

Hamilton County Waste Composition Study, 2018

Hamilton County Recycling and Solid Waste District
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SCS ENGINEERS

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1 INTRODUCTION

Hamilton County of Ohio (the County) contracted with SCS Engineers (SCS) to conduct a waste composition analysis of residential waste generated within the county. The primary objectives of the study are as follows:

- To estimate types and quantities of recyclable waste components in the residential waste stream; and
- To identify opportunities for increasing waste stream diversion

The basis for this waste characterization consists of two sampling events, conducted at the Rumpke Landfill. The data generated by the field activities will be used by the County to develop long-term waste management strategies and to evaluate the effectiveness of current recycling programs. This report presents the data collected during the June and November 2018 field activities.

The remaining sections of this report are organized as follows:

- Section 2 describes field classification and sampling methods.
- Section 3 presents project data and results gathered from the study.

2 METHODS

This section summarizes methods used to characterize the residential waste stream generated in Hamilton County. Sorting activities for the study took place during two phases: three-day field efforts conducted in June 2018 and November of 2018. Waste characterization activities were performed by manually sorting samples from municipal solid waste (MSW) from residential sources into distinct waste categories.

WASTE SAMPLING

Waste sorting was performed at the Rumpke Landfill during the operating hours of the facility. Given the limited size of the data set, it was important that unrepresentative data were avoided. Each day vehicles carrying waste from targeted areas of the County were directed to dump their waste loads near the sorting area. A representative of SCS manually gathered samples from a random portion of each target load (approximately two hundred pounds) for classification (sorting). Two important procedural factors were considered:

- The target vehicle selected for sampling contained MSW that was representative of the type of waste typically generated in the residential sector; and
- The process of acquiring the waste sample did not, in itself, alter the apparent MSW composition.

After being filled with solid waste, the containers containing the waste sample were weighed and set aside until at least two hundred pounds from the discharged load had been selected for characterization. This process was repeated until samples had been collected from all of the targeted loads.

NUMBER OF SAMPLES

June 2018

A total of 30 samples were collected during the three-day field effort: 12 from City of Cincinnati Public Services waste collection vehicles and 18 from Rumpke waste collection vehicles dispatched on routes throughout Hamilton County but outside the City of Cincinnati.

November 2018

A total of 30 samples were collected during the three-day field effort: 12 from City of Cincinnati Public Services waste collection vehicles and 18 from Rumpke waste collection vehicles dispatched on routes throughout Hamilton County but outside the City of Cincinnati.

WASTE SORTING

The sorting and weighing program for samples entailed the use of one sorting crew and an SCS Crew Supervisor. During each day of fieldwork, samples were collected from waste loads that were discharged at the Rumpke Landfill. The basic procedures and objectives for sorting (as described below) were identical for each sample, each day. Sorting was performed as follows:

1. The sorting crew transferred the refuse sample onto the sorting table until it was full and began sort activities. Large or heavy waste items, such as bags of yard waste, were torn open, examined and then placed directly into the appropriate waste container for subsequent weighing.
2. Plastic bags of refuse were opened and sort crew members manually segregated each item of waste, according to categories defined in Exhibit 1 and placed it in the appropriate waste container. These steps were repeated until the entire sample was sorted.
3. At the completion of sorting, the waste containers were moved to the scale where a representative of SCS weighed each category and recorded the net weight on the Sort Data Sheet. Measurements were made to the nearest 0.05 pounds.
4. After each waste category had been recorded, the waste was piled near the sorting area and transferred back to the working face by a bulldozer.
5. This four-step process was repeated until all of the day's samples taken at the site were characterized. Waste samples were maintained in as-disposed condition or as close to this as possible until the actual sorting began. Proper site layout and close supervision of sampling was maintained to avoid the need to repeatedly handle sampled wastes.

Members of the sorting crew were fully equipped with high visibility vests, puncture/cut resistant gloves, safety glasses, and Tyvek suits. Consistent with good practice in such sampling programs, efforts were made to minimize sampling bias or other impacts on the integrity of the database. To this end, field sampling had been coordinated to avoid holidays and other out of ordinary events.

Exhibit 1 shows the material category and gives examples for each material type.

