2017

NYC Residential, School, and NYCHA Waste Characterization Study

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sanitation
Kathryn Garcia Commissioner

Contents

I. Commissioner's Note

Fellow New Yorkers,

Together, we are working toward our goal of sending zero waste to landfills by 2030. But we cannot achieve this goal without regularly measuring and tracking our progress.

This **2017 Waste Characterization Study** tells us that our efforts to reduce, reuse and recycle our waste are working. The average New York City household throws away less and recycles more today than five years ago. Electronic waste, which contains potentially hazardous metals, now makes up just 0.3 percent of what New Yorkers throw away, reflecting growing participation in e-waste recycling programs.

But this report also shows us that we have incredible opportunities to develop and grow programs to achieve even more. Organic waste, including food scraps, food-soiled paper and yard waste, now makes up 34 percent of our waste stream. When source-separated, these products can be composted into a nutrient-rich soil amendment or turned into clean, renewable energy. To capture this material, we will expand NYC Organics to serve all New Yorkers with either curbside collection or convenient neighborhood drop-off sites by the end of 2018.

This report, the result of thousands of hours of sorting and weighing more than 800 samples, also highlights important changes in consumer behavior and what we buy and use every day. For example, the average household discards 80 percent less newspaper and 150 percent more cardboard than in 2005.

I encourage you to review not only this report but also the accompanying data tables and field guide, both available at **nyc.gov/wastestudy**.

Thank you for your partnership as we work together to achieve our zero waste goals.

Kathryn Garcia
Commissioner

II. Highlights

- New Yorkers are producing less waste at home than ever before—and 68% of what we do throw away belongs in a curbside recycling or organics bin (see page 12).
- Organics—including food scraps, food-soiled paper, and yard waste—is the largest and still growing category of waste (34% of total waste), representing the biggest opportunity for New Yorkers to divert waste from landfills.
- After New York State implemented an electronic waste (e-waste) disposal ban, e-waste has declined by 60% (see page 32).
- New Yorkers are best at recycling cardboard (79% capture rate) and most often forget to recycle aluminum (15% capture rate) (see pages 20, 22).
- Cartons and aseptic boxes—including milk and juice cartons—are the most commonly misplaced recyclable item, often being placed in the Paper recycling instead of in commingled metal, glass, plastic and carton recycling ("MGP") (see page 25).

Sorting Tables

III. Introduction

The New York City Department of Sanitation (DSNY) conducted the **2017 NYC Residential, School, and NYCHA Waste Characterization Study** (2017 Study) over three seasons: spring, summer and fall in calendar year 2017. This study fulfills DSNY's requirements under Local Law 40 of 2010 and builds on decades of research and analysis into the evolving composition of our waste stream.

History of Waste Characterization Studies in NYC

Cities conduct periodic waste characterization studies to assess changes in the composition of discarded material and to inform development of waste management programs and services like recycling, composting, and reuse. These studies involve collecting samples of waste and sorting those samples into multiple material categories to produce statistically representative and generalizable information about what is in a city's waste stream and in what quantities.

Waste characterization studies not only help to measure the success of diversion programs, such as recycling and composting, they also provide broader insight into the evolving waste stream by documenting consumer consumption patterns and the design of products being discarded, which influence what can and cannot be diverted. Waste characterization studies can also, in part, reveal the success of waste management policies and programs by measuring the reduction of targeted components of the waste stream.

For example, certain electronic waste is banned from collection and disposal in New York State. In NYC, residents are directed to recycle these electronics through alternative programs such as ecycleNYC and e-waste drop-off events run by DSNY. Waste characterization studies can provide insight into the effectiveness of these programs to reduce the target material from the Refuse stream.

DSNY has conducted waste characterization studies in NYC in 1990, 2005, and 2013. Each of these studies share a similar fundamental methodology of waste sampling and sorting, but also include varying targeted analyses to characterize particular components of the waste stream or to highlight variations in composition across geographic areas, sectors, or socioeconomic categories.

The 2005 Study examined residential curbside collections of commingled paper and cardboard recycling (“Paper”); MGP; and trash (“Refuse”) that provided statistical results by housing density and income levels throughout the City. The 2005 Study also included a characterization of the contents of street litter baskets.

The 2013 Study surveyed residential curbside Paper, MGP and Refuse collections providing statistical results by borough and for the City as a whole, but not by housing density and income levels. The 2013 Study also included a detailed characterization of plastics and of food and beverage containers being discarded.

The 2017 Study followed the same method for residential curbside collections as the 2013 Study, with the addition of residential curbside collections of organic waste (“Organics”), the City’s new service to recycle food scraps, food-soiled paper and yard waste. The 2017 Study also characterized collections from both New York City public schools and New York City Housing Authority (NYCHA) buildings to create a baseline citywide view of waste generation from those sources. The 2017 study included a detailed analysis of plastics using the same method as the 2013 Study. It also includes a more detailed characterization of certain paper products.

The 2013 and 2017 Studies were conducted in partnership with DSNY’s recycling vendor, Sims Municipal Recycling and were executed by the consultant Mid-Atlantic Solid Waste Consultants (MSW Consultants).

The full results of the 2005, 2013, and 2017 studies are available at **nyc.gov/wastestudy**.

Sample collection at a transfer station

IV. Method

The 2017 Study characterized three sources of DSNY collections that cover the vast majority of the waste handled by DSNY: Residential, Schools, and NYCHA. The Study's method, summarized below, is documented in detail in the field manual available at **nyc.gov/wastestudy**.

Residential:

The 2017 Study sought to generally replicate the methodology of the 2013 Study for residential collections. This report documents the changes in the composition of the residential waste stream over time and how much of that material is being properly recycled or improperly discarded in Refuse. The residential results are statistically significant citywide and by borough.

The residential characterization included four residential curbside collection streams — Refuse, Paper, MGP, and Organics. DSNY collects from residential properties of all sizes, ranging from single family homes to town houses and small walk-up style buildings to large high rise apartment buildings. Residential curbside collections also serve a small number of institutional and agency customers.

Residential curbside collections make up the large majority of material that DSNY manages. They have been the primary focus of waste characterization studies over the years, through which we have developed a robust set of data to compare how the NYC waste stream has evolved over time.

Schools:

The 2017 Study sought to re-establish, for the first time since 1990, a citywide baseline of the composition of waste generated by schools. This report provides a waste profile for schools and compares it to residential collections. The school results are statistically significant citywide.

The school characterization included Refuse, Paper and MGP streams collected on dedicated school collection routes. These routes are predominantly comprised of public schools, although they also include a small number of private and charter schools. Schools on these routes reflect the variety of school sizes and types in the city, and the data gathered serve to provide a generalizable citywide baseline understanding of waste composition for NYC schools as a whole. For the purposes of this Study, DSNY did not characterize Organics separated for diversion. Rather, organic waste is included in the Refuse stream.

NYCHA:

The 2017 Study sought to establish a citywide baseline of the composition of waste generated by New York City Housing Authority (NYCHA) public housing developments and collected by DSNY. This report provides a waste profile for NYCHA properties and identifies the potential to divert recyclables. The NYCHA results are statistically significant citywide.

The NYCHA characterization focused sample collection from the large compacting containers used by DSNY to collect Refuse at NYCHA's large campus-style developments. The vast majority of NYCHA waste is generated at the large campus-style developments and collected in these containers, and this material was used to provide a generalizable citywide baseline understanding of waste composition for NYCHA residents. A minority of NYCHA Refuse and a small amount of Paper and MGP recyclables are collected along with neighborhood residential curbside collections.

Bulky waste generated by schools and NYCHA. Large NYCHA developments and some schools arrange for separate collection of large or bulky waste items. Such separate bulk collections were not assessed in the 2017 Study. For this reason, for both NYCHA and schools, we expect that the results presented here under-represent large or bulky discards that receive alternative handling outside of the standard curbside collections performed by DSNY.

Other DSNY Collections:

The 2017 Study did not characterize litter basket collections, street cleaning collections from mechanical brooms, or other seasonal, or specialized collection services performed by DSNY.

Changes to DSNY Waste Management Strategy

Two significant changes to DSNY's waste management strategy occurred between 2013 and 2017, which affected the 2017 Study methodology: the expansion of the MGP recycling program to include all rigid plastics and the expansion of residential curbside Organics collection service.

All Rigid Plastics: At the time of the 2005 and 2013 studies, the only plastics designated for recycling were plastic bottles and jugs. In late 2013 with the completion of the City's new recycling processing facility in Brooklyn, the City designated all other non-bottle rigid plastics, including yogurt containers, takeout containers, and bulky rigid plastics, as recyclable. Before that, including during the period when DSNY conducted the 2013 Study, these items were considered contamination in the MGP collections. At the time of the 2017 Study, the expanded plastics recycling program had been in place for three and a half years, allowing us to document the impact on diversion.

Organics Collection: In 2013, the City began a pilot curbside Organics collection program serving approximately 3,500 households on Staten Island. Since that time, the program has grown significantly. By the end of 2018, NYC Organics will serve all New Yorkers through curbside collection or convenient neighborhood drop-off sites. The 2017 Study characterized Organics collections from those neighborhoods with collection service at the time the study was conducted.

Sampling

The study team collected statistically representative samples of:

- Residential curbside collections of four streams — Refuse, Paper, MGP, and Organics — in all five boroughs across three seasons.
- School truck collections (without separate Organics collection service) of three streams — Refuse, Paper and MGP — across three seasons.
- NYCHA compacting container collections of Refuse in all five boroughs across one season.

Samples were selected randomly from trucks identified by DSNY collection route and tonnage data to reach a 90 percent confidence of statistical significance. The number of samples of each collection type and material stream reflected the underlying variability in the waste. The higher sampling frequency for residential collections allowed for statistical significance at the borough level, while school and NYCHA collections are statistically significant only at the citywide level.

Sampling methods followed industry standards to ensure that results reflected waste composition accurately.

Number of samples collected during 2017 Study

Programs	MGP	Organics	Paper	Refuse	Grand Total
Residential	187	79	148	246	660
NYCHA				54	54
Schools	32		20	44	96
Grand Total	**219**	**79**	**168**	**344**	**810**

Based on standard industry practice, the study team collected 100 pounds of material per sample for MGP, Paper and Organics; and 200 pounds per sample for Refuse.

Sorting Stations

Sorting

Samples were hand sorted by the study team into 70 main sort categories. In addition, sub-sorting of an additional 172 categories was conducted to get a more detailed understanding of the wide variety of plastic products in the waste stream, as well as a sub-set of Paper products including paper cups, paper shopping bags, shredded paper, and compostable paper. All main and sub-sort categories along with product examples are listed in the Appendix.

All samples, regardless of the source or stream, were fully sorted into the same set of categories. This consistent approach allowed us to calculate the composition not only of each stream, but also the sum total of all waste from each source.

Main Sort Categories:

- **70**

2 Sub-Sort Categories:

- paper cups, bags, and compostable items: **9**
- plastic cups, capsules, bags, and other rigids/ films/foams by resin: **163**

How the Results Are Presented

The composition of the collection source or material stream is presented in relative terms as the percentage of the waste stream. As one material increases as a percentage of waste, others shrink proportionately.

Results are also presented in absolute terms as the quantity by weight of each material type. The quantity of each material is calculated by applying the percent composition to the total quantity of DSNY collections for fiscal year 2017 (July 2016 – June 2017).

For the residential curbside collections, the results also compare the 2017 Study to the two prior studies. The 2017, 2013 and 2005 studies are comparable across a total of 65 material groups. In addition, we also normalize the results on a per household basis to account for increases in New York City's population since the 2005 Study.

The term "Aggregate Discards" is used in the results section to mean overall waste, or the sum total of all material streams. For residential collections, Aggregate Discards are the sum total of Refuse, MGP, Paper and Organics streams combined. For School Collections, Aggregate Discards are the sum total of Refuse, MGP and Paper streams combined. For NYCHA, only the Refuse stream was studied.

DSNY Supervisor monitoring Paper samples delivery


Sorting Stations


Toter of sample material being weighed

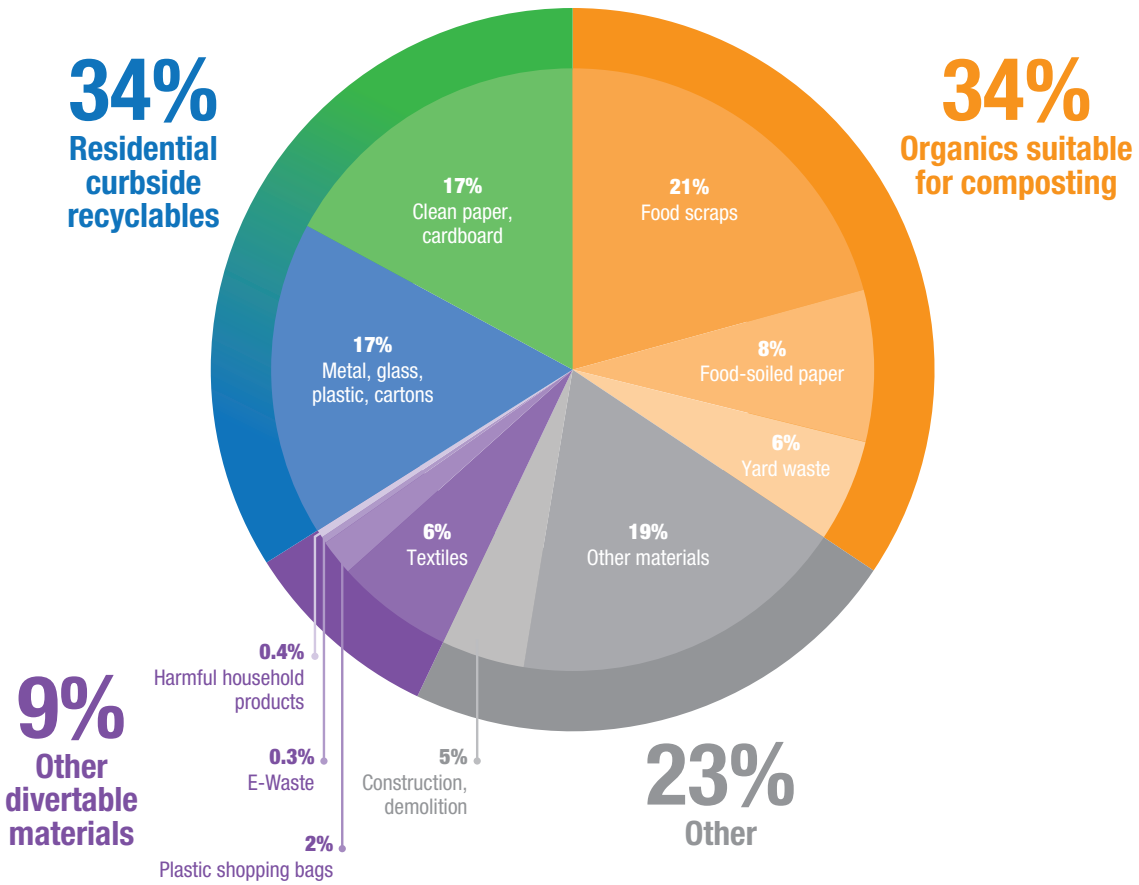
The waste study operation involves a close coordination between DSNY staff and the consultant team over multiple seasons to collect hundreds of samples at multiple locations and sort them into hundreds of material categories.

V. Results: Residential Curbside Collections

Residential curbside collections are by far the greatest quantity of material that DSNY manages. The graphs and tables in this section show the 2017 citywide results for residential collections and present comparisons to the 2013 and 2005 Studies to illustrate how NYC's waste has changed over time. The full citywide and borough-level statistics for all material streams and sort categories (including the main material sort categories and the detailed sub-sort categories) can be viewed in the data files provided as a supplement to this report.

NYC Residential Waste Profile in 2017

2017 Composition of Residential Curbside Aggregate Discards



The 2017 Study tells us that over a third of everything New Yorkers discard, some 34% of Aggregate Discards, consists of NYC-designated Paper and MGP recyclables. Stated another way, if every New Yorker recycled every scrap of Paper and MGP perfectly, the recycling or diversion rate would be 34%.

Another 34% of all discards is made up of organic materials suitable for composting and targeted by NYC's Organics collection service. If every New Yorker recycled every bit of food scraps, yard waste and compostable paper, the combined diversion rate from Paper, MGP and Organics recycling would be 68%.

About 9% of residential waste consists of materials that have established non-curbside programs to divert them from landfills. For example, a little over 6% consists of textiles (clothing, linens, shoes, accessories) suitable for donation or recycling. Electronics and other harmful household products, such as paint, pesticides, and mercury devices, are a small share of discards (not even 1%), but have a disproportionate environmental impact. New York State law has banned certain electronics and harmful household products from disposal. Plastic shopping bags (nearly 2%) are covered under a New York State retailer recycling law and are targeted for waste reduction legislation.

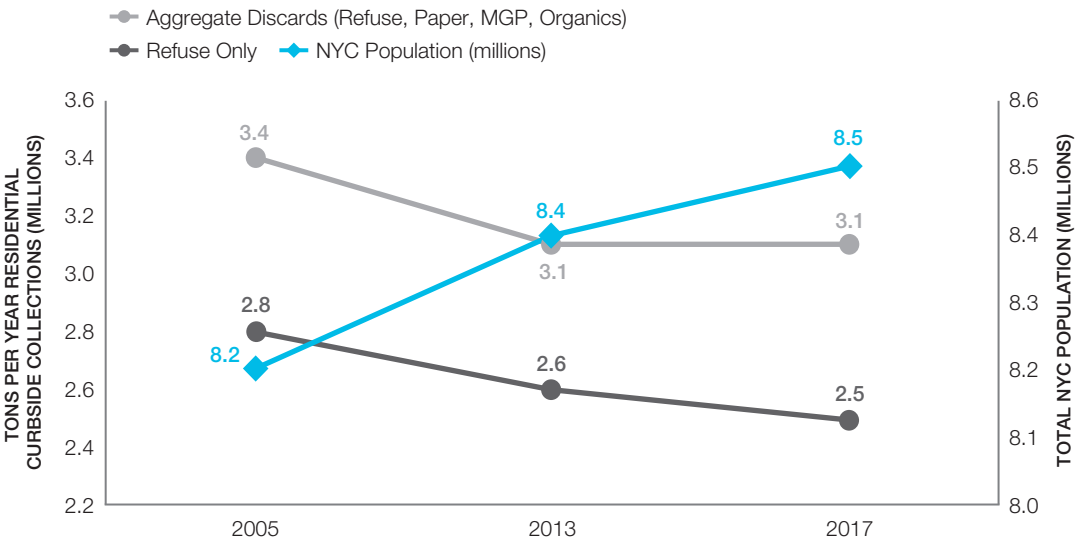
The remaining quarter of residential waste (23%) consists of "Other" items, for which there are no or very limited options for beneficial use at this time, including small scale building material scrap (construction and demolition debris), furniture and household wood products, treated wood and lumber, carpeting, various plastic film, flexible and foam products, multi-material items, disposable diapers, and animal by-products.

Changes in NYC's Waste Profile

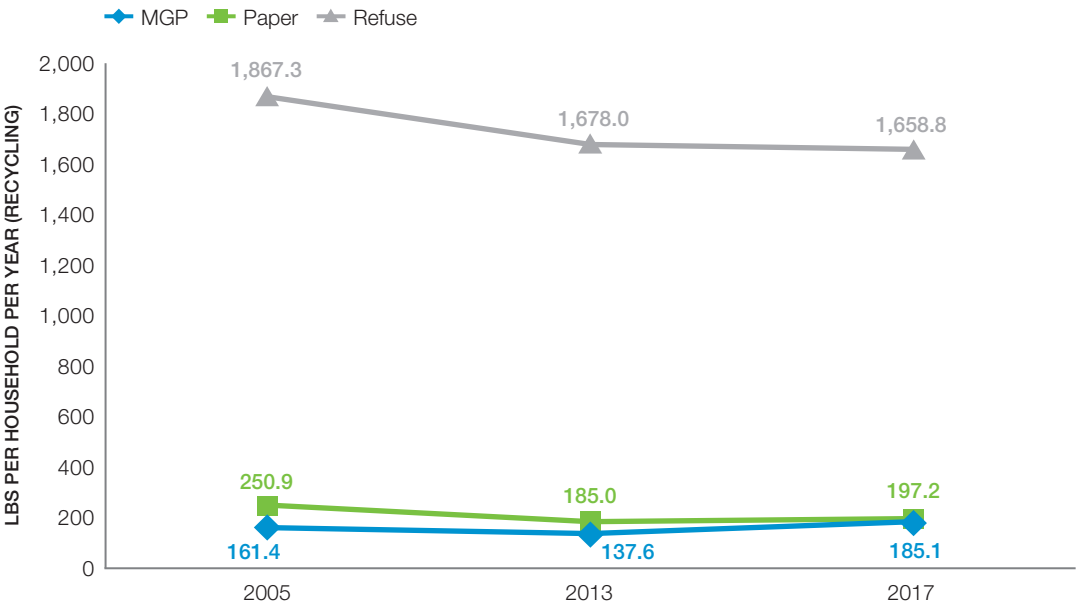
The total quantity of waste generated in NYC continues to decline. In 2005, residential curbside collections totaled almost 3.5 million tons per year, 2.8 million of which were disposed as Refuse. In 2017, residential collections were down to less than 3.1 million tons per year, with 2.5 million tons disposed as Refuse. This all took place as the NYC population grew from 8.2 to over 8.5 million inhabitants (from 3 million households to 3.1 million households).

