

MRFshed REPORT

Understanding Materials Acceptability within a MRFshed and the Communication/Education Efforts Around those Acceptable Materials.

PREPARED BY THE RECYCLING PARTNERSHIP ©2017



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EXECUTIVE SUMMARY

The following research was Internet-based and focused on the recycling communication efforts of communities located within two U.S. Environmental Protection Agency (EPA) Region-5-based MRFsheds. A MRFshed is defined as a group of communities that funnel material into the same materials recycling facility (MRF).

This research was conducted to examine the commonality and differences amongst communities providing recyclable material to the same MRF. For example:

- 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)?

Ideally, each community serviced by the same MRF should have the same acceptable materials list otherwise known as a common suite of materials, thus minimizing confusion among residents.

This research also sought out to determine how difficult or easy it is to obtain this information.

Research was conducted via Internet because studies are showing that residents are relying more on websites for answers to their recycling questions. For example, a 2016 survey conducted for the Foodservice Packaging Institute by Resource Recycling Systems showed that 54 percent of respondents rely on their city, county or recycling company's website as the first or second choice source of recycling information.¹

Additionally, a January 2017 online Harris Poll study conducted for the Institute of Scrap Recycling Industries revealed that 52 percent of respondents rely on Internet searches for recycling information. That same study also revealed that 36 percent of Americans say that they either seek out or are provided with detailed information about recycling from their local government.²

However, simply placing detailed recycling information online is only half the battle. That information has to be up front and center on the respective program's page. It has to be quickly and easily obtainable, especially via a simple Internet keyword search (using name of community and 'recycling' as the keywords).

According to Internet statistics research firm Statista, 60 percent of all current Internet searches are done using either one or two keywords.³ Additionally, numerous studies show that, 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.

For this study, Partnership staff focused on the MRFsheds associated with Rumpke Recycling's Columbus (OH) recycling facility and Waste Management's CID facility in Calumet City, Illinois. In total, 68 communities – 42 Columbus-area communities and 26 Chicago-area communities – more than 1.3 million single-family households and a combined population of more than 4.6 million are represented by this study.*

* Population figures include the combined populations of each of the communities within each of the MRFsheds. Household numbers only include those properties that fall under the definition of 'single-family residence,' which for this project included attached and detached dwellings and multi-family properties of up to four units.

RECYCLING INFORMATION IN A MRFshed

MRFshed: a geographic grouping of communities that feed recyclables to the same MRF.

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.



As shown in this research, there is a disconnect amongst communities and MRFs regarding what is and is not recyclable and there is little consistency amongst communities within the same MRFshed to educate residents in a similar fashion.

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

■ Communities that don't provide recycling information online

■ Communities that provide information online but their accepted materials list is different from what their MRF accepts.



FINDINGS FROM THIS REPORT SHOW THE FOLLOWING:

- Inconsistencies in department placement of a municipality's solid waste and recycling program.
- Forty-one percent of communities did not provide any information about recycling.
- For the communities that provided information, most made that information easily accessible.
- Inconsistencies in acceptable materials lists among cities providing material to the same MRF.
- Inconsistencies in uniform imagery and wording use to communicate what is and is not recyclable in a municipality's curbside program.

HOW STUDY WAS CONDUCTED

As stated, some reports show the average online user may spend as little as 15 seconds on any given webpage before they abandon the site. Other reports note some users will spend as much as up to two minutes. However, when it comes to online use, how one navigates the Internet will most likely differ from person to person.

For this project, Partnership staff researched all 68 municipal websites associated with the two respective MRFsheds, looking to see how similar acceptable materials lists were from community to community within the MRFshed and how those lists were being communicated (words, images, both, other). Using a simple online search consisting of the community's name and 'recycling,' 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.* It should be noted that all data is provided in aggregate for each MRFshed. This is not specific research highlighting these two MRFsheds because they are unique, rather these are two sample MRFsheds that represent common relationships among cities and MRFs within a given region throughout the country.

