

Waste Characterization Study 2022 Final Report

Sonoma County Waste Management Agency

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Conducting this two-season waste sort would not have been possible without the assistance from a number of people. SCS would like to thank the staff of Zero Waste Sonoma, Recology, and Republic Waste Services. SCS would also like to thank our subcontractors, Waste Sleuth, Nothing Wasted, and Green Mary for their assistance and coordination with the study.

1 INTRODUCTION

Zero Waste Sonoma, the public name of the Sonoma County Waste Management Agency, contracted with SCS Engineers (SCS) to conduct a two-season waste characterization study of waste generated and disposed of in Sonoma County. Waste sampling, which included hand-sorting of waste samples from residential and commercial sources and visual characterization of self-hauled waste, was conducted at the Central Landfill during October 2021 and April 2022. Visual characterizations were also conducted at the Sonoma, Healdsburg, and Central Landfill Transfer Stations in July 2021 and July 2022.

The primary objectives of the study were to:

1. Compare the waste compositions derived in this study to those derived in similar studies conducted in 2007 and 2014. This will allow Zero Waste Sonoma to monitor and measure recycling and waste disposal trends.
2. Identify specific generator types that are contributing substantial quantities of recyclable and organic materials to the waste stream.
3. Further define and measure household hazardous waste disposed into the County waste stream.
4. Identify SB 1383 targets including organics disposal compared to the 2014 study and edible food that could be potentially donated.

The County continues to own a system of five transfer stations throughout Sonoma County. The majority of the waste collected through the County system is disposed at the Central Landfill. All cities in Sonoma County utilize the County's transfer stations through their franchised waste haulers except the City of Petaluma. Franchised waste from the City of Petaluma is hauled directly to the Redwood Landfill, between Petaluma and Novato. Non-franchise waste generated in Sonoma County may or may not enter the County's transfer stations; source information about that material is not readily available to Zero Waste Sonoma staff.

2 METHODS

WASTE SAMPLING PLAN

Since the County's last waste characterization study in 2014, a number of factors have changed the composition of the waste stream. To facilitate comparisons to previous waste characterization studies conducted in 2007, SCS defined the following waste sectors consistent with previous studies:

- **Single Family Residential Waste** - Waste collected by a waste hauling company from single-family residences (including townhouses or buildings with up to four residential units). It typically arrives at the solid waste facility in side-loading packer trucks.
- **Multi-Family Residential Waste** - Waste collected by a waste hauling company from multi-family properties such as apartments and condominiums with more than four residential units. Waste from multi-family properties is typically collected along with commercial waste in packer trucks; however, special routes were arranged to collect solely from multi-family properties for this study.
- **Commercial Waste** - Waste collected by a waste hauling company from businesses, institutions, and public venues. It typically arrives at the solid waste facility in packer trucks, roll-off containers, or compactor units. For this study, some collection vehicles were randomly targeted for sampling upon delivery to the Central Landfill for disposal. Additionally, special routes were arranged to collect solely from the following generator types:
 - Retail and warehouse establishments
 - Grocery stores
 - Office and government buildings
 - Education facilities
 - Healthcare facilities
 - Food Service, Entertainment, and Lodging
 - Manufacturers
 - Agriculture operations
- **Self-Hauled Waste** - Waste that is brought to solid waste facilities by the resident or business that generated it. This sector also includes contractors such as landscaping companies and renovators that deliver waste generated during their business operations.

SCS coordinated special routing of commercial generators and waste sampling with staff from Recology, the franchised waste hauler for the majority of Sonoma County. Waste loads that were targeted for sampling were directed to the Central Landfill.

Residential and Commercial Waste

SCS worked with Recology to identify residential routes per geographic area and commercial customers by type. Based on recent collected waste tonnage, approximately 50 percent of the waste is residential (from single-family homes) and 50 percent is commercial (multi-family properties, businesses, and institutions). To be consistent with previous studies conducted in 2007 and 2014,

SCS collected 250 waste samples: 100 from single-family homes and 150 from commercial sources as specified below:

Waste Type and Origin	Percent of Total Weekly Waste Capacity	Number of Samples
Residential: Single Family	50.5%	100
Residential: Multi-Family	13.6%	32
Commercial	35.8%	118
Total	100%	250

Waste sampling was conducted over two seasonal sampling events in October 2021 and April 2022. The number of samples was split equally between the two sampling events.

Residential Samples

SCS randomly targeted residential waste loads for sampling. When possible, SCS worked with Recology to redirect some residential loads to the Central Landfill for disposal and subsequent sampling. The distribution of single family residential samples is detailed below:

Residential Waste Origin	Number of Samples
Cloverdale	0
Cotati	9
Healdsburg	0
Petaluma	8
Rohnert Park	6
Santa Rosa	59
Sebastopol	0
Sonoma	4
Windsor	0
Unincorporated	14
Total	100

Special routes of multi-family waste were arranged with Recology. When these special routes arrived at the Central Landfill for disposal, SCS acquired multiple samples from each load. A total of 32 samples were acquired from multi-family residential properties.

Commercial Samples

Recology provided to SCS a listing of 5,878 commercial customers by geographic area with corresponding collection service and SIC code. From this information, SCS was able to estimate the volume of waste generated each week from nine types of commercial generators.

The table below identifies the weekly volume of waste generated by business type as well as the number of samples that were collected. The number of samples per business type corresponds to the volume of waste generated per week.

Commercial Generator Type	Weekly Waste Capacity (CY)	Percent of Total Weekly Waste Capacity	Number of Samples
Retail/Warehouse	5,249	21%	25
Office/Government	3,686	15%	18
Education	1,396	6%	7
Healthcare	1,121	5%	5
Manufacturer	1,499	6%	7
Agriculture	1,768	7%	8
Grocery	1,570	6%	8
Food Service/Entertainment/Lodging	3,775	15%	18
Unclassified	4,918	20%	22
Total	34,855	100%	150

Recology ran special waste collection routes to collect waste from single commercial generator types defined above. Multiple samples were gathered from these special loads that contained waste solely from a particular generator type.

Self-Hauled Waste Loads

SCS visually characterized a total of 317 self-hauled waste loads at the Central Landfill, Sonoma Transfer Station, and Healdsburg Transfer Stations.

MATERIAL CATEGORIES

Similar to the last waste characterization study conducted in 2014, the waste samples were hand sorted into many of the same material categories for this study with some exceptions:

- Mixed Paper in 2022 included paper types separated for the 2014 study such as Paper Bags/Kraft Paper, Colored Ledger, Computer Paper, Other Office Printouts, Magazines & Catalogs, Phone Books & Directories, and Other Recyclable Paper (including Gable-top Cartons).
- Glass bottles were characterized by color in 2014 but not in 2022. Glass bottles were additionally characterized beer bottles and wine bottles in 2022 but not in 2014.
- Food was further characterized as:
 - Potentially Donatable-Perishable-Non-Prepared
 - Potentially Donatable-Perishable-Prepared
 - Potentially Donatable-Non-Perishable
 - Potentially Donatable-Low Nutritional Value
 - Inedible
 - Not Donatable but Compostable
- Compostable plastic were sorted in 2022 but not in 2014.
- Compostable paper was further sorted in to packaging in 2022 but not in 2014.

- Hazardous materials were further characterized into Propane Gas Cylinders, Pharmaceuticals, and Sharps in 2022 but not in 2014.
- Special waste was further characterized into Mattresses/Box Springs/Futon Mattresses, and Vape Pens in 2022 but not in 2014. Special waste was not sorted into Ash, Sewage Solids, Treated Medical Waste, and Industrial Sludge in 2014 but not in 2022.

There were 71 distinct waste material categories (see **Appendix A** for definitions).

WASTE SAMPLING AND SORTING

Waste characterization activities were conducted inside the Tipping Building at the Central Landfill during two seasonal sampling events in October 2021 and April 2022. For each seasonal sampling event, 125 waste samples were hand-sorted and about 150 self-hauled waste loads were visually characterized.

The SCS site manager worked closely with Recology's operations manager at the Central Landfill to target waste loads according to the sampling plan. The SCS site manager recorded information on each sample, including the geographic origin of the waste, waste generator type, date/time sampled, and vehicle type. Once the waste load was discharged, a loader was used to randomly obtain a sample of waste weighing approximately 225 pounds. The sample was then placed into carts for until hand sorting activities could be performed.

The basic procedures and objectives for sorting were identical for each sample and every day of the field work. Sorting was performed as follows:

- The work crew transferred the waste sample from the carts onto a sorting platform until it was full. The sorting platform consisted of a large wooden panel that was placed atop plastic garbage containers to make it easier for hand sorting of the materials. Surrounding the platform were 50 to 60 bins where the waste materials were segregated and placed.
- The work crew hand-sorted the materials into the material categories defined in **Appendix A**. Large, heavy, or bulky waste items were placed directly into the appropriate container for subsequent weighing.
- Plastic bags of trash were opened and work crew members manually segregated each item of waste and until all the identifiable components were placed into the proper container. The remaining material was swept off the platform and placed in a separate container for "mixed residue".
- Upon completion of sorting each sample, the containers of segregated materials were moved to the scale where the SCS site manager weighed each category and recorded the net weight on the waste sample record. A separate waste sample record was maintained for each of the 250 samples. Measurements were made to the nearest 0.1 pound.
- After the weight of each waste material had been recorded, the materials were placed into recycling or disposal areas.

This five-step process was repeated until all of the samples were characterized. Waste samples were maintained in as-disposed conditions or as close to this as possible until the actual sorting began.

DIVERTIBILITY ANALYSIS

Each of the 71 material categories was classified into one of four divertibility groups:

- **Divertible Materials** - This includes materials for which source reduction programs or methods, collection programs, and/or recycling infrastructure exist.
- **Compostable Materials** - This includes organic materials that are appropriate for municipal composting programs.
- **Potentially Divertible** - This includes materials for which methods and/or technology exist for recycling, reuse, or other beneficial uses, although programs to collect and process the materials are limited or nonexistent in the Sonoma area.
- **Other Materials** - This includes materials that do not fit any of the definitions above and that are not easily diverted from disposal.

Exhibit 1 shows the material types grouped according to these divertibility categories.

Table 1. Material Divertibility Classifications

Material Components	Divertible	Compostable	Potentially Divertible	Other
PAPER				
Uncoated Corrugated Cardboard (OCC)	X			
Newspaper	X			
White Ledger	X			
Mixed Paper	X			
Aseptic Containers/Gable-top Cartons	X			
Remainder/ Composite Paper				X
GLASS				
CRV Glass Bottles & Containers (no beer/wine)	X			
Non-CRV Glass Bottles & Containers (no beer/wine)	X			
Wine Bottles	X			
Beer Bottles	X			
Remainder/Composite Glass				X
METAL				
Tin/Steel Cans	X			
Major Appliances	X			
Other Ferrous	X			
Aluminum Cans-CRV	X			
Aluminum Cans-Non-CRV	X			
Other Non-Ferrous	X			
R/C Metal				X
PLASTIC				
PETE Bottles -CRV	X			
PETE Bottles - non-CRV	X			
Other PETE Containers - non-or-CRV	X			
HDPE CRV Containers	X			
HDPE Colored Containers (non-CRV)	X			
HDPE Neutral Containers (non-CRV)	X			
#3-7 CRV Containers	X			
#3-7 Non-CRV Containers	X			
Recyclable Plastic Film	X			
Nonrecyclable Plastic Film				X
Durable Plastic Items				X
EPS Packaging				X
R/C Plastic				X
SPECIAL				
Bulky Items				X
Mattresses, Box Springs, Futon Mattresses	X			
Tires	X			
Vape Pens				X
R/C Special Waste				X

Material Components	Divertible	Compostable	Potentially Divertible	Other
ORGANICS				
Food	Potentially Donatable-Perishable-Non-Prepared	X		
	Potentially Donatable-Perishable-Prepared	X		
	Potentially Donatable-Non-Perishable	X		
	Potentially Donatable-Low Nutritional Value	X		
	Inedible	X		
	Not Donatable but Compostable	X		
	Green Waste	X		
	Manures	X		
	Compostable Plastics	X		
	Compostable Paper-Packaging			
	Other Compostable Paper	X		
	R/C Organics	X		X
	CONSTRUCTION & DEMOLITION (C&D)			
Concrete	X			
Asphalt Paving	X			
Asphalt Roofing				X
Clean Recyclable Wood (non-treated)	X			
Clean Gypsum Board			X	
Rock, Soil, and Fines	X			
R/C C&D				X
HAZARDOUS & E-WASTE				
Paint	X			
Vehicle and Equip Fluids			X	
Used Oil and Oil Filters	X			
Large Rechargeable Batteries (Count)				
Small Rechargeable Batteries (Count)	X			
Household Batteries (Count)	X			
Universal Waste Electronic Devices (UWED)	X			
Covered Electronic Waste	X	X		
Fluorescent Tubes	X			
Treated Wood Waste				X
Propane Gas Cylinders	X			
Pharmaceuticals	X			
Sharps (Count/ Photo)				
All Other HHW				X
RESIDUE				
Textiles			X	
Mixed Residue				X

3 SUMMARY OF RESULTS

OVERALL WASTE STREAM

In 2020, a total of 307,006 tons of waste generated in Sonoma County was disposed via landfill. SCS estimated the quantities disposed from the residential, commercial, and self-hauled sectors through a variety of annual reports prepared by haulers and jurisdictions in Sonoma County.

Table 2. Annual Waste Quantities by Generating Sector – 2020

Waste Generating Sector	Annual Tons (2020)	Percent
Residential Single Family	109,070	35.5%
Residential Multi-Family	29,446	9.6%
Commercial	77,253	25.2%
Self Haul	91,236	29.7%
Total	307,006	100.0%

A composition was developed for each waste generating sector as follows:

- **Single Family Residential Waste** - Based on 100 samples: 50 hand sorted in October 2021 and 50 hand sorted in April 2022;
- **Multi-Family Residential Waste** – Based on 32 samples: 16 hand sorted in October 2021 and 18 hand sorted in April 2022;
- **Commercial Waste** - Based on 118 samples: 59 hand sorted in October 2021 and 59 hand sorted in April 2022; and
- **Self-Hauled Waste** - Based on 317 samples: 150 visually characterized in October 2021 and 167 visually characterized in April 2022.

A total of 567 waste samples were sorted to characterize the 307,006 tons of waste generated in Sonoma County and landfilled during the study period.

Appendix B presents the detailed waste composition of the County’s overall waste stream, single family residential, multi-family residential, commercial, and self-hauled waste.

As shown in **Exhibit 1**, Food, Residue, and Construction & Demolition are the dominant material classes found in Sonoma County’s overall waste stream. Most Food is “Non Donatable but Compostable” (12.0 percent) and “Inedible” (6.0 percent). Clean Recyclable Wood (non treated) is the largest component of Construction & Demolition waste at 4.7 percent. Food and compostable paper are the most common material categories disposed.

As shown in **Exhibit 2**, about 56 percent of the overall Sonoma County waste stream can be classified as divertible, potentially divertible, or compostable.

Exhibit 1. Waste Composition – County Overall 2022

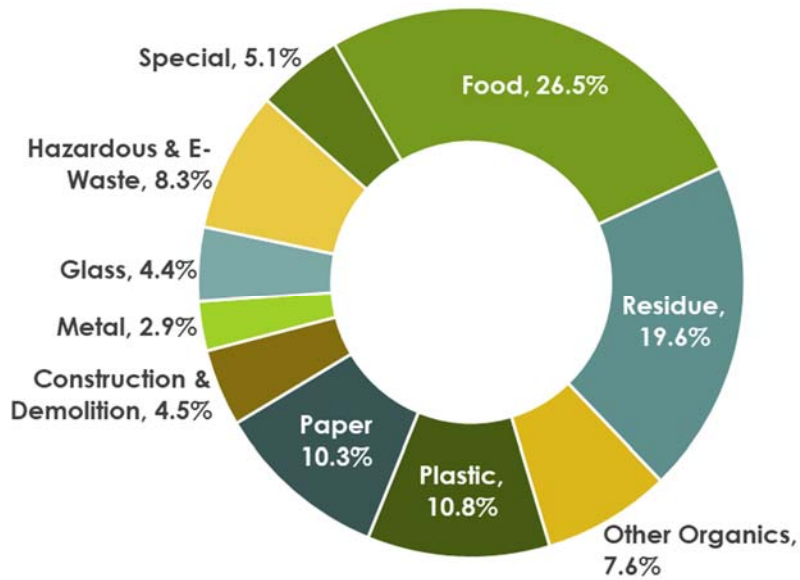
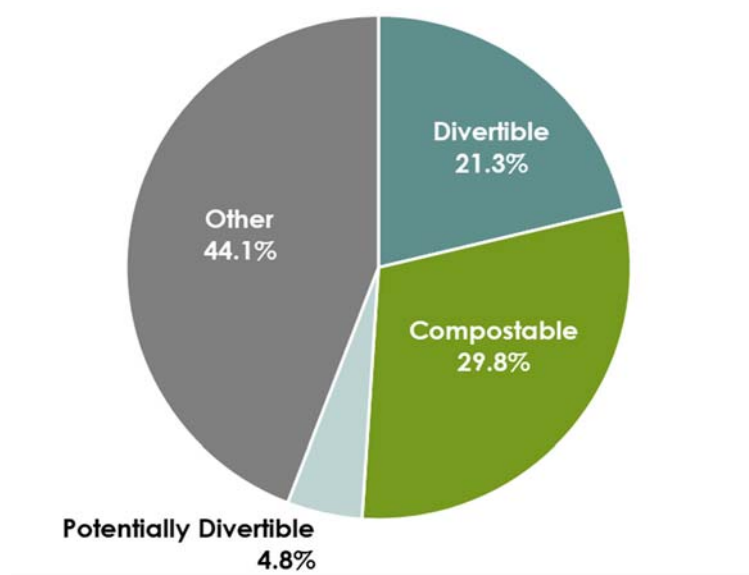


Exhibit 2. Divertibility Assessment – County Overall 2022



SINGLE FAMILY RESIDENTIAL WASTE STREAM

As shown in **Exhibit 3**, Food, Residue, Other Organics, and Plastic are the most prevalent material classes for the single family residential waste stream comprising 77.5 percent altogether. Most Food is “Non Donatable but Compostable” (18.6 percent) and “Inedible” (9.7 percent). “Other Compostable Paper” is the most prevalent material in Other Organics at 7.6 percent.

As shown in **Exhibit 4**, almost 70 percent of the single family residential waste stream is divertible, potentially divertible, or compostable.