On a per household basis, the average NYC household in 2017 discarded fewer than 1,990 pounds per year of Aggregate Discards, down from 2,000 pounds in 2013, and nearly 2,280 pounds per year in 2005. As illustrated below this decline is largely due to an ongoing decline in Refuse. The quantity of Paper and MGP recycled both rebounded in 2017. The quantity of Organics recycled cannot yet be compared over time as 2017 is the first year characterizing this stream, and it is not yet a citywide program.

NYC Residential Curbside Collections and Population Over Time, Total



NYC Curbside Refuse, Paper and MGP Recycling Collections Over Time, Per Household



The decline in overall waste generated by New Yorkers may be due to changes in consumption patterns, such as the decline in print newspaper sales, and to the evolution in product design to favor more lightweight packaging.

It also has to do with economic trends that affect consumption, and other external factors impacting what ends up in DSNY trucks. For example, cans and bottles, which carry a five-cent redeemable deposit, may be set out by residents but taken by scavengers before they can be collected by DSNY.

When viewed by material type on a per household basis, not all types of waste have declined. More food scraps and food-soiled paper suitable for composting were discarded in 2017 both on a per household basis and as a relative share of overall waste than in 2013. Clean recyclable paper and cardboard continued to shrink over all three studies. Households generated more non-bottle rigid plastic waste than in prior years, and the quantity of harmful household products and textiles continued to grow.

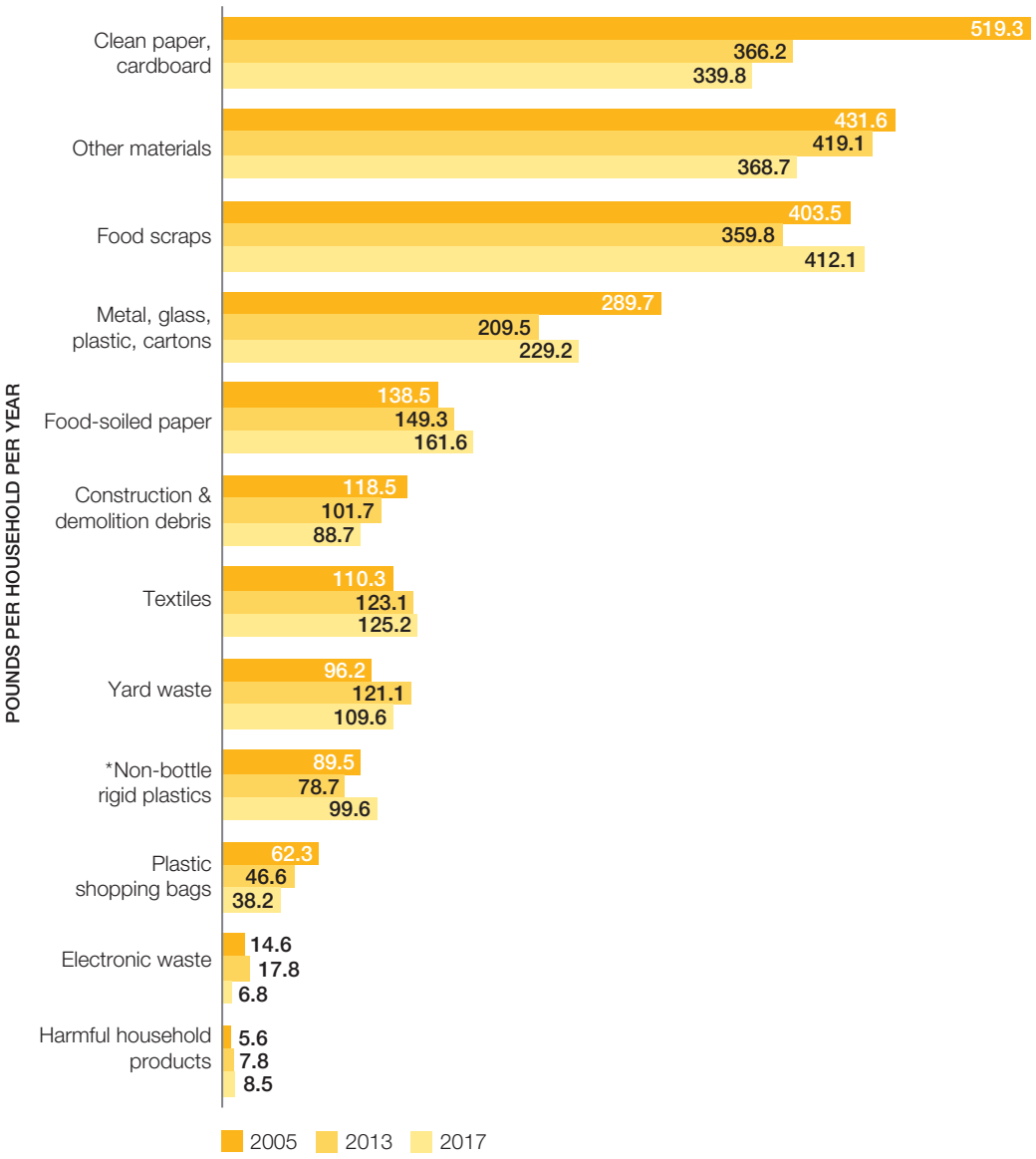
MGP recyclables dipped between 2005 and 2013, and rebounded in 2017 after the addition of non-bottle rigid plastics to the MGP recycling program.

Textiles increased by a third between 2005 and 2013 and stayed steady in 2017. Between 2005 and 2017, plastic shopping bags as well as construction and demolition debris, declined slightly. Electronic waste, after growing between 2005 and 2013, has sharply declined.

Complex economic factors and trends in consumer product design can affect consumption habits, which in turn can affect recycling and disposal rates.

Samples: Textiles (Clothing)

Per Household Pounds of Aggregate Discards by Material Category: 2005 vs 2013 vs 2017



When viewed by material type on a per household basis, not all types of waste have declined.

Residential Aggregate Discards

2005: 2,279.6 lbs/hh/yr
2013: 2,000.6 lbs/hh/yr
2017: 1,987.8 lbs/hh/yr

* Non-bottle rigid plastics were categorized as Refuse in 2005 and 2013, and categorized as MGP recycling in 2017.

Relative Share of Aggregate Discards by Material Category: 2005 vs. 2013 vs. 2017

	2005	2013	2017
Residential Curbside recyclables	**35.5%**	**28.8%**	**33.6%**
Clean paper, cardboard	22.8%	18.3%	17.1%
Metal, glass, plastic, cartons	12.7%	10.5%	16.5%
Organics suitable for composting	**28.0%**	**31.5%**	**34.4%**
Food scraps	17.7%	18.0%	20.7%
Food-soiled paper	6.1%	7.5%	8.1%
Yard waste	4.2%	6.1%	5.5%
Other divertable materials	**8.5%**	**9.8%**	**9.0%**
E-waste	0.6%	0.9%	0.3%
Harmful household products	0.2%	0.4%	0.4%
Plastic shopping bags	2.7%	2.3%	1.9%
Textiles	4.8%	6.2%	6.3%
Other	**24.1%**	**26.0%**	**23.0%**
Construction & demolition debris	5.2%	5.1%	4.5%
Other materials	18.9%	21.0%	18.5%
Non-bottle rigid plastics	**3.9%**	**3.9%**	*

* Non-bottle rigid plastics were categorized as Refuse in 2005 and 2013, and categorized as MGP recycling in 2017.

Note: Totals may not sum exactly due to rounding.

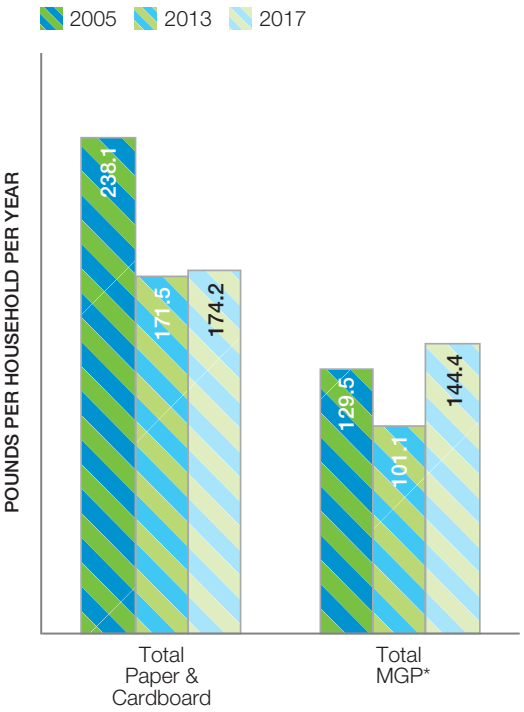
Recycling Achievement

The nature of what New Yorkers, and Americans, discard is changing. Our recycling achievements are affected by the composition of the products produced, consumed and discarded—both recyclable and non-recyclable—and the level of participation in recycling. Many products that used to be made from recyclable materials are now made from multi-layered flexible packaging not accepted for recycling by DSNY. We read less printed matter, which may account for the decline in recyclable Paper. At the same time, online shopping and home delivery grows, which means we generate more recyclable corrugated cardboard.

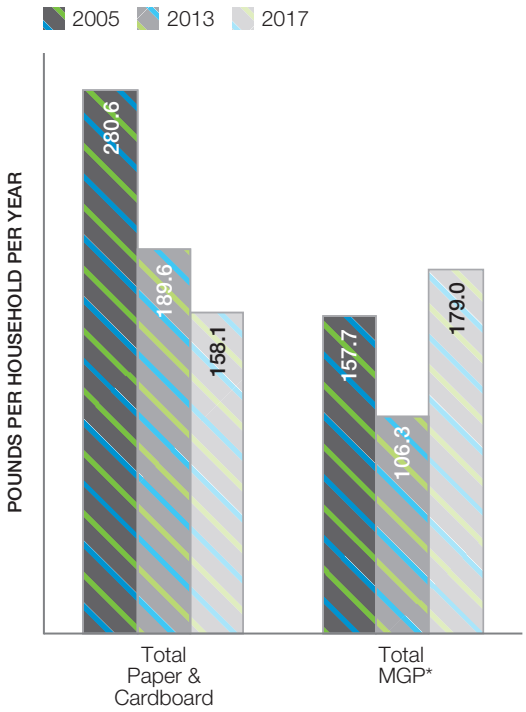
Multiple metrics help us understand the City's recycling achievements in residential collections. The weight of Paper and MGP collected in recycling trucks identifies absolute quantities recycled. The "capture rate" is the percentage of all Paper and MGP that is properly separated for recycling as opposed to discarded as Refuse. Capture rates identify the latent potential to recycle more. Finally, contamination rates measure unwanted materials in curbside recycling. Today's recycling facilities are designed to recognize and sort recyclables from contamination using mechanical and manual methods. They do so with accuracy and efficiency. However, sorting and disposing of contaminants adds to the cost of recycling, and any contamination diminishes the quality of recovered recyclables.

The graphs below show the general trends in recycling achievement between 2005, 2013 and 2017 including the amount an average household successfully captured in the recycling stream and improperly disposed of in Refuse.

Recyclable Materials in Residential Recycling Collections: 2005 vs. 2013 vs. 2017

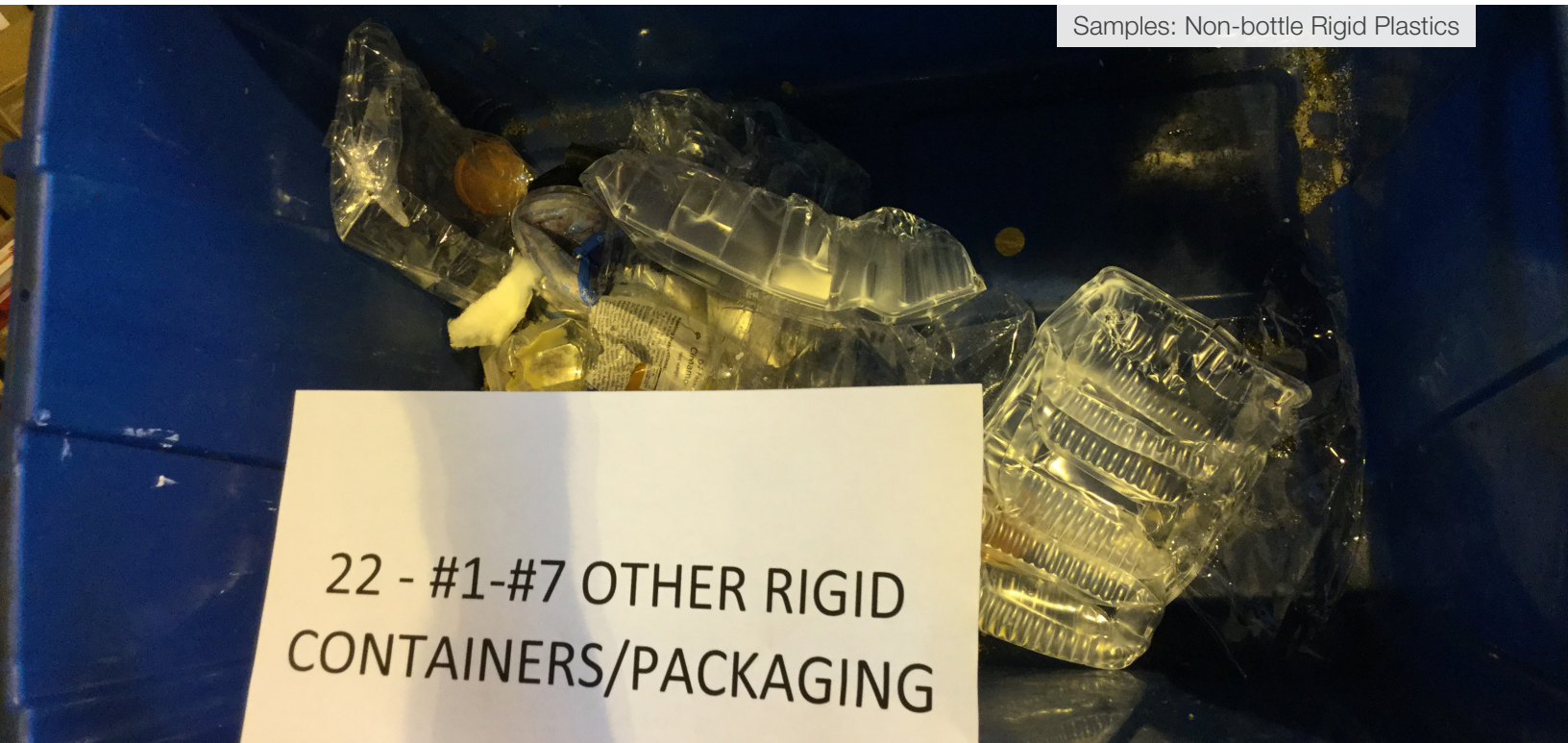


Recyclable Materials Improperly Disposed in Refuse Collections: 2005 vs. 2013 vs. 2017



Paper and cardboard recycling collections continue to outweigh MGP collections, although the difference between the two material types has narrowed as New Yorkers use less printed material like newspapers and magazines.

* Non-bottle rigid plastics were categorized as Refuse in 2005 and 2013, and categorized as MGP recycling in 2017.



Samples: Non-bottle Rigid Plastics

Paper capture rates

While the total amount of Paper discarded has continued to decline, the weight of Paper captured in recycling collections increased between 2013 and 2017. The capture rate of recyclable paper and cardboard has increased nearly four and a half percentage points between 2013 and 2017.

The overall capture rate of recyclable paper has increased nearly four and a half percentage points between 2013 and 2017.

Improvements in the Capture Rate for Paper Recycling

2005: 45.8%
2013: 46.8%
2017: 51.3%

MGP capture rates

Total MGP collected in recycling collections declined between 2005 and 2013, but more than rebounded in 2017 after the expansion of the program to include non-bottle rigid plastics. In fact, 2017 marked the highest amount by weight of MGP recyclables collected in almost 15 years.

The expansion of MGP recycling to include non-bottle rigid plastics after the conclusion of the 2013 Study changed what was targeted for recycling collections between study years.

To allow for comparison, the table below splits MGP recyclables in three categories: rigid plastic bottles and jugs, non-bottle rigid plastics (which were considered contamination during the 2005 and 2013 studies), and other MGP items including metal, glass containers, cartons.

2017 achieved the largest tonnage of MGP recyclables collected in almost 15 years.

These results show that the capture rate for non-bottle rigid plastics was 27.5% in 2017, still low compared to other designated MGP categories but 11 percentage points higher than the 2013 capture rate, when such products were considered contamination. This demonstrates the amount of time it takes for New Yorkers to change recycling behavior in response to changes in the recycling program and is consistent with past experience.

The capture rate for rigid plastic bottles and jugs remained at about 50%, and the rate for other MGP items increased by four percentage points between 2013 and 2017.

Improvements in the Capture Rate for MGP Recycling

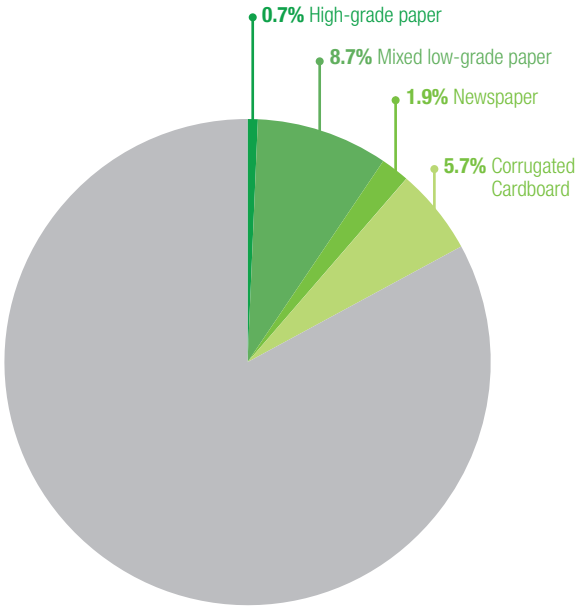
	2005	2013	2017
Rigid Plastic Bottles and Jugs	41.7%	50.6%	50.0%
Non-bottle Rigid Plastics	12.8%	16.4%	27.5%
Other MGP items: Metals, Glass containers, Cartons	45.3%	47.5%	51.4%

Results by Material Category

Paper and Cardboard

The most striking change in recyclable paper is the dramatic decline in newspaper, as consumers continue to move toward digital news sources. In 2005, the average New Yorker recycled over 100 pounds of newspaper. As of 2017, this total was down to less than 20 pounds. Other types of Paper are also declining, though not as markedly. High-grade white office paper (printer paper and white envelopes), one of the originally targeted recyclables in NYC almost three decades ago, is the smallest fraction of recyclable paper in the residential waste stream.

Paper in Residential Curbside Aggregate Discards: 2017



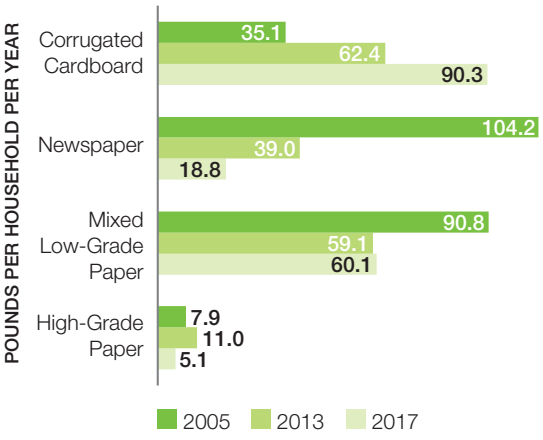
Percentage of "Paper" in Aggregate Discards

2005: 22.8%
2013: 18.3%
2017: 17.1%

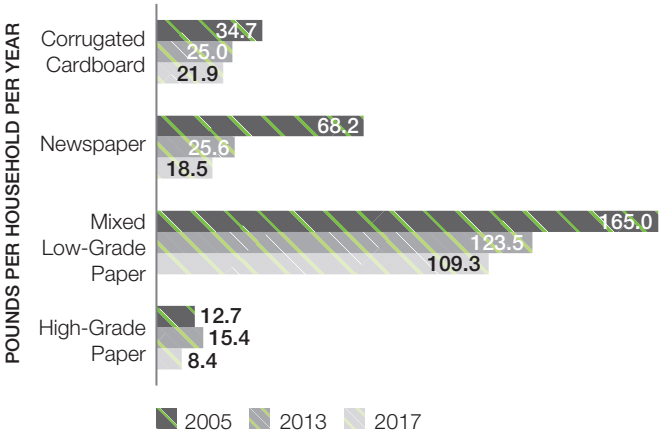
Although declining, Paper is still a substantial fraction of Aggregate Discards, with potential for improved diversion to recycling.