SUMMARY

2

MRFsheds RESEARCHED

68

TOTAL COMMUNITIES STUDIED

**MORE THAN
1.3M**

TOTAL SINGLE-FAMILY
HOUSEHOLDS REPRESENTED
BY THOSE COMMUNITIES

**MORE THAN
4.6M**

TOTAL POPULATION
REPRESENTED BY
RESEARCH PROJECT

*Research was conducted on a laptop using high-speed Internet and Google as the designated search engine. Time-related results associated with "WAS EDUCATIONAL MATERIAL EASY TO OBTAIN?" may vary depending on a user's computer or mobile setup, Internet speed and desired search engine option.

RUMPKE RECYCLING COLUMBUS RECYCLING FACILITY – COLUMBUS, OH

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

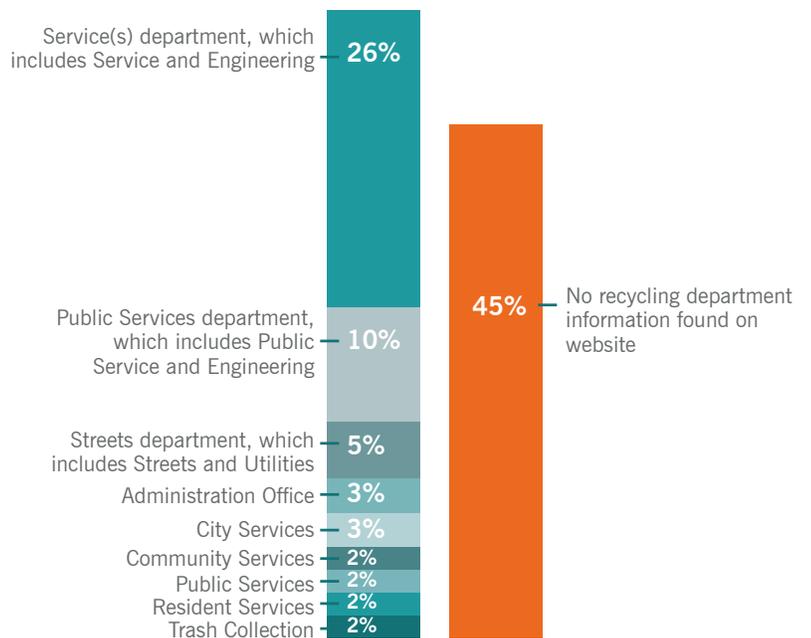
Community data was provided to The Recycling Partnership by Rumpke Recycling and vetted by Solid Waste Authority of Central Ohio (SWACO) staff.

WHERE IS RECYCLING INFORMATION FOUND ON MUNICIPAL WEBSITES?

Research showed inconsistencies in the jurisdictional department placement of a municipality’s solid waste and recycling program. For the Columbus MRFshed, either garbage and recycling information, or the physical program, was found within a variety of municipal departments as shown in Chart 1.

45 percent of the communities (19) had no department information listed in conjunction with garbage and recycling.

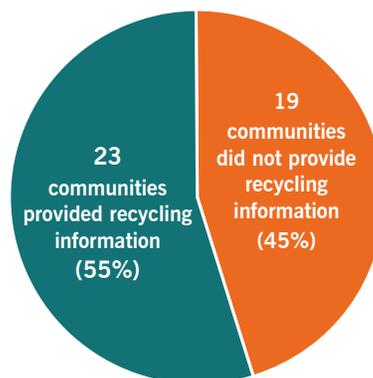
Chart 1: Recycling is housed within a variety of municipal departments.



WHO’S PROVIDING RECYCLING INFORMATION?

Research revealed 23 of the 42 Columbus MRFshed communities provided information regarding what materials are accepted (see Graph 1).