Exhibit 3. Waste Composition – Single Family Residential 2022

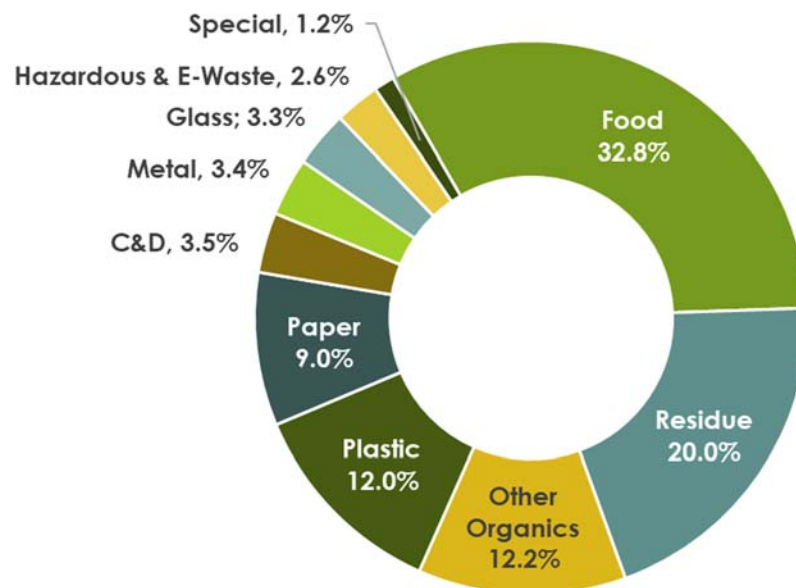
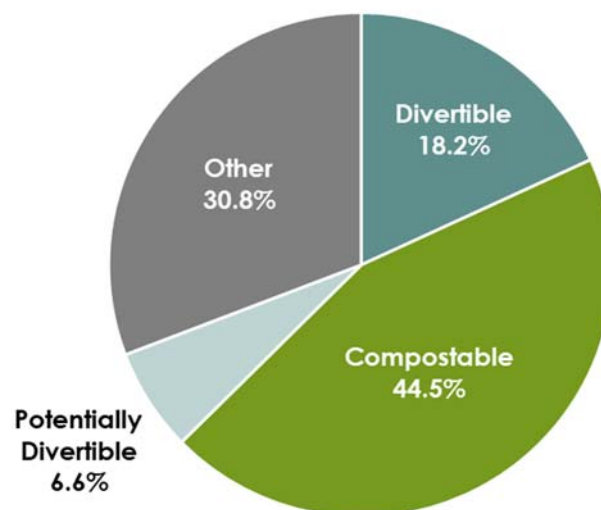


Exhibit 4. Divertibility Assessment – Single Family Residential Waste 2022



MULTI-FAMILY RESIDENTIAL WASTE STREAM

As shown in **Exhibit 5**, Food, Residue, Plastic and Paper are the most prevalent material classes for the multi-family residential waste stream comprising 67.2 percent altogether. Most Food is “Non Donatable but Compostable” (14.9 percent) and “Inedible” (6.2 percent). “NonRecyclable Plastic Film” is the most prevalent material in Plastic at 3.6 percent.

As shown in **Exhibit 6**, almost 70 percent of the multi-family residential waste stream is divertible, potentially divertible, or compostable.

Exhibit 5. Waste Composition – Multi-Family Residential 2022

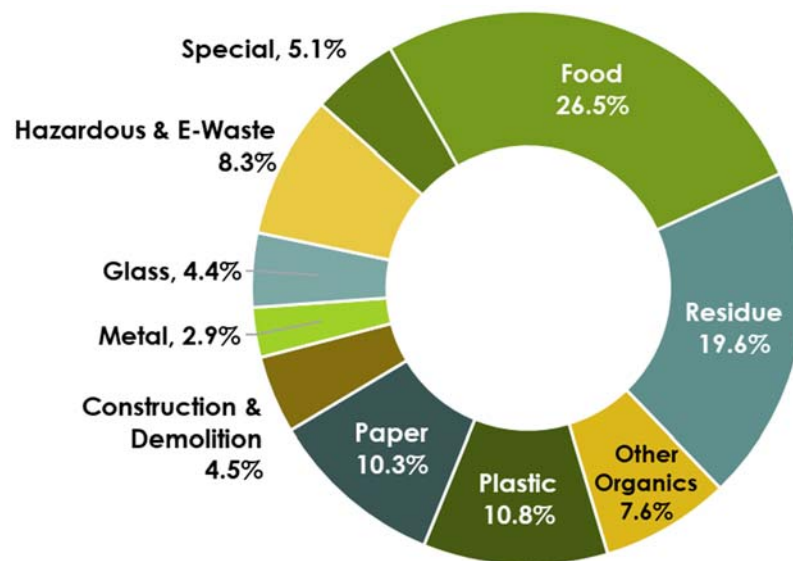
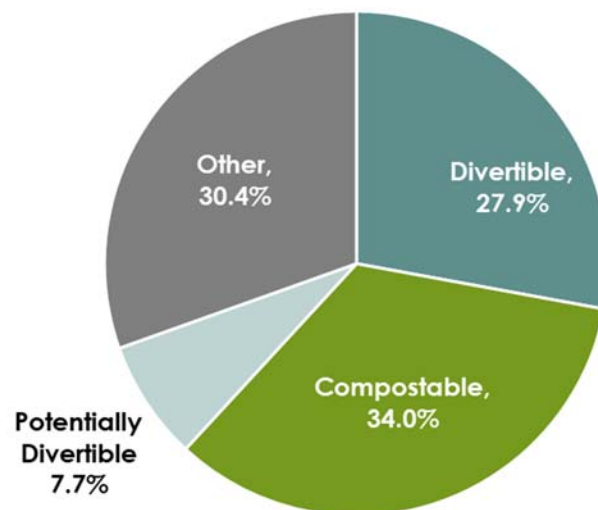


Exhibit 6. Divertibility Assessment – Multi-Family Residential Waste 2022



COMMERCIAL WASTE STREAM

As shown in **Exhibit 7**, Food, Plastic, Other Organics, and Paper are the most prevalent material classes for the commercial waste stream comprising 68.3 percent altogether. Most Food is “Non Donatable but Compostable” (15.6 percent) and “Inedible” (7.3 percent). “NonRecyclable Plastic Film” is the most prevalent material in Plastic at 7.5 percent.

As shown in **Exhibit 6**, 64.6 percent of the commercial waste stream is divertible, potentially divertible, or compostable.

Exhibit 7. Waste Composition – Commercial 2022

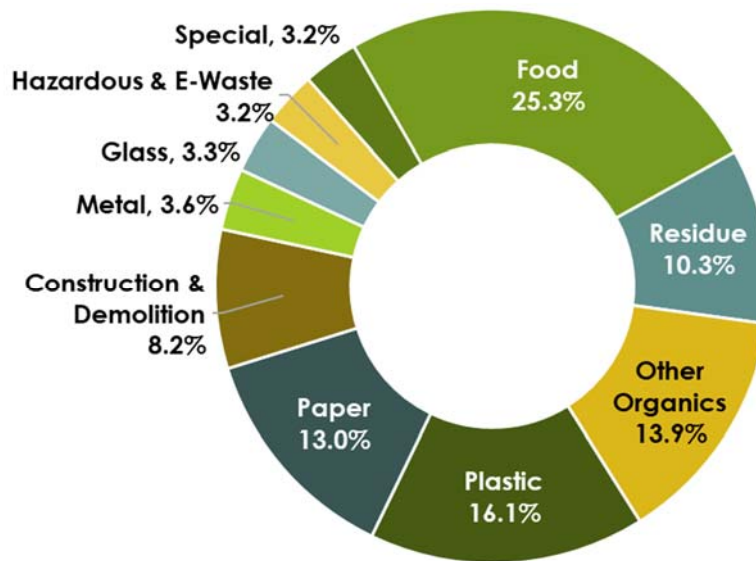
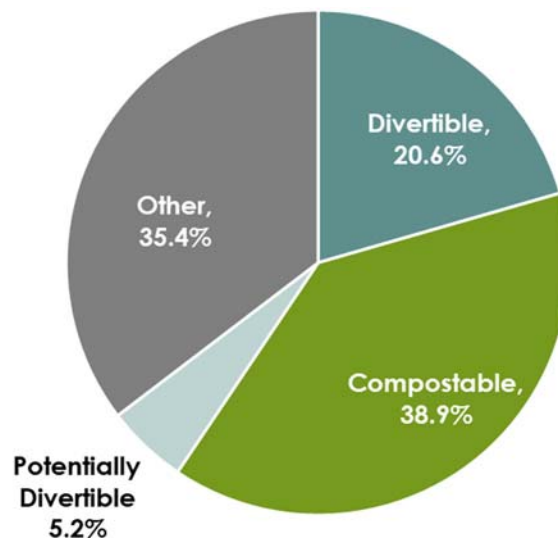


Exhibit 8. Divertibility Assessment – Commercial Waste 2022



SELF-HAULED WASTE STREAM

As shown in **Exhibit 9**, Residue and Construction and Demolition are the most prevalent material classes for the commercial waste stream comprising 79 percent altogether. Bagged household waste comprised a significant portion of self-hauled waste and is classified within Residue. Clean Recyclable Wood (15.2 percent) and Asphalt Roofing (10.3 percent) were the most prevalent materials in Construction and Demolition Waste.

As shown in **Exhibit 10**, only 28.1 percent of the self hauled waste stream is divertible, potentially divertible, or compostable.

Exhibit 9. Waste Composition – Self-Hauled 2014

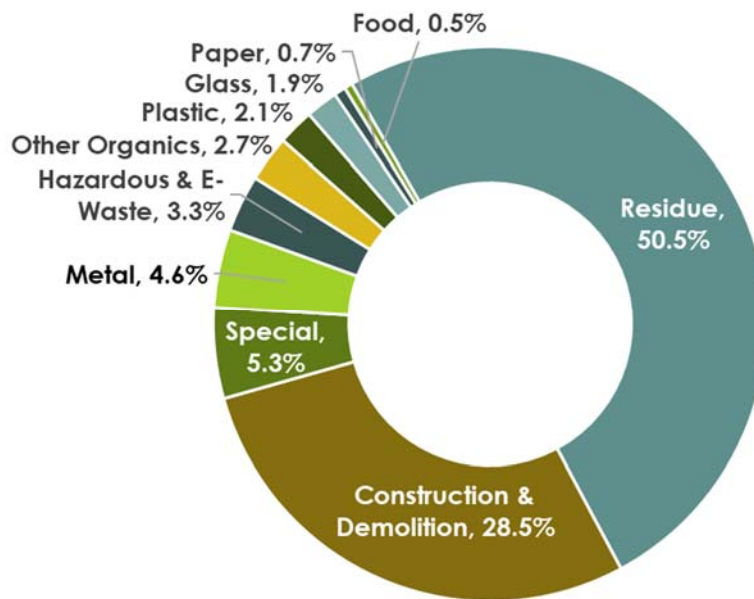
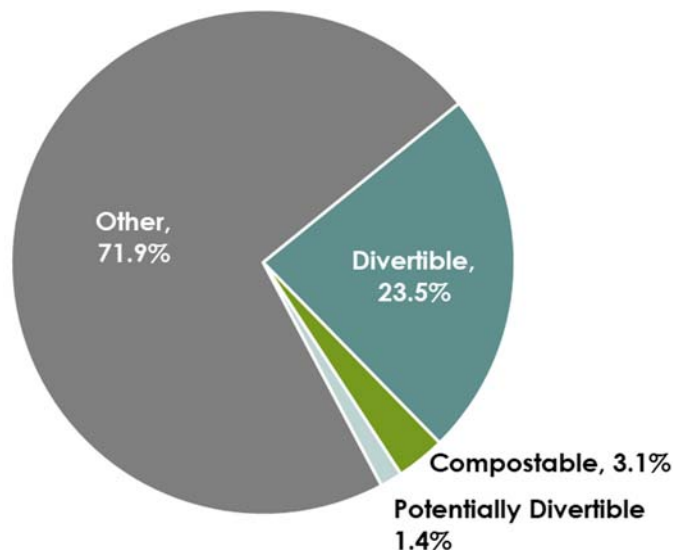


Exhibit 10. Divertibility Assessment – Self-Hauled Waste 2014



4 COMPARISON TO PREVIOUS STUDIES

Detailed comparisons between 2014 and 2022 compositions of overall, single family residential, multi-family residential, and commercial waste streams are in **Appendix C**. Summary comparisons are presented below.

OVERALL WASTE STREAM

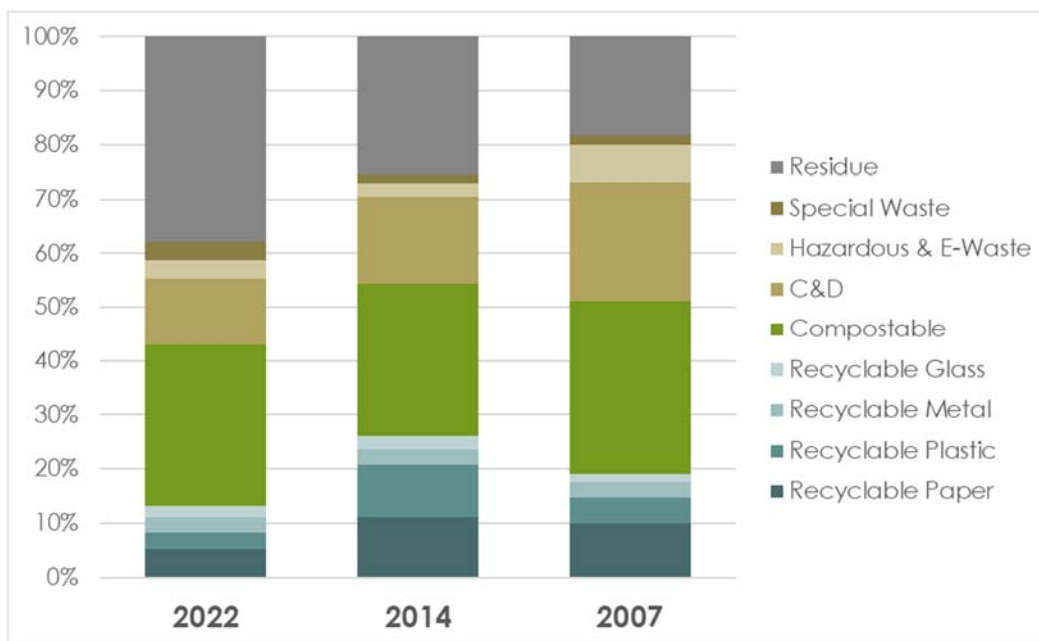
As shown in **Exhibit 11**, recyclable materials in disposed waste have decreased significantly, from 26 percent of the single family waste stream in 2014 to 13 percent in 2022, mainly due to reductions in recyclable paper and plastic. Recyclable metal and glass in the waste stream have not changed significantly.

Construction and Demolition materials have decreased moderately, mostly due to a decreases in rock/soil/fines (from 6.1 percent in 2014 to 0.6 percent in 2022).

Hazardous and E-Waste decreased significantly from 2007 (6.8 percent) to 2014 (2.5 percent). However, there was a slight increase in 2022 to 3.5 percent.

Compostable material has remained fairly steady since 2007 at about a third of the waste stream. Residue has increased significantly from 26 percent in 2014 to 38 percent in 2022 mostly due to Universal Waste Electronic Devices UWED).

Exhibit 11. Overall County Waste Compositions in 2022, 2014 and 2007



SINGLE FAMILY RESIDENTIAL WASTE STREAM

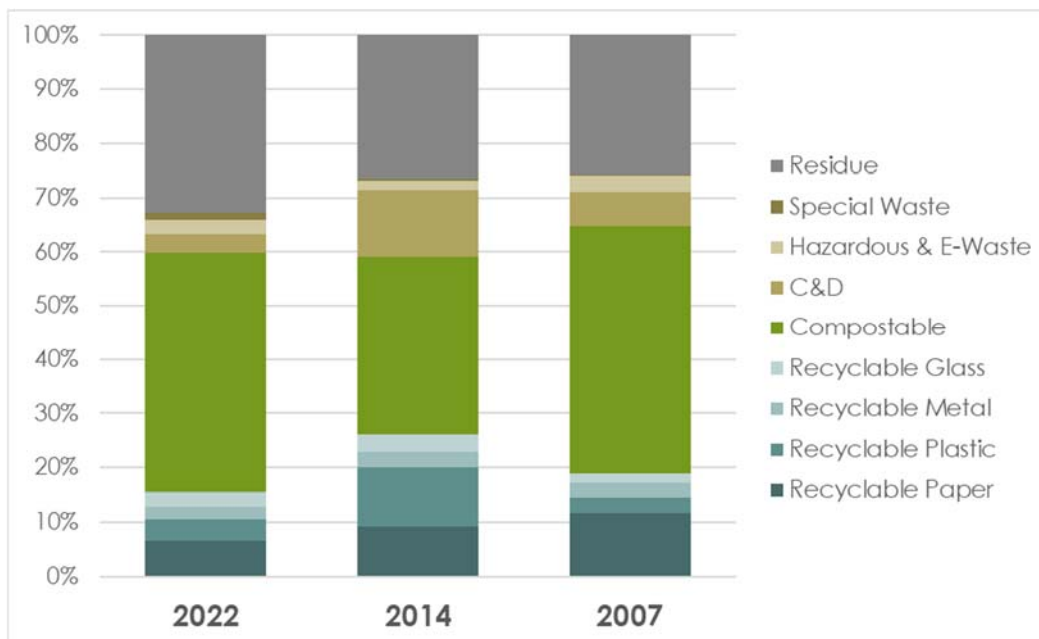
As shown in **Exhibit 12**, recyclable materials in disposed waste have decreased significantly, from 26.1 percent of the single family waste stream in 2014 to 15.4 percent in 2022.

Construction and Demolition materials have also decreased significantly, mostly due to a substantial decrease in rock/soil/fines (from 8.5 percent in 2014 to 0.4 percent in 2022).

Compostable material has increased significantly from 33 percent in 2014 to 44.4 percent in 2022, mostly due to an increase in Food. Food increased to 32.8 percent of the single family waste stream in 2022 (up from 20.4 percent in 2014).

Residue has also increased from 26.6 percent in 2014 to 32.8 percent in 2022.

Exhibit 12. Single Family Residential Compositions in 2022, 2014 and 2007



MULTI-FAMILY RESIDENTIAL WASTE STREAM

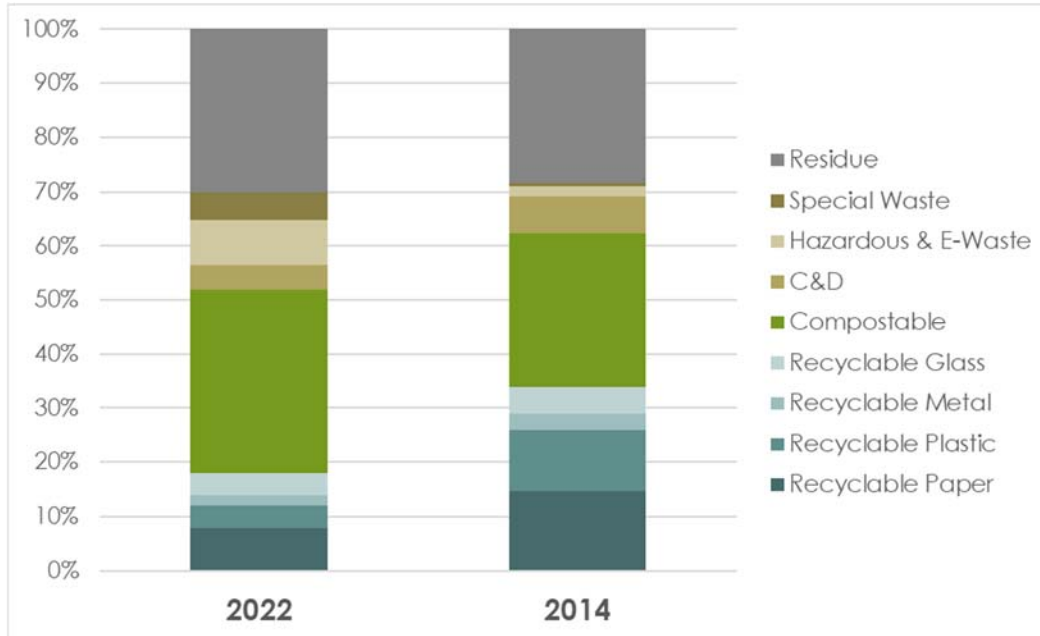
As shown in **Exhibit 13**, recyclable materials in disposed waste have decreased significantly, from 33.8 percent of the multi-family waste stream in 2014 to 18 percent in 2022.

Hazardous and E-Waste materials have increased from 1.8 percent in 2014 to 8.3 percent in 2022 mostly due to Universal Waste Electronic Devices (UWED – 4.3 percent in 2022 but less than 0.1 percent in 2014) and Treated Wood Waste (2.6 percent in 2022 but only 0.7 percent in 2014).