Note: Totals may not sum exactly due to rounding.

Residential Curbside Paper & Cardboard Recycled: 2005 vs. 2013 vs. 2017



Residential Curbside Paper & Cardboard Improperly Disposed in Refuse: 2005 vs. 2013 vs. 2017



The amount of corrugated cardboard has grown substantially from 2005, reflecting increasing consumer preference for home deliveries. Even as the total amount of corrugated cardboard has increased since 2005, the amount improperly disposed in Refuse has fallen. The capture rate for cardboard recycling is at an all-time high of 79%, over 90 pounds per household.

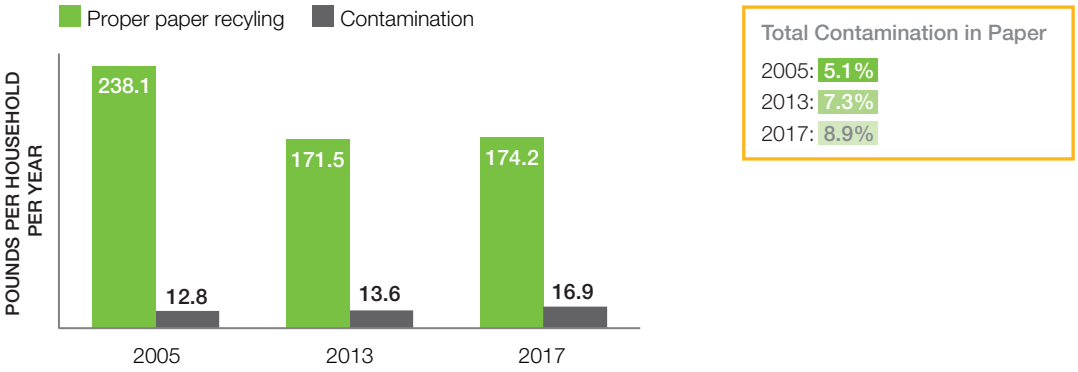
The most prevalent Paper category, mixed low-grade paper — which includes smooth cardboard, junk mail, magazines, and colored papers — was more likely to be improperly disposed by New Yorkers, with a capture rate of only 35 percent in 2017. However, the capture rate has improved by three percentage points since 2013.

The capture rate for cardboard recycling is at an all-time high of 79%, over 90 pounds per household.

Paper Recycling Contamination

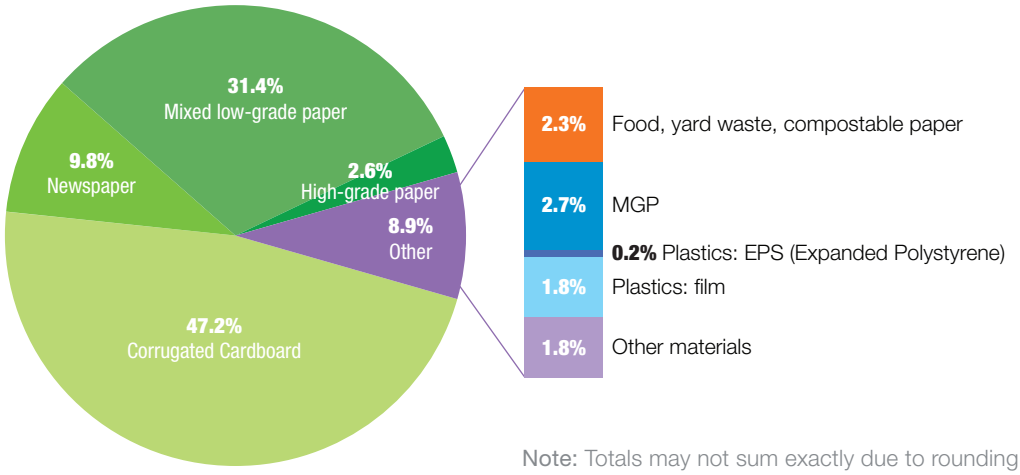
Contamination in Paper recycling has increased over the three studies from 5.1% in 2005 to 8.9% in 2017, but remains quite low for a curbside recycling program.

Proper Recycling and Contamination in Residential Curbside Paper Recycling Collections: 2005 vs. 2013 vs. 2017



The types of contaminants in Paper recycling break down similarly over the three studies. 30% is metal, glass, and plastics that should have been recycled with MGP; another 26% is compostable materials (mainly food soiled-paper, paper towels, and paper napkins). The next largest category consists of plastic bags and wraps (film plastics), with a range of other materials making up the balance of contaminants.

Contamination: Percentage of 2017 Residential Curbside Paper Recycling Collections



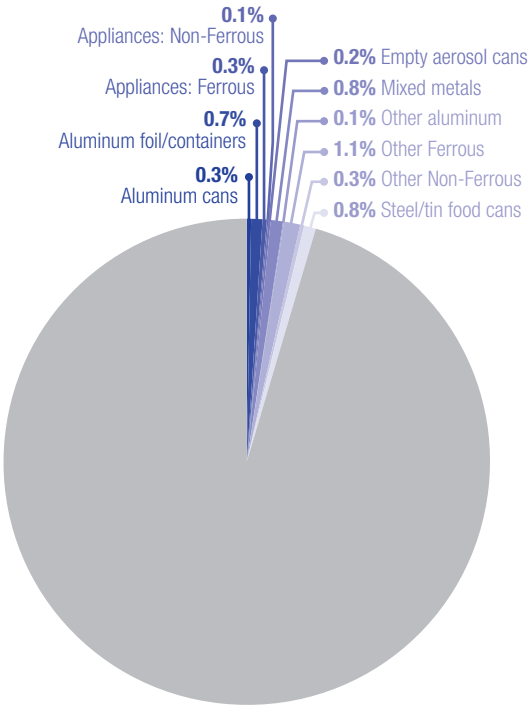
Note: Totals may not sum exactly due to rounding.

MGP

Metal

Metal made up 4.6% of the overall waste stream in 2017. In recycling collections, metal, in particular, has shown a rebound since 2013. The capture rates for ferrous metal scrap, including appliances and large items ("other ferrous"), are higher than any other type of metal. Large items, such as metal filing cabinets or shelves, are usually placed out at the curb separately from bagged material, and so DSNY is more likely to find and collect these items in the recycling truck.

Metal in Residential Curbside Aggregate Discards: 2017



Percentage of "Metal" in Aggregate Discards

2005: 5.7%
2013: 3.5%
2017: 4.6%

Metal, including iron, steel, aluminum, copper and brass, is an easily recyclable material with a great variety of end uses.

Note: Totals may not sum exactly due to rounding.

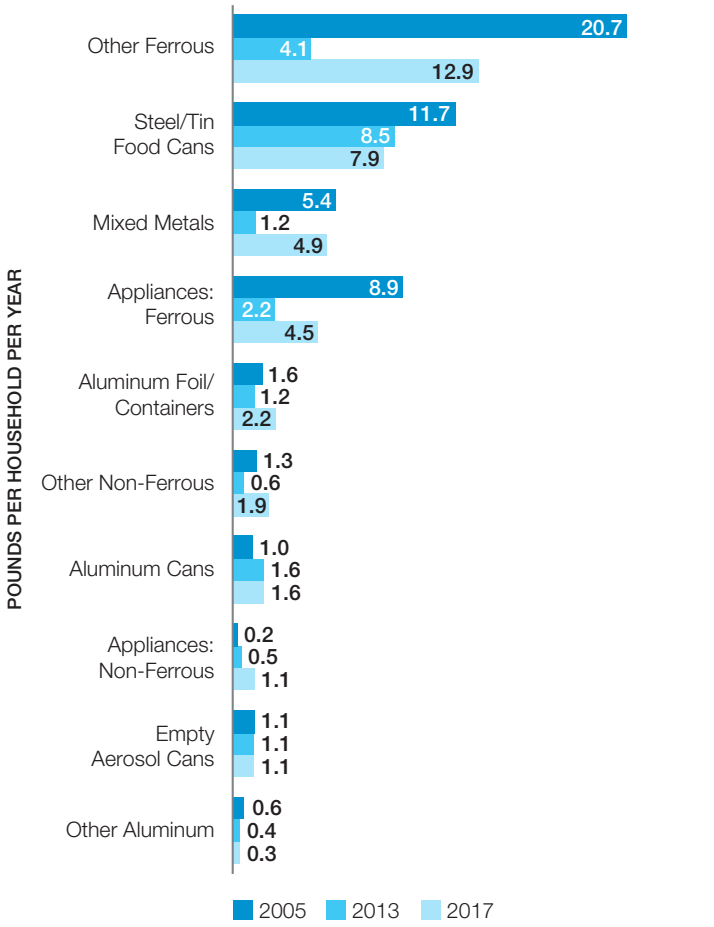
In 2013, commodity prices for ferrous scrap metal — including large metal items and metal appliances — were very high, driving the illegal scavenging of metal scrap items from curbside recycling set out by residents before they could be collected and weighed by DSNY. The scrap market is highly volatile, however, and by 2017 metal prices had fallen with respect to 2013. More ferrous metal, as a result, was found in curbside collections, as opposed to being removed by the informal sector and taken to scrap metal dealers for sale.

Steel cans are recycled more consistently and at a higher rate than they were in 2013, though not as successfully as ferrous scrap metal. The overall quantity of steel cans discarded in both recycling and Refuse is declining, however. This may be due to a change of products formerly made from steel cans now manufactured using other forms of packaging. For example, many leading coffee brands have switched from steel cans to plastic containers or vacuum-packed bricks.

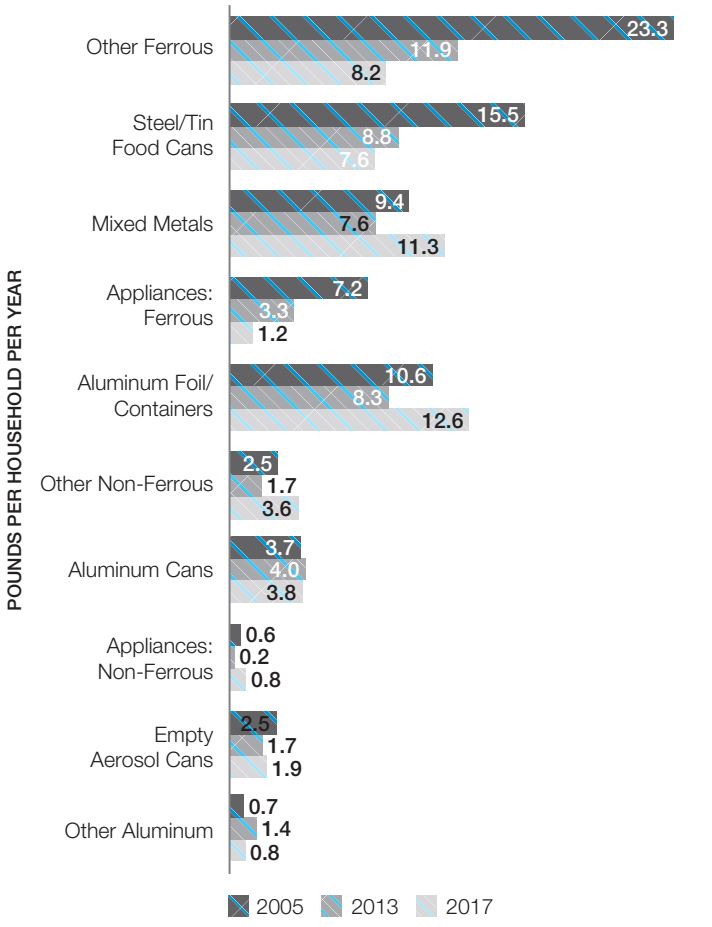
In 2017, as in the two previous study years, aluminum cans, foil and containers were found in Refuse in much larger quantities than in MGP recycling. **The aluminum can — one of the iconic recyclable products — has a surprisingly low capture rate of 30%.** This is likely due to the scavenging of cans bearing a 5 cent deposit. Deposit containers are disproportionately scavenged from clear-bagged recycling setouts in comparison to black-bagged Refuse setouts, leaving fewer cans in DSNY MGP recycling collections than Refuse collections.

Aluminum foil and containers have an even lower low capture rate of 15%. This may be due to the tendency of aluminum foil to be food-soiled when discarded.

Residential Curbside Metal Recycled: 2005 vs. 2013 vs. 2017



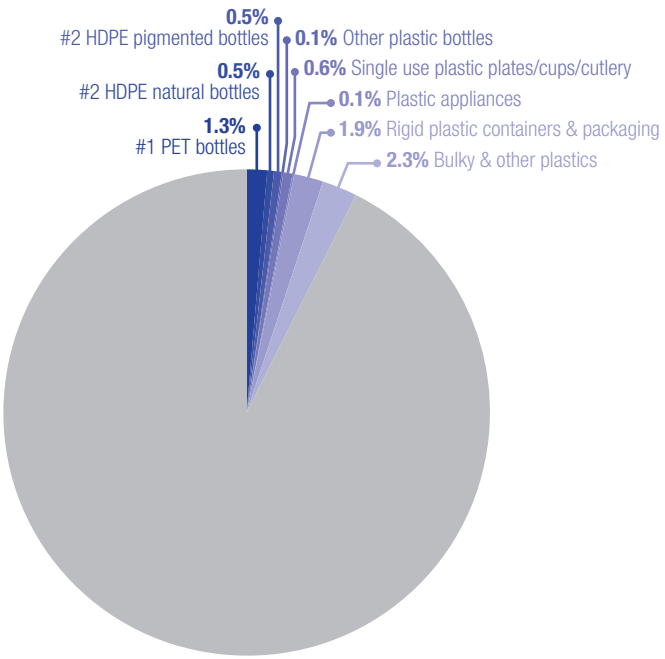
Residential Curbside Metal Improperly Disposed in Refuse: 2005 vs. 2013 vs. 2017



Rigid Plastics

Plastic bottles and jugs have been targeted for recycling by NYC during all three study years. **In 2017, the capture rate for plastic bottles and jugs was the highest since 2005, and it surpassed 50% for the first time.**

Rigid Plastics in Residential Curbside Aggregate Discards: 2017



Percentage of "Rigid Plastics" in Aggregate Discards

2005: 6.2%
2013: 6.4%
2017: 7.4%

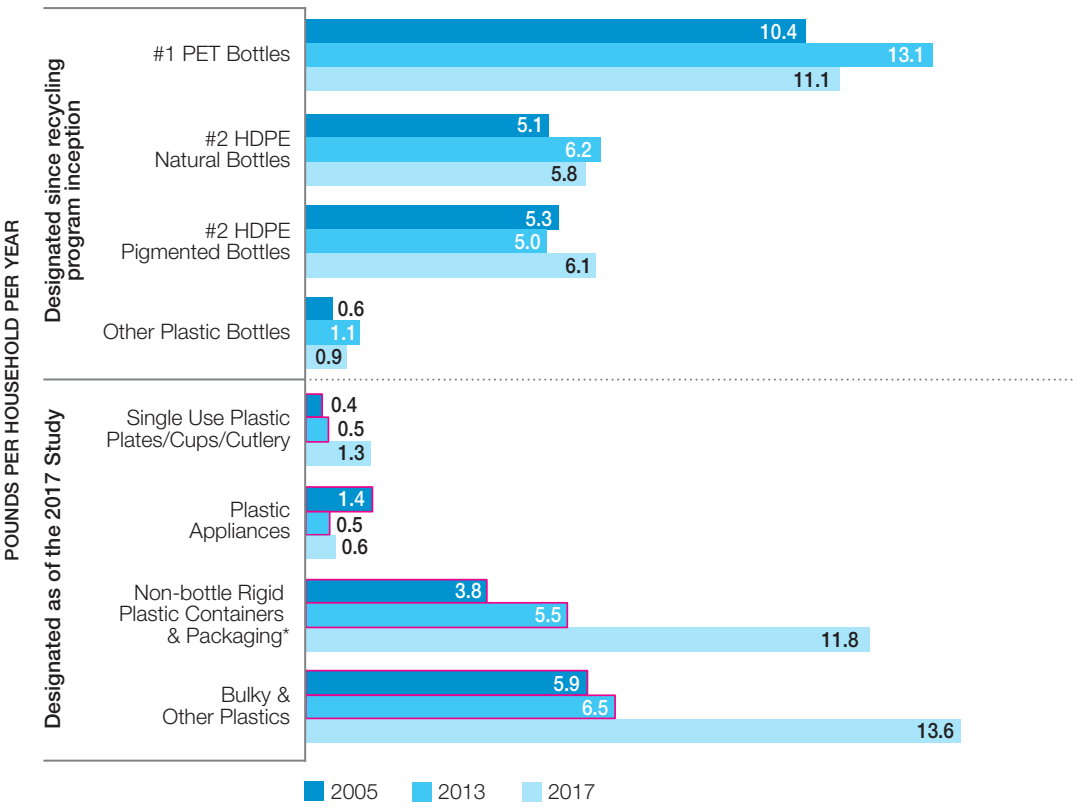
Non-bottle rigid plastics were categorized as Refuse in 2005 and 2013, and categorized as MGP recycling in 2017.

Note: Totals may not sum exactly due to rounding.

Rigid plastics are designated as recyclable in NYC, but film, flexible or foam plastics are not. Rigid plastics are hard-sided plastic products that maintain their shape unlike film and flexible plastic items, like bags, tarps, wrappers, pouches and squeeze tubes, and foam plastics like protective packaging and food service foam products.

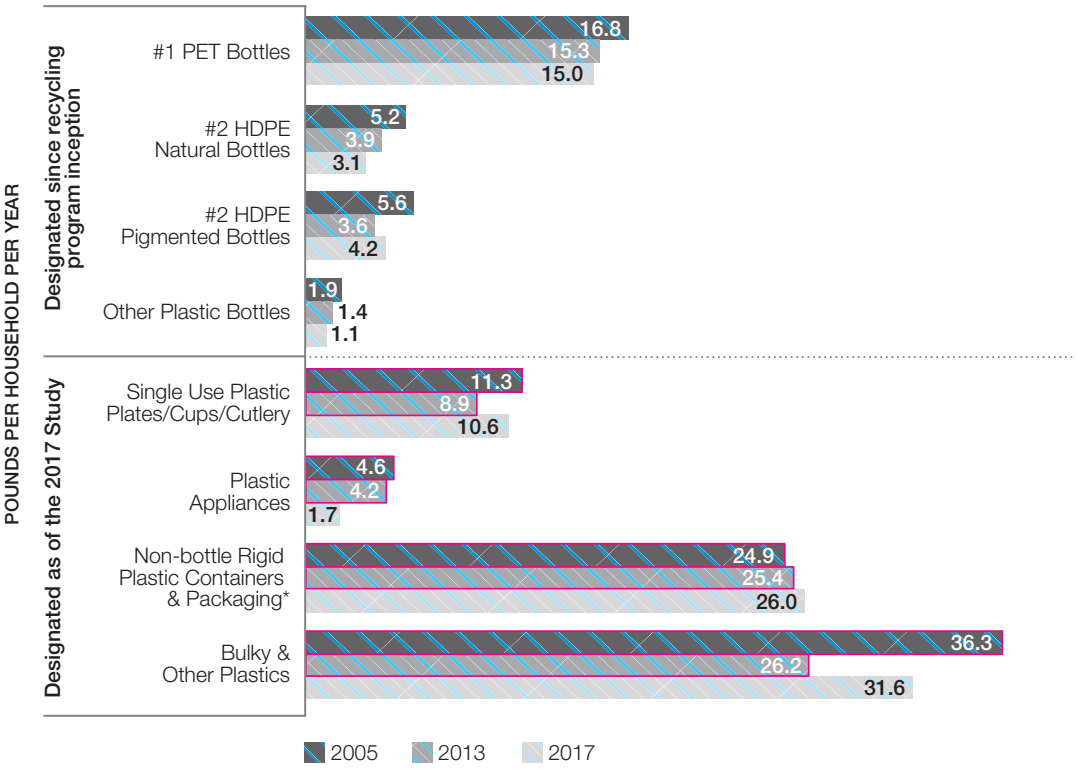
In 2017, more than three years since the recycling program expanded to include "all rigid plastics," New Yorkers recycled about 30% of rigid plastic containers and packaging, and bulky rigid plastic items. As illustrated in the graphs below, however, rigid plastic items are a growing part of the residential waste stream, and represent a large untapped source of diversion. This growth in rigid plastic discards reflects an increase in consumer products and packaging made of rigid plastic as opposed to other materials, such as glass or metal.