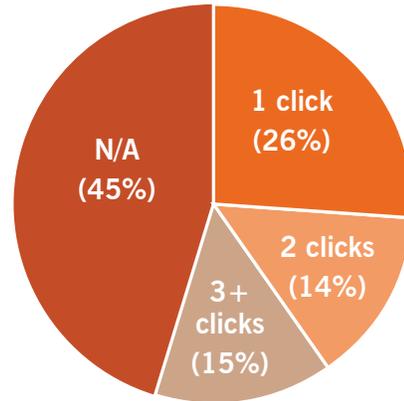
Graph 1: Percentage of communities providing recycling information



WAS EDUCATIONAL MATERIAL EASY TO OBTAIN?

Research showed 20 municipal sites had recycling information that could be found in an average time of 13.15 seconds, while the remaining three sites it took more than two minutes to find information. As noted in Graph 2, 26 percent of the communities surveyed (11) had recycling information that could be found within one click from an online search using the community’s name and ‘recycling.’

Graph 2: How many clicks to obtain information?



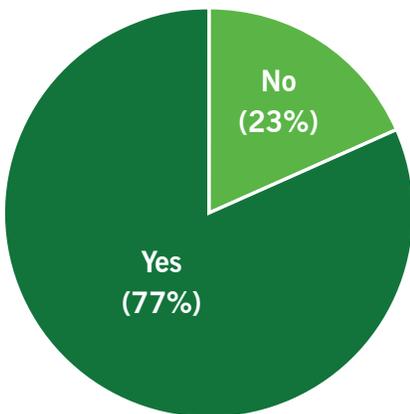
HOW UNIFORM ARE ACCEPTABLE MATERIALS LISTS ACROSS COMMUNITIES?

In an ideal situation, if any number of communities are funneling recyclable materials into the same processing facility, the hope is each of those communities will have the same acceptable materials lists and will educate and communicate those lists in a similar manner.

Of the 22 communities that did provide information on garbage and recycling, only five had acceptable materials lists that matched that of Rumpke’s and that was because those communities linked directly to the Rumpke website (see Graph 3).

To communicate those acceptable materials lists, 18 used words while four used a combination of both images and limited wording (see Graph 4).

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



Graph 4: How were acceptable materials lists communicated?

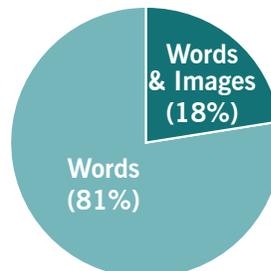
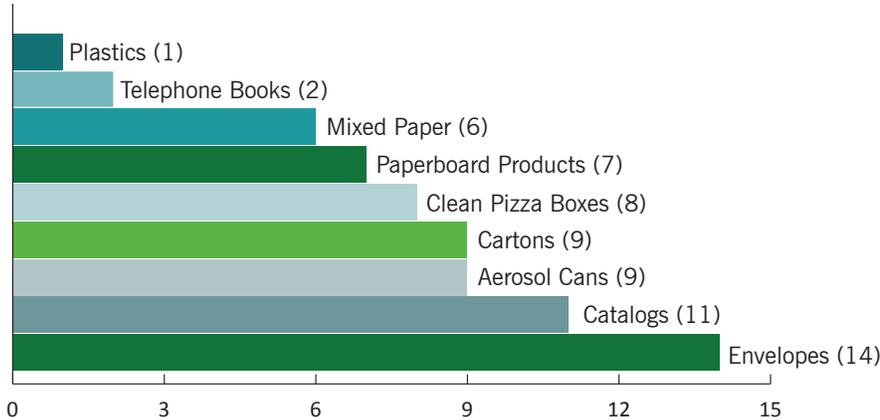


Chart 2: Rumpke-accepted materials not included on a community's acceptable materials list (# of communities)



Additionally, in several cases how to prepare material did not match the MRF's direction. Eleven communities did not mention how to properly recycle plastics bottles, eight communities did not mention how to properly prepare cartons for recycling and four did not mention how to properly recycle aerosol cans (empty with the lids and tips removed).