Compostable material has increased moderately from 28.5 percent in 2014 to 34.0 percent in 2022, mostly due to an increase in Food (from 19.4 percent in 2014 to 26.5 percent in 2022). Compostable paper has remained consistent at 6.2 percent.

Special Waste has also increased from 0.6 percent in 2014 to 5.1 percent in 2022, with increases in Bulky Items, Tires, and Remainder/Composite Special Waste

Exhibit 13. Multi-Family Residential Compositions in 2022 and 2014



For the 2007 study, multi-family waste was included in commercial waste and is not comparable to the current study.

COMMERCIAL WASTE STREAM

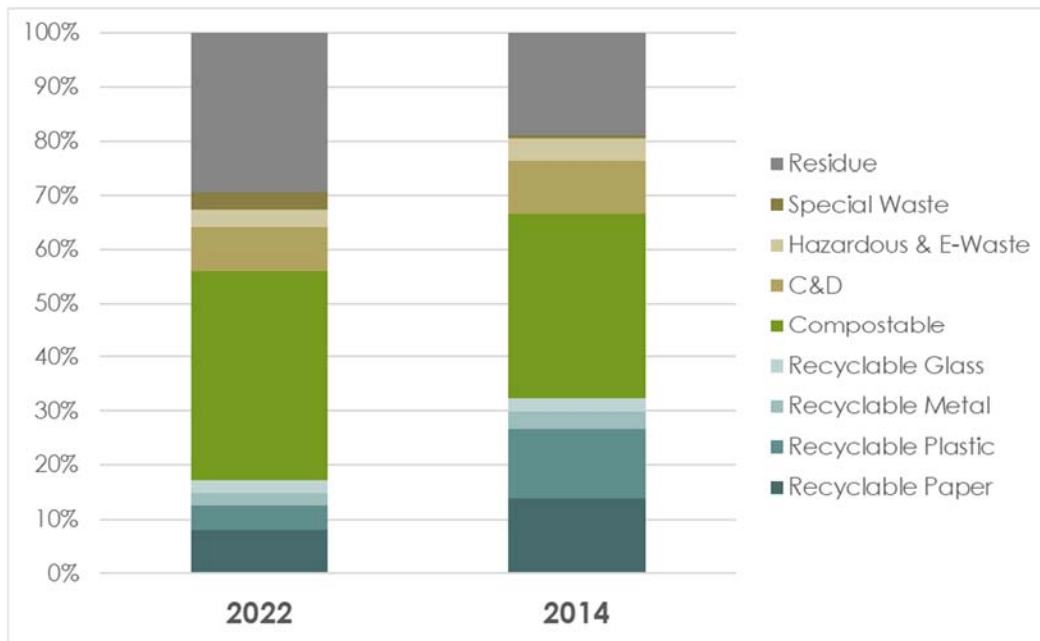
As shown in **Exhibit 14**, recyclable materials in disposed waste have decreased significantly, from 32 percent of the commercial waste stream in 2014 to 17 percent in 2022.

Special Waste has also increased from 0.6 percent in 2014 to 3.2 percent in 2022, with increases in Bulky Items, Tires, and Remainder/Composite Special Waste.

Hazardous and E-Waste materials have decreased slightly but most materials in this class have remained relatively consistent.

Compostable material has increased moderately from 34.2 percent in 2014 to 38.8 percent in 2022, mostly due to an increase in Food (from 19.5 percent in 2014 to 25.3 percent in 2022). Compostable paper has remained consistent.

Exhibit 14. Commercial Compositions in 2022 and 2014



For the 2007 study, commercial waste included multi-family waste is not comparable to the current study.

SELF-HAULED WASTE STREAM

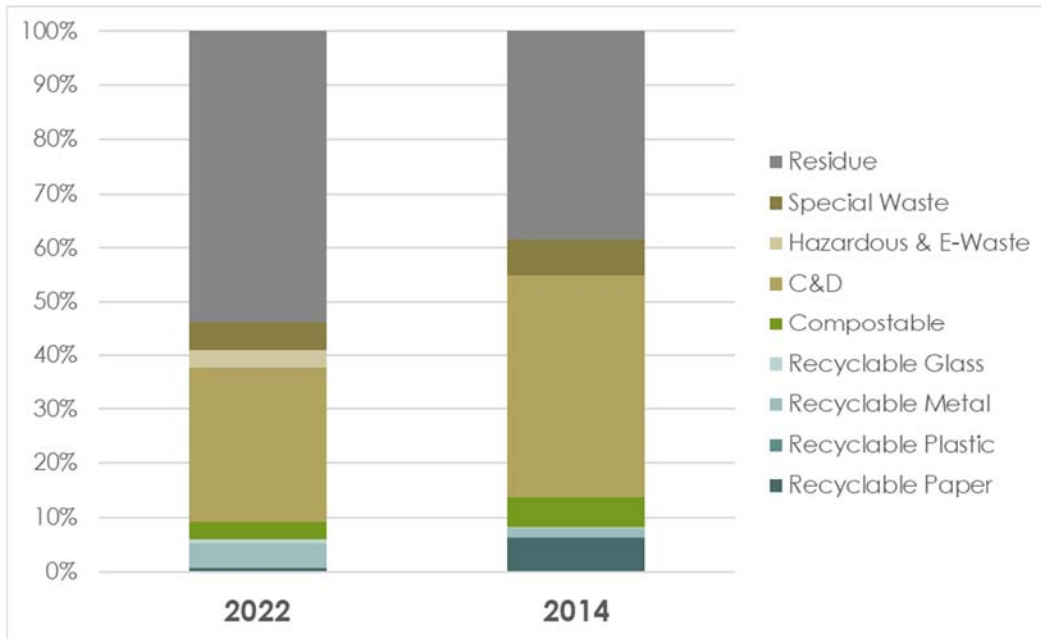
As shown in **Exhibit 15**, recyclable materials in disposed waste have decreased moderately, from 8.3 percent of the self-hauled waste stream in 2014 to 6.0 percent in 2022. This is likely due to the redistribution of bagged waste in 2014 into the composition derived for the single-family waste stream. This study classified bagged waste as residue and did not assume the composition of bagged waste was similar to that derived for the single family waste stream.

Hazardous waste has increased from less than 0.1 percent in 2014 to 3.3 percent of the self-hauled waste stream in 2022. This increase is mainly due to Treated Wood Waste and Other HHW.

Construction and Demolition materials have decreased significantly from 41.4 percent in 2014 to 28.5 percent in 2022. The decrease is mainly due to decreases in Clean Recyclable Wood (from 19.7 percent in 2014 to 14.2 percent in 2022), Clean Gypsum Board (from 10.1 percent in 2014 to 0.9 percent in 2022, and Rock/Soil/Fines (from 7.1 percent in 2014 to 0.9 percent in 2022).

Residue has increased significantly from 35.6 percent in 2014 to 50.5 percent in 2022.

Exhibit 15. Self-Hauled Compositions in 2022 and 2014



For the 2007 study, commercial waste included multi-family waste is not comparable to the current study.

5 WASTE COMPOSITION BY GENERATOR TYPE

COMPARISONS WITHIN MATERIAL CLASSES

As described in Section 2 of this report, waste samples were gathered by individual waste generator types. The number of samples from individual waste generator types was proportional to their contribution to the overall County waste stream. **Exhibit 14** through **Exhibit 19** presents the composition of relative material categories according to the following commercial waste generator types:

- Retail and warehouse establishments
- Grocery stores
- Office and government buildings
- Education facilities
- Healthcare facilities
- Food Service, Entertainment, and Lodging
- Manufacturers
- Agriculture operations
- Unclassified commercial

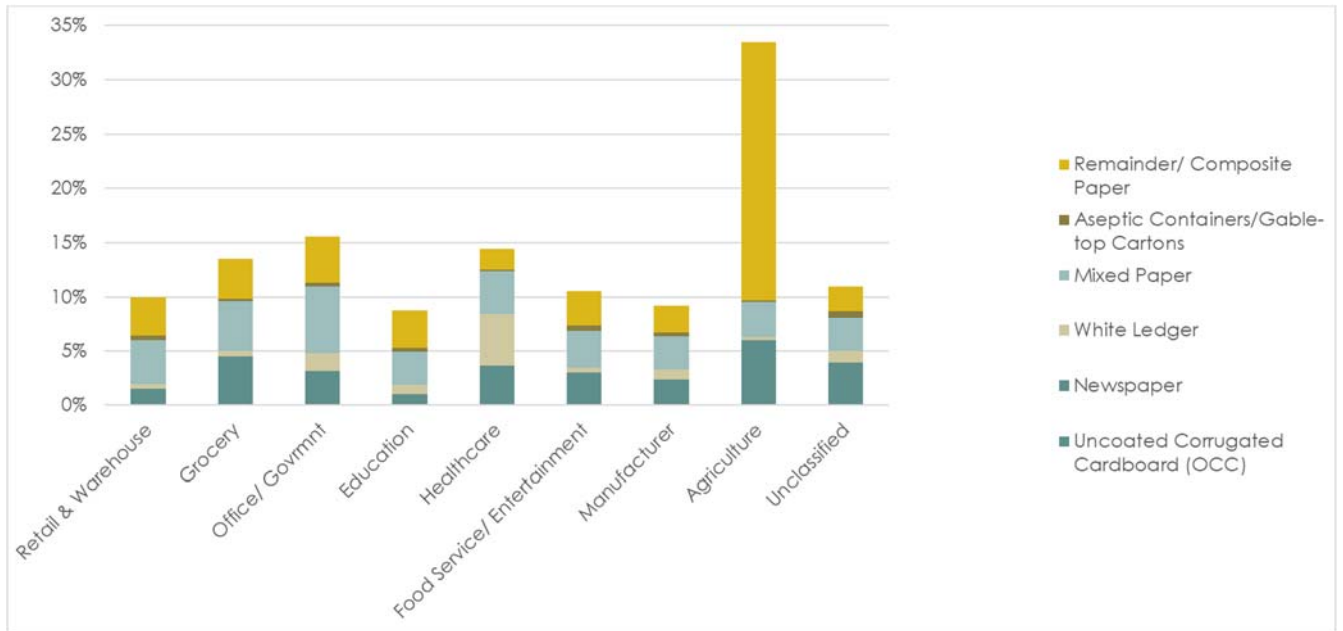
The following provide useful observations by material classification by waste generator type.

Paper

Exhibit 16 presents paper materials by waste generator type. Agricultural operations has the highest proportion of paper in their waste stream at 33.5 percent, although most is Remainder/Composite Paper.

- Uncoated corrugated cardboard is highest in Agricultural operations and Grocery stores at 5.4 and 3.9 percent, respectively.
- White ledger is highest in Healthcare facilities at 4.8 percent. All other commercial generator types have low levels of white ledger.
- Mixed paper is highest in Office and government buildings at 6.2 percent.

Exhibit 16. Paper Material Types by Generator Type

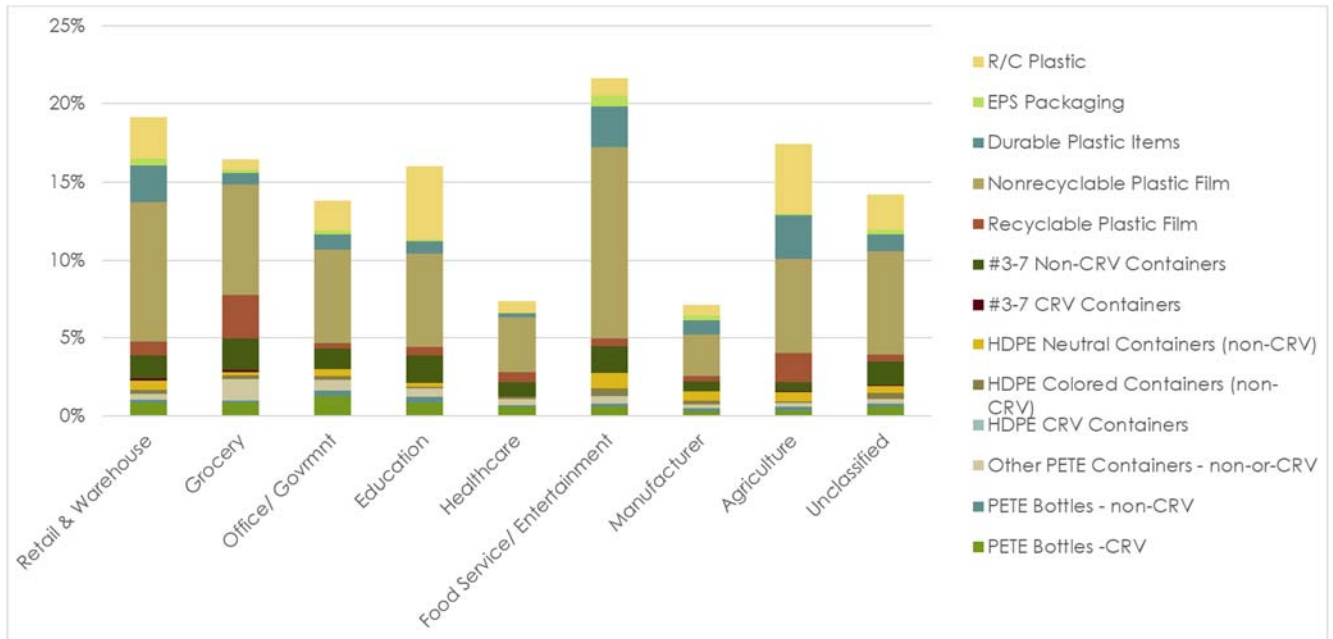


Plastic

Exhibit 17 presents plastic materials by waste generator type. Healthcare facilities and Wholesale/retail/warehouse businesses have the highest proportion of plastic in their waste stream at 25 and 23 percent respectively. Education facilities have the lowest proportion of plastic in their waste stream at 12 percent.

- Recyclable Plastic Film is highest in Grocery stores and Agricultural operations at 2.8 percent and 1.9 percent, respectively
- Nonrecyclable Plastic is the dominant material type in the Plastic material class.
- Durable Plastic Items are highest in Agricultural operations, Food Service/ Entertainment/Lodging, and Retail and Warehouse establishments at 2.8 percent, 2.6 percent, and 2.3 percent, respectively. Plastic Material Types by Generator Type.

Exhibit 17. Plastic Material Types by Generator Type

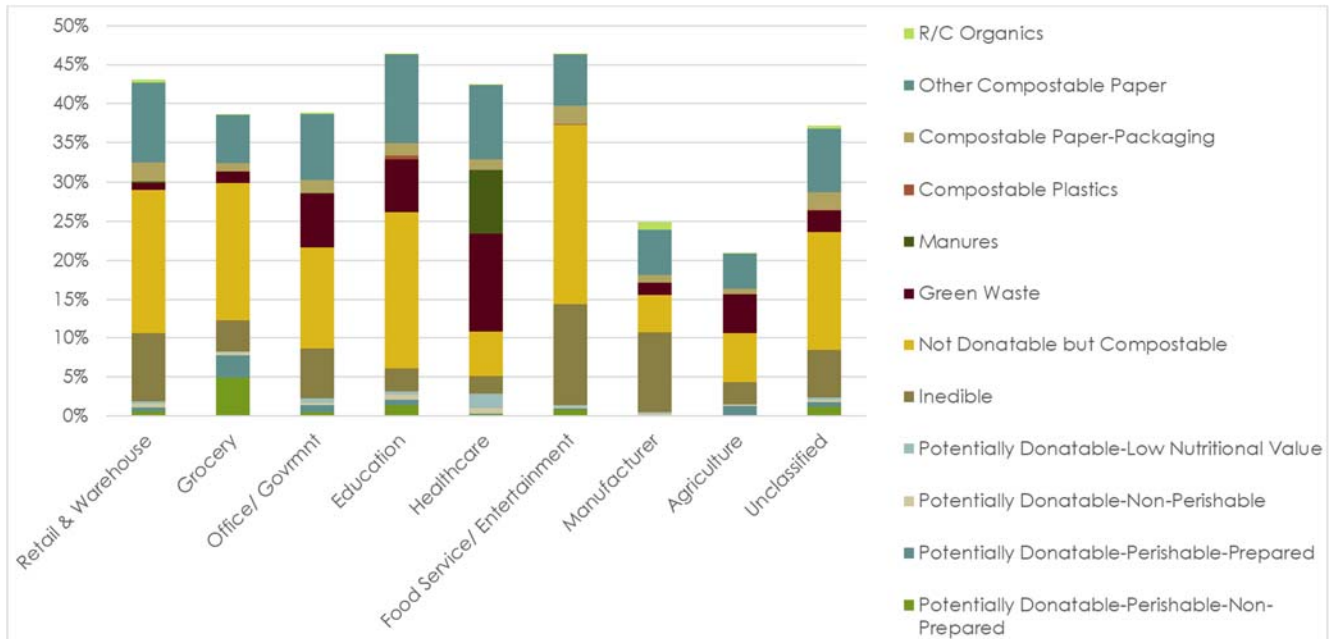


Organic

Exhibit 18 presents organic materials by waste generator type. Manufacturers and Agricultural operations have the lowest proportion of organics at 25 percent and 21 percent, respectively.

- “Non Donatable but compostable” is the most prevalent organic material type for most generator types with the exception of Healthcare facilities and Manufacturers.
- Food Service/Entertainment/Lodging had the highest proportion of Inedible Food.
- Green Waste and Manure were highest for Healthcare facilities and could have been the result of veterinary businesses or illegal dumping.

Exhibit 18. Organic Material Types by Generator Type

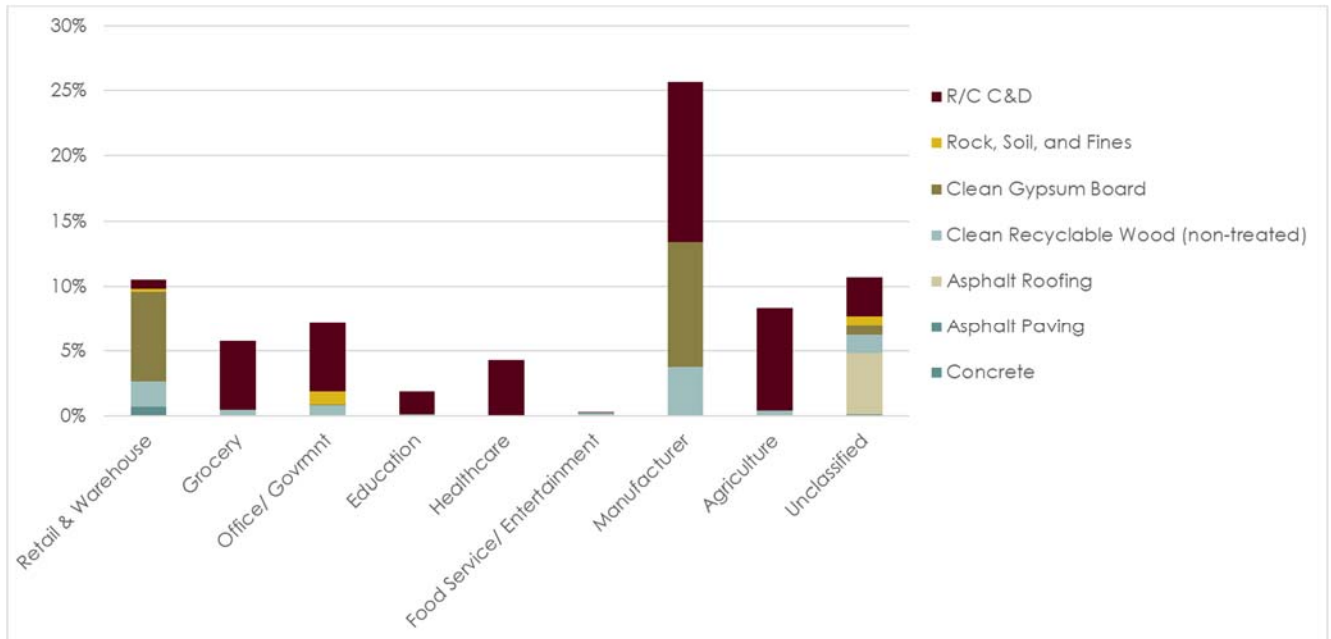


Construction and Demolition

Exhibit 19 presents organic materials by waste generator type. Manufacturers had the highest proportion of Construction and Demolition materials in their waste stream at 25.7 percent. The next highest was Unclassified commercial at 10.7 percent.

