CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

2015 STATEWIDE WASTE CHARACTERIZATION STUDY

FINAL REPORT

March 15, 2016

MSW CONSULTANTS

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This study would not have been successful without the cooperation and assistance of multiple disposal facilities, recycling facilities, and hauling companies across the State of Connecticut. The MSW Consultants project team would like to thank the following facilities for hosting the field data collection during this project:

- Bristol Resource Recovery Facility (RRF),
- Materials Innovation and Recycling Authority (MIRA) Hartford RRF,
- Covanta-Preston RRF,
- New Haven Municipal Transfer Station,
- Wheelabrator-Bridgeport RRF,
- MIRA Hartford Regional Recycling Center, and
- Willimantic Waste Reduction and Processing Facility.

We would also like to thank the following organizations and individuals for their assistance in collecting wastes from targeted commercial generator sectors:

- Tom DeVivo and Tim DeVivo, Willimantic Waste,
- Ryan Bingham, Winters Bros. Waste Systems of Connecticut, and
- Mike Paine and Ernie Tarca, Paine's Recycling & Disposal Services.

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ES 1. INTRODUCTION

In 2009, the Connecticut Department of Energy and Environmental Protection (DEEP) sponsored an inaugural statewide waste characterization study, the results of which were published in 2010 (2010 Study). This report contains the results of the 2015 Statewide Waste Characterization Study (2015 Study).

The 2015 Study sought to duplicate the methodology of the 2010 Study so that changes in the disposed waste stream could be measured and so that results could inform DEEP's imminent update of the State Solid Waste Management Plan. Accordingly, the 2015 Study captured random samples of wastes from Residential and Industrial/Commercial/Institutional (ICI) generators delivered to five solid waste facilities across the State, including the same four Energy-from-Waste facilities and one transfer station as were captured in the 2010 Study. Additionally, DEEP expanded the 2015 Study scope to include additional sampling and sorting of single stream recyclables at two Material Recovery Facilities (MRFs), as well as targeted sampling of wastes from six specific ICI generator types.

ES 2. RESULTS – WASTE CHARACTERIZATION

ES 2.1. STATEWIDE WASTE COMPOSITION

Figure ES 2-1 shows the composition and tonnage of disposed wastes in 2015, aggregating the Residential and ICI generator sectors. As shown, Paper and Food Waste are the most common material groups.

Figure ES 2-1 Municipal Solid Waste Composition and Quantities Disposed (tons)