PLASTICS MESSAGING CONFUSION

The most notable difference concerned plastics. Rumpke states on its site the company accepts “Bottles and jugs that have a small mouth and wider base, such as milk jugs, soda bottles, laundry detergent bottles, water bottles, shampoo bottles and contact solution bottles.” When compared with the imagery Rumpke also provides, essentially, the company is promoting #1 Polyethylene Terephthalate (PET) and #2 High-Density Polyethylene (HDPE) bottles and jugs only. However, when looking at the 22 acceptable materials lists that were available, 19 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).”

WASTE MANAGEMENT CID FACILITY – CHICAGO, IL

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	

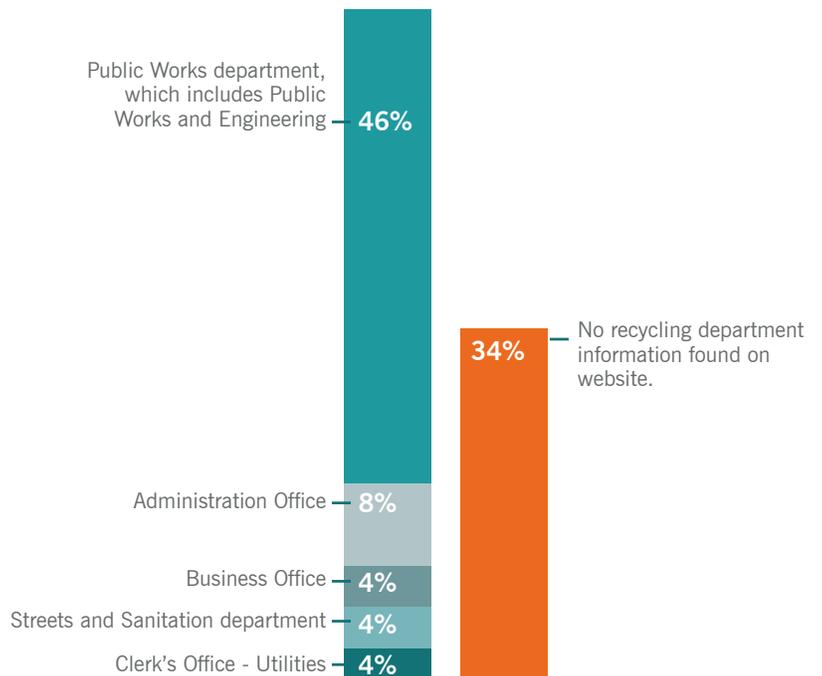
Data was provided to The Recycling Partnership by Waste Management.

WHERE IS RECYCLING INFORMATION FOUND ON MUNICIPAL WEBSITES?

As seen in chart 3, research conducted of the Chicago MRFshed showed slightly more consistency in the jurisdictional department placement of a community’s solid waste and recycling program.

Department information could not be found for 34 percent of the communities.

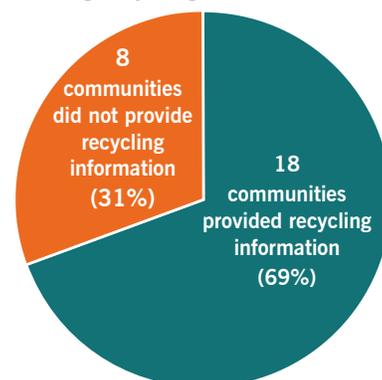
Chart 3: Recycling is housed within a variety of municipal departments.



WHO'S PROVIDING RECYCLING INFORMATION?

For the Chicago MRFshed, research revealed 18 of the 26 communities provided information regarding what materials are accepted (see Graph 5).