- Clean Gypsum Board was highest in Retail and Warehouse establishments and Manufacturers at 6.9 percent and 9.7 percent, respectively.
- Unclassified commercial was the only generator type that had a substantial proportion of Asphalt Roofing at 4.7 percent.
- Clean Recyclable Wood was highest in Retail and Warehouse establishments and Manufacturers at 2.0 percent and 3.8 percent, respectively.

Exhibit 19. Construction and Demolition Material Types by Generator Type

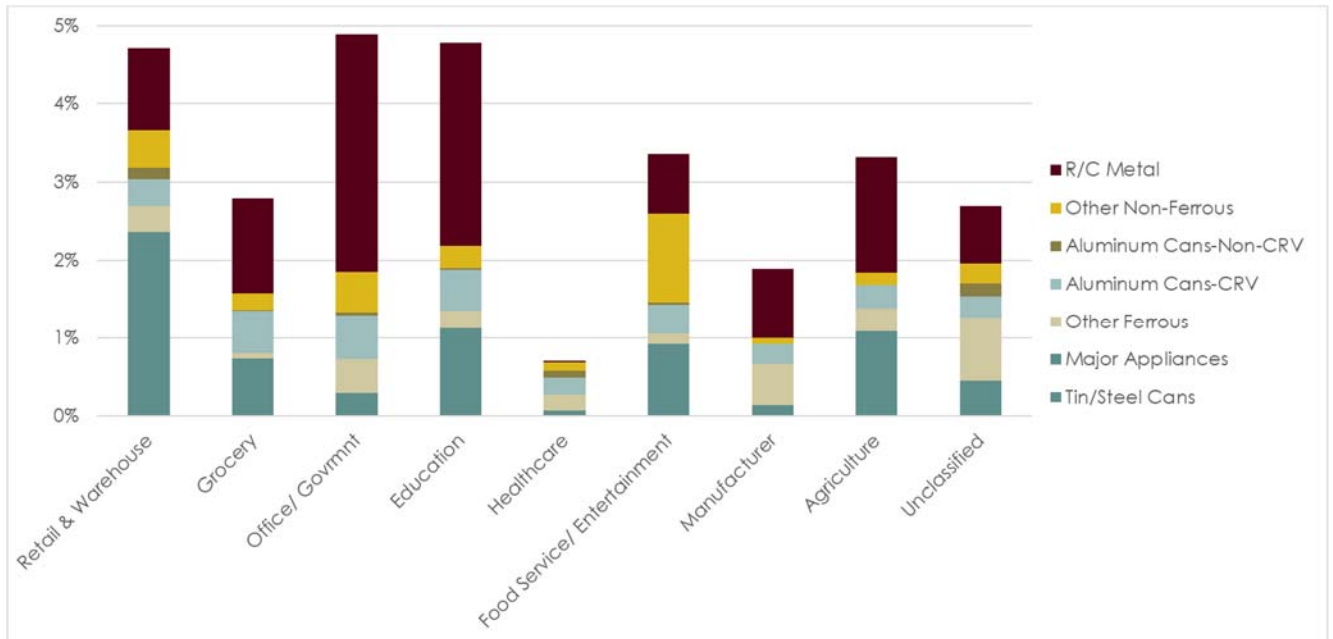


Metal

Exhibit 20 presents metal materials by waste generator type. Retail and Warehouse establishments, Office/Government buildings, and Education facilities have the highest proportion of metal at 4.7 percent, 4.9 percent, and 4.8 percent, respectively. Healthcare facilities have the lowest proportion of metal at 0.7 percent.

- Retail and Warehouse establishments have the highest proportion of Major Appliances at 2.0 percent.
- Food Service/Entertainment/Lodging has the highest proportion of Other Non Ferrous Metal at 1.1 percent.
- Unclassified commercial has the highest proportion of Other Ferrous Metal at 0.8 percent.

Exhibit 20. Metal Material Types by Generator Type

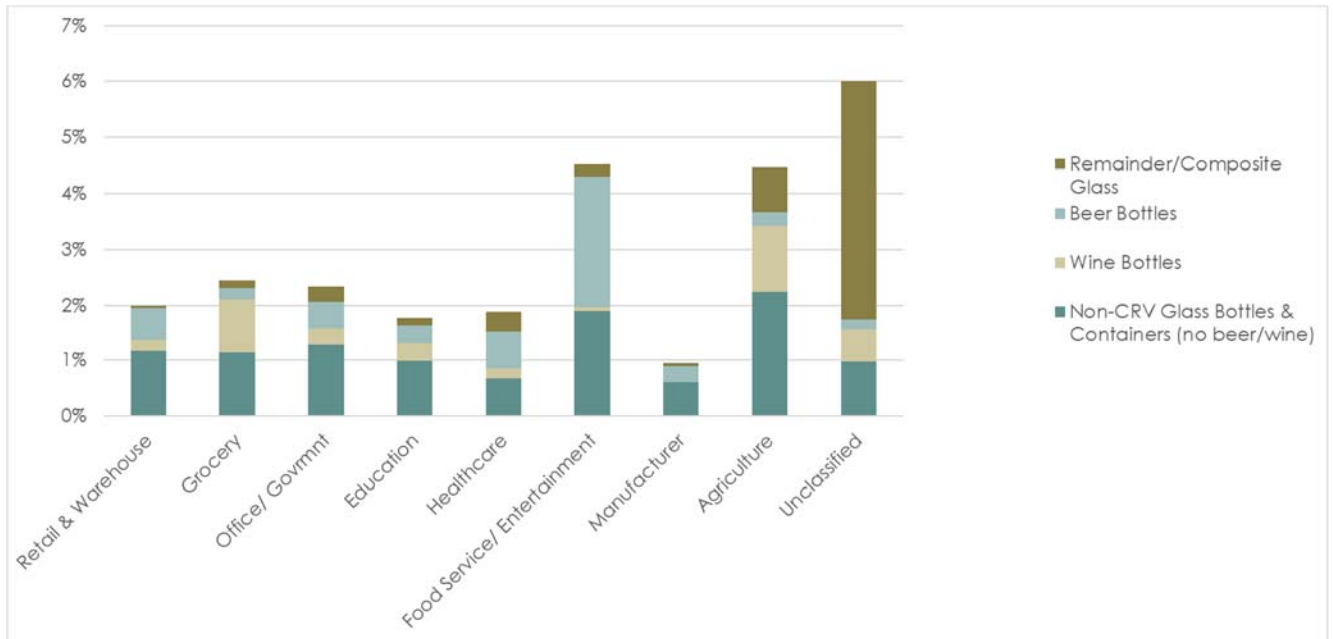


Glass

Exhibit 21 presents metal materials by waste generator type. Unclassified commercial has the highest proportion of glass in their waste stream at 6.0 percent. Education facilities have the lowest proportion of glass in their waste stream at 1.8 percent.

- Agricultural operations and Food Service/Entertainment/Lodging have the highest proportion of Non-CRV Glass Bottles and Containers (no beer or wine) at 2.1 percent and 1.6 percent, respectively.
- Food Service/Entertainment/Lodging have the highest proportion of Beer Bottles at 2.3 percent.
- Agricultural operations and Grocery stores have the highest proportion of Wine Bottles at 1.2 percent and 1.0 percent, respectively.

Exhibit 21. Glass Material Types by Generator Type

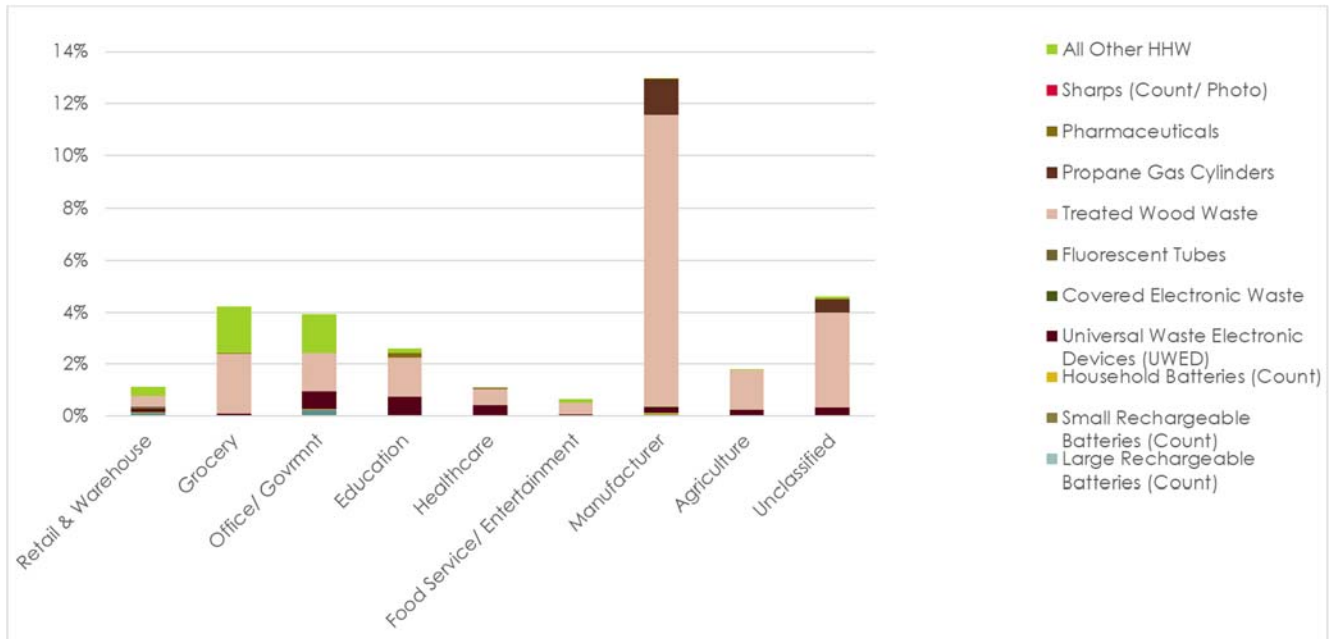


Hazardous and E-Waste

Exhibit 22 presents hazardous and e-waste materials by waste generator type. Manufacturers have the highest proportion of hazardous and e-waste materials in their waste stream at 13.0 percent. The next highest proportion is from Grocery stores at 4.2 percent. Food Service/Entertainment /Lodging have the lowest proportion of hazardous and e-waste materials at 0.7 percent.

- Treated Wood Waste is the dominant hazardous material for most commercial generator types, representing 11.2 percent of waste from Manufacturers.
- Other HHW was mostly found in Grocery stores and Office/Government buildings at 1.8 percent and 1.6 percent, respectively.

Exhibit 22. Hazardous and E-Waste Material Types by Generator Type

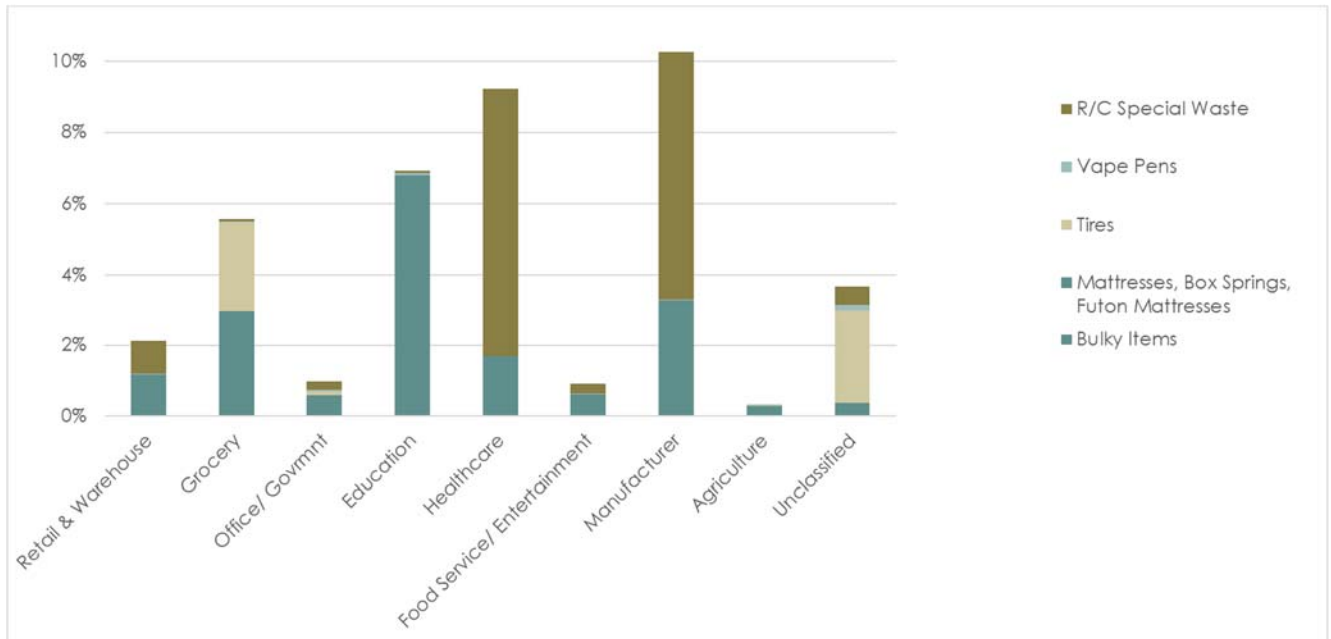


Special Waste

Exhibit 23 presents special waste materials by waste generator type. Manufacturers have the highest proportion of special waste in their waste stream at 10.3 percent. Office/Government buildings, Food Service/Entertainment/Lodging, and Agricultural operations have the lowest proportions of special waste at 1.0 percent, 0.9 percent, and 0.3 percent, respectively.

- Education facilities have the highest proportion of Bulky Items at 6.8 percent.
- Grocery stores and Unclassified commercial have the highest proportion of Tires at 2.5 percent and 2.6 percent, respectively.

Exhibit 23. Special Waste Material Types by Generator Type

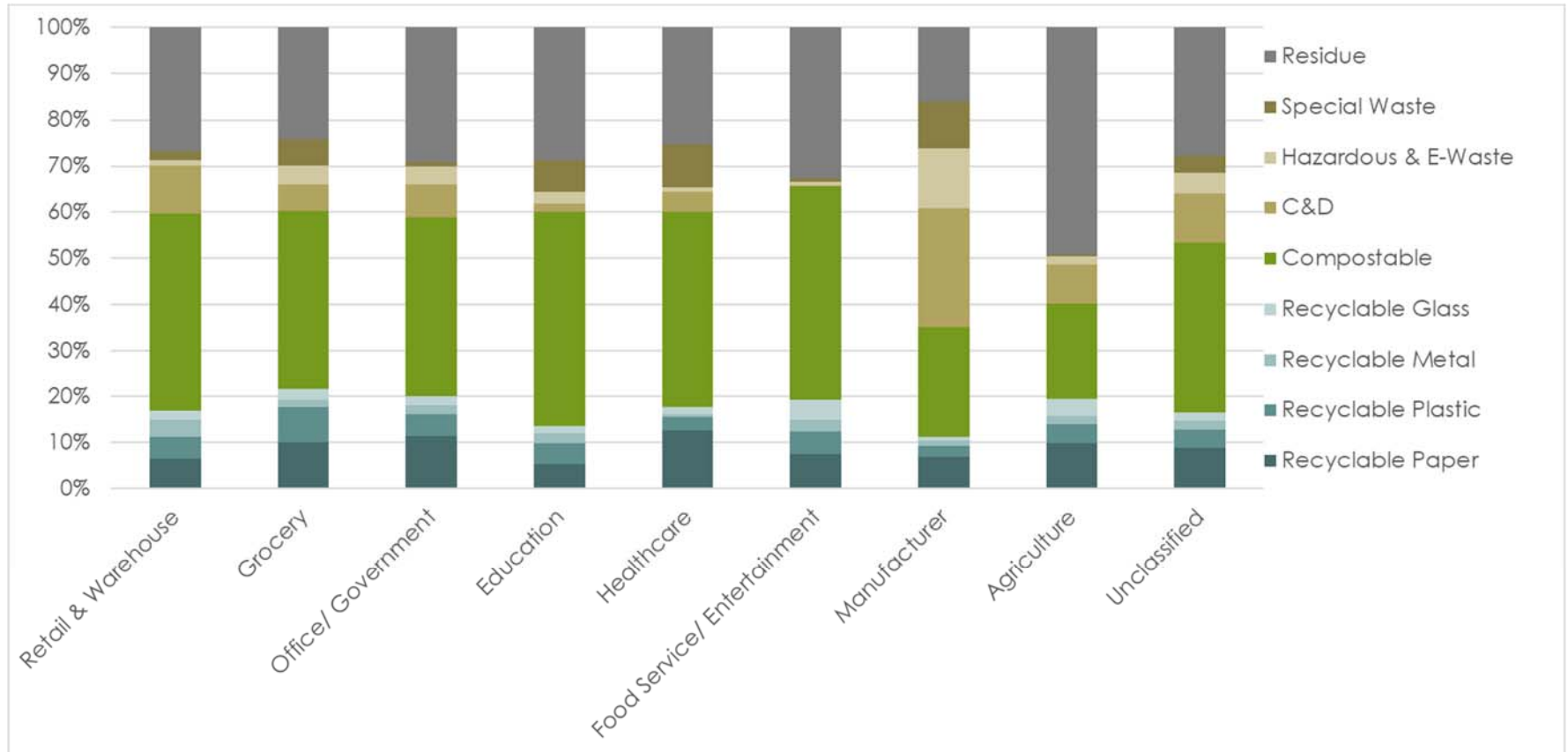


DIVERTIBILITY COMPARISON

Exhibit 24 presents a comparison of commercial generator types according to divertibility.

- Grocery stores have the highest proportion of recyclable materials at 21.6 percent, mostly due to Recyclable Paper and Recyclable Plastic. Mixed Paper and Uncoated Corrugated Cardboard are the most prevalent paper material types at 4.7 percent and 3.9 percent, respectively.
- Manufacturers and Education facilities have the lowest proportion of recyclable materials at 11.2 percent and 13.5 percent, respectively, mostly due to Recyclable Paper and Recyclable Plastic.
- Education facilities and Food Service/Entertainment/Lodging have the highest proportions of compostable materials at 46.3 percent and 45.4 percent, respectively.
- Agricultural operations and Manufacturers have the lowest proportion of compostable materials at 20.9 percent and 23.9 percent, respectively.
- Manufacturers have the highest proportion of Construction and Demolition materials and Hazardous and E-Waste materials.
- Agricultural operations have the highest proportion of residue.