Residential Curbside Rigid Plastics Recycled: 2005 vs. 2013 vs. 2017



With the simplification of the recycling program to accept all rigid plastics, recycling of these materials increased sharply. Other rates of rigid plastic recycling and disposal showed smaller variations.

Residential Curbside Rigid Plastics Improperly Disposed in Refuse: 2005 vs. 2013 vs. 2017

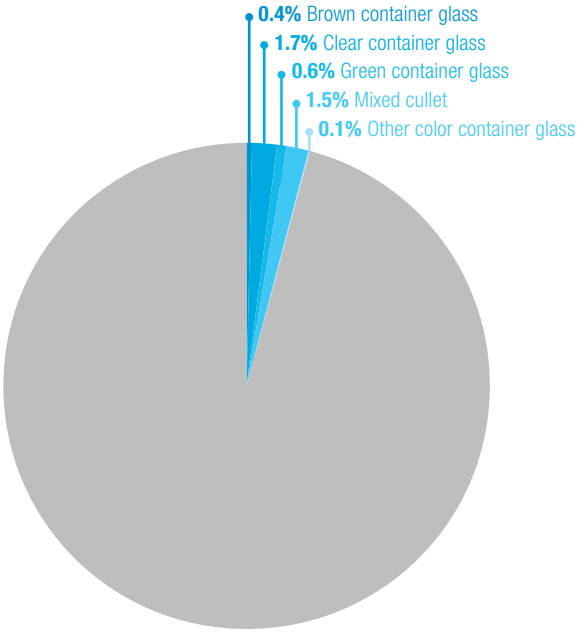


* Non-bottle rigid plastics were categorized as Refuse in 2005 and 2013, and categorized as MGP recycling in 2017.

Glass and Cartons

Glass containers comprise a little over 4% of Aggregate Discards. Glass has declined significantly in Refuse since 2005, but stayed consistent in MGP recycling. The capture rate of container glass has grown to 63%. The reduction in overall glass discards may reflect trends in product design — glass bottles are still preferred for liquor, beer and specialty soft drinks, but the use of glass containers is declining in food packaging due to their heavy weight, which drives up shipping costs.

Glass Containers in Residential Curbside Aggregate Discards: 2017



Percentage of "Glass Containers" in Aggregate Discards

2005: 4.3%
2013: 4.0%
2017: 4.2%

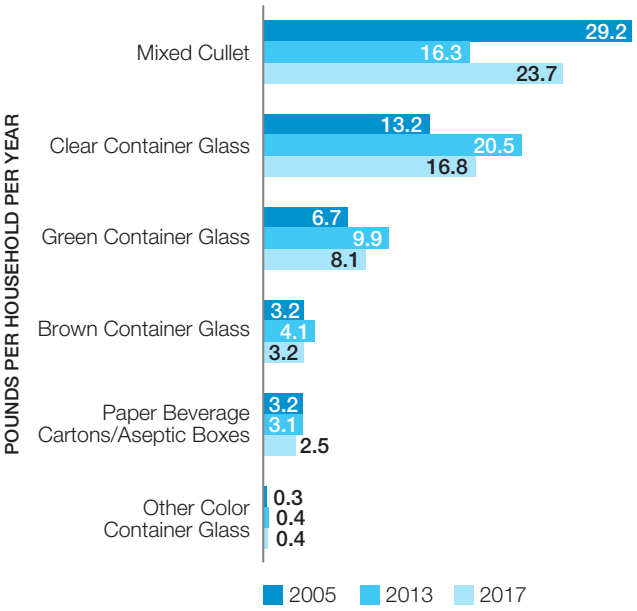
Note: Totals may not sum exactly due to rounding.

Characterizing glass waste is complicated by the way glass behaves during curbside collections. As shown in the graphs below, mixed cullet is a glass category that represents broken glass containers of all colors. Glass collected in Refuse trucks tends to break less than when it is collected in MGP recycling trucks. Refuse has a high proportion of food and soft paper that acts as a cushion, in contrast with the rigid plastic and metal in MGP recycling. Therefore, glass sorted from Refuse samples has a higher proportion of intact containers and a lower proportion of mixed cullet than does glass sorted from MGP samples. For this reason, we also present here the total quantity of glass containers in MGP and Refuse, which is more comparable than the more detailed glass container categories.

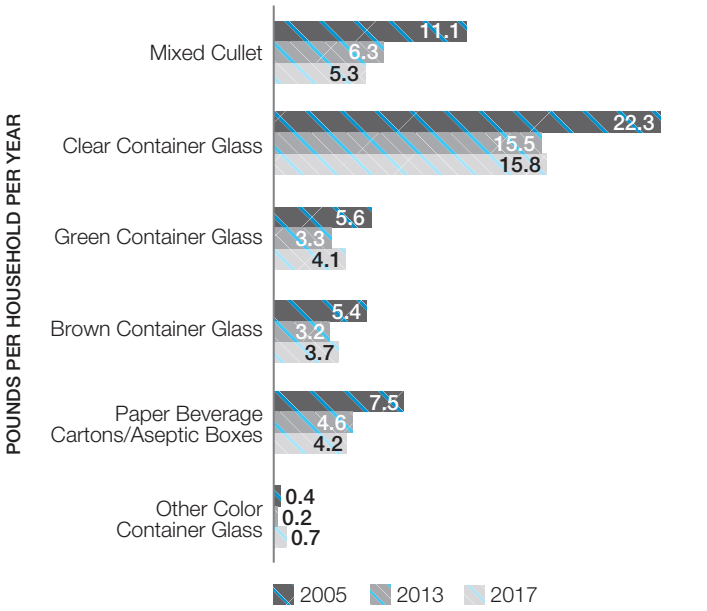
Milk and juice cartons and aseptic drink boxes are a relatively small and shrinking fraction of Aggregate Discards. Since 2005, the quantity of cartons being discarded declined by more than a third. Though in small quantities, cartons and aseptic boxes are the most commonly misplaced recyclable item with 8% of cartons being recycled with Paper instead of with MGP.

Residents are commonly confused about why cartons and aseptic boxes, seemingly made of Paper, get recycled with metal, glass and plastic instead of Paper. These items are made of multiple layers of material and are three dimensional in shape, which makes the equipment at the MGP recycling facility more effective at sorting these items.

Residential Curbside Glass & Cartons Recycled: 2005 vs. 2013 vs. 2017



Residential Curbside Glass & Cartons Improperly Disposed in Refuse: 2005 vs. 2013 vs. 2017



Glass packaging is slowly declining in our discards as it is replaced by lighter weight plastic options.

Lbs per household per year container glass, Total

	MGP	Refuse
2005:	52.5	44.8
2013:	51.2	28.5
2017:	52.2	29.7

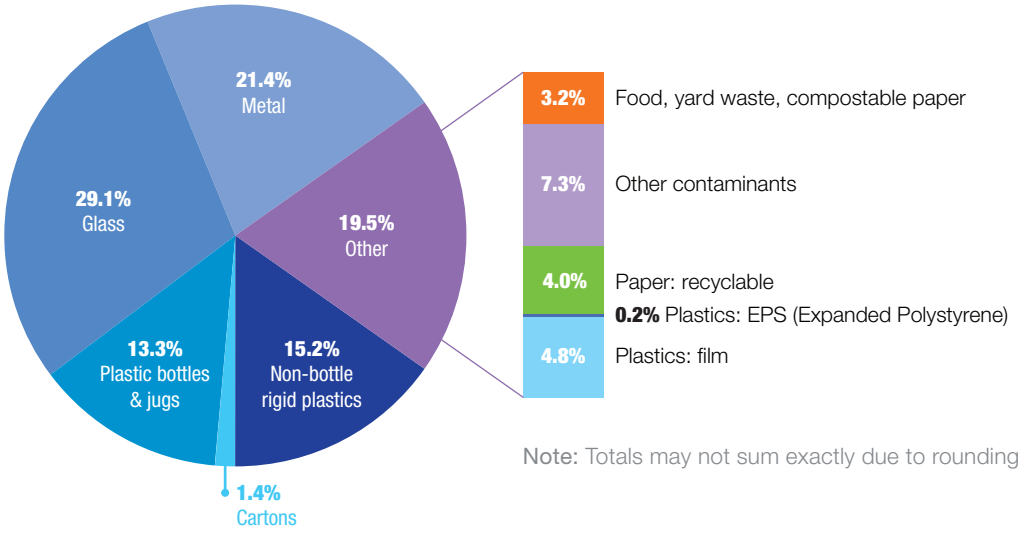
Samples: Beverage Cartons and Aseptic Boxes

MGP Recycling Contamination

Contamination in MGP recycling decreased from 26.6% in 2013 to 19.5% in 2017. Some of this decrease is due to the expansion of the MGP recycling program to include all rigid plastics. In 2013, 9.4% of MGP recycling collections consisted of non-bottle rigid plastics, which were considered contamination at the time. In 2017, these items were targeted for recycling and no longer considered contamination.

Rates of contamination of MGP collections have fallen roughly 7 percentage points from 2013.

Contamination: Percentage of 2017 Residential Curbside MGP Recycling Collections



Note: Totals may not sum exactly due to rounding.

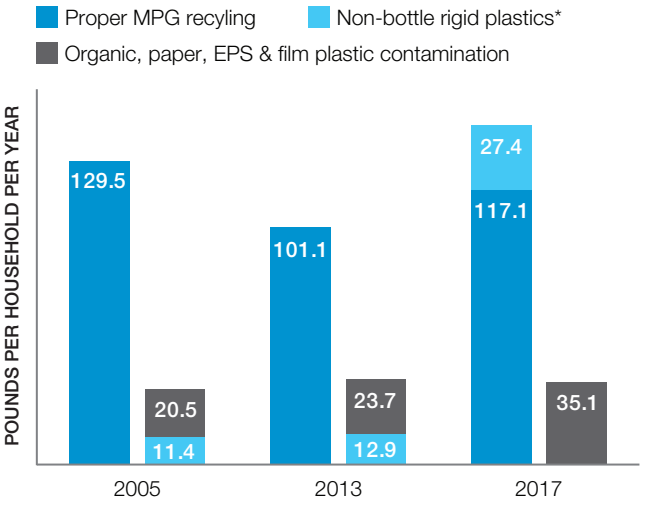
Total Contamination in MGP

2005: 19.8%
2013: 26.6%
2017: 19.5%

Other Contaminants Include:

Miscellaneous Inorganics	1.9%
Fines	1.5%
Textiles	0.8%
E-Waste	0.7%
Other Nonrecyclable Paper	0.7%
Harmful Household Products	0.5%
Construction & Demolition	0.5%
Non-C&D Wood, Carpet/ Upholstery, Misc. Organics	0.4%
Disposable Diapers/ Sanitary Products/ Animal By-Products	0.3%
Total	7.3%

Proper Recycling and Contamination in Residential Curbside MGP Recycling Collections: 2005 vs. 2013 vs. 2017



Total Contamination in MGP

	2005	2013	2017
Organics, Paper, EPS & film plastic	12.7%	17.2%	19.5%
Other rigid plastics	7.1%	9.4%	-
Total	19.8%	26.6%	19.5%

* Non-bottle rigid plastics were categorized as Refuse in 2005 and 2013, and categorized as MGP recycling in 2017.

Contamination in MGP includes unwanted materials such as organic residues, Paper, foam plastics, and film plastics like bags and wraps.

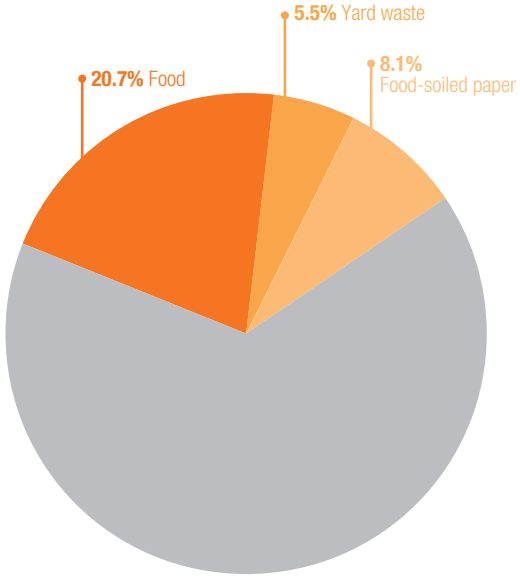
Though the contamination rate was far lower in 2017 than in 2013, the overall amount of contamination remained the same due to the fact that more overall MGP was being recycled in 2017. While the average New Yorker properly recycled more MGP in 2017, they still improperly placed the same amount of non-recyclables into the MGP stream.

Organics

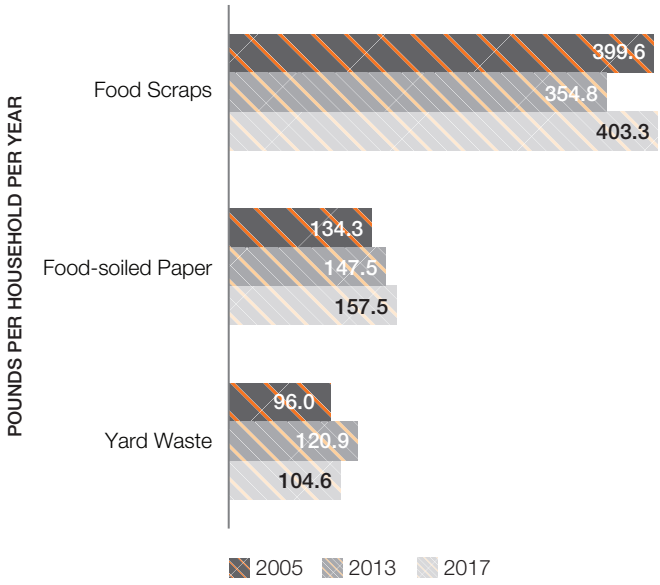
Organics suitable for composting — including food scraps, food-soiled paper, and yard waste — make up a large and still growing fraction of overall discards. In 2017, food scraps comprised the largest single category of waste in Aggregate Discards. Together, food scraps, food-soiled paper and yard waste make up more than 34% of Aggregate Discards, and diverting these products from landfills is a core focus of NYC's Zero Waste initiatives.

The 2017 Study was conducted while NYC was rolling out an Organics collection program to divert these materials to beneficial use. At the time, the vast majority of organic materials targeted in this program were still being discarded in Refuse, totaling over 650 pounds per household.

Organics in Residential Curbside Aggregate Discards: 2017



Organics Disposed in Residential Curbside Refuse: 2005 vs. 2013 vs. 2017



Note: Totals may not sum exactly due to rounding.

Percentage of Organics in Aggregate Discards

2005: 28.0%
2013: 31.5%
2017: 34.4%

Organics make up the single largest category of our discards.

Total Organics in Refuse

2005: 629.9 lbs/hh/yr
2013: 623.2 lbs/hh/yr
2017: 665.5 lbs/hh/yr

NYC's Organics Recycling Program is diverting more and more to composting and renewable energy each year.

Curbside Organics Collection Program

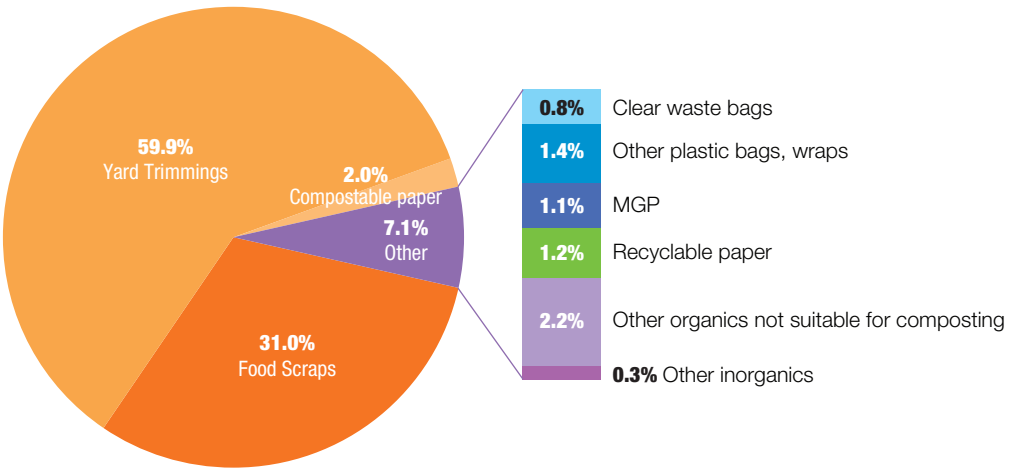
In Fiscal Year 2013, DSNY introduced a pilot program to collect source separated food scraps, food-soiled paper and yard waste from households in northern Staten Island. Since then, the NYC Organics curbside collection program has expanded to neighborhoods in the Bronx, Brooklyn, Queens and Staten Island. As of the end of 2017, more than 3.3 million New Yorkers are served by curbside Organics collection.

The 2017 Study sampled and characterized collections from districts where curbside Organics had been rolled out to establish a baseline composition of source separated Organics.

Although DSNY has paired this roll out with extensive public education, there is still a steep learning curve for residents who have never been asked to separate and store food scraps for recycling. For this reason, the amount of Organics collected for recycling in comparison to Refuse, Paper, and MGP collections are small — a little over 13,000 tons in total for 2017 — and represent the early adopters of the program.

The majority of Organics collected for recycling consisted of yard waste at 60% followed by food scraps at 31%. As shown below, **contamination rates in Organics collections were low, averaging about 7%.** Contamination consisted primarily of misplaced recyclables, Organics not accepted in the program (such as diapers, textiles and construction wood), plastic bags and food wrappers, and a variety of other inorganic materials. Clear recycling bags are accepted as liners for the brown Organics bins used to set out Organics for collection. As with other recycling programs, contaminants are mechanically separated out before the material is composted.

2017 Composition of Residential Curbside Organics



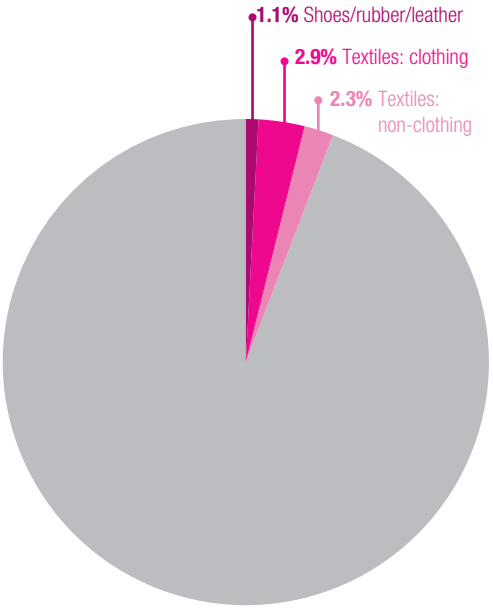
Textiles

Textiles, including unwanted clothing, linens, and shoes/accessories, continue to be a measurable fraction of Aggregate Discards, despite the existence of an array of programs to encourage donation or recycling of such items.

Between 2013 and 2017, the amount of clothing, shoes and accessories discarded per household has remained flat. The amount of non-clothing textiles — including linens, towels, stuffed animals and other cloth housewares but not carpets, rugs or upholstered furniture — has increased slightly, continuing a trend seen between 2005 and 2013.

The average household discarded 120 pounds of textiles in 2017.

Textiles in Residential Curbside Aggregate Discards: 2017



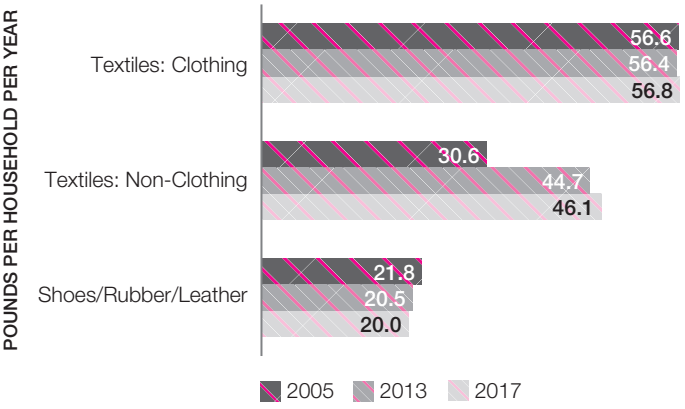
Textiles are a substantial portion of discards. They have ready outlets for reuse and recycling through donation.

Percentage of Textiles in Aggregate Discards

	2005	2013	2017
Shoes/Rubber/Leather	1.0%	1.1%	1.1%
Textiles: Clothing	2.5%	2.8%	2.9%
Textiles: Non-Clothing	1.4%	2.2%	2.3%
Total	4.8%	6.2%	6.3%

Note: Totals may not sum exactly due to rounding.