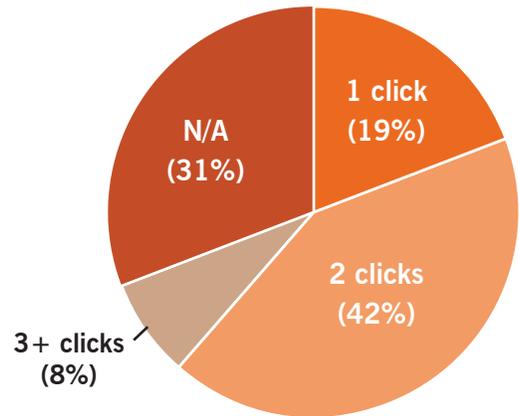
Graph 5: Percentage of communities providing recycling information



WAS EDUCATIONAL MATERIAL EASY TO OBTAIN?

For the 18 municipalities that had websites with dedicated recycling information, it took an average of 10.18 seconds to find information. As noted in Graph 6, 61 percent of the communities surveyed had recycling information that could be found within one to two clicks from an online search using the community’s name and ‘recycling.’

Graph 6: How many clicks to obtain information?

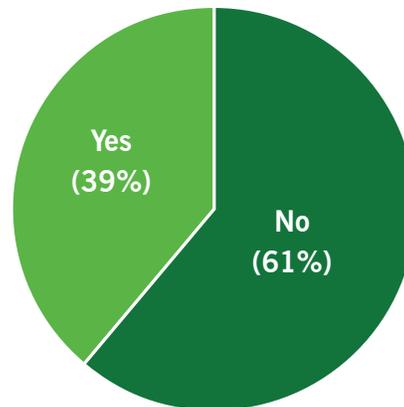


HOW UNIFORM ARE ACCEPTABLE MATERIALS LISTS ACROSS COMMUNITIES?

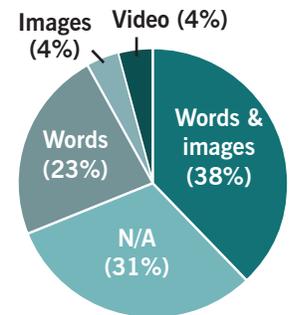
As noted in Graph 7, 11 of the 18 communities (61 percent) had acceptable materials lists that mimicked what the CID facility accepts, with 10 communities linking directly to a poster, brochure or the website dedicated to Waste Management’s Recycle Often, Recycle Right (RORR) program.

To educate those lists, 10 used a combination of words and images, six used just words, one used images and one used a video that not only highlighted the materials accepted curbside, but also how the entire recycling system works (from collection through processing). (see Graph 8)

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



Graph 8: How were acceptable materials lists communicated?



MESSAGING CONFUSION

Like the Columbus MRFshed, the 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. Note: these same brochures also state the acceptance of wet-strength cardboard, though they don’t recognize the acceptance of cartons. 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, and one community’s acceptable materials list lacks the inclusion of cardboard, paperboard and cartons. Lastly, one jurisdiction, which uses a national company for educational purposes, lists 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.

CONCLUSION

As shown in this research, there is a disconnect amongst communities and MRFs regarding what is and is not recyclable and there is little consistency amongst communities within the same MRFshed to educate residents in a similar fashion. 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. This is not unique to the two MRFsheds studied or to this region of the country. It's also no secret that recycling communication is fragmented throughout the country, leading to confused residents nationwide. 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.

PARTNERSHIPS

Communities within the same MRFshed need a forum where they can meet and exchange strategies and ideas on a regular basis. State recycling programs could facilitate these interactions and/or provide tools. One tool could be a map of MRFsheds within their respective states and work with stakeholders to educate based on those territories. Such state-facilitated discussions between municipalities/solid waste authorities, haulers and MRF operators within a given MRFshed would allow a common suite of materials to be created that could then be used with every community providing recyclable material to the MRF for that territory.