Exhibit 24. Comparison of Divertibility by Commercial Generator Type



Appendix A

Material Type Definitions

Material ID & Name	Material Type Definition	Examples
PAPER		
1	Uncoated Corrugated Cardboard	Uncoated Corrugated Cardboard means a paper laminate usually composed of three layers. The center wavy layer is sandwiched between the two outer layers. It does not have any coating on the inside or outside. This type does not include chipboard boxes such as cereal and tissue boxes. This type does include very clean (no food residue and only lightly stained) pizza boxes.
<ul style="list-style-type: none"> • cardboard packaging and containers • shipping and moving boxes • computer packaging cartons • sheets and pieces used as dividers in boxes • very clean pizza boxes 		
2	Newspaper	Newspapers/Newspaper Inserts means paper used in newspapers and all items made from newsprint.
<ul style="list-style-type: none"> • newspapers • glossy inserts found in newspapers • free advertising guides • election guides • plain news packing paper • college class schedules • tax instruction booklets 		
3	White Ledger	White Ledger means uncolored bond, rag, or stationary grade paper. It may have colored ink on it. When the paper is torn, the fibers are white. Examples include white photocopy, white laser print, and letter paper.
<ul style="list-style-type: none"> • copy paper • computer printer paper • letter paper • business forms 		

Material ID & Name		Material Type Definition	Examples
4	Mixed Paper	<p>Colored Ledger means colored bond, rag, or stationery grade paper. When the paper is torn, the fibers are colored throughout. Examples include colored photocopy and letter paper. This type does not include fluorescent dyed paper or deep-tone dyed paper such as goldenrod colored paper.</p> <p>Computer Paper means paper used for computer printouts. This type usually has a strip of form feed holes along two edges. If there are no holes, then the edges show tear marks. This type can be white or striped. Examples include computer paper and printouts from continuous feed printers. This type does not include "white ledger" used in laser or impact printers, nor computer paper containing groundwood.</p> <p>Other Office Paper means other kinds of paper used in offices. Examples include manila folders, manila envelopes, index cards, white envelopes, white window envelopes, white or colored notebook paper, carbonless forms, and junk mail. This type does not include "white ledger," "colored ledger," or "computer paper."</p> <p>Magazines and Catalogs means multi-page bound items (glued or stapled) made of glossy coated paper. This paper is usually slick, smooth to the touch, and reflects light.</p> <p>Paper Grocery Bags means bags (usually brown) made from Kraft paper generally designed to carry out groceries from stores and that can be clearly identified as coming from a grocery store through the store's name or logo on the bag.</p> <p>Other Paper Bags/Kraft Paper means bags made from Kraft paper that are not clearly identified as grocery bags, and sheets of Kraft paper. The paper may be brown (unbleached) or white (bleached). The paper may also be single layer or multi-layer (multiwall).</p> <p>Phone Books and Directories means thin paper between coated covers. These items are bound along the spine with glue. Examples include whole or damaged telephone books, "yellow pages," real estate listings, and some non-glossy mail order catalogs.</p>	<ul style="list-style-type: none"> • colored paper (photocopy and letter) *Does not include fluorescent dyed or deep-tone dyed paper • Paper with holes down the side; or torn edges from continuous feed • white envelopes with or without clear windows • manila folders and envelopes • index cards • lined or colored notebook paper and carbonless forms, *Does not include envelopes lined with plastic or bubble wrap. • glossy magazines • catalogs/brochures • paper grocery bags or single-layer bags (e.g. department store bags, paper lunch bag) • multiwall bags that do not have a plastic layer incorporated into the bags (e.g. used for shipping bulk products like pet food, rice, flour, and sugar) • heavyweight sheets of Kraft packing paper • paperboard boxes • tissue and shoe boxes • paper-based tubes and cores (e.g. for toilet paper or paper towels) • Ice cream tubs • items made of chipboard • ground wood paper • deep-toned or fluorescent dyed paper • hardcover and paperback books
5	Aseptic /Gable-top Cartons	<p>Aseptic Containers means bleached polycoated paperboard containers or paper containers with a foil liner of various sizes and shapes that contain shelf- stable food products. Aseptic containers may include a plastic pour spout as part of the container. Gable-top Cartons means cartons for both non-refrigerated items and refrigerated items. These are usually paper-based, may be any shape, and may include a plastic pour spout as part of the carton</p>	<ul style="list-style-type: none"> • containers for apple juice, soup, soy/rice milk. • cartons for granola and crackers • cartons for milk, juice, and egg substitutes

Material ID & Name		Material Type Definition	Examples
6	Remainder/ Composite Paper	Remainder/Composite Paper means items made mostly of paper but combined with large amounts of other materials such as wax, plastic, glues, foil, food, and moisture. Examples include aseptic packages, blueprints, sepi, onion skin, carbon paper, self-adhesive notes, and photographs.	<ul style="list-style-type: none"> • paper bags and boxes with a plastic component (e.g. lining, window, coating, etc.) • paper cigarette packs • paper frozen juice cans with metal ends • self-adhesive notes • blueprints • sepi • “onion skin” paper • carbon paper • photographs • sheets of paper stick-on labels • butcher paper • envelopes lined with plastic or bubble wrap.
GLASS			
7	CRV Glass Bottles and Containers (not beer or wine)	CRV Glass Bottles and Containers (not beer or wine) means any color (clear, brown, green, etc.) glass beverage and food containers with a California Redemption Value (CRV) label that is NOT a beer or wine bottle. Examples include whole or broken soda bottles and fruit juice bottles.	<ul style="list-style-type: none"> • soda bottles • fruit juice bottles
8	Non-CRV Glass Bottles and Containers (not beer or wine)	Non-CRV Glass Bottles and Containers (not beer or wine) means any color (clear, brown, green, etc.) glass containers that do not have a CRV label and are NOT beer or wine bottles.	<ul style="list-style-type: none"> • mayonnaise jars • jam jars
9	Wine Bottles	Wine Bottles means glass wine bottles of any color (clear, brown, green, etc.)	<ul style="list-style-type: none"> • wine bottles
10	Beer Bottles	Beer Bottles means glass beer bottles of any color (clear, brown, green, etc.)	<ul style="list-style-type: none"> • beer bottles
11	Remainder/ Composite Glass	Remainder/Composite Glass means glass that cannot be put in any other type. It includes items made mostly of glass but combined with other materials. Examples include Pyrex, Corningware, crystal and other glass tableware, mirrors, non-fluorescent light bulbs, and auto windshields. Flat Glass means clear or tinted glass that is flat. Examples include glass windowpanes, doors, and tabletops, flat automotive window glass (side windows), safety glass, and architectural glass. This type does not include windshields, laminated glass, or any curved glass.	<ul style="list-style-type: none"> • Pyrex and CorningWare • crystal and other glass tableware • drinking glasses • mirrors • non-fluorescent light bulbs • auto windshields • laminated glass • curved glass • glass windowpanes, doors, and tabletops • safety glass • architectural glass • flat automotive window glass (side windows)

Material ID & Name	Material Type Definition	Examples	
METAL			
12	Tin/Steel Cans	Tin/Steel Cans means rigid containers made mainly of steel. These items will stick to a magnet and may be tin-coated. This type is used to store food, beverages, paint, and a variety of other household and consumer products. Examples include canned food and beverage containers, empty metal paint cans, empty spray paint and other aerosol containers, and bimetal containers with steel sides and aluminum ends.	<ul style="list-style-type: none"> • food cans and beverage containers • empty metal paint cans • empty spray paint cans and aerosol containers • bimetal containers with steel sides and aluminum ends
13	Major Appliances	Major Appliances means discarded major appliances of any color. These items are often enamel-coated. Examples include washing machines, clothes dryers, hot water heaters, stoves, and refrigerators. This type does not include electronics, such as televisions and stereos.	<ul style="list-style-type: none"> • washing machines • clothes dryer • hot water heater • stove • refrigerator
14	Other Ferrous	Other Ferrous means any iron or steel that is magnetic or any stainless steel item. This type does not include "tin/steel cans." Examples include structural steel beams, metal clothes hangers, metal pipes, stainless steel cookware, security bars, used oil filters, and scrap ferrous items.	<ul style="list-style-type: none"> • structural steel beams • metal clothes hangers • metal pipes • stainless steel cookware • security bars (e.g. window bars, wheel locks) • scrap ferrous items
15	Aluminum Cans – CRV	Aluminum Cans – CRV means any food or beverage container that is made mainly of aluminum and are marked as CRV containers. Examples include most aluminum soda or beer cans. This type does not include bimetal containers with steel sides and aluminum ends.	<ul style="list-style-type: none"> • soda or beer cans or sparkling water
16	Aluminum Cans – Non-CRV	Aluminum Cans – non-CRV means any food or beverage container that is made mainly of aluminum and is not marked as CRV containers.	<ul style="list-style-type: none"> • pet food cans • meat cans
17	Other Non-Ferrous	Other Non-Ferrous means any metal item, other than aluminum cans, that is not stainless steel and that is not magnetic. These items may be made of aluminum, copper, brass, bronze, lead, zinc, or other metals. Examples include aluminum window frames, aluminum siding, copper wire, shell casings, brass pipe, and aluminum foil.	<ul style="list-style-type: none"> • aluminum window frames • aluminum siding • copper wire • shell casings • brass pipes • aluminum foil
18	Remainder/ Composite Metal	Remainder/Composite Metal means metal that cannot be put in any other type. This type includes items made mostly of metal but combined with other materials and items made of both ferrous metals and non-ferrous metal combined. Examples include small non-electronic appliances such as toasters and hair dryers, motors, insulated wire, and finished products that contain a mixture of metals, or metals and other materials, whose weight is derived significantly from the metal portion of its construction.	<ul style="list-style-type: none"> • small non-electronic appliances (e.g. toasters, hair dryers) • motors • insulated wire

Material ID & Name	Material Type Definition	Examples	
PLASTIC			
19	PETE Bottles – CRV	PETE Bottles – CRV means clear or colored PETE (polyethylene terephthalate) bottles that are marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. The color is usually clear, transparent green, or amber. A PETE bottle usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples of narrow and wide neck bottles include: soft drink, water, beer, and liquor bottles.	<ul style="list-style-type: none"> • beverage containers for soda, juice, water, etc.
20	PETE Bottles – Non-CRV	PETE Bottles – Non-CRV means clear or colored PETE (polyethylene terephthalate) bottles that are not marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. The color is usually clear, transparent green, or amber. A PETE bottle usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. Examples of narrow and wide neck bottles include: cooking oil, pastry jars, food jars, and aspirin bottles.	<ul style="list-style-type: none"> • beverage containers for soda, juice, water, etc. • jars and containers for food • containers for household products (e.g. shampoo, cleaning products)
21	Other PETE Containers – Non-or-CRV	Other PETE Containers – Non-CRV means PETE (polyethylene terephthalate) containers (other than bottles) that are not marked as CRV containers. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. A PETE container usually has a small dot left from the manufacturing process, not a seam. Other PETE Containers means PETE (polyethylene terephthalate) containers other than bottles. When marked for identification, they bear the number 1 in the center of the triangular recycling symbol and may also bear the letters PETE or PET. A PETE container usually has a small dot left from the manufacturing process, not a seam.	<ul style="list-style-type: none"> • containers, tubs and lids • clamshells • trays and tray lids • cups, bowls and plates • cake domes • small storage containers
22	HDPE CRV Containers	HDPE Natural Bottles – CRV means natural HDPE (high-density polyethylene) bottles that are marked as CRV containers. This plastic is cloudy white, allowing light to pass through it. When marked for identification, it bears the number 2 in the triangular recycling symbol. Examples include milk jugs, water jugs, and some juice bottles.	<ul style="list-style-type: none"> • beverage containers for soda, juice, water, etc. w/ CRV symbol
23	HDPE Colored Containers Non-CRV	HDPE Colored Containers – CRV means colored HDPE (high-density polyethylene) containers that are NOT marked as CRV containers. This plastic is a solid color, preventing light from passing through it. When marked for identification, it bears the number 2 in the triangular recycling symbol. Examples include narrow and wide mouth food containers, such as for coffee and coffee creamer. Non-CRV means colored HDPE (high-density polyethylene) containers that are not marked as CRV containers. Examples include detergent bottles, some shampoo and hair-care bottles, empty motor oil, empty antifreeze, and other empty vehicle and equipment fluid bottles.	<ul style="list-style-type: none"> • non-CRV food or beverage containers or laundry detergent* containers, tubs and lids • clamshells • trays and tray lids • cups, bowls and plates • cake domes • small storage containers

Material ID & Name		Material Type Definition	Examples
24	HDPE Neutral Containers Non-CRV	Other HDPE Containers – Non-CRV means all types of HDPE (high-density polyethylene) containers not included above that are marked as CRV containers. When marked for identification, it bears the number 2 in the triangular recycling symbol.	<ul style="list-style-type: none"> • HDPE containers that are neutral color (milk jugs)
25	#3-7 CRV Containers	#3-#7 Bottles – CRV means plastic bottles made of types of plastic other than HDPE (high-density polyethylene) or PETE (polyethylene terephthalate). Items may be made of PVC (polyvinyl chloride), LDPE (low-density polyethylene), PP (polypropylene), PS (polystyrene), or mixed resins and are marked as CRV containers. When marked for identification, these bottles bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. Examples include bottles for some juices.	<ul style="list-style-type: none"> • 3 - 7 bottles w/ CRV symbol
26	#3-7 Non-CRV Container	#3-#7 Other Containers – CRV means plastic containers (other than bottles) made of types of plastic other than HDPE (high-density polyethylene) or PETE (polyethylene terephthalate). Items may be made of PVC (polyvinyl chloride), LDPE (low-density polyethylene), PP (polypropylene), PS (polystyrene), or mixed resins and are marked as CRV containers. When marked for identification, these items bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol.	The following containers w/ CRV symbols: <ul style="list-style-type: none"> • storage containers • yogurt cups • sour cream tubs • syrup and ketchup bottles • clamshells • trays and tray lids • cups, bowls and plates • hardware and fastener packaging • detergent and cleaning product bottles • squeezable bottles • frozen food containers • microwave food trays • vitamin bottles • cookie trays found in cookie packages • small (less than 1 gallon) plant containers such as nursery pots and plant six-packs • plastic strapping • string
27	Recyclable Plastic Film	Recyclable Plastic Film means clean plastic film that can be recycled. Examples include; clean plastic bags sold for use as trash bags for residential and commercial use. It also includes plastic shopping bags used to contain merchandise for transport from the place of purchase and given out by the store with the purchase, such as grocery shopping bags, other merchandise bags, or dry-cleaning plastic bags intended for one-time use. This material also includes non-bag commercial and industrial packaging film such as shrink-wrap, mattress bags, furniture wrap, and film bubble wrap. Examples include agricultural film (films used in various farming and growing applications, such as silage greenhouse films, mulch films, and wrap for hay bales), plastic sheeting used as drop cloths, and building wrap.	<ul style="list-style-type: none"> • dry cleaning bags (one-time use) • agricultural film • grocery bags • merchandise bags • shrink wrap • mattress bags • furniture wrap • film bubble wrap • wrap for hay bales • plastic sheeting (e.g. drop cloths) • building wrap

Material ID & Name		Material Type Definition	Examples
28	Nonrecyclable Film	Nonrecyclable Film means all other plastic film that does not fit into any other type. Examples include other types of plastic bags (sandwich bags, zipper-recloseable bags, newspaper bags, produce bags, frozen vegetable bags, bread bags), food wrappers such as candy-bar wrappers, mailing pouches, bank bags, X-ray film, metallized film (wine containers and balloons), plastic food wrap, and contaminated recyclable plastic film.	<ul style="list-style-type: none"> • garbage bags and can liners • compostable plastic bags • lawn and leaf bags • plastic coffee bags • juice pouches (e.g. Capri Sun) • baby food pouches • food pouches for soup, salad, wine, or backpacking meals • soap refill pouches • laundry detergent pouches • sandwich bags • zipper-recloseable bags • newspaper bags • produce bags • frozen vegetable bags • bread bags • food wrappers (e.g. candy-bar wrappers) • potato chip bags • mailing pouches • bank bags • X-ray film • metallized film (e.g. balloons) • plastic food wrap
29	Durable Plastic Items	Durable Plastic Items means all other plastic objects other than containers, or film plastic. Examples include mop buckets, plastic outdoor furniture, plastic toys, large paint/food buckets, CD's, plastic stay straps, sporting goods, and plastic house wares such as dishes, cups, and cutlery. This type also includes building materials such as house siding, window sashes and frames, housings for electronics (such as computers, televisions and stereos), fan blades, impact-resistance cases (e.g. tool boxes, first aid boxes, tackle boxes, sewing kits, etc.), and plastic pipes and fittings.	<ul style="list-style-type: none"> • crates, totes, buckets, tubs • large storage bins that do not have sharp corners • plastic garbage cans • flower pots larger than one gallon • lawn furniture • tool boxes • first-aid boxes • plastic toys and sporting goods • CDs and cases • plastic housewares including durable plates, cups, utensils • building materials such as house siding, housing forelectronics, fan blades, plastic pipes and fittings
30	EPS Packaging	Expanded Polystyrene Packaging means packaging items made of expanded polystyrene. Does not include non-packaging items such as insulation boards.	<ul style="list-style-type: none"> • cups, plates and bowls • clamshells • egg cartons • foam ice chests

Material ID & Name		Material Type Definition	Examples
31	Remainder/ Composite Plastic	Remainder/Composite Plastic means plastic that cannot be put in any other type. They are usually recognized by their optical opacity. This type includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, foam drinking cups, produce trays, foam meat and pastry trays, foam packing blocks, packing peanuts, foam plates and bowls, plastic strapping, plastic lids, some kitchen ware, toys, new plastic laminate (e.g., Formica), vinyl, linoleum, plastic lumber, insulating foams, imitation ceramics, handles and knobs, plastic string (such as is used for hay bales), and plastic rigid bubble/foil packaging (as for medications).	<ul style="list-style-type: none"> • auto parts made of plastic attached to metal • some kitchenware • some toys • window blinds • plastic lumber • insulating foam • imitation ceramics • handles and knobs • Formica, vinyl, and linoleum • plastic rigid bubble/foil packaging (e.g. medication) • disposable plastic forks, knives, spoons, straws, and stirrers • expanded polystyrene items not used for packaging (e.g. insulation boards)
ORGANIC			
32	Food - Potentially Donatable - Perishable - Non-Prepared	Food - Potentially Donatable - Perishable-Non-Prepared means whole produce (fruits and vegetables) that have not been cut, cooked, or partially consumed. They must be minimally processed since harvesting (rinsed or trimmed OK). These would be the raw fruits and vegetables found in the produce section.	<ul style="list-style-type: none"> • apples and oranges with skin intact • unpeeled bananas • unpeeled carrots with or without carrot tops (baby carrots are considered prepared foods) • whole mushrooms • whole tomatoes with or without the vine • bunch of spinach or kale
33	Food - Potentially Donatable - Perishable - Prepared	Food - Potentially Donatable - Perishable - Prepared means foods that are temperature sensitive and have been cut, cooked, assembled, or otherwise processed, but never served. Packaging must be original and unopened. Food must not have been partially consumed (no bites taken out of it)	<ul style="list-style-type: none"> • pre-cut fruit or vegetables • pre-mixed salad (if salad is just the greens unmixed with any other toppings, it is considered non-prepared. If salad has cheese, nuts, dressing, or other toppings, it is prepared) • cheese - whole or sliced • raw meat or meat products like sausage in unopened original packaging. Jerky or canned meats are considered non-perishable • yogurt or milk that needs refrigeration. • whole rotisserie chicken • sliced deli meat • whole tray of lasagna or frozen lasagna • frozen or fresh pizza • fruit juice that requires refrigeration • whole or sliced bread or tortillas