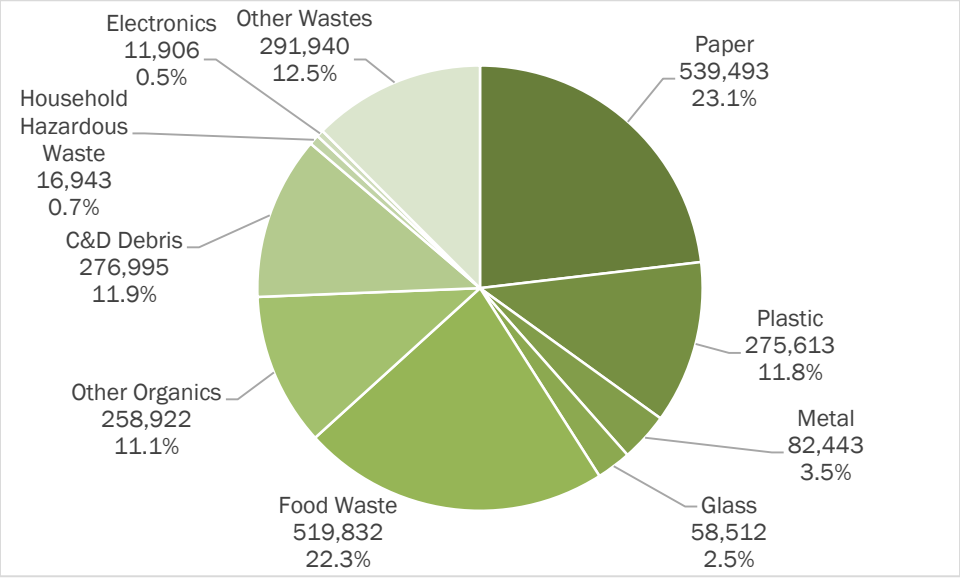


Figure ES 2-2 compares the composition in 2015 with the same result from the 2010 Study. The most noteworthy change in the waste stream since 2010 is the heightened fraction of Food Waste remaining in disposed wastes, along with relatively lower incidence of most other materials. It should be noted that when data are presented in percentages, a significant change in the percent of one fraction of the waste stream automatically results in a change in the percentages of all other materials. For example, the large increase in food waste drives down the percentage composition of other materials.

Figure ES 2-2 Comparison of 2010 and 2015 MSW Composition

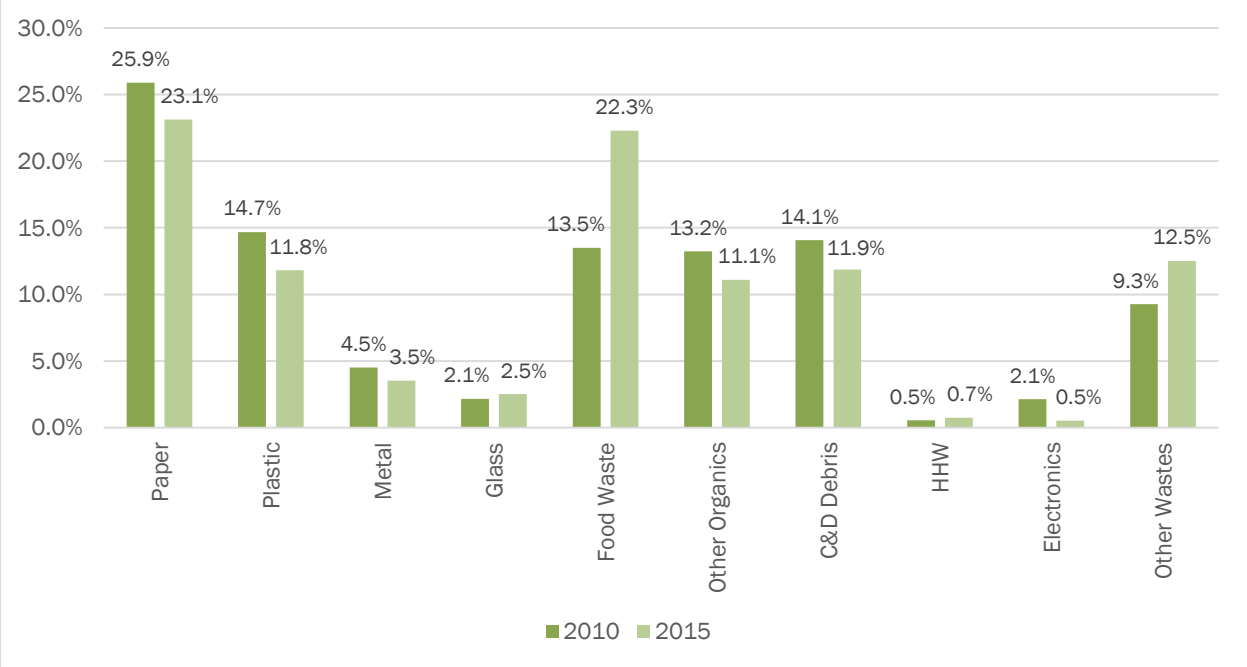
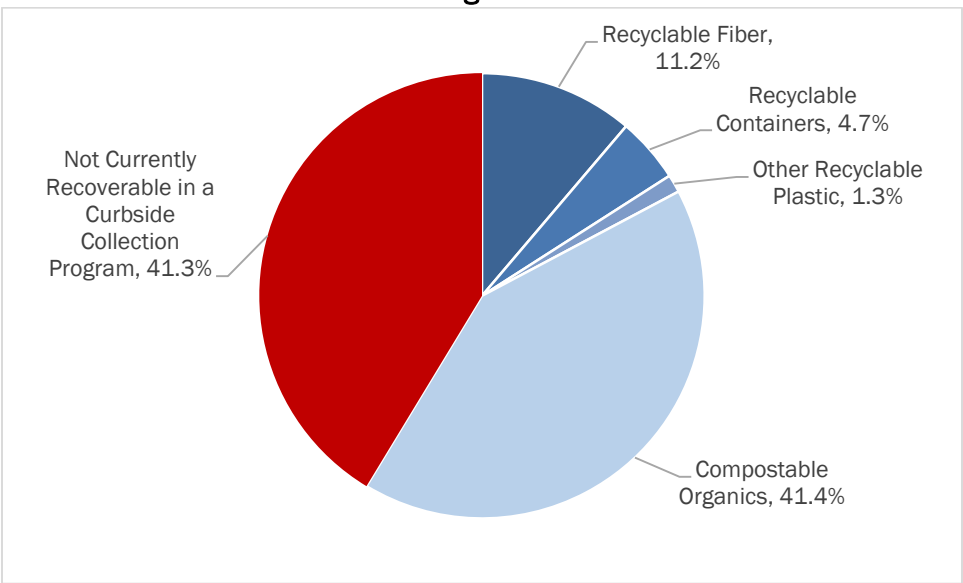


