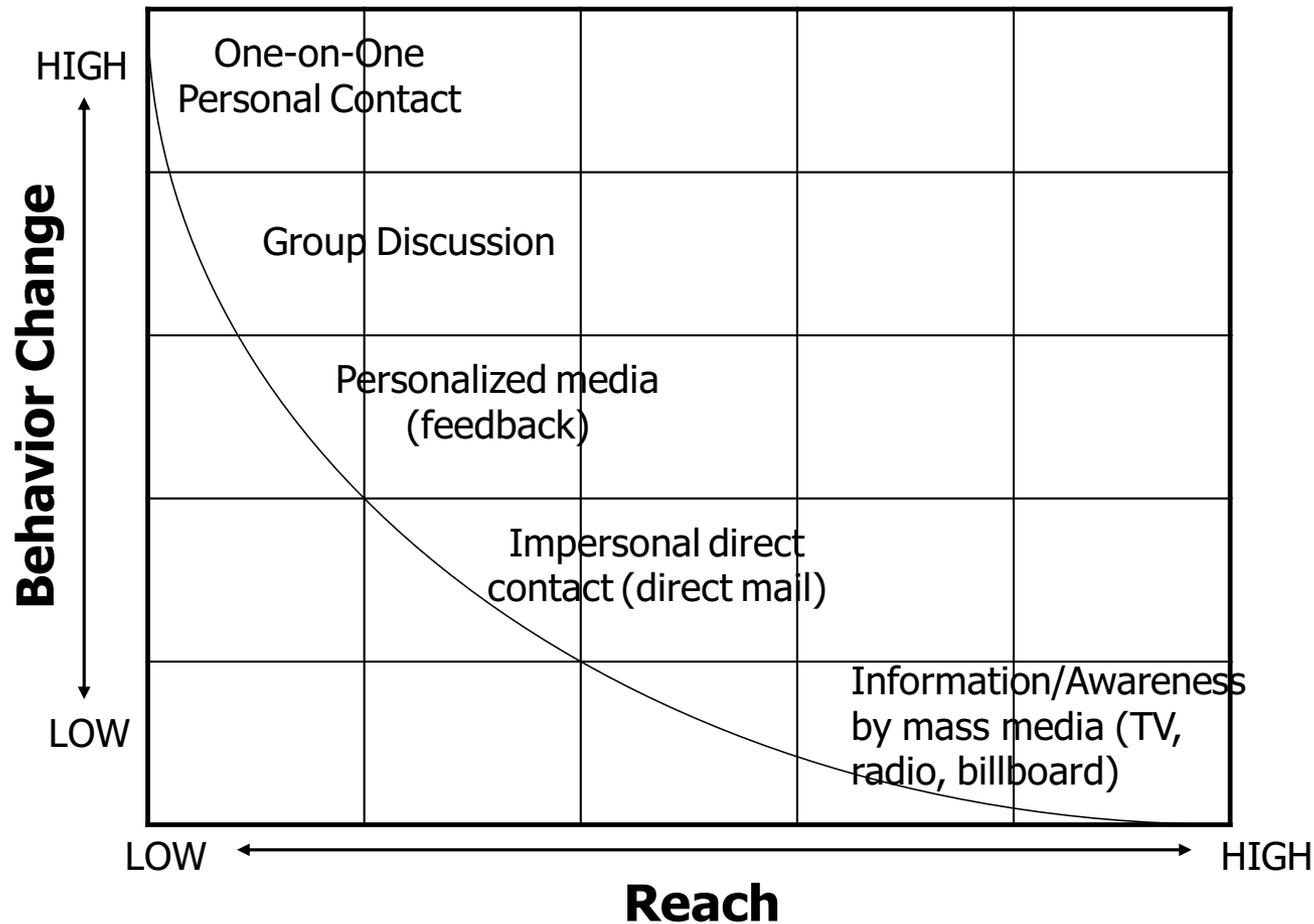


● Contamination
● Recyclables

How Long Do Campaign Effects Last?



How Do I Maximize Durability of Message?



Graphic from:
Schultz, P.W., &
Tabanico, J. (2007).
Community-based
social marketing and
behavior change. In
A. Cabaniss (Ed.),
*Handbook on
Household Hazardous
Waste*. Lanham, MD:
Rowan and
Littlefield.

Training Videos

Train them well. Set a standard.



MRF MATERIAL TRACKING FORM Date: _____

City: _____ Hauler: _____

Truck Number: _____ Container Number (if drop-off): _____

Route Number: _____ Container Material (if drop-off): _____
(e.g. bottles/cans, cardboard, paper)

QUALITY GRADE
(circle one)

A	Quality is acceptable. Less than 10% of material is contaminated.	B	Quality is poor. 10% to 20% of material is contaminated	C	Quality is bad. Over 20% of material is contaminated.
----------	---	----------	---	----------	---

Grade B or C? Recyclables in Bags Refuse in Bags Loose bags/film Scrap Metal
Check main
contaminant: Wood Waste Large bulky/heavy Items Hazardous Waste Tangles Textiles

Other: _____

Photographed? Quality Inspection Signature: _____
Driver Signature: _____

Access Our Tools



ALWAYS PAIR SOUND OPERATIONS WITH THOUGHTFUL OUTREACH. PROCEED WITH INFORMED DECISION MAKING.

PLAN - ACT - MEASURE AND REPEAT

SO RECYCLER, WHAT DO YOU WANT TO DO FIRST?

Delivering robust recycling service means valuable materials are diverted from landfills back into manufacturing, and residents confidently recycle.