Material ID & Name		Material Type Definition	Examples
34	Food - Potentially Donatable - Non-Perishable	Food - Potentially Donatable - Non-Perishable means foods that have a long shelf life and do not require refrigeration.	<ul style="list-style-type: none"> • peanut butter or other nut spreads • whole or sliced nuts and seeds • canned meats • vegetables and fruit in cans or jars • Powdered or canned milk (condensed or evaporated) • Ground or whole coffee beans • fruit juice in boxes or does not require refrigeration • grains like uncooked rice and quinoa
35	Food - Potentially Donatable - Low Nutritional Value	Food - Potentially Donatable- Low Nutritional Value means foods that are low in nutrition and high in fat, making them undesirable for donation. They can require refrigeration (perishable) or be shelf-stable (non-perishable)	<ul style="list-style-type: none"> • cakes • chips • cookies • pastries (whole or sliced bread is considered prepared food) • chocolate • alcohol or soft drinks/soda • candy
36	Food - Inedible	Food - Inedible means food scraps typically not consumed by people but can be composted. Note that small amounts of edible material associated with the inedible material are permitted to be included as “inedible.” Vegetable and fruit peelings are Not Donatable but Compostable.	<ul style="list-style-type: none"> • bones and shells • fruit pits • coffee grounds
37	Food - Not Donatable but Compostable	Food - Not Donatable but Compostable means foods can be packaged or unpackaged, perishable or non-perishable, but they are not fit for donation because they have been partially consumed or the packaging has been opened.	<ul style="list-style-type: none"> • half eaten apple or sandwich • unpackaged raw or cooked meat • vegetable or fruit peelings (e.g. potato skins, banana peel, carrot tops) • cooked grain like rice that is unpackaged or in an opened package
38	Green Waste	Leaves and Grass means plant material from any public or private landscapes. Examples include leaves, grass clippings, sea weed, and plants. This type does not include woody material or material from agricultural sources. Prunings and Trimmings means woody plant material up to 4 inches in diameter from any public or private landscape. Examples include prunings, shrubs, and small branches with branch diameters that do not exceed 4 inches. This type does not include woody material or material from agricultural sources. Branches and Stumps means woody plant material, branches, and stumps that exceed four inches in diameter from any public or private landscape. Agricultural Crop Residues means plant material from agricultural sources. Examples include orchard and vineyard prunings; vegetable by-products from farming,; and residual fruits, vegetables, and other crop remains after usable crop is harvested. This type does not include processed residues from canneries, wineries, or other industrial sources.	<ul style="list-style-type: none"> • leaves• grass clippings• plants• seaweed • prunings• shrubs• branches• stumps • orchard & vineyard trimmings• farming by-products

Material ID & Name		Material Type Definition	Examples
39	Manures	Manures means manure and soiled bedding materials from domestic, farm, or ranch animals. Examples include manure and soiled bedding from animal production operations, racetracks, riding stables, animal hospitals, and other sources.	<ul style="list-style-type: none"> • manure • soiled bedding
40	"Compostable Plastics"	Compostable Plastics means plastic containers, bottles and food service ware. The material must be labeled as "compostable" or "biodegradable."	<ul style="list-style-type: none"> • Compostable/ biodegradable, plastic food service ware • Compostable/ biodegradable, plastic bottles and containers • PLA plastics and bags
41	Compostable Paper-Packaging	Compostable Paper – Packaging means items that are made mostly of paper that don't fit into any other material types, that are used for packaging, that are combined with other materials, or are contaminated with large amounts of wax, food, and/or moisture, and which are compostable.	<ul style="list-style-type: none"> • waxed corrugated cardboard • food-soiled packaging paper and moisture-soiled packaging paper *Unlined* • pulp paper egg cartons • unused pulp plant pots • molded paper packing materials • some berry trays • plates, cups, bowls, trays, take- out containers, etc. that are clearly not coated • popsicle sticks
42	Other Compostable Paper	Compostable Paper - Non-Packaging means non-packaging items made mostly of paper that don't fit into any other material types, that are combined with other materials, or are contaminated with large amounts of wax, food, and/or moisture, and which are compostable.	<ul style="list-style-type: none"> • waxed paper • napkins • tissue • paper towels • food-soiled paper and moisture-soiled paper • loose shredded paper • dirty molded paper plates(unlined)
43	Remainder/ Composite Organics	Remainder/Composite Organics means organic material that cannot be put in any other type or subtype. This type includes items made mostly of organic materials but combined with other materials. Examples include leather items, cork, hemp rope, rubber items, and hair.	<ul style="list-style-type: none"> • cork • hemp rope • hair
CONSTRUCTION & DEMOLITION			
44	Concrete	Concrete means a hard material made from sand, gravel, aggregate, cement mix, and water. Examples include pieces of building foundations, concrete paving, and cinder blocks.	<ul style="list-style-type: none"> • pieces of building foundations • concrete paving • concrete/cinder blocks

Material ID & Name		Material Type Definition	Examples
45	Asphalt Paving	Asphalt Paving means a black or brown, tar-like material mixed with aggregate used as a paving material.	<ul style="list-style-type: none"> • asphalt paving
46	Asphalt Roofing	Asphalt Roofing means composite shingles and other roofing material made with asphalt. Examples include asphalt shingles and attached roofing tar and tar paper.	<ul style="list-style-type: none"> • asphalt roofing • asphalt shingles and attached roofing tar and tar paper
47	Clean Recyclable Wood (non-treated)	<p>Clean Dimensional Lumber means unpainted new or demolition dimensional lumber. May contain nails or other trace contaminants.</p> <p>Clean Engineered Wood means unpainted new or demolition dimensional lumber. May contain nails or other trace contaminants.</p> <p>Clean Pallets and Crates means unpainted wood pallets, crates, and packaging made of lumber/engineered wood. May contain nails or other trace contaminants.</p> <p>Clean Recyclable Wood (non-treated) means non-treated processed wood for building, manufacturing, landscaping, packaging, and non-treated processed wood from demolition. Examples include dimensional lumber, lumber cutoffs, engineered wood such as plywood, wood scraps, pallets, crates, wood fencing, wood shake roofing, and wood siding. May contain nails or other trace contaminants.</p>	<ul style="list-style-type: none"> • 2 x 4s, 2 x 6s, and 2 x 12s • residual materials from framing and related construction activities • plywood • particleboard • wafer board • oriented strand board • residual materials used for sheathing and related construction uses • unpainted wood pallets • crates • packaging made of lumber/engineered wood • untreated/unpainted fencing • recyclable demo wood
48	Clean Gypsum Board	Clean Gypsum Board means interior wall covering made of a sheet of gypsum sandwiched between paper layers that are not painted. Examples include used or unused, broken or whole sheets of sheetrock, drywall, gypsum board, plasterboard, gypboard, gyproc, and wallboard.	<ul style="list-style-type: none"> • gypsum board • sheet rock • drywall • plasterboard • gypboard • Gyproc • wallboard
49	Rock, Soil, and Fines	Rock, Soil and Fines means rock pieces of any size and soil, dirt, and other matter. Examples include rock, stones, and sand, clay, soil, and other fines. This type also includes non-hazardous contaminated soil.	<ul style="list-style-type: none"> • rock • stones • sand • clay • soil and other fines

Material ID & Name		Material Type Definition	Examples
50	Remainder/ Composite Construction and Demolition	Remainder/Composite Construction and Demolition means construction and demolition material that cannot be put in any other type. This type may include items from different categories combined, which would be very hard to separate. Examples include brick, ceramics, tiles, toilets, sinks, dried paint not attached to other materials, and fiberglass insulation. This type may also include demolition debris that is a mixture of items such as plate glass, wood, tiles, painted gypsum board, and aluminum scrap. Other Recyclable Wood means unpainted, unstained, or untreated recyclable wood. May be recycled into ethanol, adhesives, or other engineered wood products. Includes plywood, sheet board, wafer board, particle board, oriented strand board, furniture, or cabinets that have not been treated with paint, stain, or other finish, or untreated/unpainted wood roofing or siding. Carpet means flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material. Carpet Padding means materials used under carpet to provide insulation and padding. Examples include plastic carpet padding, foam carpet padding, felt carpet padding, and other carpet padding.	<ul style="list-style-type: none"> • brick• ceramics• tiles• toilets• sinks• dried paint not attached to any materials• fiberglass• insulation• carpet padding• carpet• mixed demolition debris• wood furniture or cabinets that have not been treated with paint, stain, or other chemical finish• untreated and unpainted fencing• recyclable demolition wood• untreated or unpainted wood roofing and siding
HAZARDOUS & ELECTRONIC WASTE			
51	Paint	Paint means containers with paint in them. Examples include latex paint and oil based paint. This type does not include fine art paint, dried paint, empty paint cans, or empty aerosol containers. ARCHITECTURAL PAINT ONLY.	<ul style="list-style-type: none"> • latex paint • oil-based paint
52	Vehicle and Equipment Fluids	Vehicle and Equipment Fluids means containers with fluids used in vehicles or engines, except used oil. Examples include used antifreeze and brake fluid. This type does not include empty vehicle and equipment fluid containers.	<ul style="list-style-type: none"> • vehicle and equipment fluids (e.g. antifreeze and brake fluid)
53	Used Oil and Oil Filters	Used Oil and Oil Filters means the same as defined in Health and Safety Code section 25250.1(a). Examples include spent lubricating oil such as crankcase and transmission oil, gear oil, and hydraulic oil. Oil filters means metal oil filters used in motor vehicles and other engines, which contain a residue of used oil.	<ul style="list-style-type: none"> • spent lubricating oil (e.g. crankcase and transmission oil, gear oil, hydraulic oil)
54	Large Rechargeable Batteries	Large Rechargeable Batteries means large rechargeable or lead acid batteries. Examples include car battery and other vehicle batteries. Count or estimate batteries & photograph.	<ul style="list-style-type: none"> • auto batteries
55	Small Rechargeable Batteries	Small Rechargeable Batteries means small rechargeable batteries typically used in consumer devices. Examples include rechargeable flashlight and small appliance batteries. Count or estimate batteries & photograph.	<ul style="list-style-type: none"> • rechargeable batteries
56	Household Batteries	Household Batteries means non-rechargeable batteries typically used in consumer devices. Examples include alkaline, carbon/zinc batteries, watch, and hearing aid batteries. Count or estimate batteries & photograph.	<ul style="list-style-type: none"> • AA, AAA, D batteries • 9-volt batteries • watch and hearing aid batteries

Material ID & Name		Material Type Definition	Examples
57	Universal Waste Electronic Devices (UWED)	Universal Waste Electronic Devices (UWED) means electronics with large circuitry that is computer-related. Examples include processors, mice, keyboards, disk drives, printers, modems, and fax machines, stereos, VCRs, microwaves, DVD players (screen smaller than 4 inches), radios, audio/visual equipment. Examples include personal digital assistants (PDAs), cell phones, phone systems, phone answering machines, computer games and other electronic toys, portable CD players, camcorders, and digital cameras.	<ul style="list-style-type: none"> • mobile phones • GPS • calculators • printers • computer towers (CPUs) • stereos and radios • sewing machines • microwaves • computer accessories • mice and keyboard • solar panel garden lights • VCRs and DVD players • Video game consoles
58	Covered Electronic Waste	Covered Electronic Waste means electronic devices that the Department of Toxic Substances Control has determined to be hazardous when discarded as part of the Electronic Waste Recycling Act, including video display devices. Examples include televisions, computer monitors, and other items containing a cathode ray tube (CRT). Also includes LCD desktop monitors, laptops with LCD displays, LCD televisions, and portable DVD players with screens that are 4 inches or larger (measured diagonally).	<ul style="list-style-type: none"> • cathode ray tubes and devices containing CRTs • devices containing LCDs • plasma televisions• laptops• flatscreens • tablet computers (e.g. iPad)
59	Fluorescent Tubes	Fluorescent Tubes means fluorescent light tubes and compact fluorescent bulbs (CFL).	<ul style="list-style-type: none"> • fluorescent lamps
60	Treated Wood Waste (TWW)	Treated Wood Waste means wood that has been treated with a chemical preservative for purposes of protecting the wood against attacks from insects, microorganisms, fungi, and other environmental conditions that can lead to decay of the wood. TWW often contains staple marks that make it easily identifiable.	<ul style="list-style-type: none"> • fence posts and landscape timbers • Pilings, guardrails, and decking • Railroad ties
61	Propane Gas Cylinders	Propane Gas Cylinders means small, compact, and portable propane gas cylinders used to power devices such as camping stoves, tailgating grills, heaters, and more. Generally, these cylinders are not refillable.	<ul style="list-style-type: none"> • one-pound propane gas cylinder
62	Pharmaceuticals	Pharmaceuticals means both prescription and over-the-counter medications and supplements in all forms. Does not include containers for these items, except for tubes for creams and ointments and other containers that cannot be easily separated from the product they contain.	<ul style="list-style-type: none"> • pills• liquid medications• creams and ointments
63	Sharps	Sharps and needles. Count number, or note "jug of sharps" and take photos.	<ul style="list-style-type: none"> • sharps

Material ID & Name		Material Type Definition	Examples
64	All Other HHW	Other HHW means other hazardous wastes not described elsewhere in these definitions.	<ul style="list-style-type: none"> • pesticides • fertilizers • household cleaners • aerosols • LED lamps • mercury-containing items (e.g. thermostats and thermometers) • pool chemicals • weed killers • fine art paint • solvents • stains and wood finishes
SPECIAL WASTE			
65	Bulky Items	Bulky Items means large, hard-to-handle items that are not defined separately, including furniture and other large items. Examples include all sizes and types of furniture and base components for beds.	<ul style="list-style-type: none"> • furniture • base components for beds • structures used to support mattress
66	Mattresses, Box Springs, Futon Mattresses	Mattresses, Box Springs, Futon Mattresses	<ul style="list-style-type: none"> • mattresses • box springs • futon mattresses
67	Tires	Tires means vehicle tires. Examples include tires from trucks, automobiles, motorcycles, heavy equipments, and bicycles.	<ul style="list-style-type: none"> • automobile tires • lawn mower tires • bicycle tires • motorcycle tires • heavy equipment tires
68	Vape Pens		

Material ID & Name		Material Type Definition	Examples
69	Remainder/ Composite Special Waste	<p>Remainder/Composite Special Waste means special waste that cannot be put in any other type. Examples include asbestos-containing materials, such as certain types of pipe insulation and floor tiles, auto fluff, auto-bodies, trucks, trailers, truck cabs, untreated medical waste, and artificial fireplace logs.</p> <p>Ash means a residue from the combustion of any solid or liquid material. Examples include ash from structure fires, fireplaces, incinerators, biomass facilities, waste-to-energy facilities, and barbecues.</p> <p>Untreated medical waste means waste from a generator or a health care related facility which has not been treated and may serve to transmit an infectious disease. Includes the following: pathological waste, liquid or semi-liquid blood, contaminated items, and microbiological waste.</p>	<ul style="list-style-type: none"> • auto fluff • auto bodies • treated medical waste • asbestos-containing materials (e.g. certain pipes, insulation, and floor tiles) • artificial fireplace logs • ash • burned material • tissues, organs and anatomical parts • blood and other regulated human body fluids • contaminated bandages, gauze, wipes, etc.
MIXED RESIDUE			
70	Textiles	<p>Textiles – cloth, clothing, sheets, towels, and other textile items including synthetic, mixture of synthetic and natural fibers, or unknown fibers. These items can be made of leather, rubber, other materials, or a combination thereof.</p>	<ul style="list-style-type: none"> • cloth and rags • clothing • towels • sheets • rope • shoes and sandals • purses • belts

Material ID & Name		Material Type Definition	Examples
71	Mixed Residue	<p>Mixed Residue means material that cannot be put in any other type in the other categories. This type includes mixed residue that cannot be further sorted. Examples include clumping kitty litter and residual material from a materials recovery facility or other sorting process that cannot be put in any of the previous remainder/composite types, cigarette butts, diapers, feminine hygiene products, wood products (popsicle sticks and toothpicks), sawdust, animal feces, and painted or stained wood.</p> <p>Treated Medical Waste means medical waste that has been processed in order to change its physical, chemical, or biological character or composition, or to remove or reduce its harmful properties or characteristics, as defined in Section 25123.5 of the California Health and Safety Code.</p> <p>Diapers & Sanitary Products means single-use items that are made from a combination of natural and/or synthetic fibers.</p>	<ul style="list-style-type: none"> • garden hoses • painted or stained wood • cigarette butts • cosmetics • straw baskets • non-textile leather items • rubber sports balls • dryer and Swiffer sheets • animal carcasses • clumping kitty litter • feces from household pets • partially filled containers of non- food consumer products • treated medical waste • transport and other packaging • diapers • feminine hygiene products • adult protective undergarments • absorbent pads • Masks, gloves, other PPE

Appendix B
Detailed Waste Compositions by Sector
2022

Overall County Waste Composition 2022

Material Components	Composition	Annual Tons	Material Components	Composition	+/-	Annual Tons
PAPER	7.7%	23,520	METAL	3.8%		11,510
Uncoated Corrugated Cardboard (OCC)	1.4%	4,190	Tin/Steel Cans	0.5%		1,450
Newspaper	0.2%	740	Major Appliances	0.2%		510
White Ledger	0.4%	1,210	Other Ferrous	1.5%		4,740
Mixed Paper	3.3%	10,100	Aluminum Cans-CRV	0.3%		810
Aseptic Containers/Gable-top Cartons	0.2%	700	Aluminum Cans-Non-CRV	<0.1%		260
Remainder/ Composite Paper	2.1%	6,580	Other Non-Ferrous	0.4%		1,270
PLASTIC	10.0%	30,660	R/C Metal	0.8%		2,480
PETE Bottles -CRV	0.5%	1,530	GLASS	3.0%		9,130
PETE Bottles - non-CRV	0.2%	660	CRV Glass Bottles & Containers (no	0.4%		1,360
Other PETE Containers - non-or-CRV	0.4%	1,110	Non-CRV Glass Bottles & Containers (no	0.6%		1,740
HDPE CRV Containers	<0.1%	<50	Wine Bottles	0.5%		1,430
HDPE Colored Containers (non-CRV)	0.3%	810	Beer Bottles	0.6%		1,890
HDPE Neutral Containers (non-CRV)	0.3%	800	Remainder/Composite Glass	0.9%		2,700
#3-7 CRV Containers	<0.1%	100	HAZARDOUS & E-WASTE	3.5%		10,800
#3-7 Non-CRV Containers	0.9%	2,870	Paint	<0.1%		220
Recyclable Plastic Film	0.4%	1,230	Vehicle and Equip Fluids	<0.1%		<50
Nonrecyclable Plastic Film	4.0%	12,210	Used Oil and Oil Filters	<0.1%		<50
Durable Plastic Items	1.5%	4,510	Large Rechargeable Batteries (Count)	<0.1%		<50
EPS Packaging	0.2%	700	Small Rechargeable Batteries (Count)	<0.1%		<50
R/C Plastic	1.3%	4,100	Household Batteries (Count)	<0.1%		130
ORGANIC	30.0%	92,170	Universal Waste Electronic Devices (UWED)	0.8%		2,400
Potentially Donatable-Perishable-Non-Prepared	1.3%	4,060	Covered Electronic Waste	0.1%		320
Potentially Donatable-Perishable-Prepared	0.7%	2,210	Fluorescent Tubes	<0.1%		90
Potentially Donatable-Non-Perishable	0.4%	1,310	Treated Wood Waste	2.0%		6,150
Potentially Donatable-Low Nutritional Value	0.2%	750	Propane Gas Cylinders	0.2%		610
Inedible	6.0%	18,410	Pharmaceuticals	<0.1%		80
Not Donatable but Compostable	12.0%	36,770	Sharps (Count/ Photo)	<0.1%		<50
Green Waste	1.9%	5,910	All Other HHW	0.2%		750
Manures	0.7%	2,200	SPECIAL	3.3%		10,140
Compostable Plastics	<0.1%	70	Bulky Items	2.0%		6,150
Compostable Paper-Packaging	1.1%	3,530	Mattresses, Box Springs, Futon Mattresses	0.2%		650
Other Compostable Paper	5.3%	16,180	Tires	0.4%		1,100
R/C Organics	0.3%	770	Vape Pens	<0.1%		70
CONSTRUCTION & DEMOLITION	12.2%	37,460	R/C Special Waste	0.7%		2,180
Concrete	0.5%	1,590	RESIDUE	26.6%		81,610
Asphalt Paving	<0.1%	<50	Textiles	3.7%		11,500
Asphalt Roofing	3.3%	10,220	Mixed Residue	22.8%		70,110
Clean Recyclable Wood (non-treated)	4.7%	14,560	TOTAL	100.0%		307,000
Clean Gypsum Board	1.1%	3,300				
Rock, Soil, and Fines	0.6%	1,960				
R/C C&D	1.9%	5,820				

Note: Composition based on 567 samples.