Exhibit 1. Material Categories

	Material	Examples
Paper	Recyclable Corrugated Cardboard	Packing/shipping boxes
	Newspaper/Print	Daily, weekly newspapers
	Cartons	Milk/Juice Cartons/Boxes
	Mixed Recyclable Paper	Junk mail, notebook paper, colored copy
	Compostable Paper	Napkins, Tissues, food stained paper
	Non-Recyclable Paper	Paper coated with plastic or foil
Plastic	PET Bottles	Soda, Water Bottles
	HDPE (#2) Bottles	Milk, Detergent
	Other Bottles/Jugs	#3-#7 bottles
	Trays and Tubs	PET and HDPE trays/tubs
	Rigid Plastics	Plastic toys, items without a #
	Other Plastics	Polystyrene, #6 trays, solo cups
	Film	Garbage bags, chip bags, misc films
	Grocery Bags	Safeway or giant shopping bags
Glass	Bottles	Soda, beer bottles
	Jars	Glass food jars
	Other Glass	Window glass, porcelain
Metal	Bi-Metal/Steel Cans	Ferrous cans generally used to contain food
	Other Ferrous	Ferrous metals, not otherwise classified
	White goods	Washers, Dryers, large appliances
	Aluminum Cans	Soda, beer cans
	Other Aluminum	Aluminum tins and foils
Yard Waste	Grass	Lawn clippings
	Leaves	Leaves, pine needles
	Brush	Shrubs, bushes, small twigs
	Wood	Stumps, large branches, lumber
	Other	Soil or dirt
Electronics	Cathode Ray Tubes	Televisions
	Appliance	Toaster, microwave, vacuum cleaners
	Portable Electronics	Cell phones, cd players
Food	Vegetative Food	Vegetative, plant based food
	Other Food	Non-plant based food
Other	Diapers	Adult and child diapers
	Textiles	Clothing, rugs, blankets
	C&D Debris	Sheetrock, tile, building materials
	Mattresses	Box springs and mattresses
	Other Uncharacterized	Organic items not otherwise classified
	Pet Waste	Kitty litter, dog cleanup bags
	Carpet	Carpet rolls and padding
	Fines	Items less than ¼" by ¼"
HHW	Batteries	Disposable and reusable batteries
	Paint	Latex and oil based paints
	Automotive fluids	Oil, lubricants, brake/steering fluids
	Other (HHW)	Fluorescent light bulbs, HHW containers

3 SUMMARY OF RESULTS

SEASONAL COMPARISON

Exhibit 2 presents a comparison of the major material categories by season. Paper comprised more of the waste stream in November mainly due to higher proportions of cardboard. While Yard Waste comprised more of the waste stream was in June, the slight increase was mainly due to Wood and Other Yard Waste (soil and dirt). There was more grass in June but more leaves in November.