Effective Outreach – Appeal to the Emotive Instinct

IT'S ALL YOU. Recycle.

one simple act. Recycle.

SHINE ON. Recycle.

IT'S ALL YOU RECYCLE RIGHT

- Do not Bag Recyclables No Garbage
- No Plastic Bags (return to retail)
- YUCK!** No Food or Liquid (except oil containers)
- No Clothing or Linens (and incinerators prohibited)
- No Tangles (no hoses, wires, chains, or electronics)

YES! RECYCLE THESE

Cans	Cartons	Glass	Paper	Plastic
Aluminum and Steel Cans empty and clean	Food and Beverage Cartons empty and replace cap	Bottles and Jars empty and clean	Mixed Paper, Newspaper, Boxes, and Cardboard clean	Kitchen, Laundry, Bath Bottles and Containers empty and replace cap

123.456.789X
Department Name

www.SampleUrl.org
Recycling is made possible by your local government. For more information, visit www.sampleurl.org.

Effective Outreach Elements

INFORM – BASIC DO'S AND DON'TS



POSTCARD/MAGNET

PERSONALIZED FEEDBACK



CART TAGS

ISSUE SPECIFIC COMMUNICATIONS



MAILERS + MEDIA

STANDING RESOURCE



Social Media



[HOME](#)

[ABOUT](#) ▾

[PARTNERSHIP](#) ▾

[NEWS](#)

[TOOLS SITE](#)



SOCIAL MEDIA KIT

POSTS & POINTERS FOR YOUR PROGRAM

Social media is the most efficient way to interact with your residents.



RECYCLINGPARTNERSHIP.ORG

Social Media

The complete set includes:

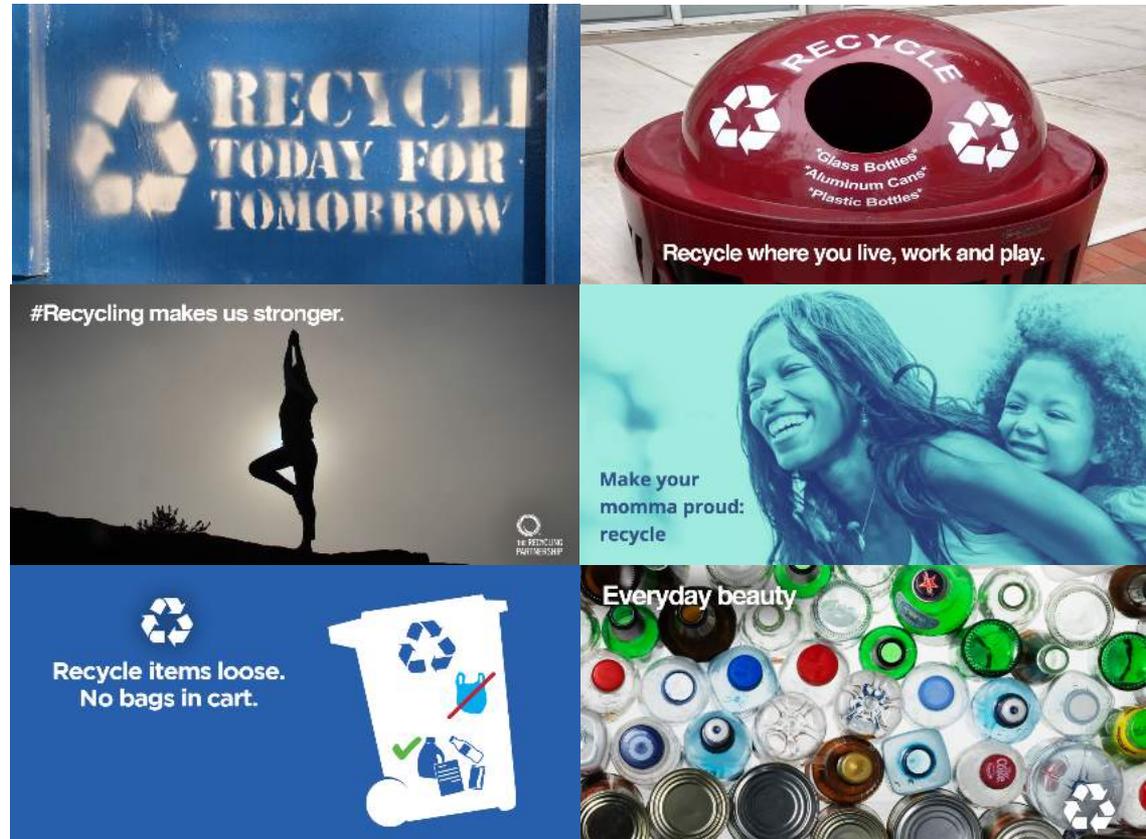
52 images covering 6 topics

- General
- Holidays
- Material Specific
- Recycling Factoids
- Why Recycle

Pre-written post text for each image.

All posts designed for use with Facebook and Twitter.

BONUS – Create your own.





ROLLING CART GRANTS

- Up to \$500K for carts
- Up to \$50K for educational needs associated with cart campaign.
- Questions? Contact jgast@recyclingpartnership.org

JOIN OUR NETWORK, and let's make recycling more & better!



TOOLS

Online
Library
Starters
BMPs



IDEAS

Webinars
Newsletters
E-Books
Forums



RESOURCES

Grants
Campaigns
Tech
Assistance

www.recyclingpartnership.org

Thank You!

Scott Mouw, Senior Director of Technical Assistance
smouw@recyclingpartnership.org 919-633-0738

Justin Gast, Technical Assistance
jgast@recyclingpartnership.org 541-285-6335