Textiles Improperly Disposed in Residential Curbside Refuse: 2005 vs. 2013 vs. 2017



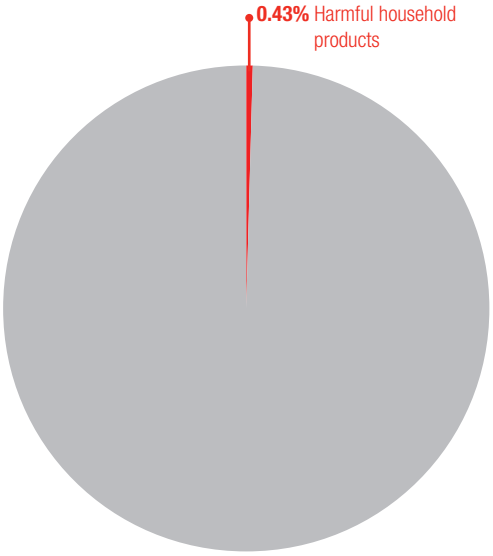
Total Textiles in Refuse

2005: 109.0 lbs/hh/yr
2013: 121.6 lbs/hh/yr
2017: 122.9 lbs/hh/yr

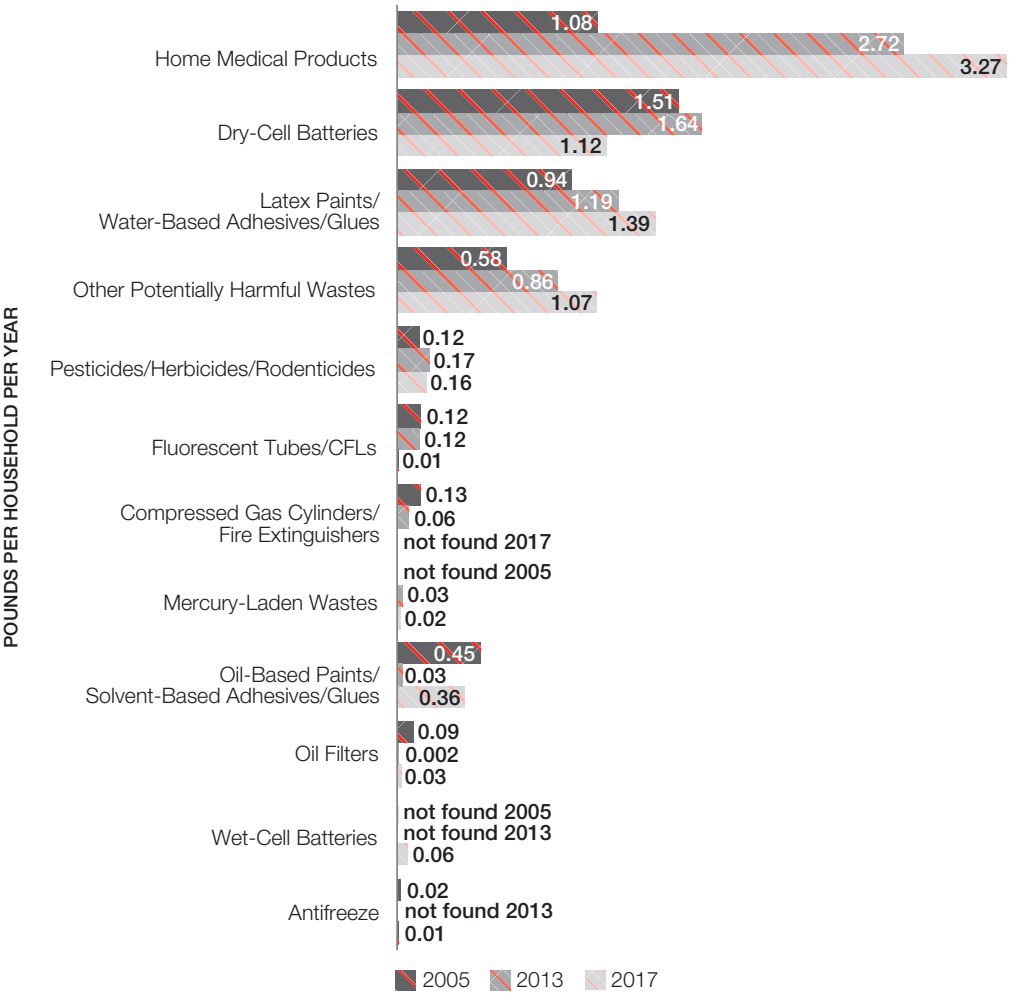
Harmful Household Products

Overall, Harmful Household Products are a very small, but growing fraction of discards, having almost doubled from 0.25% in 2005 to 0.43% in 2017. Despite being less than 1% of the waste stream, harmful household products have disproportionate impacts on the environment and human health when not properly managed. Most of the increase comes from home medical products, although nearly all categories have increased on a per household basis over time.

Harmful Household Products in Residential Curbside Aggregate Discards: 2017



Harmful Household Products Improperly Disposed in Residential Curbside Refuse: 2005 vs. 2013 VS. 2017



On average NYC households dispose of nearly 7.5 pounds of harmful household products per year, but this varies from household to household.

Total Harmful Household Products in Refuse

2005: 5.0 lbs/hh/yr
2013: 6.8 lbs/hh/yr
2017: 7.5 lbs/hh/yr

Electronic Waste

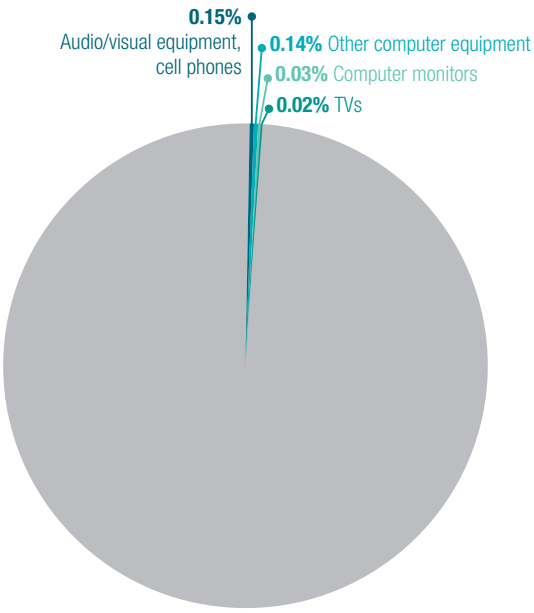
Electronic waste, or "e-waste" — including televisions, computers, tablets, printers, and other TV and computer peripherals — is another small but important fraction of discards, one that has been targeted by legislation, and that has seen a large evolution in product design over the last decade. E-waste is a category of durable products that are not thrown out frequently, but can contain heavy metals and other harmful products that can be detrimental to the environment if not properly handled.

Starting in 2015, disposal of e-waste in curbside Refuse collections was prohibited by State law, subject to a $100 fine in NYC. New Yorkers subsequently began to take advantage of the various e-waste recycling options offered by DSNY and other non-profit organizations and private companies. At the same time, innovations have lead to widespread retirement of old, heavier electronics in favor of new, lightweight equipment. For example, heavy cathode ray televisions, the primary type of TV for several decades, have been extensively replaced by lighter weight flat screen TVs over the past ten years.

The 2017 Study documents the effects of the e-waste disposal ban and product design changes. In four years, e-waste has declined by almost two thirds from 0.89% of Aggregate Discards in 2013 to 0.34% in 2017. On a per household per year basis, discarded televisions alone declined from an average of 5.1 pounds per household in 2013 to 0.4 pounds per household in 2017.

In four years, e-waste has declined by almost two thirds from 0.89% of Aggregate Discards in 2013 to 0.34% in 2017.

E-Waste in Residential Curbside Aggregate Discards: 2017



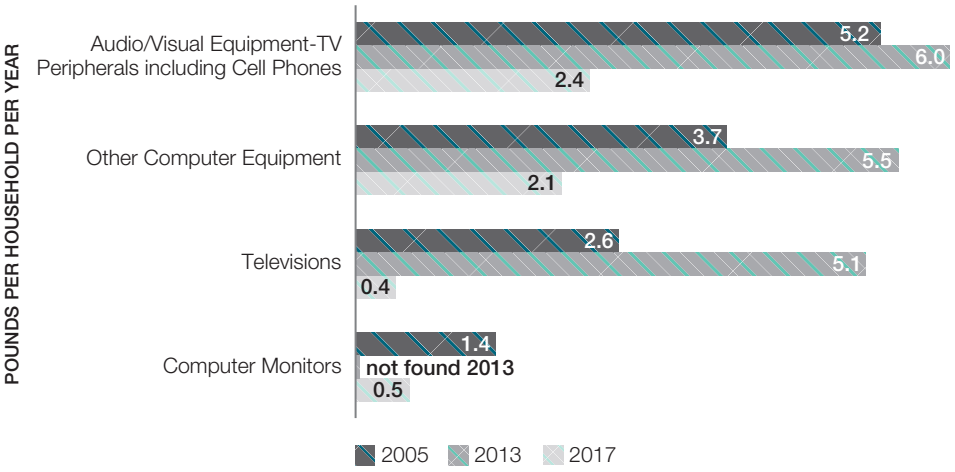
Electronic waste or e-waste has a high profile but is a small fraction by weight of overall discards.

Percentage of E-Waste in Aggregate Discards

2005: 0.64%
2013: 0.89%
2017: 0.34%

Note: Totals may not sum exactly due to rounding.

E-Waste Improperly Disposed in Residential Curbside Refuse: 2005 vs. 2013 vs. 2017



The average NYC household disposes of 5.4 pounds of e-waste per year.

Total E-Waste in Refuse

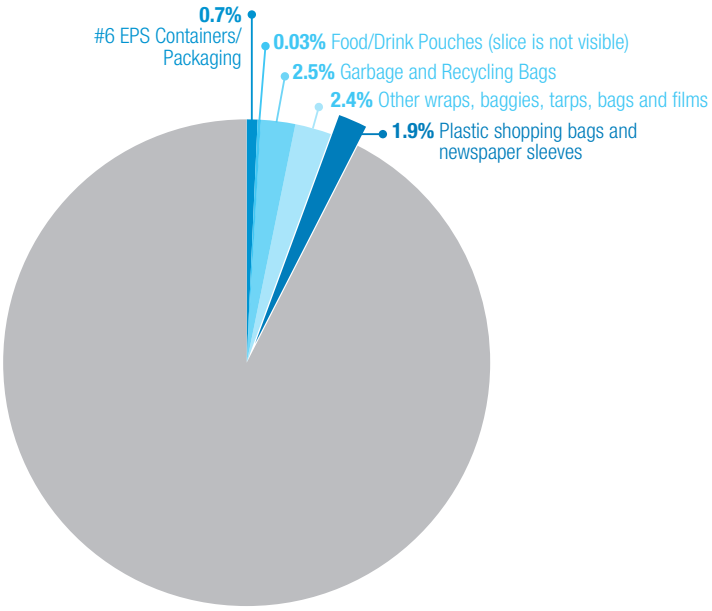
2005: 13.0 lbs/hh/yr
2013: 16.6 lbs/hh/yr
2017: 5.4 lbs/hh/yr

Note: Totals may not sum exactly due to rounding.

Plastic Films and Foam

Film and foam plastics are a steady, measurable fraction of NYC's waste stream. In 2017, these plastics made up 7.5% of the waste stream.

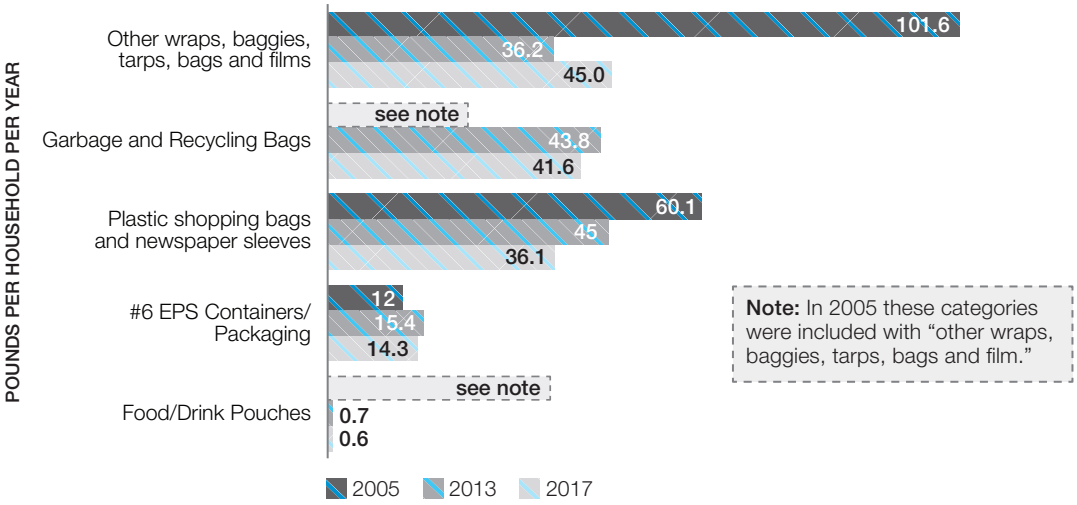
Plastic Films and Foams in Residential Curbside Aggregate Discards: 2017



Percentage of Plastic Films and Foams in Aggregate Discards

2005: 8.0%
2013: 7.5%
2017: 7.5%

Plastic Films and Foams Disposed in Residential Curbside Refuse: 2005 vs. 2013 vs. 2017



Film plastics are not designated for recycling by DSNY due to technical challenges and limited or non-existent recycling markets for these commodities. That being said, they make up substantial portions of contamination in Paper and MGP collections. Garbage and recycling bags (2.5%) are an expected part of discards as they are used as a tool to set out discards for collection. In fact, the sheer volume of Refuse and recycling that needs to be picked up every day coupled with the density of the built environment in NYC has made bagged curbside collections the most efficient strategy. Additionally, smaller plastic shopping bags (1.9%) are commonly used as a "carrier" to throw away discards in apartment living.

On a per household basis, there has been a steady decline in the amount of shopping bags discarded, with around 36 pounds per household in 2017, down from 60 lbs per household in 2005. This may be due in part to the redesign of bags to weigh less. Another contributing factor may be the New York State plastic bag recycling law that requires retailers of a certain size to place recycling containers at the front of their stores for customers to voluntarily recycle their plastic film. We do not have statistics to document how much film is recycled in NYC through the State program, though anecdotal evidence suggests it is limited.

Construction and Demolition Debris

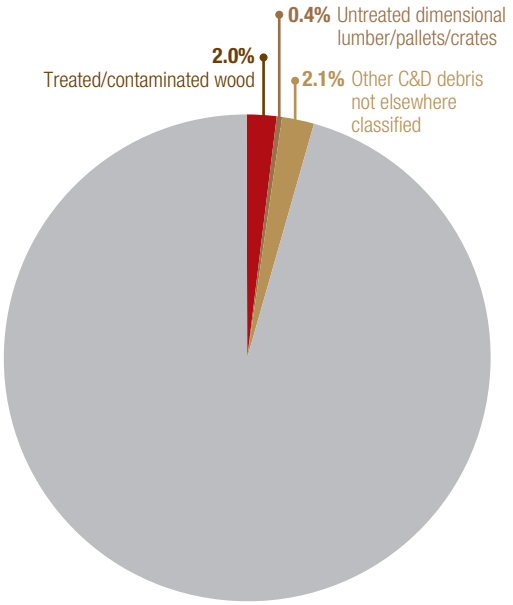
Construction and demolition (C&D) debris that are generated by contractors or fee-for-service workers is considered commercial waste; it is the responsibility of the contractor to arrange for appropriate private disposal. When generated from do-it-yourself projects, however, it is legal to dispose of this type of material in DSNY Refuse collections.

The percentage of C&D in overall waste declined from 5.1% in 2013 to 4.5% in 2017. On a per household basis, this material declined from a high in 2005 of around 117 lbs per household per year to close to 88 lbs per household per year in 2017.

Most of the decline in C&D is due to declines in non-wood C&D materials like drywall, bricks, concrete, and other building materials set out for DSNY. Wood treated with preservatives has increased back to 2005 levels, while untreated wood declined.

C&D material in DSNY collections is considered part of the "Other" category of wastes for which there are no existing programs offered by DSNY, because while there are opportunities to recycle commercial construction and demolition debris in the private sector in dedicated collections, DSNY collects C&D material in Refuse trucks.

Construction & Demolition Debris in Residential Curbside Aggregate Discards: 2017

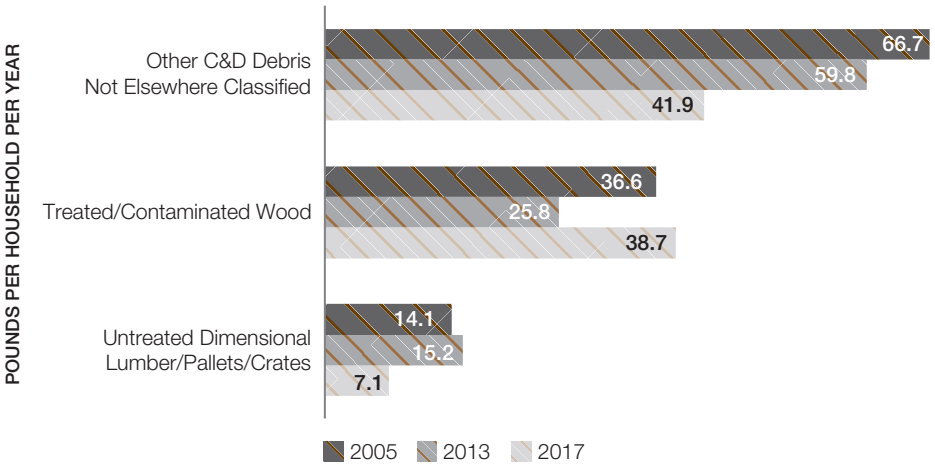


Debris from construction and demolition has declined slightly as a percentage of Aggregate Discards between 2005 and 2013.

Percentage of C&D Debris in Aggregate Discards

2005: 5.2%
2013: 5.1%
2017: 4.5%

Construction & Demolition Debris Disposed in Residential Curbside Refuse: 2005 vs. 2013 vs. 2017



Construction and demolition debris consists of wood, much of which is treated with chemicals, as well as rock, brick, and drywall.

Total C&D Debris in Refuse

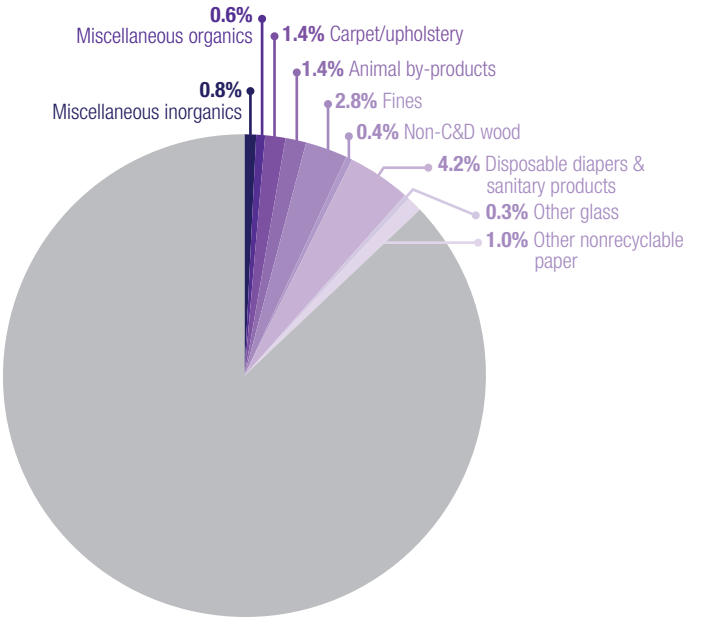
2005: **117.3** lbs/hh/yr
2013: **100.8** lbs/hh/yr
2017: **87.7** lbs/hh/yr

Note: Totals may not sum exactly due to rounding.

"Other" Materials

The discussion above has covered nearly all materials that are thrown out in Refuse or placed in curbside Paper and MGP recycling and Organics collections. What remains includes small (fine) and unidentifiable materials in Refuse, as well as diapers and hygiene products, wood that is not related to construction, carpet and upholstery, and animal by-products associated with pets.