Though not a state-level-facilitated project, a successful example of this collaborative approach is Cuyahoga County, Ohio, where stakeholders came together to create a common suite of materials for the county's 59 communities, which are serviced by 23 haulers and four MRFs. Though the collection approach is different from community to community (32 cart programs, 14 blue bag programs, seven bin/bag programs, two bin programs, one cart/bin program and three communities with no curbside program), the material stream for those programs is the same. By working with stakeholders, the county not only has an acceptable materials list that works for all stakeholders, it also has a common suite of materials that is easy for residents to comprehend and doesn't change from community to community. The county designed the material and images for each community to use and moving forward each community and hauler can use the standard common suite of material for their individual websites and printed collateral. A similar effort continues within the Central Virginia Waste Management Authority, who is responsible for the common suite of materials for the 13 communities providing material to TFC Recycling and the CFS Recycling Center in Richmond.

A useful tool to guide those discussions is the Partnership's [MRF Acceptable Materials worksheet](#), which was created to ensure that local programs and MRFs remain on the same page regarding acceptable and problematic materials.

The success of a municipal recycling program is determined by how well the municipality communicates and works with its external partners (e.g., solid waste authority, haulers, MRF(s), etc.), and vice versa. Communication between these stakeholders should be occurring on a regular basis, regardless of whether or not the state or a local solid waste authority has the capabilities to facilitate such discussions. For example, the Minnesota Association of Recycling Managers conducts regular meetings that allows stakeholders to share resources and strategy, as well as collaborate on the development of materials intended for community recycling programs.

COMMUNICATION

Residents should hear the same recycling message no matter where they live, work or play. What is accepted in a program cannot be the same in every city across the country, but the recycling industry can take steps to make that message more consistent among communities delivering material to the same MRF.

The basic questions municipal programs receive from residents include “What can I recycle? Where and how do I recycle this item? When is my recycling day?” And, if applicable, “how do I sign up for service and get a recycling container?” The answers to these basic questions should always be front and center on every community’s website, information that should be found within seconds to, at the most, two minutes.

A 2015 consumer study done by Microsoft Canada’s Consumer Insights division revealed the average human attention span today is eight seconds, down from 12 seconds in 2000.⁴ Knowing you may only have a short period of time to both capture the attention of a resident and potentially educate them, relevant program information needs to be both easy to find and easy to comprehend.

When communicating a common suite of materials, communities need to keep messaging simple using clear images paired with simple wording. On the [tools](#) page of The Recycling Partnership’s website, you’ll find free educational resources that keep it simple.

Whether a jurisdiction chooses to use real images of materials or icons to communicate recycling to the public, it is important to be consistent with that messaging across all electronic and print forms of communication and insure that message is in harmony with the MRF’s operations.

A recommendation for the EPA is to undertake studies of educating around a common suite of materials, most notably whether or not such an education approach helps lessen confusion for residents. Less confusion would equal more recycling and less contamination. Webinars and workshops could then be conducted based on the findings.

Like with Google, Wikipedia, Uber and Amazon, residents expect quick, straight forward answers and streamlined service. Local government program information should strive for the same. All recycling program information should be available on a community’s website, and that info should be up to date and easy to find or you run the risk of missing a valuable opportunity to educate the resident.

Having a successful educational component that utilizes harmonized messaging, and one which is simplified, easy to understand and easy to find, can go a long way to helping a municipal recycling program overcome the confusions that many residents have with recycling, confusions that lead to contamination of the recycling stream or materials being lost to the waste stream. Harmonized educational material will not only make it easier for residents to recycle more of the right materials, but it will also ensure that more, better recyclable material makes its way to the MRF, eventually becoming feedstock for the creation of new products.

Sources

1. Foodservice Packaging Institute, “Resident Messaging Survey on Foodservice Packaging (FSP) Recycling,” prepared by RRS, 2016.
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Population and housing figures courtesy of US Census Bureau’s *2015 American Community Survey* and Ohio Research Office’s (a state affiliate of the US Census Bureau) *2015 Population Estimates by County*. Township websites found courtesy of the Ohio Township Association *City, Village and Township* report.