Figure ES 2-3 shows the breakdown of recoverable materials within the disposed MSW stream. This figure categorizes materials as they would be separated in a residential curbside program with separate recycling, organics, and trash collection.[1]

Figure ES 2-3 Recoverability of Disposed Wastes in Existing Curbside/On-site Collection Programs



[1] In practice, there are many materials included in the red pie piece in Figure ES 2-3 that, were they source separated and delivered to a recycler or processor, are readily recyclable or otherwise recoverable. This figure intends only to show the limitations of recycling and organics diversion through curbside collection.

The above figure highlights a number of important findings about Connecticut's disposed wastes:

- The fraction of targeted curbside recyclables – dry fiber and plastic, metal and glass containers – remaining in the waste stream is a relatively small piece of the pie at a combined 15.9 percent.
- Compostable organics – which include food wastes, green wastes, and some compostable papers – are quite significant at 41.4 percent. However, it is important to note that these materials may not be easily source-separated prior to disposal, nor separated from disposed wastes such that they could be recovered for feedstock in a plant designed to manage organic wastes.
- Even with significantly enhanced capture of targeted fiber, recyclable containers, and organics, over 41 percent of the disposed waste stream is not readily recyclable in existing curbside (or on-site commercial) recycling programs without:
  - Adding materials to the existing programs
  - Making better use of other outlets for diverting materials (home composting, scrap metal recyclers, reuse stores, etc.)
  - Adding new recycling programs possibly in conjunction with development of local markets to accept such materials

It is also critical to note that the above figure represents the rosiest possible definition of what is "recoverable" in existing programs. To perform this study, manual sorters were trained to separate all items for placement in the correct category, and did not make any adjustments for contamination of sorted materials, nor the ability of a mechanical processing system to accurately separate such materials for recovery. The results of this exercise can be considered an "academic" characterization of the waste stream. Many of the recyclable and compostable organic items would never be recovered or diverted because of contamination, or because they are so intermingled with non-recoverable items prior to placement in the waste receptacle (or as a result of the collection process) that no processing line could economically separate and recover the item.

ES 2.2. WASTE COMPOSITION BY GENERATOR SECTOR

Figure ES 2-4 compares the percentage composition of material groups for Residential and ICI waste. On a percentage basis, it is shown that ICI waste contains a higher incidence of Paper and Food Waste, while the Residential sector disposes a higher percentage of Other Organics (which include yard debris and diapers) and Other Wastes.