"Other Materials" in Residential Curbside Aggregate Discards: 2017



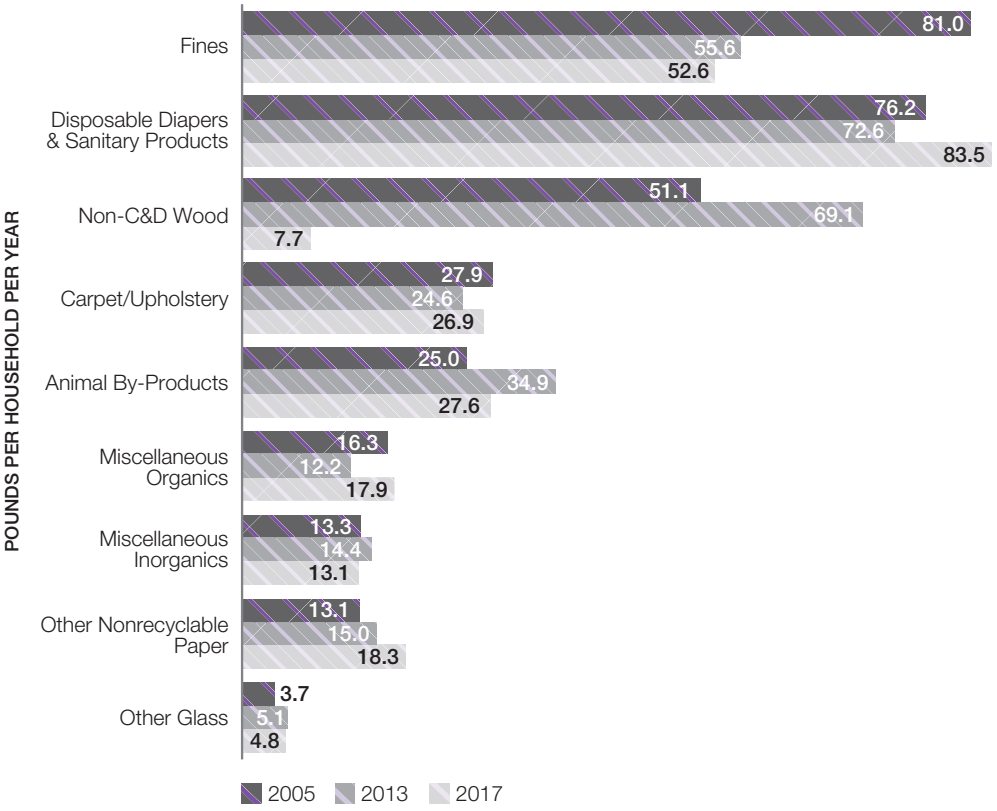
"Other materials" in discards include items that are difficult to recycle, compost, prevent, or reuse.

Percentage of "Other Materials" in Aggregate Discards

2005: **13.6%**
2013: **15.7%**
2017: **12.9%**

While as a group, these “other materials” have diminished as a percentage of overall discards, baby and adult diapers and feminine hygiene products are a steadily growing fraction of waste, rising from 3.2% in 2005 to 4.2% of discards in 2017. Wooden household goods and non-upholstered furniture declined by nearly 90% from 69.1 pounds per household to 7.7 pounds per household. The cause of this precipitous decline is not as yet clear.

“Other Materials” Disposed in Residential Curbside Refuse: 2005 vs. 2013 vs. 2017



Total “Other Materials” in Refuse

2005: **304.0** lbs/hh/yr
2013: **307.0** lbs/hh/yr
2017: **245.9** lbs/hh/yr

Note: Totals may not sum exactly due to rounding.

Conclusion

Throughout this section, we have described a range of factors that contribute to NYC's residential waste composition. Waste composition is important to assessing how well the City is diverting materials from landfills and how much more we can potentially achieve.

The baseline composition of Aggregate Discards is a reflection of the types of products produced by industry, consumed by residents, and discarded. What citizens consume and discard places a limit on what can be achieved even with perfect recycling. For New York City in 2017 residential curbside collections, this limit is 34% for Paper and MGP recycling with another 34% for Organics recycling.

Capture rates reflect the average recycling behaviors of citizens, including those who recycle 100% of what they could, those who fail to recycle at all, and everyone in between. The extent to which recycling collections are contaminated with non-recyclables, and the definition of what constitutes a non-recyclable in the first place, add complicating factors to interpreting recycling achievement. In addition, the extent to which individuals or organized groups scavenge recyclables from what residents set out at the curb before DSNY collects the material reduces our ability to measure recycling achievement, because this extraneous activity removes material before it can be measured.

Trends in the composition of consumer products continue to evolve. Design choices by brand owners and manufacturers of products have both positive and negative effects on sustainable waste management, including their recyclability and toxicity, that municipalities have to respond to through planning, education and outreach, and legislation.

VI. Results: School Collections

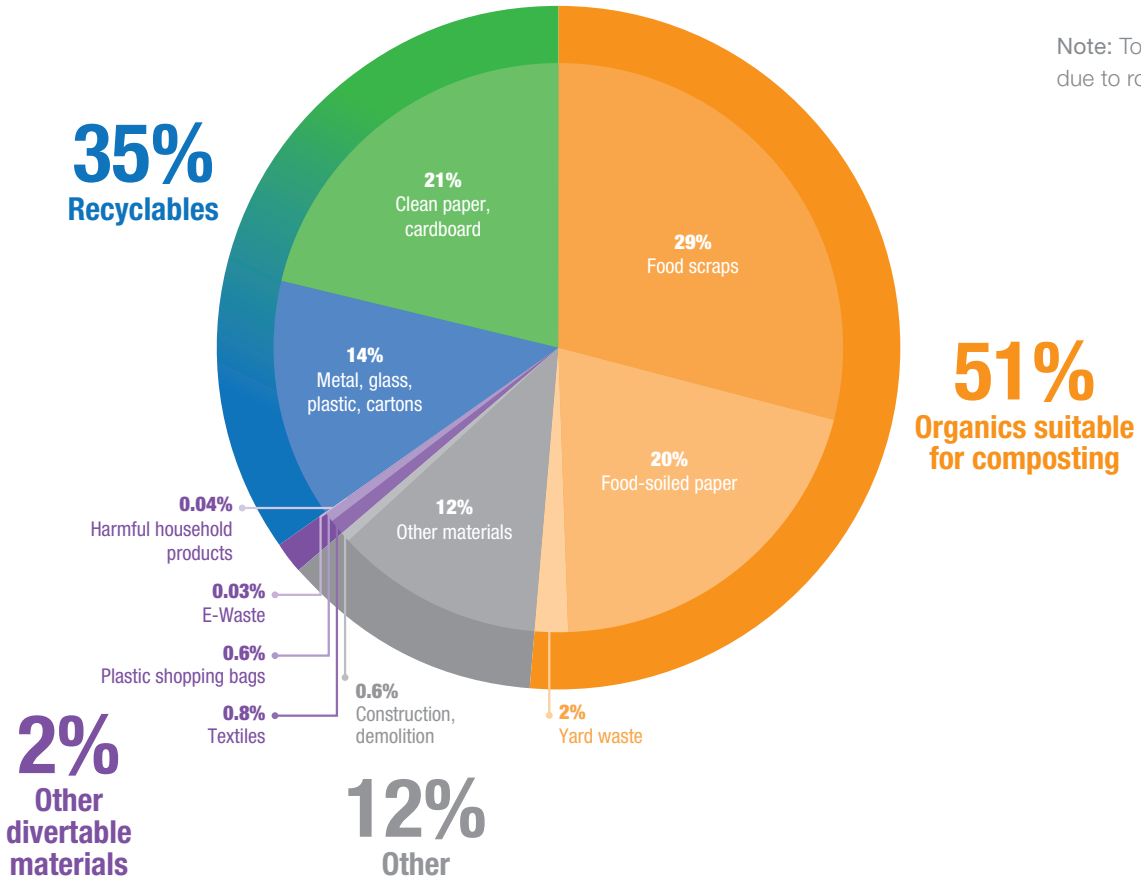
There are over 1,800 public schools in New York City that receive DSNY collection. For the first time since 1990, the 2017 Study included a baseline characterization of waste generated by NYC schools. See the method section for how the school waste characterization was conducted. The full school statistics for all sort categories (including the main material sort categories and the detailed sub-sort categories) can be viewed in the data files provided as a supplement to this report, available at **nyc.gov/wastestudy**.

In the decades since recycling was mandated in NYC, DSNY has worked with the Department of Education (DOE) to improve recycling compliance. Beginning in 2015, the Department of Sanitation partnered with DOE, and GrowNYC's Recycling Champions Program to launch Zero Waste Schools (**nyc.gov/zerowasteschools**). The goal of this program is to divert all recyclable and compostable waste from approximately 100 Zero Waste Schools in five years and to apply the best practices learned from these schools citywide.

NYC School Waste Profile in 2017

The 2017 Study shows that nearly 35% of the waste collected from schools consists of Paper and MGP recyclables, and more than half of everything generated consists of Organics suitable for composting. 13.9% of school waste consists of "Other" materials that require special handling (e-waste and harmful products), have alternative donation or recycling programs available (textiles), or have no readily available alternative to disposal.

2017 Composition of Schools Aggregate Discards



Note: Totals may not sum exactly due to rounding.

As shown below, the majority of Paper generated at schools in 2017 was clean corrugated cardboard with relatively smaller quantities of high-grade paper and mixed-grade paper. School waste contains measurable quantities of metal, rigid plastics, and beverage cartons but relatively little glass. Organics discarded by schools consists primarily of food scraps, followed by food-soiled paper, the majority of which is compostable trays used each day in school lunches. Very little yard waste is generated at schools and set out for DSNY collections.

School Waste by Material	Aggregate Discards
Paper Reyclables	**21.2%**
Corrugated cardboard	10.0%
High-grade paper	3.6%
Mixed low-grade paper	7.3%
Newspaper	0.3%
MGP Recyclables	**13.6%**
Aluminum cans/foil/containers	1.1%
Steel/tin food cans	1.4%
Other metal (bulky items, appliances, mixed metals, aerosol cans, etc.)	1.9%
Beverage cartons	2.3%
Glass	0.8%
Plastic bottles and jugs	1.7%
Non-bottle rigid plastic containers	2.2%
Rigid plastic single use plates/cups/cutlery	1.2%
Rigid plastic bulk/appliances/durables/other	0.9%
Organics Suitable for Composting	**51.3%**
Food	29.1%
Paper: Compostable/soiled/waxed OCC/kraft	20.4%
Yard waste	1.9%
Other	**13.9%**
Non-recyclable paper	1.1%
Non-recyclable plastics (including bags, baggies, wrappers, drink pouches, foam cups and containers, etc)	8.2%
Textiles	0.8%
E-Waste	0.0%
Harmful products (cleaners, paint, etc.)	0.0%
Disposable diapers/sanitary products	0.6%
Wood/carpet/upholstery	0.2%
C&D	0.6%
Miscellaneous and “fines” (i.e. too small to sort)	2.3%
Total Waste	**100.0%**

Note: Totals may not sum exactly due to rounding.

Schools have the potential to divert as much as 86% of their waste for recycling or composting through DSNY curbside collections.

Recycling Achievement

The charts below show the average recycling achievement of NYC schools in 2017. Some schools capture significantly more recyclables and have lower contamination of unwanted materials in recycling collections than others, but the 2017 Study documented that, on average, there is considerable potential to recycle more from school waste.

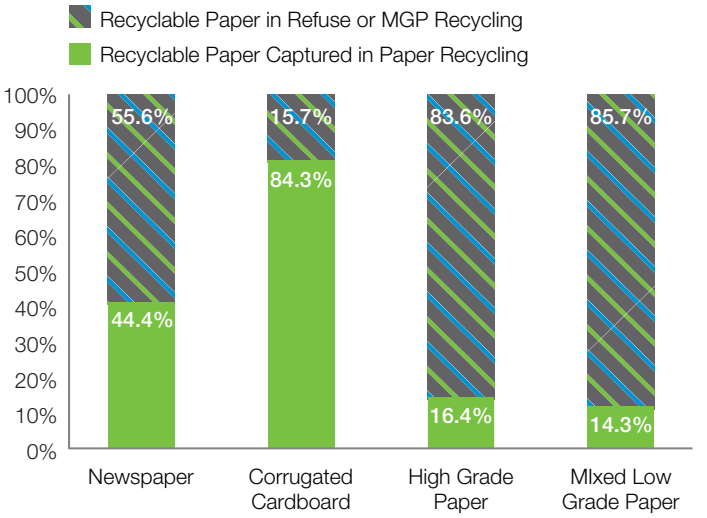
School Recycling Collections	Paper Recycling	MGP Recycling
Capture Rate	57.9%	19.4%
Contamination Rate	17.2%	40.6%
Capture Rate (net of contamination)	48%	11.5%

Results by Material Category

Paper and Cardboard

The vast majority of Paper successfully recycled was corrugated cardboard with an 84% capture rate. Less than half of the newspaper was recycled with a 44% capture rate, and both high- and low-grade paper is primarily ending up in the Refuse with only 16% and 14% respectively being recycled.

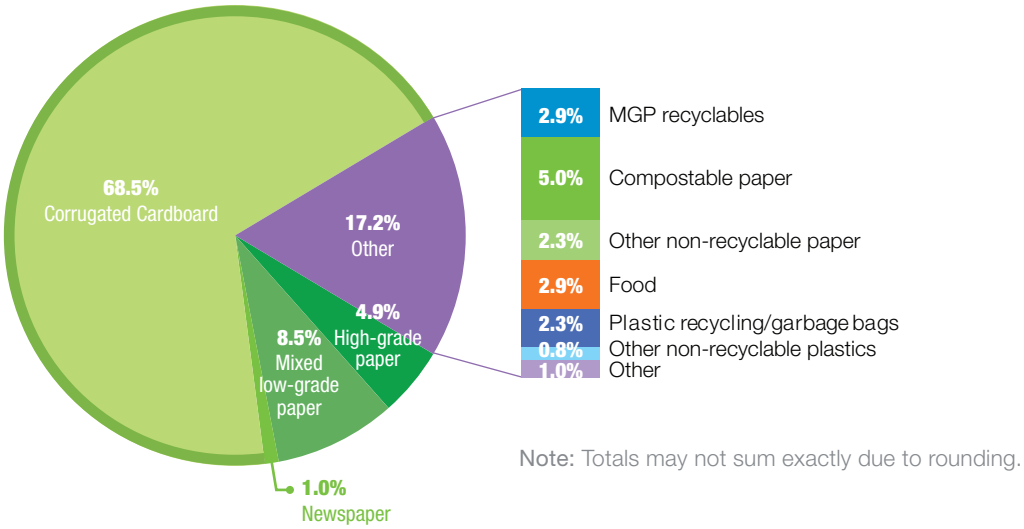
Recyclable Paper Capture Rates



Paper Recycling Contamination

About 17% of Paper recycling collections consisted of contaminants. Some of those contaminants were MGP recyclables incorrectly placed in Paper recycling. A third of the contaminants were food-soiled paper including compostable plates from the cafeteria, which, while made from Paper, largely are covered by food residue. The results would appear to show that soiled and non-recyclable paper are an area of recycling confusion within school waste management. Clear plastic garbage bags used to set out Paper for collection made up 2.3% of the Paper stream.

2017 Composition of School Paper Recycling



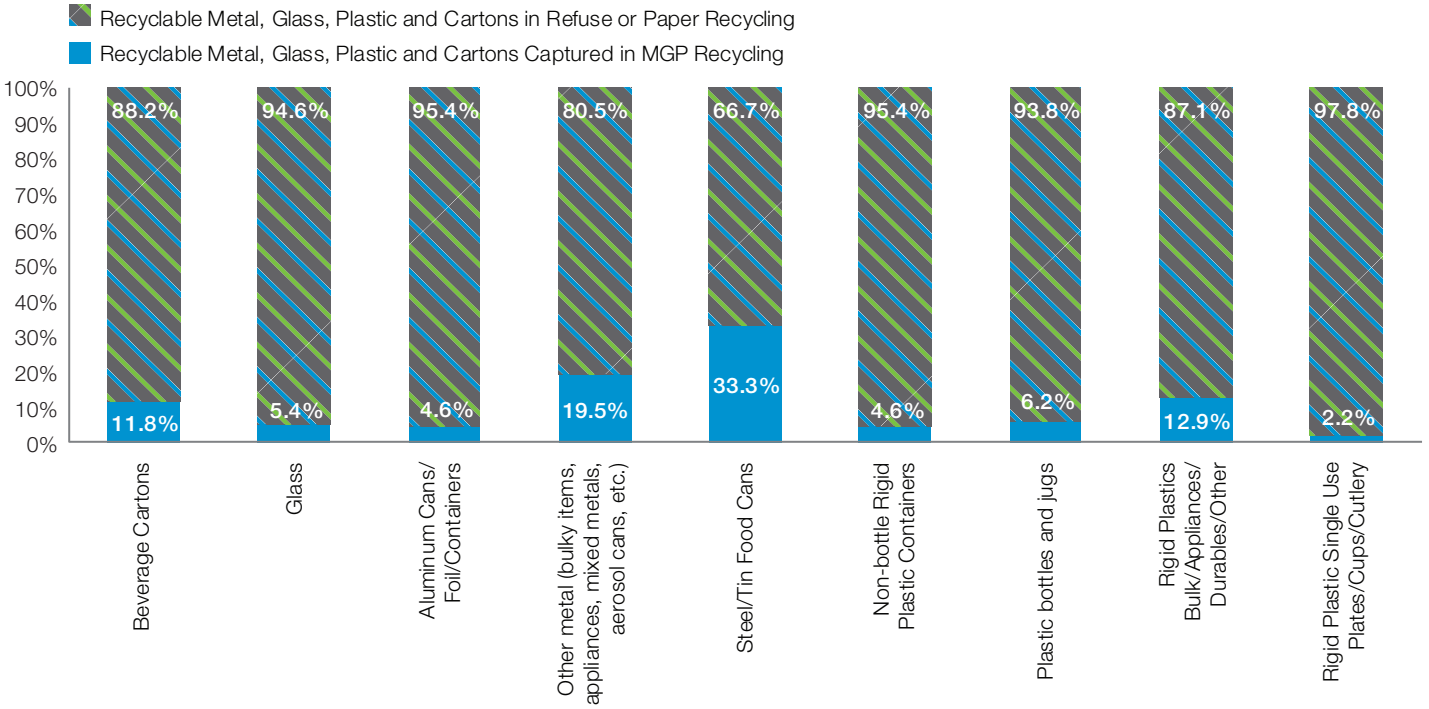
Note: Totals may not sum exactly due to rounding.

Schools MGP Curbside Pick-up Area

MGP

The 2017 Study found that recyclable metal, glass, rigid plastic and beverage cartons were predominantly placed in Refuse rather than in MGP recycling. Overall the capture rate for MGP recyclables was very low, at 11.5%.

Recyclable MGP Capture Rates



Metal

Metal items made up 4.5% of school waste and were most successfully recycled with a capture rate of 20%. This largely came from ferrous (steel and tin) cans with about a third of these cans captured in the MGP recycling collections. Ferrous cans tend to come from school kitchens and are commonly recognized as a recyclable by kitchen staff. Almost all aluminum cans, foil or containers were discarded in the Refuse, and about a fifth of other metal items, consisting largely of bulky metal, durable items, and aerosol cans, were captured in MGP recycling.

Rigid Plastics

Recyclable plastic made up 6% of school waste. Most of this material came from food service including bottles and jugs, non-bottle rigid containers, and single use plates, cups and cutlery. The vast majority of these items were found in Refuse and not MGP recycling. Close to 13% of other rigid plastics, including durables and bulky items, were recycled.

Cartons

11.8% of Beverage cartons (primarily milk cartons) were captured in MGP recycling with the rest being found in Refuse.

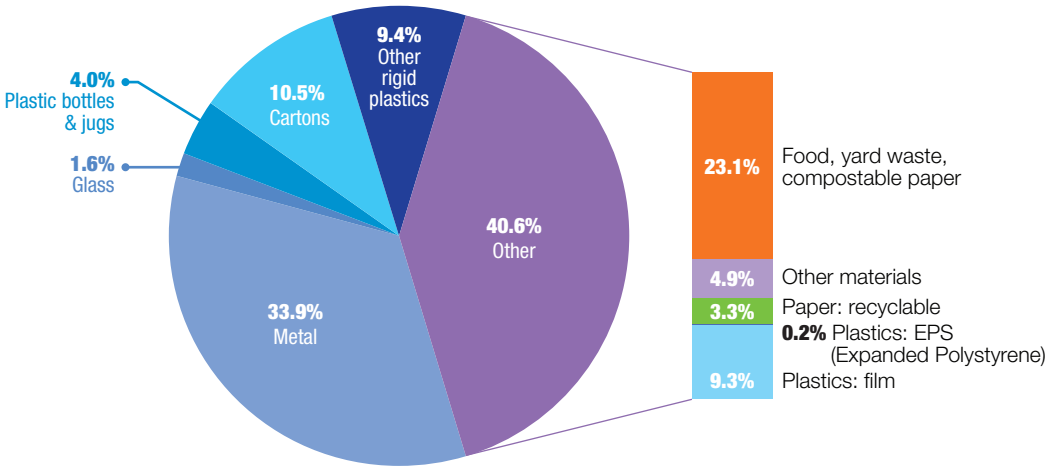
Glass

There is very little glass in school waste, 5.4% of which was captured in MGP recycling.