Exhibit 2. Seasonal Comparison of Major Waste Types

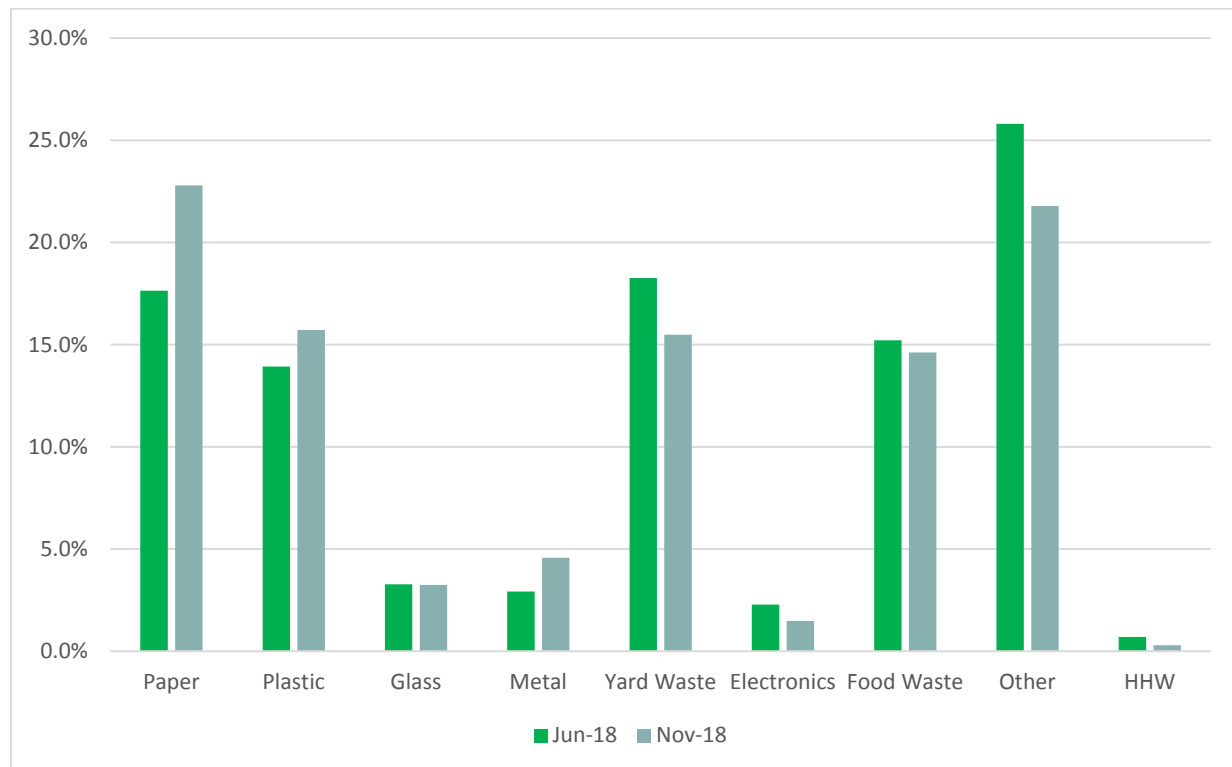


Exhibit 3 presents a summary of the 60 residential waste samples collected during June and November 2018 from routes throughout the city of Cincinnati and routes elsewhere in the county. The data shows samples from each field effort split into the collection areas of the City of Cincinnati and outside the city. The largest seasonal fluctuations are seen with yard debris, such as leaves and grass.

Exhibit 3. Seasonal Comparison

Material		June 2018			November 2018		
		Cincinnati	Outside Cincinnati	Aggregate (June)	Cincinnati	Outside Cincinnati	Aggregate (Nov)
Paper	Corrugated Cardboard	6.5%	2.2%	4.0%	9.0%	8.3%	8.6%
	Newspaper/Print	0.5%	0.8%	0.7%	1.4%	1.7%	1.6%
	Cartons	0.6%	0.5%	0.5%	1.3%	0.8%	1.0%
	Mixed Recyclable Paper	4.7%	7.9%	6.6%	7.2%	6.2%	6.6%
	Compostable Paper	5.0%	4.7%	4.8%	4.9%	4.8%	4.8%
	Non-Recyclable Paper	1.2%	1.0%	1.1%	0.0%	0.3%	0.2%
Plastic	PET Bottle/Jugs	1.9%	1.5%	1.7%	1.6%	1.8%	1.7%
	HDPE Bottle/Jugs	0.6%	0.5%	0.6%	1.0%	0.8%	0.9%
	Other Bottle/Jugs	0.1%	0.1%	0.1%	0.0%	0.1%	0.0%
	Trays and Tubs	1.1%	1.5%	1.4%	1.9%	1.6%	1.7%
	Rigid Plastics	1.8%	3.0%	2.5%	1.5%	2.0%	1.8%
	Other Plastics	1.6%	1.9%	1.8%	1.4%	1.2%	1.3%
	Films	5.0%	4.6%	4.7%	8.3%	5.6%	6.7%
	Grocery Bags	1.3%	1.2%	1.3%	1.3%	1.7%	1.6%
Glass	Glass Bottles	2.4%	1.6%	1.9%	2.7%	2.1%	2.3%
	Glass Jars	0.4%	0.3%	0.3%	1.1%	0.6%	0.8%
	Other Glass	1.5%	0.6%	1.0%	0.0%	0.2%	0.1%
Metal	Steel/Tin Cans	0.2%	0.5%	0.3%	0.6%	0.9%	0.8%
	Aluminum Cans	0.7%	0.7%	0.7%	1.3%	0.7%	0.9%
	Other Aluminum	0.1%	0.1%	0.1%	0.1%	0.2%	0.1%
	Other Ferrous	3.4%	0.7%	1.8%	3.7%	2.0%	2.7%
	White Goods	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Yard Waste	Grass	6.3%	4.7%	5.3%	0.2%	1.1%	0.8%
	Leaves	0.0%	0.8%	0.5%	6.4%	8.2%	7.5%
	Brush	0.9%	4.8%	3.2%	1.0%	4.1%	2.9%
	Wood	7.0%	6.4%	6.6%	3.4%	5.1%	4.4%
	Other Yardwaste	3.5%	2.1%	2.6%	0.0%	0.0%	0.0%
Electronics	Cathode Ray Tubes	0.0%	1.1%	0.7%	0.0%	1.2%	0.7%
	Appliances	0.2%	2.4%	1.5%	1.7%	0.0%	0.7%
	Portable Electronics	0.1%	0.1%	0.1%	0.1%	0.0%	0.0%
Food Waste	Vegetative Food	11.8%	8.8%	10.0%	10.5%	9.6%	10.0%
	Non-Vegetative Food	5.1%	5.3%	5.2%	6.1%	3.7%	4.7%
Other	Diapers	2.3%	2.3%	2.3%	1.3%	2.2%	1.8%
	Textiles	4.0%	4.4%	4.2%	3.3%	3.4%	3.4%
	C&D Debris	3.5%	2.8%	3.1%	0.9%	3.8%	2.6%
	Mattresses	1.0%	1.1%	1.1%	0.0%	1.9%	1.2%
	Other Uncharacterized	8.5%	8.6%	8.6%	7.9%	6.2%	6.9%
	Pet Waste	0.5%	1.0%	0.8%	0.6%	0.4%	0.5%
	Carpet	1.8%	4.3%	3.3%	3.5%	2.3%	2.7%
	Fines	2.5%	2.3%	2.4%	2.3%	2.9%	2.7%
Household Hazardous Wastes	Batteries	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	Paint	0.2%	0.5%	0.4%	0.5%	0.2%	0.3%
	Automotive fluids	0.1%	0.3%	0.2%	0.0%	0.0%	0.0%
	Other (HHW)	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%