Figure ES 2-4 Comparison of Waste Composition by Generator Sector

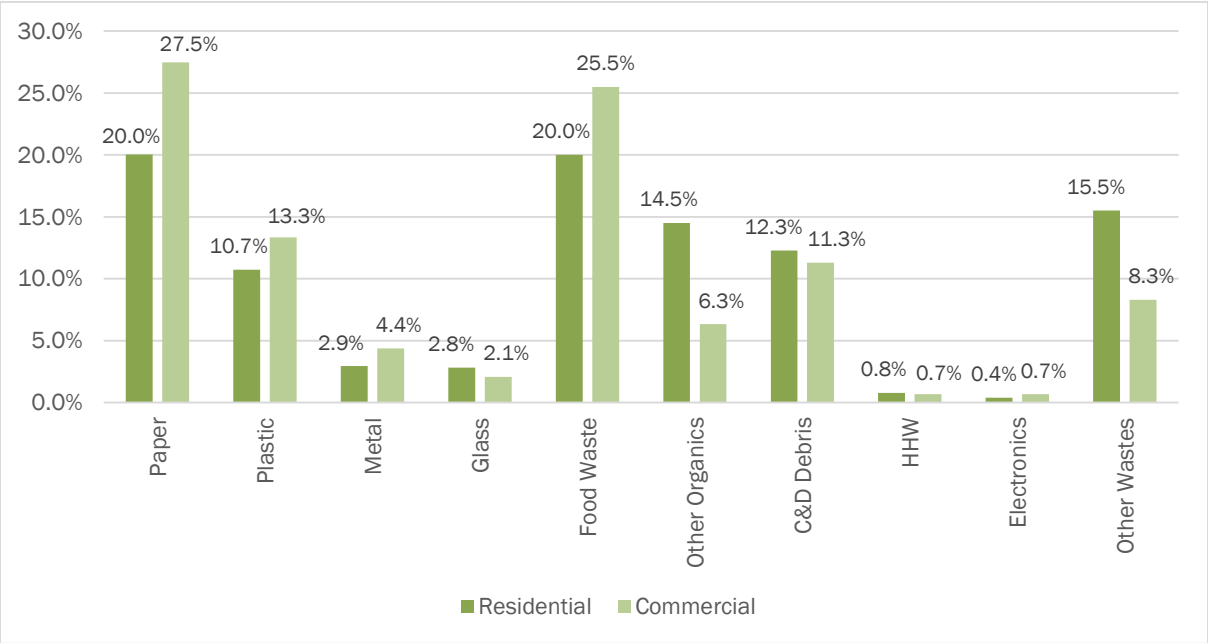


Figure ES 2-5 shows the same results, instead displaying the tonnage of materials disposed. Because of the estimated split between Residential and Commercial tons, the absolute quantity of both Paper and Food Waste is comparable in both generator sectors.