Single Family Residential Waste Composition 2022

Material Components	Composition	+/-	Annual Tons	Material Components	Composition	+/-	Annual Tons
PAPER	9.0%	1.0%	9,830	METAL	3.4%	0.4%	3,700
Uncoated Corrugated Cardboard (OCC)	0.8%	0.2%	930	Tin/Steel Cans	0.7%	0.1%	790
Newspaper	0.4%	0.2%	420	Major Appliances	<0.1%	NA	<50
White Ledger	0.3%	0.1%	300	Other Ferrous	0.5%	0.2%	590
Mixed Paper	5.0%	0.8%	5,510	Aluminum Cans-CRV	0.4%	0.1%	390
Aseptic Containers/Gable-top Cartons	0.3%	0.0%	300	Aluminum Cans-Non-CRV	0.2%	0.0%	170
Remainder/ Composite Paper	2.2%	0.3%	2,370	Other Non-Ferrous	0.6%	0.1%	640
PLASTIC	12.0%	0.6%	13,120	R/C Metal	1.0%	0.3%	1,120
PETE Bottles -CRV	0.7%	0.1%	730	GLASS	3.3%	0.3%	3,570
PETE Bottles - non-CRV	0.3%	0.0%	370	CRV Glass Bottles & Containers (no	0.3%	0.1%	340
Other PETE Containers - non-or-CRV	0.6%	0.1%	620	Non-CRV Glass Bottles & Containers (no	0.9%	0.1%	990
HDPE CRV Containers	<0.1%	0.0%	<50	Wine Bottles	0.5%	0.2%	600
HDPE Colored Containers (non-CRV)	0.3%	0.0%	320	Beer Bottles	0.8%	0.2%	850
HDPE Neutral Containers (non-CRV)	0.3%	0.1%	300	Remainder/Composite Glass	0.7%	0.2%	790
#3-7 CRV Containers	<0.1%	0.0%	50	HAZARDOUS & E-WASTE	2.6%	0.6%	2,870
#3-7 Non-CRV Containers	1.3%	0.1%	1,440	Paint	0.1%	0.1%	130
Recyclable Plastic Film	0.4%	0.1%	460	Vehicle and Equip Fluids	<0.1%	0.0%	<50
Nonrecyclable Plastic Film	4.9%	0.3%	5,350	Used Oil and Oil Filters	<0.1%	NA	<50
Durable Plastic Items	1.1%	0.4%	1,210	Large Rechargeable Batteries (Count)	<0.1%	NA	<50
EPS Packaging	0.3%	0.0%	350	Small Rechargeable Batteries (Count)	<0.1%	0.0%	<50
R/C Plastic	1.8%	0.3%	1,910	Household Batteries (Count)	<0.1%	0.0%	90
ORGANIC	45.0%	1.8%	49,030	Universal Waste Electronic Devices (UWED)	0.8%	0.3%	820
Potentially Donatable-Perishable-Non-Prepared	2.3%	0.3%	2,460	Covered Electronic Waste	<0.1%	0.0%	<50
Potentially Donatable-Perishable-Prepared	1.1%	0.2%	1,240	Fluorescent Tubes	<0.1%	0.0%	<50
Potentially Donatable-Non-Perishable	0.8%	0.2%	840	Treated Wood Waste	1.2%	0.4%	1,330
Potentially Donatable-Low Nutritional Value	0.3%	0.1%	320	Propane Gas Cylinders	<0.1%	0.0%	<50
Inedible	9.7%	1.1%	10,620	Pharmaceuticals	<0.1%	0.0%	60
Not Donatable but Compostable	18.6%	1.4%	20,300	Sharps (Count/ Photo)	<0.1%	0.0%	<50
Green Waste	2.2%	0.8%	2,410	All Other HHW	0.3%	0.1%	350
Manures	0.2%	0.1%	190	SPECIAL	1.2%	0.4%	1,290
Compostable Plastics	<0.1%	0.0%	<50	Bulky Items	0.3%	0.2%	290
Compostable Paper-Packaging	1.6%	0.3%	1,790	Mattresses, Box Springs, Futon Mattresses	<0.1%	0.1%	100
Other Compostable Paper	7.6%	0.4%	8,300	Tires	<0.1%	NA	<50
R/C Organics	0.5%	0.3%	550	Vape Pens	<0.1%	0.0%	<50
CONSTRUCTION & DEMOLITION	3.5%	1.0%	3,850	R/C Special Waste	0.8%	0.4%	870
Concrete	0.3%	0.3%	280	RESIDUE	20.0%	1.3%	21,820
Asphalt Paving	<0.1%	NA	<50	Textiles	5.9%	0.9%	6,450
Asphalt Roofing	0.2%	0.2%	180	Mixed Residue	14.1%	1.2%	15,370
Clean Recyclable Wood (non-treated)	0.6%	0.4%	690	TOTAL	100.0%		109,080
Clean Gypsum Board	0.7%	0.6%	750				
Rock, Soil, and Fines	0.4%	0.4%	450				
R/C C&D	1.4%	0.5%	1,500				

Note: Composition based on 100 samples.

Multi-Family Residential Waste Composition 2022

Material Components	Composition	+/-	Annual Tons	Material Components	Composition	+/-	Annual Tons
PAPER	10.3%	1.5%	3,020	METAL	2.9%	0.6%	860
Uncoated Corrugated Cardboard (OCC)	2.7%	0.8%	800	Tin/Steel Cans	0.6%	0.1%	190
Newspaper	0.4%	0.2%	130	Major Appliances	<0.1%	NA	<10
White Ledger	0.5%	0.6%	150	Other Ferrous	0.3%	0.1%	80
Mixed Paper	4.2%	0.8%	1,230	Aluminum Cans-CRV	0.4%	0.1%	110
Aseptic Containers/Gable-top Cartons	0.3%	0.1%	80	Aluminum Cans-Non-CRV	<0.1%	0.0%	30
Remainder/ Composite Paper	2.1%	0.6%	630	Other Non-Ferrous	0.4%	0.2%	130
PLASTIC	10.8%	1.1%	3,180	R/C Metal	1.1%	0.5%	320
PETE Bottles -CRV	0.7%	0.1%	220	GLASS	4.4%	0.8%	1,290
PETE Bottles - non-CRV	0.4%	0.1%	110	CRV Glass Bottles & Containers (no	0.6%	0.2%	190
Other PETE Containers - non-or-CRV	0.4%	0.1%	130	Non-CRV Glass Bottles & Containers (no	1.1%	0.3%	320
HDPE CRV Containers	<0.1%	0.0%	<10	Wine Bottles	0.5%	0.3%	150
HDPE Colored Containers (non-CRV)	0.8%	0.3%	240	Beer Bottles	1.7%	0.5%	510
HDPE Neutral Containers (non-CRV)	0.3%	0.1%	90	Remainder/Composite Glass	0.4%	0.1%	130
#3-7 CRV Containers	<0.1%	0.0%	<10	HAZARDOUS & E-WASTE	8.3%	2.7%	2,440
#3-7 Non-CRV Containers	1.1%	0.2%	320	Paint	0.1%	0.1%	30
Recyclable Plastic Film	0.5%	0.1%	140	Vehicle and Equip Fluids	<0.1%	NA	<10
Nonrecyclable Plastic Film	3.6%	0.5%	1,060	Used Oil and Oil Filters	<0.1%	0.0%	<10
Durable Plastic Items	1.0%	0.3%	300	Large Rechargeable Batteries (Count)	<0.1%	NA	<10
EPS Packaging	0.2%	0.0%	70	Small Rechargeable Batteries (Count)	<0.1%	NA	<10
R/C Plastic	1.6%	0.7%	480	Household Batteries (Count)	<0.1%	0.0%	20
ORGANIC	34.1%	2.7%	10,030	Universal Waste Electronic Devices (UWED)	4.3%	2.3%	1,260
Potentially Donatable-Perishable-Non-Prepared	2.8%	0.8%	840	Covered Electronic Waste	0.9%	0.9%	280
Potentially Donatable-Perishable-Prepared	1.5%	0.6%	430	Fluorescent Tubes	0.2%	0.3%	50
Potentially Donatable-Non-Perishable	0.7%	0.4%	190	Treated Wood Waste	2.6%	1.4%	750
Potentially Donatable-Low Nutritional Value	0.5%	0.2%	150	Propane Gas Cylinders	<0.1%	NA	<10
Inedible	6.2%	1.1%	1,820	Pharmaceuticals	<0.1%	0.0%	10
Not Donatable but Compostable	14.9%	1.6%	4,370	Sharps (Count/ Photo)	<0.1%	0.0%	<10
Green Waste	1.2%	0.6%	360	All Other HHW	<0.1%	0.1%	20
Manures	<0.1%	0.0%	<10	SPECIAL	5.1%	2.9%	1,500
Compostable Plastics	<0.1%	0.0%	<10	Bulky Items	2.2%	1.5%	660
Compostable Paper-Packaging	1.0%	0.3%	290	Mattresses, Box Springs, Futon Mattresses	0.4%	0.7%	120
Other Compostable Paper	5.2%	0.6%	1,540	Tires	2.0%	2.3%	580
R/C Organics	<0.1%	0.0%	20	Vape Pens	<0.1%	0.0%	<10
CONSTRUCTION & DEMOLITION	4.5%	2.4%	1,340	R/C Special Waste	0.5%	0.3%	140
Concrete	<0.1%	NA	<10	RESIDUE	19.6%	2.4%	5,780
Asphalt Paving	<0.1%	NA	<10	Textiles	7.7%	1.4%	2,260
Asphalt Roofing	<0.1%	0.0%	<10	Mixed Residue	11.9%	1.6%	3,520
Clean Recyclable Wood (non-treated)	<0.1%	0.1%	30	TOTAL	100.0%		29,440
Clean Gypsum Board	<0.1%	NA	<10				
Rock, Soil, and Fines	1.6%	1.2%	460				
R/C C&D	2.9%	2.0%	850				

Note: Composition based on 32 samples.


Commercial Waste Composition 2022

Material Components	Composition	+/-	Annual Tons	Material Components	Composition	+/-	Annual Tons
PAPER	13.0%	1.4%	10,060	METAL	3.6%	0.8%	2,780
Uncoated Corrugated Cardboard (OCC)	2.8%	0.6%	2,190	Tin/Steel Cans	0.5%	0.1%	420
Newspaper	0.2%	0.1%	170	Major Appliances	0.4%	0.7%	330
White Ledger	1.0%	0.3%	750	Other Ferrous	0.4%	0.1%	300
Mixed Paper	4.0%	0.6%	3,070	Aluminum Cans-CRVV	0.4%	0.0%	300
Aseptic Containers/Gable-top Cartons	0.4%	0.1%	320	Aluminum Cans-Non-CRVV	<0.1%	0.0%	60
Remainder/ Composite Paper	4.6%	1.0%	3,560	Other Non-Ferrous	0.5%	0.1%	350
PLASTIC	16.1%	1.2%	12,430	R/C Metal	1.3%	0.4%	1,020
PETE Bottles - CRV	0.7%	0.1%	580	GLASS	3.3%	1.2%	2,550
PETE Bottles - non-CRV	0.2%	0.0%	180	CRV Glass Bottles & Containers (no	0.7%	0.1%	580
Other PETE Containers - non-or-CRV	0.5%	0.1%	360	Non-CRV Glass Bottles & Containers (no	0.5%	0.1%	400
HDPE CRV Containers	<0.1%	0.0%	<50	Wine Bottles	0.4%	0.1%	290
HDPE Colored Containers (non-CRV)	0.3%	0.1%	220	Beer Bottles	0.7%	0.2%	530
HDPE Neutral Containers (non-CRV)	0.5%	0.1%	410	Remainder/Composite Glass	1.0%	1.2%	750
#3-7 CRV Containers	<0.1%	0.1%	<50	HAZARDOUS & E-WASTE	3.2%	1.0%	2,460
#3-7 Non-CRV Containers	1.4%	0.2%	1,100	Paint	<0.1%	0.1%	50
Recyclable Plastic Film	0.8%	0.2%	610	Vehicle and Equip Fluids	<0.1%	NA	<50
Nonrecyclable Plastic Film	7.5%	0.9%	5,790	Used Oil and Oil Filters	<0.1%	0.0%	<50
Durable Plastic Items	1.6%	0.4%	1,220	Large Rechargeable Batteries (Count)	<0.1%	NA	<50
EPS Packaging	0.3%	0.1%	260	Small Rechargeable Batteries (Count)	<0.1%	0.0%	<50
R/C Plastic	2.1%	0.4%	1,640	Household Batteries (Count)	<0.1%	0.0%	<50
ORGANIC	39.1%	2.6%	30,230	Universal Waste Electronic Devices (UWED)	0.3%	0.2%	220
Potentially Donatable-Perishable-Non-Prepared	0.99%	0.4%	760	Covered Electronic Waste	<0.1%	0.0%	<50
Potentially Donatable-Perishable-Prepared	0.7%	0.2%	540	Fluorescent Tubes	<0.1%	0.0%	<50
Potentially Donatable-Non-Perishable	0.4%	0.1%	280	Treated Wood Waste	2.1%	0.9%	1,620
Potentially Donatable-Low Nutritional Value	0.4%	0.2%	280	Propane Gas Cylinders	0.2%	0.2%	130
Inedible	7.3%	1.3%	5,620	Pharmaceuticals	<0.1%	0.0%	<50
Not Donatable but Compostable	15.6%	1.9%	12,020	Sharps (Count/ Photo)	<0.1%	0.0%	<50
Green Waste	3.2%	1.4%	2,500	All Other HHW	0.5%	0.4%	380
Manures	0.4%	0.4%	310	SPECIAL	3.2%	1.1%	2,500
Compostable Plastics	<0.1%	0.0%	<50	Bulky Items	1.3%	0.7%	1,030
Compostable Paper-Packaging	1.9%	0.4%	1,440	Mattresses, Box Springs, Futon Mattresses	<0.1%	0.1%	<50
Other Compostable Paper	8.1%	0.7%	6,240	Tires	0.7%	0.6%	530
R/C Organics	0.3%	0.2%	200	Vape Pens	<0.1%	0.0%	<50
CONSTRUCTION & DEMOLITION	8.2%	2.7%	6,310	R/C Special Waste	1.1%	0.6%	860
Concrete	0.2%	0.2%	130	RESIDUE	10.3%	1.2%	7,930
Asphalt Paving	<0.1%	NA	<50	Textiles	3.0%	0.8%	2,340
Asphalt Roofing	0.9%	0.9%	680	Mixed Residue	7.2%	0.9%	5,590
Clean Recyclable Wood (non-treated)	1.1%	0.7%	880	TOTAL	100.0%		77,250
Clean Gypsum Board	2.2%	1.7%	1,690				
Rock, Soil, and Fines	0.3%	0.3%	260				
R/C C&D	3.4%	1.3%	2,660				

Note: Composition based on 118 samples.

Self Hauled Waste Composition 2022

Material Components	Composition	Annual Tons	Material Components	Composition	Annual Tons
PAPER	0.7%	610	METAL	4.6%	4,180
Uncoated Corrugated Cardboard (OCC)	0.3%	270	Tin/Steel Cans	<0.1%	<50
Newspaper	<0.1%	<50	Major Appliances	0.2%	180
White Ledger	<0.1%	<50	Other Ferrous	4.1%	3,770
Mixed Paper	0.3%	290	Aluminum Cans-CRV	<0.1%	<50
Aseptic Containers/Gable-top Cartons	<0.1%	<50	Aluminum Cans-Non-CRV	<0.1%	<50
Remainder/ Composite Paper	<0.1%	<50	Other Non-Ferrous	0.2%	160
PLASTIC	2.1%	1,930	R/C Metal	<0.1%	<50
PETE Bottles - CRV	<0.1%	<50	GLASS	1.9%	1,720
PETE Bottles - non-CRV	<0.1%	<50	CRV Glass Bottles & Containers (no	0.3%	260
Other PETE Containers - non-or-CRV	<0.1%	<50	Non-CRV Glass Bottles & Containers (no	<0.1%	<50
HDPE CRV Containers	<0.1%	<50	Wine Bottles	0.4%	390
HDPE Colored Containers (non-CRV)	<0.1%	<50	Beer Bottles	<0.1%	<50
HDPE Neutral Containers (non-CRV)	<0.1%	<50	Remainder/Composite Glass	1.1%	1,040
#3-7 CRV Containers	<0.1%	<50	HAZARDOUS & E-WASTE	3.3%	3,030
#3-7 Non-CRV Containers	<0.1%	<50	Paint	<0.1%	<50
Recyclable Plastic Film	<0.1%	<50	Vehicle and Equip Fluids	<0.1%	<50
Nonrecyclable Plastic Film	<0.1%	<50	Used Oil and Oil Filters	<0.1%	<50
Durable Plastic Items	2.0%	1,780	Large Rechargeable Batteries (Count)	<0.1%	<50
EPS Packaging	<0.1%	<50	Small Rechargeable Batteries (Count)	<0.1%	<50
R/C Plastic	<0.1%	60	Household Batteries (Count)	<0.1%	<50
ORGANIC	3.1%	2,870	Universal Waste Electronic Devices (UWED)	0.1%	100
Potentially Donatable-Perishable-Non-Prepared	<0.1%	<50	Covered Electronic Waste	<0.1%	<50
Potentially Donatable-Perishable-Prepared	<0.1%	<50	Fluorescent Tubes	<0.1%	<50
Potentially Donatable-Non-Perishable	<0.1%	<50	Treated Wood Waste	2.7%	2,440
Potentially Donatable-Low Nutritional Value	<0.1%	<50	Propane Gas Cylinders	0.5%	470
Inedible	0.4%	350	Pharmaceuticals	<0.1%	<50
Not Donatable but Compostable	<0.1%	70	Sharps (Count/ Photo)	<0.1%	<50
Green Waste	0.7%	650	All Other HHW	<0.1%	<50
Manures	1.9%	1,700	SPECIAL	5.3%	4,850
Compostable Plastics	<0.1%	<50	Bulky Items	4.6%	4,160
Compostable Paper-Packaging	<0.1%	<50	Mattresses, Box Springs, Futon Mattresses	0.4%	380
Other Compostable Paper	0.1%	100	Tires	<0.1%	<50
R/C Organics	<0.1%	<50	Vape Pens	<0.1%	<50
CONSTRUCTION & DEMOLITION	28.5%	25,970	R/C Special Waste	0.3%	310
Concrete	1.3%	1,180	RESIDUE	50.5%	46,070
Asphalt Paving	<0.1%	<50	Textiles	0.5%	440
Asphalt Roofing	10.3%	9,360	Mixed Residue	50.0%	45,630
Clean Recyclable Wood (non-treated)	14.2%	12,970	TOTAL	100.0%	91,230
Clean Gypsum Board	0.9%	860	Note: Composition based on visual characterization of 317 self hauled waste loads.		
Rock, Soil, and Fines	0.9%	790			
R/C C&D	0.9%	810			