HAMILTON COUNTY - AGGREGATE

There were 60 residential waste samples collected during June and November 2018 from routes throughout Hamilton County. This composition includes the 24 samples from Cincinnati and the 36 samples from outside of Cincinnati. **Exhibit 4** presents a summary of the major components found in the waste stream. Please note that the percentages may not sum to 100 percent due to rounding.

Exhibit 4. Hamilton County MSW Composition – Major Components

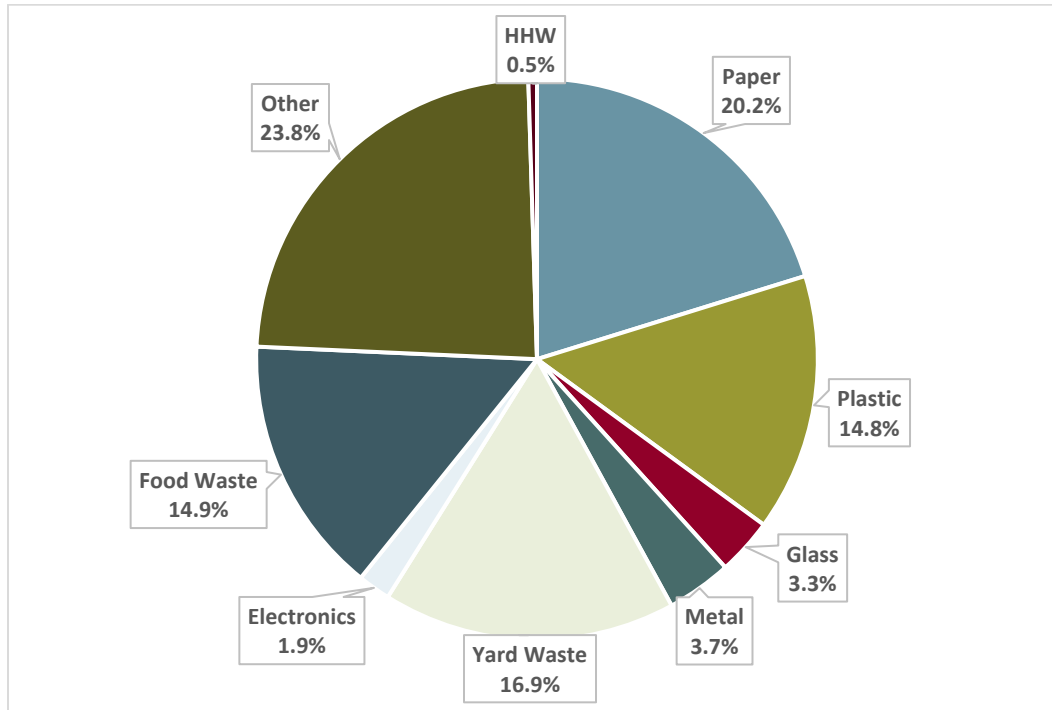


Exhibit 5 presents the composition by weight for each material type of the waste stream based on the 60 samples collected throughout Hamilton County. Divertible materials in the waste stream include:

- **Recyclable Paper (14.8 percent):** Includes Corrugated Cardboard, Newspaper/Print, Cartons, and Mixed Recyclable Paper
- **Recyclable Plastic (3.8 percent):** Includes PET, HDPE Bottles, and Grocery Bags
- **Recyclable Glass (2.7 percent):** Includes Glass Bottles and Glass Jars
- **Recyclable Metal (3.7 percent):** Includes Aluminum Cans, Other Aluminum, Steel/Tin Cans and Other Ferrous
- **Recyclable Other (4.2 percent):** Includes Textiles, White Goods, Paint, Batteries, and Automotive Fluids
- **Compostable (31.7 percent):** Includes Vegetative Food, Compostable Paper, Grass, Leaves, Brush, Wood, and Other Yardwaste

Exhibit 5. Hamilton County MSW Composition

Material		Mean	Standard Deviation	95% Confidence Interval	
Paper	Corrugated Cardboard	6.3%	7.9%	4.3%	8.3%
	Newspaper/Print	1.1%	1.2%	0.8%	1.4%
	Cartons	0.8%	0.6%	0.6%	0.9%
	Mixed Recyclable Paper	6.6%	3.6%	5.7%	7.5%
	Compostable Paper	4.8%	2.2%	4.3%	5.4%
	Non-Recyclable Paper	0.6%	1.2%	0.3%	0.9%
Plastic	PET Bottle/Jugs	1.7%	1.3%	1.4%	2.0%
	HDPE Bottle/Jugs	0.7%	0.6%	0.5%	0.9%
	Other Bottle/Jugs	0.1%	0.1%	<0.1%	0.1%
	Trays and Tubs	1.5%	1.0%	1.3%	1.8%
	Rigid Plastics	2.2%	2.3%	1.6%	2.7%
	Other Plastics	1.5%	1.7%	1.1%	2.0%
	Films	5.7%	3.9%	4.7%	6.7%
	Grocery Bags	1.4%	1.1%	1.1%	1.7%
Glass	Glass Bottles	2.1%	1.3%	1.8%	2.5%
	Glass Jars	0.6%	0.8%	0.4%	0.8%
	Other Glass	0.5%	1.8%	<0.1%	1.0%
Metal	Steel/Tin Cans	0.6%	0.7%	0.4%	0.8%
	Aluminum Cans	0.8%	0.9%	0.6%	1.1%
	Other Aluminum	0.1%	0.3%	<0.1%	0.2%
	Other Ferrous	2.2%	4.7%	1.0%	3.4%
	White Goods	0.0%	0.0%	N/A	N/A
Yard Waste	Grass	3.0%	5.3%	1.7%	4.4%
	Leaves	4.0%	7.3%	2.1%	5.8%
	Brush	3.1%	5.5%	1.7%	4.5%
	Wood	5.5%	8.0%	3.5%	7.5%
	Other Yardwaste	1.3%	4.4%	0.2%	2.4%
Electronics	Cathode Ray Tubes	0.7%	3.8%	<0.1%	1.7%
	Appliances	1.1%	3.5%	0.2%	2.0%
	Portable Electronics	0.1%	0.3%	<0.1%	0.2%
Food Waste	Vegetative Food	10.0%	4.9%	8.8%	11.2%
	Non-Vegetative Food	4.9%	3.2%	4.1%	5.7%
Other	Diapers	2.1%	1.9%	1.6%	2.6%
	Textiles	3.8%	3.2%	3.0%	4.6%
	C&D Debris	2.9%	5.0%	1.6%	4.1%
	Mattresses	1.1%	4.3%	<0.1%	2.2%
	Other Uncharacterized	7.7%	2.7%	7.0%	8.4%
	Pet Waste	0.7%	1.3%	0.3%	1.0%
	Carpet	3.0%	6.9%	1.3%	4.8%
	Fines	2.5%	1.2%	2.2%	2.8%
Household Hazardous Wastes	Batteries	0.0%	0.0%	<0.1%	0.0%
	Paint	0.3%	1.1%	<0.1%	0.6%
	Automotive fluids	0.1%	0.5%	<0.1%	0.2%
	Other (HHW)	0.0%	0.3%	<0.1%	0.1%

CITY OF CINCINNATI

There were 24 residential waste samples collected during June and November 2018 from routes throughout the city of Cincinnati. **Exhibit 6** presents a summary of the major components found in the waste stream.