Figure ES 2-5 Comparison of Waste Tonnage by Generator Sector

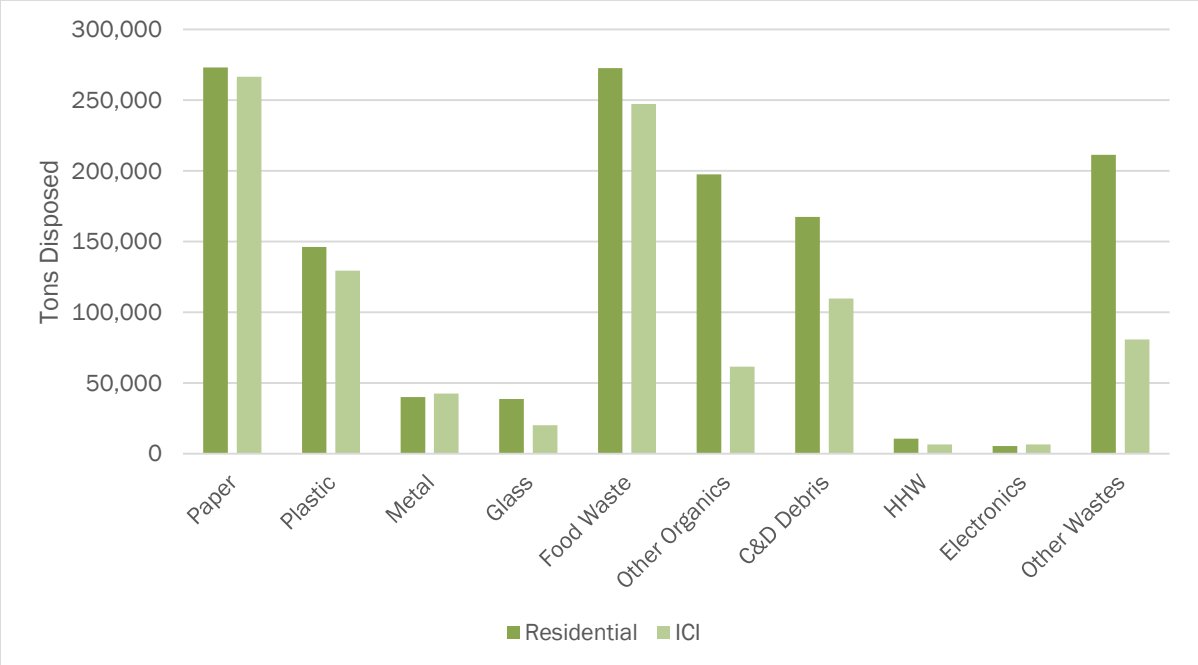
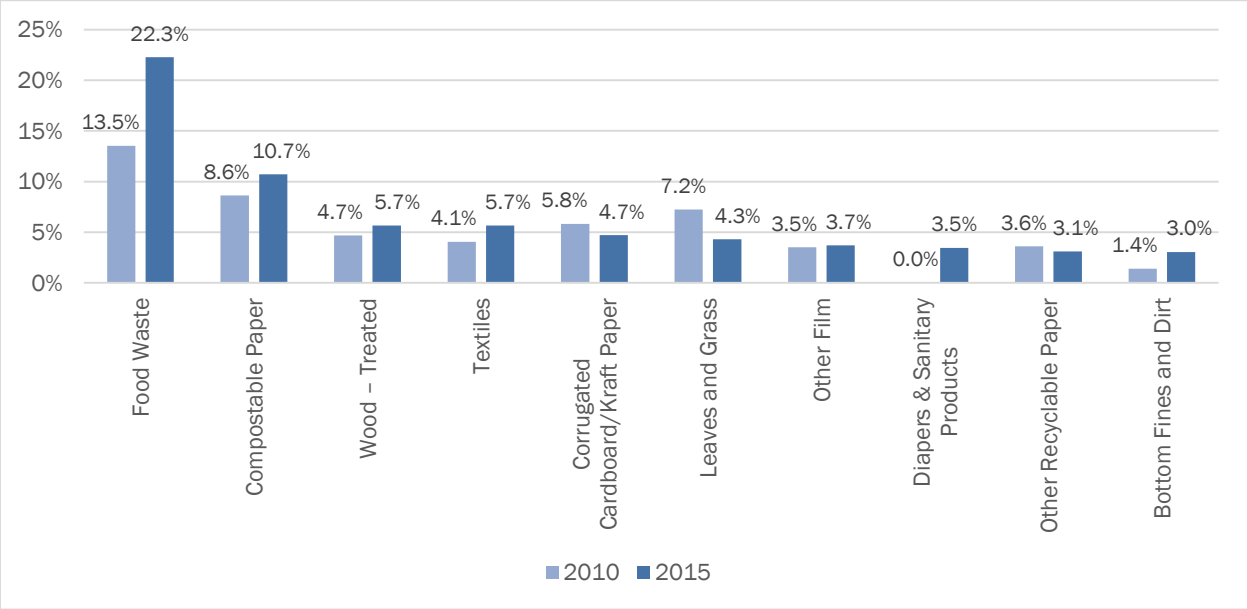