MGP Recycling Contamination

More than 40% of MGP recycling collections consisted of contaminants. Some of those contaminants were Paper recyclables incorrectly placed in MGP recycling. More than half of the contamination was food and food-soiled paper. Most MGP recyclables consisted of food service packaging and food was likely placed in MGP recycling through improper sorting in the cafeterias or other feeding locations. Clear plastic garbage bags used to set out MGP for collection made up 6.5% of the MGP stream.

2017 Composition of School MGP Recycling



Conclusion

The 2017 composition of school waste confirms anecdotal observations that over half of all school waste going to disposal is compostable Organics, suggesting a strong future for separate school Organics collection in the years to come as this service expands to all schools in NYC. In addition, while schools do achieve some recycling success, much more is possible.

VII. Results: New York City Housing Authority

DSNY collects waste from all New York City Housing Authority (NYCHA) properties, which range from small, standalone buildings to large, multi-building complexes and has a total of more than 177,000 housing units. For the first time, the 2017 Study included a baseline characterization of Refuse generated by NYCHA housing developments. See the method section for how the NYCHA waste characterization was conducted. The full NYCHA statistics for all sort categories (including the main material sort categories and the detailed sub-sort categories) can be viewed in the data files provided as a supplement to this report, available at **nyc.gov/wastestudy**.

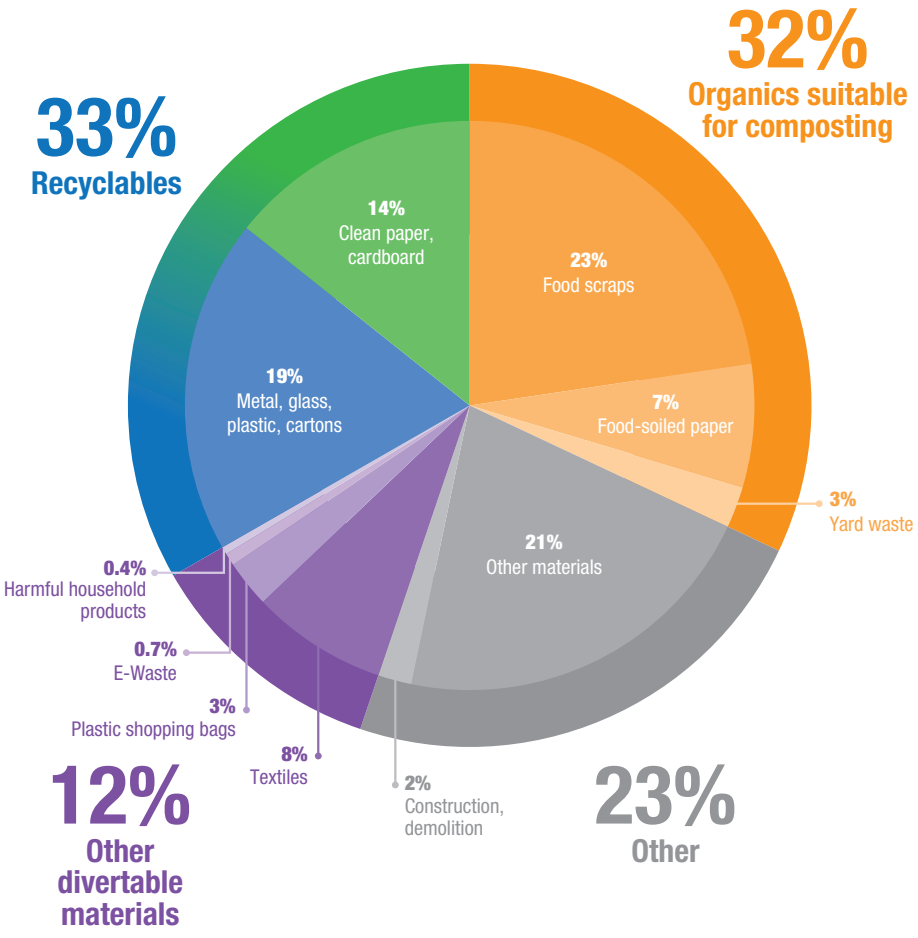
While DSNY does collect paper and MGP recycling from NYCHA properties, these are generally collected as part of regular curbside recycling collections, and the overall quantity of recyclables collected at NYCHA is relatively small. The vast majority of NYCHA waste is Refuse collected through dedicated containerized collections. This Study examines the composition of those containerized Refuse collections.

For much of the last three decades, the residents of most NYCHA developments have lacked access to convenient and consistent recycling programs. In 2015, NYCHA committed to offering access to recycling services to all NYCHA residents through its program, NYCHA Recycles! DSNY continues to partner with NYCHA to offer staff and resident trainings and outreach to grow participation. Find out more at **on.nyc.gov/dsny-nycha-recycles**.

NYCHA Waste Profile in 2017

About 33% of NYCHA waste is recyclable in DSNY's curbside collections and another 32% is Organics suitable for composting. The primary difference between the NYCHA waste and non-NYCHA residential waste is the relative share of yard waste, here only 2.4% of total waste.

2017 Composition of NYCHA Refuse



Results by Material Category

From July 2016 to June 2017, DSNY collected over 142,000 tons of Refuse from NYCHA containers on dedicated routes. While a small percentage of DSNY's overall waste collections, understanding how much of each material is generated by NYCHA residents can help to determine the latent opportunity to recover valuable materials from this waste stream.

Material Group	Percentage in Refuse	Tons in Refuse
Paper Recyclables	**14.3%**	**20,342**
Corrugated cardboard	1.8%	2,633
High-grade paper	0.9%	1,316
Mixed low-grade paper	9.1%	13,012
Newspaper	2.4%	3,382
MGP Recyclables	**19.0%**	**27,066**
Aluminum cans/foil/containers	1.4%	2,048
Steel/tin food cans	1.3%	1,914
Other metal (bulky items, appliances, mixed metals, aerosol cans, etc.)	3.3%	4,637
Paper beverage cartons/aseptic boxes	0.5%	643
Glass	4.0%	5,737
Plastic bottles and jugs	3.9%	5,574
Non-bottle rigid plastic containers	1.6%	2,226
Rigid plastic single use plates/cups/cutlery	0.4%	583
Rigid plastic bulk/appliances/durables/others	2.6%	3,706
Organics suitable for composting	**32.0%**	**45,560**
Food	22.6%	32,225
Paper: Compostable/soiled/waxed OCC/kraft	7.0%	9,975
Yard waste	2.4%	3,360
Other	**34.7%**	**49,396**
Non-recyclable paper	1.7%	2,463
Non-recyclable plastics	8.4%	11,961
Textiles	7.7%	10,979
E-Waste	0.7%	995
Harmful household products	0.4%	616
Disposable diapers/sanitary products	7.0%	10,014
Animal by-products	1.3%	1,896
Wood/carpet/upholstery	0.7%	940
Construction, demolition	1.9%	2,714
Miscellaneous and fines (i.e. too small to sort)	4.8%	6,819
Grand Total	**100.0%**	**142,365**

Note: Totals may not sum exactly due to rounding.

VIII. Appendix

The Appendix defines material categories for the 2017 Study for both the main sort and the sub sort.

- The main sort categories are defined in the table called “Main Sort - Material Category Definitions.”
- The sub sort categories are defined in the table called “Sub Sort - Material Category Definitions.”

Main Sort – Material Category Definitions

Material Group	Category	Description
Paper	Newspaper	Printed ground wood newsprint (Advertising “slicks” (glossy paper), if found mixed with newspaper; otherwise, ad slicks are included with mixed low grade.).
Paper	Plain OCC/Kraft Paper	Old unwaxed/uncoated corrugated container boxes, and Kraft paper. Does **not** include paper bags
Paper	High Grade Paper	White and lightly colored bond, rag, or stationery grade paper. This includes white or lightly colored sulfite/sulfate bond, copy papers, notebook paper, envelopes, Continuous-feed sulfite/sulfate computer printouts and forms of all types, excluding carbonless copy paper
Paper	Mixed Low Grade Paper	Includes junk mail, magazines, colored papers, bleached Kraft including bags, boxboard, mailing tubes, carbonless copy paper, ground wood computer printouts, telephone directories, paperback books, hardcover books
Paper	Paper: Compostable/ Soiled/Waxed OCC/Kraft	Waxed papers and cardboards, other papers that were soiled with food during use (e.g., pizza box inserts); paper towels, wipes and napkins; paper plates, platters, cups, and bowls
Paper	Other Nonrecyclable Paper	Polycoated frozen food and ice cream containers/packaging and other polycoated papers (excluding milk/juice cartons and aseptic packaging); paper with other materials attached (e.g. orange juice cans and spiral notebooks), and other non-recyclable papers such as carbon copy paper, label backing, and photographs. Includes gypsum board tape rolls.
Paper	Paper Beverage Cartons/ Aseptic Boxes	Beverage and food containers made of bleached and unbleached paperboard coated with HDPE film. This includes polycoated milk and juice containers, and aseptic juice boxes, including those with plastic spouts attached. Excludes juice concentrate cans.

Main Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	#1 PET Bottles	#1 Polyethylene terephthalate translucent or colored (green, blue, red, amber, yellow, orange and opaque) narrow neck bottles and jars.
Plastic	#2 HDPE Natural Bottles	High-density translucent polyethylene (#2) milk, juice, beverage, vinegar, distilled water bottles with necks and jars.
Plastic	#2 HDPE Pigmented Bottles	High-density colored (including opaque white) polyethylene (#2) bottles. Liquid detergent bottles, some hair care bottles and jars with necks. Includes empty motor oil bottles. (Chemical bottles that still contain product are sorted according to that material-for instance, pesticides.)
Plastic	Other Plastic Bottles	All other bottles and jars with necks labeled with resin codes other than #1 and #2, bioplastic, dual-labeled (marked with two resin codes), other labeled, or unlabeled. Includes empty bottles that once held motor oil or other HHW. (Chemical bottles that still contain product are sorted according to the product).
Plastic	Rigid Plastic Containers/ Packaging	All non-bottle rigid plastic containers and packaging made of any resin. Thermoform molded trays, clamshells, and other packaging, typically used for food items and made out of #1 PET. White plumbing pipe, identifiable PVC packaging other than PVC bottles/tubs. Injection molded (predominantly #2 & #5 plastic resin) wide mouth containers without a neck, such as cottage cheese and margarine tubs, of any resin type. Includes lids to the tubs and plastic bottle caps, pill bottles, #6 rigid polystyrene containers and packaging. Also clear trays, clamshells, and cases, salad green containers, cookie tray inserts, yogurt, butter and sour cream containers, CD cases. Includes containers and packaging not classified elsewhere, including containers of all types, clamshells, trays, protective packaging, stand-up toothpaste tubes, and plastic spools. Includes empty tubes of toothpaste, lotion, conditioner, body wash and caulk.
Plastic	#6 EPS Containers/ Packaging (including Single Use)	Includes #6 packaging and finished products made of expanded polystyrene. Includes EPS trays used for packaging and shelf display of meats and groceries as well as plates, bowls, and platters, but **excludes** Styrofoam cups.
Plastic	Film Plastic: Retail Bags/ Sleeves	Plastic bags given to customers by any retail establishment for transporting purchased goods, including labeled grocery and merchandise, dry cleaner, and newspaper polyethylene film bags. Does **not** include garbage bags, baggies or Ziploc bags; or bags heavily soiled with food.
Plastic	Film Plastic: Garbage Bags	Plastic bags designed and marketed to contain garbage or other materials for disposal
Plastic	Film Plastic: Food/Drink Pouches	Drink pouches made of multi-layer film plastic and including foil.

Main Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Film Plastic: All Other Film	Other film bags not elsewhere classified and other plastic film products. Film that is heavily contaminated with food, liquid or grit during use (including baggies, Ziploc bags and plastic wraps); is woven together (e.g., grain bags); contains multiple layers of film or other materials that have been fused together (e.g., potato chip bags).
Plastic	Single Use Plastic Plates/ Cups/Cutlery (excluding EPS)	Plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins. Does not include EPS (styrofoam) plates, cups, and bowls, or EPS trays used for packaging and display.
Plastic	Appliances: Plastic	Small and large appliances made predominantly of plastic
Plastic	Bulk/Rigid Plastic	Bulky rigid plastic items larger in size than a breadbox. Includes plastic furniture, tools, toys, plastic crates and soda bottle carriers. Includes 5-gal buckets and large planters. Excludes plastic appliances.
Plastic	Other Plastics	Plastic items made entirely of plastic or predominantly of plastic not elsewhere classified. As a rule of thumb, smaller in size than a breadbox. Includes pens and markers, lighters, 3- ring binders, small toys and housewares, toothbrushes, razors, dental floss containers, CD/DVDs, VHS tapes.
Glass	Clear Container Glass	Manually sortable, recyclable clear glass bottles and jars that are greater than 2” x 2”
Glass	Green Container Glass	Manually sortable, recyclable green glass bottles and jars that are greater than 2” x 2”
Glass	Brown Container Glass	Manually sortable, recyclable brown glass bottles and jars that are greater than 2” x 2”
Glass	Other Color Container Glass	Manually sortable, recyclable blue, yellow, red and other color glass bottles and jars that are greater than 2” x 2”
Glass	Mixed Cullet	Broken glass of any color not manually sortable (under 2” x 2”); glass shards
Glass	Other Glass	Window glass, mirrors, light bulbs (except fluorescent tubes), decorative glassware (e.g. vases), decorative glass bottles (e.g. perfume bottles), drinking glasses, other non-container glass.
Metal	Aluminum Cans	Aluminum beverage and food cans and bi-metal cans made mostly of aluminum. Includes removed aluminum lids.
Metal	Aluminum Foil/Containers	Aluminum food containers, trays, and foil.
Metal	Other Aluminum	Aluminum products and scrap that are 50% or more aluminum by weight, such as window frames, cookware.
Metal	Other Non-Ferrous	Non-aluminum metals not derived from iron, to which a magnet will not adhere, and which are not significantly contaminated with other metals or materials. Includes copper, brass, lead, stainless steel, zinc.
Metal	Steel/Tin Food Cans	Steel food containers, including bi-metal cans mostly of steel. Includes removed steel lids.

Main Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Metal	Empty Aerosol Cans	Empty, mixed material/metal aerosol cans. (Aerosols that still contain product are sorted according to that material-for instance, solvent-based paint.)
Metal	Other Ferrous	Ferrous and alloyed ferrous scrap metals to which a magnet adheres and which are not significantly contaminated with other metals or materials. Includes ferrous metal caps/lids to containers of other material types.
Metal	Mixed Metals	Items that are predominately metal with other materials attached such as motors, insulated wire, and finished products containing a mixture of metals, or metals and other materials, that are not classified in the "small appliances" section below. Includes pieces of white goods. Included certain non-computer insulated wiring such as holiday light strands if the wiring is half or more of the weight.
Metal	Appliances: Ferrous	Large and small electric appliances made predominantly of ferrous metal (steel). Includes large appliances such as washers, dryers, stoves, refrigerators, dishwashers, etc. Includes small appliances such as toasters, microwave ovens, power tools, curling irons, and light fixtures.
Metal	Appliances: Non-Ferrous	Small and large appliances made predominantly of stainless steel
Organic	Yard Waste	Any plant materials from a yard or garden area, including grass clippings, leaves, weeds, garden wastes, prunings, trimmings, limbs, stumps, etc. Includes cut flowers and house plants.
Organic	Food	Vegetative and non-vegetative food wastes and scraps. Includes vegetative food wastes as well as bones, shells, husks, rinds, etc. Excludes food containers, except when container weight is not appreciable compared to the food inside and separation is not practical. Includes vitamins and supplements.
Organic	Non-C&D Wood	Wood products not associated with C&D activities, such as furniture, popsicle sticks, chopsticks, wooden spoons, and other miscellaneous household wood products. Includes clean, stained, painted and composite woods, wicker, and box springs.
Organic	Textiles: Non-Clothing	Non-clothing fabrics made of rag stock fabric materials including natural and synthetic textiles such as cotton, wool, silk, woven nylon, rayon, and polyester. Includes handbags, linens, draperies, tablecloths, nylon rope.
Organic	Textiles: Clothing	Clothing textiles
Organic	Carpet/Upholstery	General category of flooring applications and non-rag stock textiles consisting of various natural or synthetic fibers bonded to some type of backing material. Includes traditional mattresses made of a combination of foam and metal coil construction with upholstered exterior.
Organic	Disposable Diapers/ Sanitary Products	Diapers and sanitary products made from a combination of fibers, synthetic, and/or natural, and made for the purpose of single use. This includes disposable baby diapers, adult protective undergarments, and feminine hygiene products.

Main Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Organic	Animal By-Products	Animal carcasses not resulting from food storage or preparation, animal wastes, and kitty litter.
Organic	Shoes/Rubber/Leather	Finished products and scrap materials made of natural and synthetic rubber, such as bath mats, inner tubes, rubber hoses, foam rubber, tire pieces, latex gloves. Leather jackets, belts, bags, purses. Shoes, sneakers, sandals, and boots.
Organic	Fines	Fines smaller than 1/2 inch screen
Organic	Miscellaneous Organics	Wax, bar soap, cigarette butts, briquettes, and fireplace, burn barrel and fire pit ash, vacuum cleaner bags and contents, sponges, and other organic materials not classified above. Includes pet food and hair. Includes mattresses and cushions made of urethane foam with upholstered exterior.
E-Waste	Audio/Visual Equipment-TV Peripherals (Covered)	VCRs, digital video recorders, DVD players, digital converter boxes, cable or satellite receivers, electronic or video game consoles
E-Waste	Audio/Visual Equipment-Other (Non-Covered)	Radios, Stereos, Tape Decks, Cameras, GPS devices, Cell phones, Calculators
E-Waste	Computer Monitors	Items other than televisions containing a cathode ray tube (CRT) such as computer monitors and laptops. Includes flat screen monitors
E-Waste	Televisions	Television sets containing a cathode ray tube (CRT) and flat screen TVs
E-Waste	Other Computer Equipment	Computer items not containing CRTs such as processors, mice and mouse pads, keyboards, and disk drives, cords and cables, portable devices (portable digital music player, tablet, e-readers etc.), printers, scanners, servers. Includes both computer cords and regular extension cords.
C&D	Untreated Dimensional Lumber/Pallets/Crates	Untreated, milled lumber commonly used in construction for framing and related uses, including 2 x 4's, 2 x 6's.
C&D	Treated/Contaminated Wood	Lumber and wood products that have been painted or treated so as to render them difficult to compost (with generally 50% or more of the surface area treated). This includes painted and chemically treated lumber, plywood, strandboard, and particleboard. Predominantly wood and lumber products that are mixed with other materials in such a way that they cannot easily be separated.
C&D	Other C&D Debris Not Elsewhere Classified	Construction debris (other than wood, plastic and metal) that cannot be classified elsewhere, and mixed fine building material scraps. Includes clean and painted gypsum drywall, fiberglass insulation, rock/concrete/bricks, asphaltic and other roofing, fixtures, etc.
Special Waste	Oil Filters	Metal oil filters used in cars and other automobiles.
Special Waste	Antifreeze	Self explanatory
Special Waste	Wet-Cell Batteries	Wet-cell batteries of various sizes and types as commonly used in automobiles. Includes lead-acid batteries.

Main Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Special Waste	Water-Based Adhesives/ Glues	Water or Oil/resin/volatile solvent-based glues and adhesives, including epoxy, rubber cement, two-part glues and sealers, and auto body fillers.
Special Waste	Latex Paint	Latex paint
Special Waste	Oil-Based Paint/Solvent	Solvent-based paints, varnishes, and similar products. Various solvents, including chlorinated and flammable solvents, paint strippers, solvents contaminated with other products such as paints, degreasers and some other cleaners if the primary ingredient
Special Waste	Pesticides/Herbicides/ Rodenticides	Variety of poisons with the purpose of discouraging or killing insects, weeds, vermin, or microorganisms. Fungicides and wood preservatives, such as pentachlorophenol, are also included.
Special Waste	Dry-Cell Batteries	Dry-cell batteries of various sizes and types as commonly used in households. Includes cell phone and button cell batteries.
Special Waste	Fluorescent Tubes/CFLs	Fluorescent light tubes and compact fluorescent light bulbs (CFL).
Special Waste	Mercury-Laden Wastes	Thermostats, thermometers, and other items containing mercury.
Special Waste	Compressed Gas Cylinders/Fire Extinguishers	Self explanatory
Special Waste	Home Medical Products	Syringes, IV Bags, medical tubing
Special Waste	Other Potentially Harmful Wastes	Caustic acids and bases whose primary purpose is to clean surfaces, unclog drains, or perform other actions; photography chemicals, chemistry sets; household disinfectants and pool chemicals; gasoline/ diesel fuels; motor oils and automotive fluids not elsewhere classified; smoke detectors, explosives.
Miscellaneous Inorganics	Miscellaneous Inorganics	Other inorganic materials not classified elsewhere. Includes ceramics. Includes full or partially full containers of non-hazardous cleaning & hygiene products. Includes fabric softener sheets and Brita filters.