Exhibit 6. Cincinnati MSW Composition – Major Components

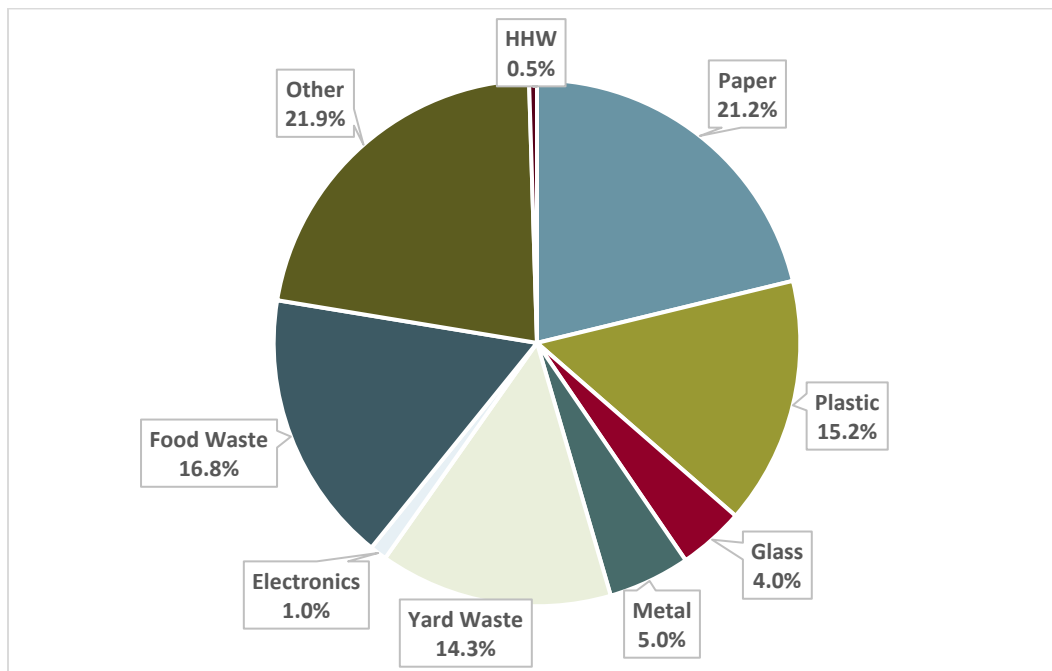


Exhibit 7 presents the composition by weight for each material type of the waste stream based on the 24 samples collected from routes in Cincinnati. Standard deviation and 95 percent confidence intervals are also included. Divertible materials in the waste stream include:

- **Recyclable Paper (15.6 percent):** Includes Corrugated Cardboard, Newspaper/Print, Cartons, and Mixed Recyclable Paper
- **Recyclable Plastic (3.8 percent):** Includes PET, HDPE Bottles, and Grocery Bags
- **Recyclable Glass (3.3 percent):** Includes Glass Bottles and Glass Jars
- **Recyclable Metal (5.1 percent):** Includes Aluminum Cans, Other Aluminum, Steel/Tin Cans and Other Ferrous
- **Recyclable Other (4.0 percent):** Includes Textiles, White Goods, Paint, Batteries, and Automotive Fluids
- **Compostable (30.4 percent):** Includes Vegetative Food, Compostable Paper, Grass, Leaves, Brush, Wood, and Other Yardwaste