Figure ES 2-6 shows the top 10 most prevalent materials in the MSW stream in both the 2010 and 2015 Studies. As shown, the most prevalent material in both studies was Food Waste and Compostable Paper, although the incidence of both has increased in 2015.

Figure ES 2-6 Comparison of 2015 and 2010 Top 10 Materials



The 2015 Study also provides composition data from samples generated in Urban, Suburban and Rural areas of Connecticut. Ultimately, 192 out of 235 total samples originated in Urban areas, so the results of the 2015 Study should be considered to be more heavily weighted towards these areas. Future studies may seek to capture more samples from Suburban and Rural areas of the state.

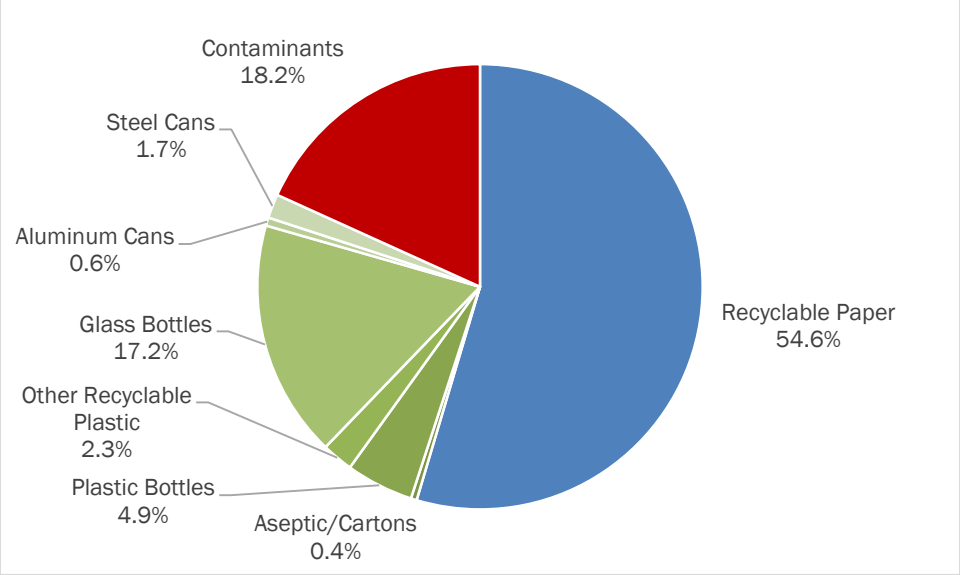
Finally, the body of this report contains results individually for the five disposal facilities that hosted field data collection.

ES 3. RESULTS – SINGLE STREAM RECYCLING COMPOSITION

Single stream recyclables were sampled at two Material Recovery Facilities (MRFs). In the initial sort, any material contained in plastic bags was considered to be a contaminant. However, the bagged wastes were set aside and sorted, and the composition of single stream recyclables was re-calculated as if Bagged Wastes were allowable as targeted recyclables.