Sub Sort – Material Category Definitions

Material Group	Category	Description
Paper	Paper Bags: Kraft Grocery	Kraft Grocery Bags (clean)
Paper	Shredded Paper	All shredded paper that is contained in bags or is still relatively intact within the sample and can be manually separated in handfuls. Does not include loose, dispersed shredded paper which may end up in Fines, Compostable Paper, or Other Organics as part of the sample residual.
Paper	Paper Bags: Non-food Retail	Non-food retail bags (clean): Larger size paper bags, often with handles, used by merchandise retailers
Paper	Paper Bags: Fast Food Bags	Fast food bags (clean): Smaller bags typically used for fast food
Paper	Compostable/School Plates/Trays	Compartmentalized compostable paper plates or trays used widely in the school system throughout the City.
Paper	Compostable/School Paper Boats	Takeout food trays shaped like a boat, made from biodegradable paper, and used widely in the school system throughout the City.
Paper	Paper Bags: Compostable/ Soiled	Compostable/Soiled bags: Heavily soiled or moisture-contaminated bags of all types
Paper	Drinking Cups - Paper and Plastic: Paper - Compostable	Wax coated/Uncoated /unlined: Capable of being composted at a commercial facility
Paper	Drinking Cups - Paper and Plastic: Paper - Non-Compostable	Lined/Coated: Not desireable at a compost facility. Includes most hot beverage cups.
Plastic	Plastic Bottles: #1 PET - Clear	#1 Polyethylene terephthalate translucent bottles and jars that have no pigmentation (clear).
Plastic	Plastic Bottles: #1 PET - Green	#1 Polyethylene terephthalate translucent bottles and jars that are green colored.
Plastic	Plastic Bottles: #1 PET - Other	#1 Polyethylene terephthalate bottles and jars that are not clear or green, including translucent and opaque pigmentation.
Plastic	Plastic Bottles: #3 PVC	Narrow necked bottles and jars labeled with resin code #3 polyvinyl chloride (primarily cleaning products and soaps/shampoos).
Plastic	Plastic Bottles: #4 LDPE/ LLDPE	Narrow necked bottles and jars labeled with resin code #4 low-density polyethylene (children's' squeezable juice bottles, some saline/medical rinse bottles).
Plastic	Plastic Bottles: #5 PP Rigid	Narrow necked bottles and jars labeled with resin code #5 polypropylene (examples include syrup, ketchup, tea).
Plastic	Plastic Bottles: #5 PP Expanded	Does not exist
Plastic	Plastic Bottles: #6 PS Rigid	Narrow necked bottles and jars labeled with resin code #6 polystyrene.
Plastic	Plastic Bottles: #7 Other	Narrow necked bottles and jars labeled with resin code #7 Other and bottles with two resin codes.
Plastic	Plastic Bottles: Compostable	Narrow necked bottles and jars that labeled as bio-degradable or compostable.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Plastic Bottles: Other & Unlabeled	Narrow necked bottles and jars which are unlabeled or are labeled as a resin not elsewhere classified (e.g., ABS, nylon).
Plastic	Thermoforms: #1 PET All	Thermoform trays labeled with a #1 PET resin code. Examples include produce trays, clamshells, and other packaging, typically used for grocery items made by press-molding a flat sheet of plastic.
Plastic	Thermoforms: #2 HDPE Natural	Thermoform trays labeled with a #2 HDPE resin code and made of non-pigmented high-density polyethylene. Examples include produce trays, clamshells, and other packaging, typically used for grocery items made by press-molding a flat sheet of plastic.
Plastic	Thermoforms: #2 HDPE Pig.	Thermoform trays labeled with a #2 HDPE resin code and made of pigmented high-density polyethylene. Examples include produce trays, clamshells, and other packaging, typically used for grocery items made by press-molding a flat sheet of plastic.
Plastic	Thermoforms: #3 PVC	Thermoform trays labeled with a #3 PVC resin code, made by press-molding a flat sheet of plastic.
Plastic	Thermoforms: #4 LDPE/ LLDPE	Thermoform trays labeled with a #4 LDPE resin code, made by press-molding a flat sheet of plastic.
Plastic	Thermoforms: #5 PP Rigid	Thermoform trays labeled with a #5 PP resin code, made by press-molding a flat sheet of rigid plastic.
Plastic	Thermoforms: #5 PP Expanded	Does not exist.
Plastic	Thermoforms: #6 PS Rigid	Thermoform trays labeled with a #6 PS resin code, made by press-molding a flat sheet of rigid plastic.
Plastic	Thermoforms: #7 Other	Thermoform trays labeled with a #7 Other resin code, made by press-molding a flat sheet of rigid plastic.
Plastic	Thermoforms: Compostable	Thermoform trays labeled as bio-degradable or compostable, made by press-molding a flat sheet of rigid plastic.
Plastic	Thermoforms: Other & Unlabeled	Thermoform trays with an unlabeled or unspecified resin type, made by press-molding a flat sheet of rigid plastic.
Plastic	Rigid Plastics: Tubs & Lids: #1 PET All	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of a #1 PET resin type. Includes lids to the tubs. Includes plastic bottle caps. Includes pill bottles.
Plastic	Rigid Plastics: Tubs & Lids: #2 HDPE Natural	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of non-pigmented #2 HDPE. Includes lids to the tubs. Includes plastic bottle caps. Includes pill bottles.
Plastic	Rigid Plastics: Tubs & Lids: #2 HDPE Pig.	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of pigmented #2 HDPE. Includes lids to the tubs. Includes plastic bottle caps. Includes pill bottles.
Plastic	Rigid Plastics: Tubs & Lids: #3 PVC	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of a #3 PVC resin type. Includes lids to the tubs.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Rigid Plastics: Tubs & Lids: #4 LDPE/LLDPE	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of a #4 LDPE resin type. Includes lids to the tubs.
Plastic	Rigid Plastics: Tubs & Lids: #5 PP Rigid	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of a #5 rigid PP resin type. Includes lids to the tubs. Includes plastic bottle caps. Includes pill bottles.
Plastic	Rigid Plastics: Tubs & Lids: #5 PP Expanded	Does not exist
Plastic	Rigid Plastics: Tubs & Lids: #6 PS Rigid	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of a #6 PS resin type. Includes lids to the tubs. Includes plastic bottle caps. Includes pill bottles.
Plastic	Rigid Plastics: Tubs & Lids: #7 Other	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, labeled a #7 Other resin type. Includes lids to the tubs.
Plastic	Rigid Plastics: Tubs & Lids: Compostable	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, of a compostable or bio-degradable resin type. Includes lids to the tubs.
Plastic	Rigid Plastics: Tubs & Lids: Other & Unlabeled	Injection molded wide mouth tubs without a neck, such as cottage cheese and margarine, unlabeled or unspecified resin type. Includes lids to the tubs.
Plastic	Rigid Plastics: Rigid Container/Pkg: #1 PET All	#1 PET containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #2 HDPE Natural	#2 HDPE translucent containers and packaging, including containers of all types, toothpaste tubes, and plastic spools. Also, includes empty tubes of caulk.
Plastic	Rigid Plastics: Rigid Container/Pkg: #2 HDPE Pig.	#2 HDPE colored or opaque containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #3 PVC	#3 PVC containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #4 LDPE/ LLDPE	#4 LDPE containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #5 PP Rigid	#5 PP rigid containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #5 PP Expanded	#5 PP containers and packaging molded with air pockets, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #6 PS Rigid	#6 PS containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: #7 Other	Labeled #7 Other containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Rigid Plastics: Rigid Container/Pkg: Compostable	Compostable or bio-degradable containers and packaging, including containers of all types, toothpaste tubes, and plastic spools.
Plastic	Rigid Plastics: Rigid Container/Pkg: Other & Unlabeled	Unlabeled or unspecified containers and packaging, including containers of all types, toothpaste tubes, and plastic spools. Also, includes empty tubes of caulk.
Plastic	Expanded Polystyrene Containers & Packaging (EPS): Clamshells	#6 EPS Clamshell take-out containers
Plastic	Expanded Polystyrene Containers & Packaging (EPS): Single Use Cups	#6 EPS Styrofoam cups.
Plastic	Expanded Polystyrene Containers & Packaging (EPS): Singe Use Other	#6 EPS plates, bowls, and platters, but excludes Styrofoam cups and clamshells.
Plastic	Expanded Polystyrene Containers & Packaging (EPS): Food Packaging	Includes #6 EPS trays used for packaging and/or shelf display of meats and groceries.
Plastic	Expanded Polystyrene Containers & Packaging (EPS): Non-food Packaging	Includes #6 packaging made of expanded polystyrene, excluding all packaging used for food items.
Plastic	Other Plastic Bags & Film: Grocery/Merch Bags	Plastic bags given to customers by any retail establishment for transporting purchased goods, including labeled grocery and merchandise film bags. Does not include garbage bags, baggies or Ziploc bags; or bags heavily soiled with food.
Plastic	Other Plastic Bags & Film: Produce Bags	Plastic bags given to customers by any retail establishment for transporting fresh produce. Does not include garbage bags, baggies or Ziploc bags; or bags heavily soiled with food.
Plastic	Film: Oversize: Other PE Film	Any plastic film item larger than a garbage bag and molded from #2 HDPE, #4 LDPE or #4 LLDPE film. Includes tarps, shower curtains, plastic tablecloths, visqueen, industrial films.
Plastic	Film: Oversize: Non-PE Film	Any plastic film item larger than a garbage bag and molded from films other than #2 and #4. Film packaging not defined above, or: was contaminated with food, liquid or grit during use; is woven together (e.g., grain bags); contains multiple layers of film or other materials that have been fused together (e.g., potato chip bags).
Plastic	Other Plastic Bags & Film: Compostable Bags	Compostable plastic bags intended for use in the Curbside Organics collection program
Plastic	Other Plastic Bags & Film: Other PE Film	Other film bags not elsewhere classified or film products made of #2 HDPE, #4 LDPE or #4 LLDPE film. Inlcudes baggies and Ziploc bags.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Other Plastic Bags & Film: Non-PE Film	Other film bags or film products made of films other than #2 and #4. Film packaging not defined above, or: was contaminated with food, liquid or grit during use; is woven together (e.g., grain bags); contains multiple layers of film or other materials that have been fused together (e.g., potato chip bags).
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #1 PET All	Any single use drinking cup made of #1 PET plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #2 HDPE Natural	Any single use drinking cup made of non-pigmented #2 HDPE resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #2 HDPE Pig.	Any single use drinking cup made of pigmented #2 HDPE resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #3 PVC	Any single use drinking cup made of #3 PVC plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #4 LDPE/LLDPE	Any single use drinking cup made of #4 LDPE plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #5 PP Rigid	Any single use rigid drinking cup made of #5 PP plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #5 PP Expanded	Does not exist
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #6 PS Rigid	Any single use drinking cup made of #6 PS plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: #7 Other	Any single use drinking cup labeled #7 Other plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: Compostable	Any single use drinking cup made of compostable or bio-degradable plastic resin. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Single Use: Other & Unlabeled	Any single use drinking cup with an unlabled or unspecified plastic resin. This category does not include yogurt/food cups.
Plastic	Single Use: #1 PET All	#1 PET plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Single Use: #2 HDPE Natural	Non-pigmnted #2 HDPE plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: #2 HDPE Pig.	Pigmented #2 HDPE plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: #3 PVC	#3 PVC plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: #4 LDPE/ LLDPE	#4 LDPE plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: #5 PP Rigid	#5 PP rigid plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: #5 PP Expanded	Does not exist
Plastic	Single Use: #6 PS Rigid	#6 PS plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins. Does not include EPS (styrofoam) plates, cups, and bowls, or EPS trays used for packaging and display.
Plastic	Single Use: #7 Other	#7 Other labeled plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: Compostable	Bio-degradable or compostable plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Single Use: Other & Unlabeled	Unlabeled or unspecified plastic single use spoons, forks, knives, plates, cup lids, bowls, straws, and platters of various resins.
Plastic	Appliances: Plastic: #1 PET All	Small and large appliances made predominantly of #1 PET plastic.
Plastic	Appliances: Plastic: #2 HDPE Natural	Small and large appliances made predominantly of non-pigmented #2 HDPE plastic.
Plastic	Appliances: Plastic: #2 HDPE Pig.	Small and large appliances made predominantly of pigmented #2 HDPE plastic.
Plastic	Appliances: Plastic: #3 PVC	Small and large appliances made predominantly of #3 PVC plastic.
Plastic	Appliances: Plastic: #4 LDPE/LLDPE	Small and large appliances made predominantly of #4 LDPE plastic.
Plastic	Appliances: Plastic: #5 PP Rigid	Small and large appliances made predominantly of #5 PP rigid plastic.
Plastic	Appliances: Plastic: #5 PP Expanded	Does not exist
Plastic	Appliances: Plastic: #6 PS Rigid	Small and large appliances made predominantly of #6 PS plastic.
Plastic	Appliances: Plastic: #7 Other	Small and large appliances made predominantly of #7 labeled plastic.
Plastic	Appliances: Plastic: Compostable	Does not exist

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Appliances: Plastic: Other & Unlabeled	Small and large appliances made predominantly of unlabeled or unspecified plastic.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #1 PET All	Does not exist
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #2 HDPE Natural	Does not exist
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #2 HDPE Pig.	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #2 HDPE resin code, and made of a pigmented or opaque plastic. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #3 PVC	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #3 PVC resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #4 LDPE/ LLDPE	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #4 LDPE resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #5 PP Rigid	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #5 PP resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #5 PP Expanded	Does not exist
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #6 PS Rigid	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #6 PS resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: #7 Other	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #7 resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: Compostable	Does not exist
Plastic	Bulk/Rigid Plastics: Crates/ Soda Carrier: Other & Unlabeled	Bulky rigid plastic items from household use including plastic furniture and toys, unlabled or made of an unspecified plastic resin. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #1 PET All	Does not exist
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #2 HDPE Natural	Does not exist
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #2 HDPE Pig.	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #2 HDPE resin code, and made of a pigmented or opaque plastic. Generally larger in size than a breadbox.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #3 PVC	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #3 PVC resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #4 LDPE/ LLDPE	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #4 LDPE resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #5 PP Rigid	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #5 PP resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #5 PP Expanded	Does not exist
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #6 PS Rigid	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #6 PS resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: #7 Other	Bulky rigid plastic items from household use including plastic furniture and toys, labeled with #7 resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: Compostable	Does not exist
Plastic	Bulk/Rigid Plastics: Toys/ Housewares: Other & Unlabeled	Bulky rigid plastic items from household use including plastic furniture and toys, unlabled or made of an unspecified plastic resin. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Other Durable: #1 PET All	Does not exist
Plastic	Bulk/Rigid Plastics: Other Durable: #2 HDPE Natural	Does not exist
Plastic	Bulk/Rigid Plastics: Other Durable: #2 HDPE Pig.	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, labeled with #2 HDPE resin code, and made of a pigmented or opaque plastic. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Other Durable: #3 PVC	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, labeled with #3 PVC resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Other Durable: #4 LDPE/LLDPE	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, labeled with #4 LDPE resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Other Durable: #5 PP Rigid	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, labeled with #5 PP resin code. Generally larger in size than a breadbox.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Bulk/Rigid Plastics: Other Durable: #5 PP Expanded	Does not exist
Plastic	Bulk/Rigid Plastics: Other Durable: #6 PS Rigid	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, labeled with #6 PS resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Other Durable: #7 Other	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, labeled with #7 resin code. Generally larger in size than a breadbox.
Plastic	Bulk/Rigid Plastics: Other Durable: Compostable	Does not exist
Plastic	Bulk/Rigid Plastics: Other Durable: Other & Unlabeled	Other bulky rigid plastic objects not elsewhere classified. Includes 5-gal buckets, unlabled or made of an unspecified plastic resin. Generally larger in size than a breadbox.
Plastic	Other PVC (Non-bottle)	White plumbing pipe, identifiable PVC packaging other than PVC bottles/tubs
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #1 PET All	Any durable drinking cup labeled with a plastic resin code of #1 PET. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #2 HDPE Natural	Does not exist
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #2 HDPE Pig.	Does not exist
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #3 PVC	Any durable drinking cup labeled with a plastic resin code of #3 PVC. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #4 LDPE/LLDPE	Any durable drinking cup labeled with a plastic resin code of #4 LDPE. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #5 PP Rigid	Any durable drinking cup labeled with a plastic resin code of #5 PP. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #5 PP Expanded	Does not exist
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #6 PS Rigid	Any durable drinking cup labeled with a plastic resin code of #6 PS. This category does not include yogurt/food cups.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: #7 Other	Any durable drinking cup labeled with a plastic resin code of #7 Other. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: Compostable	Any durable drinking cup that is made of a bio-degradable or compostable material. This category does not include yogurt/food cups.
Plastic	Drinking Cups - Paper and Plastic: Plastic - Durable: Other & Unlabeled	Any durable drinking cup that is made of an unspecified material or unlabeled. This category does not include yogurt/food cups.
Plastic	K-Cups: Predominanty Plastic: #1 PET All	Single-serve or single-portion coffee containers or pods. Made of predominantly #1 PET plastic.
Plastic	K-Cups: Predominanty Plastic: #2 HDPE Natural	Single-serve or single-portion coffee containers or pods. Made of predominantly #2 HDPE translucent plastic.
Plastic	K-Cups: Predominanty Plastic: #2 HDPE Pig.	Single-serve or single-portion coffee containers or pods. Made of predominantly #2 HDPE pigmented or opaque plastic.
Plastic	K-Cups: Predominanty Plastic: #3 PVC	Single-serve or single-portion coffee containers or pods. Made of predominantly #3 PVC plastic.
Plastic	K-Cups: Predominanty Plastic: #4 LDPE/LLDPE	Single-serve or single-portion coffee containers or pods. Made of predominantly #4 LDPE plastic.
Plastic	K-Cups: Predominanty Plastic: #5 PP Rigid	Single-serve or single-portion coffee containers or pods. Made of predominantly #5 PP rigid plastic.
Plastic	K-Cups: Predominanty Plastic: #5 PP Expanded	Does not exist
Plastic	K-Cups: Predominanty Plastic: #6 PS Rigid	Single-serve or single-portion coffee containers or pods. Made of predominantly #6 PS plastic.
Plastic	K-Cups: Predominanty Plastic: #7 Other	Single-serve or single-portion coffee containers or pods. Made of predominantly #7 other labeled plastic.
Plastic	K-Cups: Predominanty Plastic: Compostable	Single-serve or single-portion coffee containers or pods. Made of predominantly bio-degradable or compostable plastic.
Plastic	K-Cups: Predominanty Plastic: Other & Unlabeled	Single-serve or single-portion coffee containers or pods. Made of predominantly unlabeled or unspecified plastic.
Plastic	Rigid Plastics: Other Plastics: #1 PET All	Items that are predominately #1 PET plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: #2 HDPE Natural	Items that are predominately #2 HDPE translucent plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.

Sub Sort – Material Category Definitions (Continued)

Material Group	Category	Description
Plastic	Rigid Plastics: Other Plastics: #2 HDPE Pig.	Items that are predominately #2 HDPE pigmented or opaque plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: #3 PVC	Items that are predominately #3 PVC plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: #4 LDPE/LLDPE	Items that are predominately #4 LDPE plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: #5 PP Rigid	Items that are predominately #5 PP rigid plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: #5 PP Expanded	Items that are predominately #5 PP plastic molded with air pockets.
Plastic	Rigid Plastics: Other Plastics: #6 PS Rigid	Items that are predominately #6 PS rigid plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: #7 Other	Items that are labeled #7 other plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: Compostable	Items that are predominately bio-degradable or compostable plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes,—not including plastic crates and soda bottle carriers.
Plastic	Rigid Plastics: Other Plastics: Other & Unlabeled	Items that are unlabeled or unspecified plastic with other materials attached such as pens, lighters, and 3-ring binders. Finished plastic products made entirely of plastic such as toothbrushes, CD/DVDs, vinyl hose—not including plastic crates and soda bottle carriers.
Metal	K-Cups: Predominanty Metal	Single-serve or single-portion coffee containers or pods, which has been made of predominantly metal material.
Organic	Garden Hoses	Self explanatory. Plastic hoses like vacuum hoses will continue to be sorted in Other Plastic. Aggregates to Shoes/Rubber/Leather.
Organic	K-Cups: Predominanty Organic	Single-serve or single-portion coffee containers or pods, which has been made of predominantly compostable material.