Exhibit 7. Cincinnati MSW Composition

Material		Mean	Standard Deviation	95% Confidence Interval	
Paper	Corrugated Cardboard	7.8%	8.3%	4.4%	11.1%
	Newspaper/Print	0.9%	1.0%	0.6%	1.3%
	Cartons	0.9%	0.7%	0.6%	1.2%
	Mixed Recyclable Paper	6.0%	3.5%	4.6%	7.4%
	Compostable Paper	5.0%	2.3%	4.1%	5.9%
	Non-Recyclable Paper	0.6%	1.5%	<0.1%	1.2%
Plastic	PET Bottle/Jugs	1.7%	1.0%	1.3%	2.1%
	HDPE Bottle/Jugs	0.8%	0.6%	0.5%	1.0%
	Other Bottle/Jugs	0.0%	0.1%	<0.1%	0.1%
	Trays and Tubs	1.5%	1.1%	1.1%	2.0%
	Rigid Plastics	1.6%	1.2%	1.2%	2.1%
	Other Plastics	1.5%	1.1%	1.0%	1.9%
	Films	6.6%	4.3%	4.9%	8.4%
	Grocery Bags	1.3%	1.1%	0.9%	1.8%
Glass	Glass Bottles	2.6%	1.4%	2.0%	3.1%
	Glass Jars	0.7%	0.9%	0.4%	1.1%
	Other Glass	0.8%	2.2%	<0.1%	1.6%
Metal	Steel/Tin Cans	0.4%	0.6%	0.1%	0.6%
	Aluminum Cans	1.0%	1.0%	0.6%	1.4%
	Other Aluminum	0.1%	0.2%	<0.1%	0.2%
	Other Ferrous	3.6%	5.9%	1.2%	5.9%
	White Goods	0.0%	0.0%	N/A	N/A
Yard Waste	Grass	3.2%	5.7%	1.0%	5.5%
	Leaves	3.2%	7.1%	0.3%	6.0%
	Brush	0.9%	2.4%	<0.1%	1.9%
	Wood	5.2%	7.8%	2.1%	8.3%
	Other Yardwaste	1.7%	5.8%	<0.1%	4.0%
Electronics	Cathode Ray Tubes	0.0%	0.0%	N/A	N/A
	Appliances	0.9%	2.1%	0.1%	1.8%
	Portable Electronics	0.1%	0.4%	<0.1%	0.3%
Food Waste	Vegetative Food	11.2%	5.3%	9.0%	13.3%
	Non-Vegetative Food	5.6%	2.4%	4.6%	6.6%
Other	Diapers	1.8%	1.9%	1.0%	2.6%
	Textiles	3.6%	3.2%	2.4%	4.9%
	C&D Debris	2.2%	5.2%	0.1%	4.3%
	Mattresses	0.5%	2.5%	<0.1%	1.5%
	Other Uncharacterized	8.2%	3.0%	7.0%	9.4%
	Pet Waste	0.5%	1.0%	0.1%	1.0%
	Carpet	2.6%	4.6%	0.8%	4.4%
	Fines	2.4%	1.3%	1.9%	3.0%
Household Hazardous Wastes	Batteries	0.0%	0.0%	<0.1%	0.0%
	Paint	0.3%	0.9%	<0.1%	0.7%
	Automotive fluids	0.1%	0.3%	<0.1%	0.2%
	Other (HHW)	0.1%	0.4%	<0.1%	0.3%

OUTSIDE CINCINNATI

There were 36 residential waste samples collected during June and November 2018 from routes throughout Hamilton County, but outside Cincinnati. **Exhibit 8** presents a summary of the major components found in the waste stream.

Exhibit 8. Outside of Cincinnati MSW Composition – Major Components

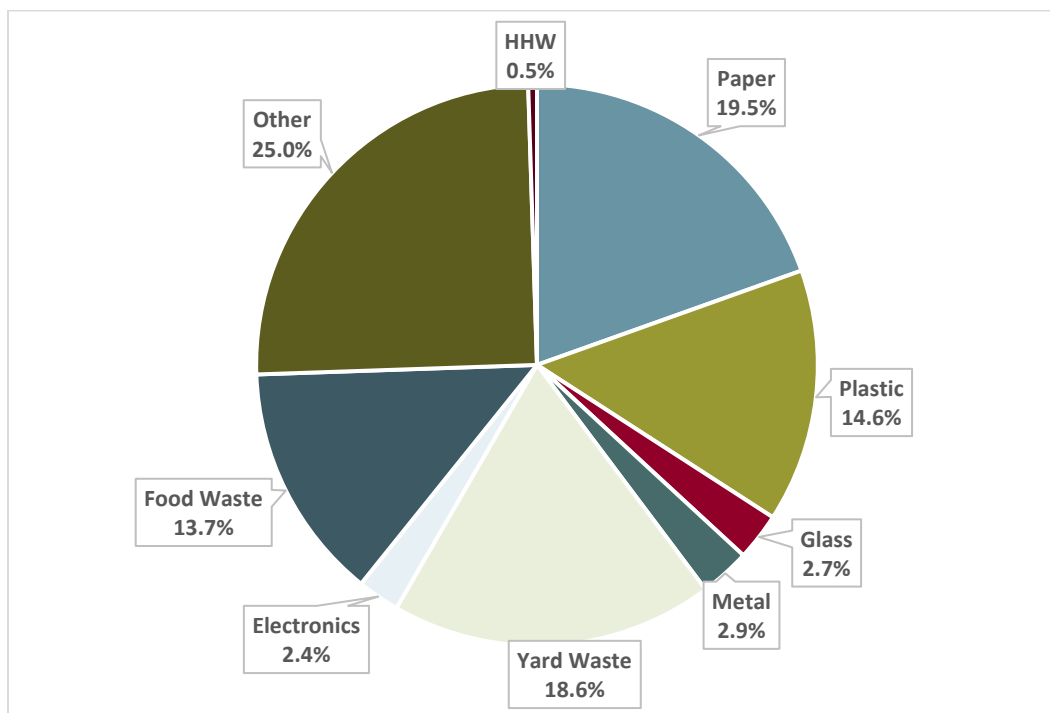


Exhibit 9 presents the composition by weight for each material type of the waste stream based on the 36 samples collected from routes in Hamilton County outside Cincinnati. Materials such as White Goods were not found in the samples, so a standard deviation and confidence interval cannot be calculated. Divertible materials in the waste stream include:

- **Recyclable Paper (14.2 percent):** Includes Corrugated Cardboard, Newspaper/Print, Cartons, and Mixed Recyclable Paper
- **Recyclable Plastic (3.9 percent):** Includes PET, HDPE Bottles, and Grocery Bags
- **Recyclable Glass (2.3 percent):** Includes Glass Bottles and Glass Jars
- **Recyclable Metal (2.8 percent):** Includes Aluminum Cans, Other Aluminum, Steel/Tin Cans and Other Ferrous
- **Recyclable Other (4.3 percent):** Includes Textiles, White Goods, Paint, Batteries, and Automotive Fluids
- **Compostable (32.5 percent):** Includes Vegetative Food, Compostable Paper, Grass, Leaves, Brush, Wood, and Other Yardwaste

Exhibit 9. Outside of Cincinnati MSW Composition

Material		Mean	Standard Deviation	95% Confidence Interval	
Paper	Corrugated Cardboard	5.3%	7.5%	2.8%	7.7%
	Newspaper/Print	1.3%	1.4%	0.8%	1.7%
	Cartons	0.6%	0.5%	0.5%	0.8%
	Mixed Recyclable Paper	7.0%	3.6%	5.9%	8.2%
	Compostable Paper	4.7%	2.2%	4.0%	5.4%
	Non-Recyclable Paper	0.6%	1.0%	0.3%	0.9%
Plastic	PET Bottle/Jugs	1.7%	1.5%	1.2%	2.2%
	HDPE Bottle/Jugs	0.7%	0.6%	0.4%	0.9%
	Other Bottle/Jugs	0.1%	0.2%	<0.1%	0.1%
	Trays and Tubs	1.5%	1.0%	1.2%	1.9%
	Rigid Plastics	2.5%	2.8%	1.6%	3.4%
	Other Plastics	1.6%	2.0%	0.9%	2.2%
	Films	5.1%	3.6%	3.9%	6.3%
	Grocery Bags	1.5%	1.0%	1.1%	1.8%
Glass	Glass Bottles	1.8%	1.2%	1.4%	2.2%
	Glass Jars	0.5%	0.8%	0.2%	0.7%
	Other Glass	0.4%	1.5%	<0.1%	0.9%
Metal	Steel/Tin Cans	0.7%	0.8%	0.5%	0.9%
	Aluminum Cans	0.7%	0.8%	0.5%	1.0%
	Other Aluminum	0.1%	0.3%	<0.1%	0.2%
	Other Ferrous	1.3%	3.5%	0.2%	2.5%
	White Goods	0.0%	0.0%	N/A	N/A
Yard Waste	Grass	2.9%	5.1%	1.2%	4.5%
	Leaves	4.5%	7.5%	2.0%	6.9%
	Brush	4.5%	6.6%	2.3%	6.6%
	Wood	5.7%	8.3%	3.0%	8.4%
	Other Yardwaste	1.0%	3.2%	<0.1%	2.1%
Electronics	Cathode Ray Tubes	1.2%	4.9%	<0.1%	2.8%
	Appliances	1.2%	4.3%	<0.1%	2.6%
	Portable Electronics	0.1%	0.3%	<0.1%	0.2%
Food Waste	Vegetative Food	9.2%	4.4%	7.7%	10.6%
	Non-Vegetative Food	4.5%	3.5%	3.3%	5.6%
Other	Diapers	2.3%	1.9%	1.6%	2.9%
	Textiles	3.9%	3.3%	2.8%	5.0%
	C&D Debris	3.3%	5.0%	1.7%	4.9%
	Mattresses	1.5%	5.2%	<0.1%	3.2%
	Other Uncharacterized	7.4%	2.5%	6.6%	8.2%
	Pet Waste	0.7%	1.5%	0.2%	1.2%
	Carpet	3.3%	8.1%	0.6%	6.0%
	Fines	2.6%	1.1%	2.2%	3.0%
Household Hazardous Wastes	Batteries	0.0%	0.0%	<0.1%	0.0%
	Paint	0.3%	1.2%	<0.1%	0.7%
	Automotive fluids	0.1%	0.6%	<0.1%	0.4%
	Other (HHW)	0.0%	0.0%	N/A	N/A