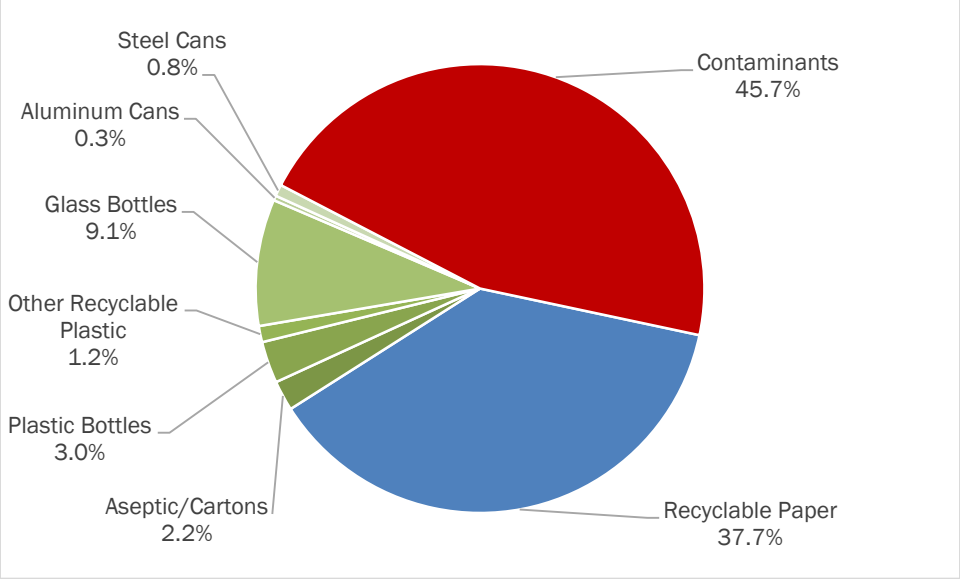
Figure ES 3-1 illustrates the breakdown of recyclable paper (blue), recyclable containers and plastics (green) and contamination (red) in single stream recycling, with Bagged Waste considered to be a contaminant. Recyclable containers comprise just over 27 percent of the total, with glass bottles (including broken glass) the most prevalent container type by weight.

Figure ES 3-1 Single-Stream Recycling Composition (Bagged Waste as Contaminant)



The Bagged Wastes were subsequently analyzed to determine what materials are arriving at single stream MRFs still contained in bags. Figure ES 3-2 shows the incidence of both targeted recyclables and contaminants in Bagged Wastes. As shown, Bagged Wastes were found to be roughly split between trash and recyclables. In practice, some bags contained mostly or entirely recyclables, while other contained mostly or entirely trash. Other bags contained a mix.

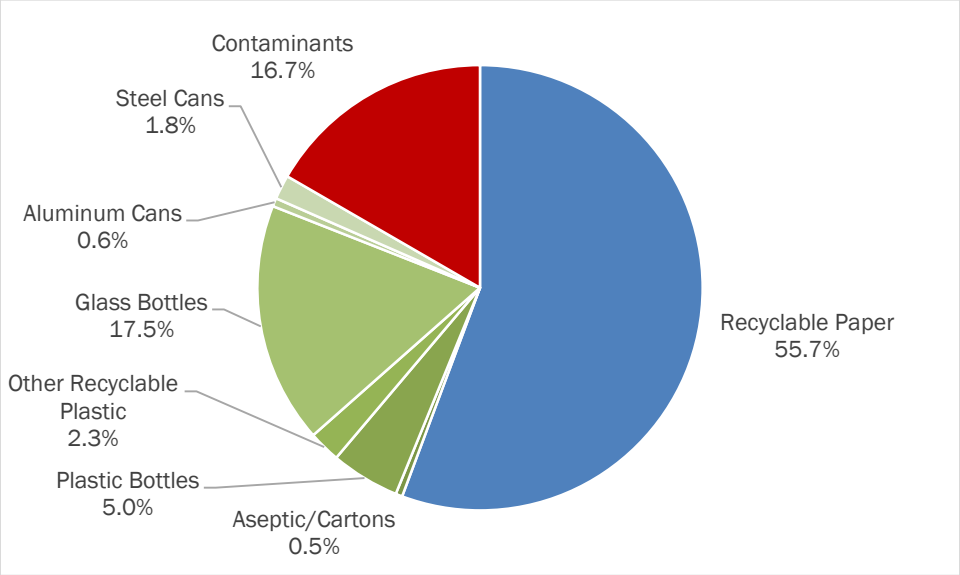
Figure ES 3-2 Composition of Bagged Waste Arriving in Single Stream Loads