Appendix C
Detailed Waste Composition Comparisons by Sector
2022 vs 2014

Overall County Waste Composition – 2022 vs 2014 vs 2007

Material Components	Mean Composition		
	2022	2014	2007
PAPER	7.7%	11.4%	11.9%
Uncoated Corrugated Cardboard (OCC)	1.4%	2.3%	2.0%
Newspaper	0.2%	0.7%	1.7%
White Ledger	0.4%	1.5%	0.6%
Mixed Paper ^{1,2}	3.3%	6.6%	5.7%
Remainder/ Composite Paper ³	2.4%	0.3%	1.9%
GLASS	3.0%	3.0%	2.6%
CRV/Non-CRV Glass Bottles & Containers	2.1%	2.4%	1.5%
Remainder/Composite Glass	0.9%	0.6%	1.1%
METAL	3.8%	3.2%	3.9%
Tin/Steel Cans	0.5%	0.8%	0.5%
Major Appliances	0.2%	0.1%	<0.1%
Other Ferrous	1.5%	1.1%	1.9%
Aluminum Cans-CRV	0.3%	0.2%	0.2%
Aluminum Cans-Non-CRV	<0.1%	<0.1%	<0.1%
Other Non-Ferrous	0.4%	0.6%	0.3%
R/C Metal	0.8%	0.4%	0.9%
PLASTIC	10.0%	14.1%	7.4%
PETE Bottles -CRV	0.5%	1.0%	0.4%
PETE Bottles - non-CRV	0.2%	<0.1%	<0.1%
Other PETE Containers - non-or-CRV	0.4%	0.7%	<0.1%
HDPE CRV Containers	<0.1%	0.9%	0.5%
HDPE Colored Containers (non-CRV)	0.3%	<0.1%	<0.1%
HDPE Neutral Containers (non-CRV)	0.3%	<0.1%	<0.1%
#3-7 CRV Containers	<0.1%	1.0%	0.4%
#3-7 Non-CRV Containers	0.9%	<0.1%	<0.1%
Recyclable Plastic Film	0.4%	4.4%	3.0%
Nonrecyclable Plastic Film	4.0%	2.3%	1.2%
Durable Plastic Items	1.5%	1.8%	0.3%
R/C Plastic ⁴	1.6%	2.0%	1.5%
ORGANICS	30.0%	32.4%	36.4%
Food	20.7%	16.3%	21.4%
Green Waste	1.9%	4.5%	6.1%
Manures	0.7%	<0.1%	0.2%
Compostable Paper ⁵	6.4%	7.4%	4.4%
R/C Organics ⁶	0.3%	4.1%	4.3%
CONSTRUCTION & DEMOLITION (C&D)	12.2%	16.1%	21.9%
Concrete	0.5%	0.5%	1.6%
Asphalt Paving	<0.1%	<0.1%	0.5%
Asphalt Roofing	3.3%	0.2%	2.1%
Clean Recyclable Wood (non-treated)	4.7%	5.6%	6.8%
Clean Gypsum Board	1.1%	2.3%	1.7%
Rock, Soil, and Fines	0.6%	6.1%	3.3%
R/C C&D	1.9%	1.5%	6.1%
HAZARDOUS & E-WASTE	3.5%	2.5%	6.8%
Paint	<0.1%	<0.1%	0.3%
Vehicle and Equip Fluids	<0.1%	<0.1%	<0.1%
Used Oil and Oil Filters	<0.1%	<0.1%	<0.1%
Large Rechargeable Batteries (Count)	<0.1%	<0.1%	<0.1%
Small Rechargeable Batteries (Count)	<0.1%	<0.1%	<0.1%
Household Batteries (Count)	<0.1%	<0.1%	<0.1%
Universal Waste Electronic Devices (UWED)	0.8%	0.3%	0.3%
Covered Electronic Waste	0.1%	0.5%	0.3%
Fluorescent Tubes	<0.1%	<0.1%	<0.1%
Treated Wood Waste	2.0%	1.5%	5.5%
All Other HHW ⁷	0.5%	<0.1%	0.3%
SPECIAL	3.3%	1.6%	1.7%
Bulky Items ⁸	2.2%	1.5%	1.1%
Tires	0.4%	<0.1%	0.3%
R/C Special Waste ⁹	0.7%	<0.1%	0.3%
RESIDUE	26.6%	15.7%	7.4%
Textiles	3.7%	4.7%	4.3%
Mixed Residue	22.8%	10.9%	3.1%
TOTALS	100.0%	100.0%	100.0%

Single Family Residential Waste Composition – 2022 vs 2014 vs 2007

Material Components	Mean Composition		
	2022	2014	2007
PAPER	9.0%	9.6%	12.6%
Uncoated Corrugated Cardboard (OCC)	0.8%	1.5%	1.6%
Newspaper	0.4%	0.9%	2.1%
White Ledger	0.3%	0.8%	0.7%
Mixed Paper ^{1,2}	5.0%	6.1%	7.3%
Remainder/ Composite Paper ³	2.5%	0.3%	1.0%
GLASS	3.3%	3.5%	2.1%
CRV/Non-CRV Glass Bottles & Containers	2.5%	3.2%	1.8%
Remainder/Composite Glass	0.7%	0.3%	0.2%
METAL	3.4%	3.2%	3.5%
Tin/Steel Cans	0.7%	1.0%	0.6%
Major Appliances	<0.1%	<0.1%	<0.1%
Other Ferrous	0.5%	0.8%	1.5%
Aluminum Cans-CRV	0.4%	0.2%	0.2%
Aluminum Cans-Non-CRV	0.2%	<0.1%	<0.1%
Other Non-Ferrous	0.6%	0.8%	0.3%
R/C Metal	1.0%	0.4%	1.0%
PLASTIC	12.0%	15.2%	8.5%
PETE Bottles -CRV	0.7%	0.7%	0.4%
PETE Bottles - non-CRV	0.3%	0.3%	0.2%
Other PETE Containers - non-or-CRV	0.6%	0.9%	0.2%
HDPE CRV Containers	<0.1%	0.1%	0.1%
HDPE Colored Containers (non-CRV)	0.3%	0.7%	0.4%
HDPE Neutral Containers (non-CRV)	0.3%	0.2%	0.1%
#3-7 CRV Containers	<0.1%	<0.1%	<0.1%
#3-7 Non-CRV Containers	1.3%	1.1%	0.5%
Recyclable Plastic Film	0.4%	4.8%	0.3%
Nonrecyclable Plastic Film	4.9%	2.9%	4.1%
Durable Plastic Items	1.1%	1.9%	0.8%
R/C Plastic ⁴	2.1%	1.7%	1.5%
ORGANICS	45.0%	40.1%	52.9%
Food	32.8%	20.4%	35.5%
Green Waste	2.2%	3.8%	3.8%
Manures	0.2%	0.2%	0.2%
Compostable Paper ⁵	9.3%	8.5%	6.4%
R/C Organics ⁶	0.5%	7.2%	7.1%
CONSTRUCTION & DEMOLITION (C&D)	3.5%	12.4%	6.3%
Concrete	0.3%	0.4%	0.5%
Asphalt Paving	<0.1%	<0.1%	0.1%
Asphalt Roofing	0.2%	0.5%	<0.1%
Clean Recyclable Wood (non-treated)	0.6%	1.8%	0.9%
Clean Gypsum Board	0.7%	0.5%	0.6%
Rock, Soil, and Fines	0.4%	8.5%	2.1%
R/C C&D	1.4%	0.8%	2.0%
HAZARDOUS & E-WASTE	2.6%	1.8%	2.9%
Paint	0.1%	<0.1%	0.1%
Vehicle and Equip Fluids	<0.1%	<0.1%	<0.1%
Used Oil and Oil Filters	<0.1%	<0.1%	<0.1%
Large Rechargeable Batteries (Count)	<0.1%	<0.1%	<0.1%
Small Rechargeable Batteries (Count)	<0.1%	<0.1%	<0.1%
Household Batteries (Count)	<0.1%	<0.1%	<0.1%
Universal Waste Electronic Devices (UWED)	0.8%	0.3%	0.5%
Covered Electronic Waste	<0.1%	0.2%	0.6%
Fluorescent Tubes	<0.1%	<0.1%	<0.1%
Treated Wood Waste	1.2%	1.1%	1.3%
All Other HHW ⁷	0.4%	<0.1%	0.4%
SPECIAL	1.2%	0.2%	0.3%
Bulky Items ⁸	0.4%	0.1%	0.1%
Tires	<0.1%	<0.1%	0.1%
R/C Special Waste ⁹	0.8%	<0.1%	0.1%
RESIDUE	20.0%	13.9%	10.8%
Textiles	5.9%	4.5%	4.7%
Mixed Residue	14.1%	9.4%	6.1%
TOTALS	100.0%	100.0%	100.0%

Multi-Family Residential Waste Composition – 2022 vs 2014

Material Components	Mean Composition	
	2022	2014
PAPER	10.3%	15.7%
Uncoated Corrugated Cardboard (OCC)	2.7%	1.7%
Newspaper	0.4%	0.7%
White Ledger	0.5%	1.5%
Mixed Paper ^{1,2}	4.2%	10.8%
Remainder/ Composite Paper ³	2.4%	0.9%
GLASS	4.4%	5.1%
CRV/Non-CRV Glass Bottles & Containers	4.0%	4.8%
Remainder/Composite Glass	0.4%	0.3%
METAL	2.9%	4.3%
Tin/Steel Cans	0.6%	1.3%
Major Appliances	<0.1%	<0.1%
Other Ferrous	0.3%	0.7%
Aluminum Cans-CRV	0.4%	0.3%
Aluminum Cans-Non-CRV	<0.1%	<0.1%
Other Non-Ferrous	0.4%	0.6%
R/C Metal	1.1%	1.2%
PLASTIC	10.8%	17.0%
PETE Bottles -CRV	0.7%	1.7%
PETE Bottles - non-CRV	0.4%	0.5%
Other PETE Containers - non-or-CRV	0.4%	0.9%
HDPE CRV Containers	<0.1%	<0.1%
HDPE Colored Containers (non-CRV)	0.8%	1.0%
HDPE Neutral Containers (non-CRV)	0.3%	0.3%
#3-7 CRV Containers	<0.1%	<0.1%
#3-7 Non-CRV Containers	1.1%	1.4%
Recyclable Plastic Film	0.5%	3.5%
Nonrecyclable Plastic Film	3.6%	3.3%
Durable Plastic Items	1.0%	1.7%
R/C Plastic ⁴	1.9%	2.5%
ORGANICS	34.1%	36.6%
Food	26.5%	19.4%
Green Waste	1.2%	2.9%
Manures	<0.1%	<0.1%
Compostable Paper ⁵	6.2%	6.2%
R/C Organics ⁶	<0.1%	8.1%
CONSTRUCTION & DEMOLITION (C&D)	4.5%	6.9%
Concrete	<0.1%	<0.1%
Asphalt Paving	<0.1%	<0.1%
Asphalt Roofing	<0.1%	<0.1%
Clean Recyclable Wood (non-treated)	<0.1%	1.7%
Clean Gypsum Board	<0.1%	0.1%
Rock, Soil, and Fines	1.6%	2.8%
R/C C&D	2.9%	2.2%
HAZARDOUS & E-WASTE	8.3%	1.8%
Paint	0.1%	0.1%
Vehicle and Equip Fluids	<0.1%	<0.1%
Used Oil and Oil Filters	<0.1%	<0.1%
Large Rechargeable Batteries (Count)	<0.1%	<0.1%
Small Rechargeable Batteries (Count)	<0.1%	<0.1%
Household Batteries (Count)	<0.1%	<0.1%
Universal Waste Electronic Devices (UWED)	4.3%	<0.1%
Covered Electronic Waste	0.9%	0.8%
Fluorescent Tubes	0.2%	<0.1%
Treated Wood Waste	2.6%	0.7%
All Other HHW ⁷	0.1%	<0.1%
SPECIAL	5.1%	0.6%
Bulky Items ⁸	2.7%	0.5%
Tires	2.0%	<0.1%
R/C Special Waste ⁹	0.5%	0.1%
RESIDUE	19.6%	12.0%
Textiles	7.7%	5.3%
Mixed Residue	11.9%	6.7%
TOTALS	100.0%	100.0%

Commercial Waste Composition – 2022 vs 2014

Material Components	Mean Composition	
	2022	2014
PAPER	13.0%	14.4%
Uncoated Corrugated Cardboard (OCC)	2.8%	3.5%
Newspaper	0.2%	0.8%
White Ledger	1.0%	2.2%
Mixed Paper ^{1,2}	4.0%	7.5%
Remainder/ Composite Paper ³	5.0%	0.4%
GLASS	3.3%	3.0%
CRV/Non-CRV Glass Bottles & Containers	2.3%	2.5%
Remainder/Composite Glass	1.0%	0.5%
METAL	3.6%	3.7%
Tin/Steel Cans	0.5%	0.8%
Major Appliances	0.4%	<0.1%
Other Ferrous	0.4%	1.4%
Aluminum Cans-CRV	0.4%	0.2%
Aluminum Cans-Non-CRV	<0.1%	<0.1%
Other Non-Ferrous	0.5%	0.7%
R/C Metal	1.3%	0.4%
PLASTIC	16.1%	18.3%
PETE Bottles -CRV	0.7%	0.9%
PETE Bottles - non-CRV	0.2%	0.3%
Other PETE Containers - non-or-CRV	0.5%	0.9%
HDPE CRV Containers	<0.1%	<0.1%
HDPE Colored Containers (non-CRV)	0.3%	0.7%
HDPE Neutral Containers (non-CRV)	0.5%	0.3%
#3-7 CRV Containers	<0.1%	<0.1%
#3-7 Non-CRV Containers	1.4%	1.2%
Recyclable Plastic Film	0.8%	5.9%
Nonrecyclable Plastic Film	7.5%	2.7%
Durable Plastic Items	1.6%	2.5%
R/C Plastic ⁴	2.5%	2.9%
ORGANICS	39.1%	36.9%
Food	25.3%	19.5%
Green Waste	3.2%	4.8%
Manures	0.4%	<0.1%
Compostable Paper ⁵	9.9%	9.9%
R/C Organics ⁶	0.3%	2.8%
CONSTRUCTION & DEMOLITION (C&D)	8.2%	9.7%
Concrete	0.2%	0.3%
Asphalt Paving	<0.1%	<0.1%
Asphalt Roofing	0.9%	<0.1%
Clean Recyclable Wood (non-treated)	1.1%	3.0%
Clean Gypsum Board	2.2%	0.7%
Rock, Soil, and Fines	0.3%	4.3%
R/C C&D	3.4%	1.3%
HAZARDOUS & E-WASTE	3.2%	4.2%
Paint	<0.1%	<0.1%
Vehicle and Equip Fluids	<0.1%	<0.1%
Used Oil and Oil Filters	<0.1%	<0.1%
Large Rechargeable Batteries (Count)	<0.1%	<0.1%
Small Rechargeable Batteries (Count)	<0.1%	<0.1%
Household Batteries (Count)	<0.1%	<0.1%
Universal Waste Electronic Devices (UWED)	0.3%	0.5%
Covered Electronic Waste	<0.1%	0.9%
Fluorescent Tubes	<0.1%	<0.1%
Treated Wood Waste	2.1%	2.6%
All Other HHW ⁷	0.7%	<0.1%
SPECIAL	3.2%	0.6%
Bulky Items ⁸	1.4%	0.5%
Tires	0.7%	<0.1%
R/C Special Waste ⁹	1.2%	<0.1%
RESIDUE	10.3%	9.2%
Textiles	3.0%	3.9%
Mixed Residue	7.2%	5.3%
TOTALS	100.0%	100.0%

Self-Hauled Waste Composition – 2022 vs 2014

Material Components	Mean Composition	
	2022	2014
PAPER	0.7%	6.2%
Uncoated Corrugated Cardboard (OCC)	0.3%	0.7%
Newspaper	<0.1%	<0.1%
White Ledger	<0.1%	1.3%
Mixed Paper ^{1,2}	0.3%	4.2%
Remainder/ Composite Paper ³	<0.1%	<0.1%
GLASS	1.9%	1.7%
CRV/Non-CRV Glass Bottles & Containers	0.7%	0.1%
Remainder/Composite Glass	1.1%	1.6%
METAL	4.6%	1.7%
Tin/Steel Cans	<0.1%	<0.1%
Major Appliances	0.2%	0.5%
Other Ferrous	4.1%	1.2%
Aluminum Cans-CRV	<0.1%	<0.1%
Aluminum Cans-Non-CRV	<0.1%	<0.1%
Other Non-Ferrous	0.2%	<0.1%
R/C Metal	<0.1%	<0.1%
PLASTIC	2.1%	0.8%
PETE Bottles -CRV	<0.1%	<0.1%
PETE Bottles - non-CRV	<0.1%	<0.1%
Other PETE Containers - non-or-CRV	<0.1%	<0.1%
HDPE CRV Containers	<0.1%	<0.1%
HDPE Colored Containers (non-CRV)	<0.1%	<0.1%
HDPE Neutral Containers (non-CRV)	<0.1%	<0.1%
#3-7 CRV Containers	<0.1%	<0.1%
#3-7 Non-CRV Containers	<0.1%	<0.1%
Recyclable Plastic Film	<0.1%	0.2%
Nonrecyclable Plastic Film	<0.1%	<0.1%
Durable Plastic Items	2.0%	<0.1%
R/C Plastic ⁴	<0.1%	0.5%
ORGANICS	3.1%	6.3%
Food	0.5%	<0.1%
Green Waste	0.7%	5.5%
Manures	1.9%	<0.1%
Compostable Paper ⁵	0.1%	<0.1%
R/C Organics ⁶	<0.1%	0.8%
CONSTRUCTION & DEMOLITION (C&D)	28.5%	41.1%
Concrete	1.3%	1.1%
Asphalt Paving	<0.1%	<0.1%
Asphalt Roofing	10.3%	<0.1%
Clean Recyclable Wood (non-treated)	14.2%	19.7%
Clean Gypsum Board	0.9%	10.1%
Rock, Soil, and Fines	0.9%	7.1%
R/C C&D	0.9%	3.1%
HAZARDOUS & E-WASTE	3.3%	<0.1%
Paint	<0.1%	<0.1%
Vehicle and Equip Fluids	<0.1%	<0.1%
Used Oil and Oil Filters	<0.1%	<0.1%
Large Rechargeable Batteries (Count)	<0.1%	<0.1%
Small Rechargeable Batteries (Count)	<0.1%	<0.1%
Household Batteries (Count)	<0.1%	<0.1%
Universal Waste Electronic Devices (UWED)	0.1%	<0.1%
Covered Electronic Waste	<0.1%	<0.1%
Fluorescent Tubes	<0.1%	<0.1%
Treated Wood Waste	2.7%	<0.1%
All Other HHW ⁷	0.5%	<0.1%
SPECIAL	5.3%	6.7%
Bulky Items ⁸	5.0%	6.7%
Tires	<0.1%	<0.1%
R/C Special Waste ⁹	0.3%	<0.1%
RESIDUE	50.5%	35.6%
Textiles	0.5%	6.9%
Mixed Residue	50.0%	28.7%
TOTALS	100.0%	100.0%

Note

- 1 Mixed Paper includes Paper Bags/Kraft Paper, Colored Ledger, Computer Paper, Other Office Printouts, Magazines & Catalogs, Phone Books & Directories, and Other Recyclable Paper
- 2 In 2014, Gable-top Cartons were classified as Other Recyclable Paper which is included in Mixed Paper in 2022.
- 3 In 2014, Aseptic Containers were classified as Remander/Composite Paper but were classified as Mixed Paper in 2022.
- 4 R/C Plastic includes EPS Packaging
- 5 Compostable Paper includes Compostable Paper Packaging and Other Compostable Paper
- 6 R/C Organics includes Compostable Plastic
- 7 All Other Hazardous includes Propane Gas Cylinders, Pharmaceuticals, and Sharps
- 8 Bulky Items includes Mattresses, Box Springs, Futon Mattresses
- 9 R/C Special Waste includes Vape Pens, Ash, Sewage Solids, Treated Medical Waste, and Industrial Sludge