If Bagged Wastes are treated as targeted recyclables, the contamination rate is reduced marginally (because recyclable material contained in the bags are captured in the calculation). Figure ES 3-3 restates the breakdown of single stream recyclables to reflect the impact of breaking open and sorting Bagged Wastes into the appropriate recyclable paper, recyclable containers/plastics, or contamination category. As shown, the overall contamination rate drops slightly to 16.7 percent (with bagged newspaper still considered

"contamination"). If bagged newspapers are considered acceptable, then the contamination rate drops to 15.2 percent.

Figure ES 3-3 Single-Stream Recycling Composition (Bagged Waste is Sorted)



The body of the report contains detailed single stream recycling composition as well as comparative composition data for each of the host MRFs. The full report also comments on the incidence of deposit containers in the disposed waste stream and in single stream recyclables.

ES 4. RESULTS – WASTE COMPOSITION BY ICI GENERATOR SECTOR

The 2015 Study analyzed disposed wastes from six ICI generator sectors:

- Grocery Stores
- Restaurants
- Hotels
- Retail Big Box Stores
- Small Retail Stores
- Offices

A snapshot of the recoverability of disposed waste is shown in the next six figures[2] for these ICI generator sectors.[3]

[2] Pie charts in this section use the term "Compostable Organics" to include organic materials – food wastes, green wastes, and low grade papers – that could be composted, digested, or otherwise recovered in a commercial processing facility

[3] It is important to note that the results contained herein, while indicative of the differences in waste composition across various ICI generator types, are based on limited sampling (in some cases very limited) and it is possible that a more comprehensive study would find materially different results.

Figure ES 4-1 Recoverable Fiber, Containers and Organics in Grocery Store Waste

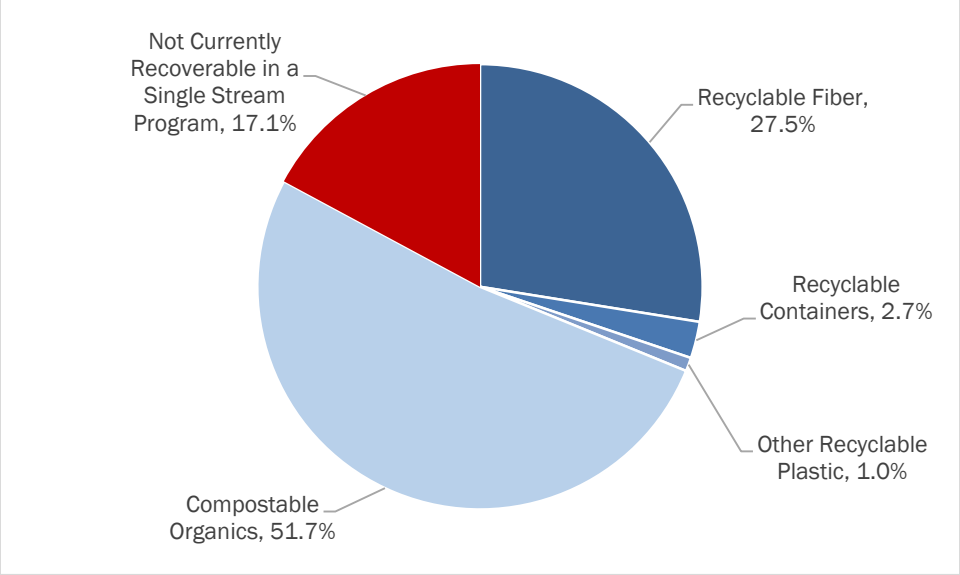


Figure ES 4-2 Recoverable Fiber, Containers and Organics in Restaurant Waste

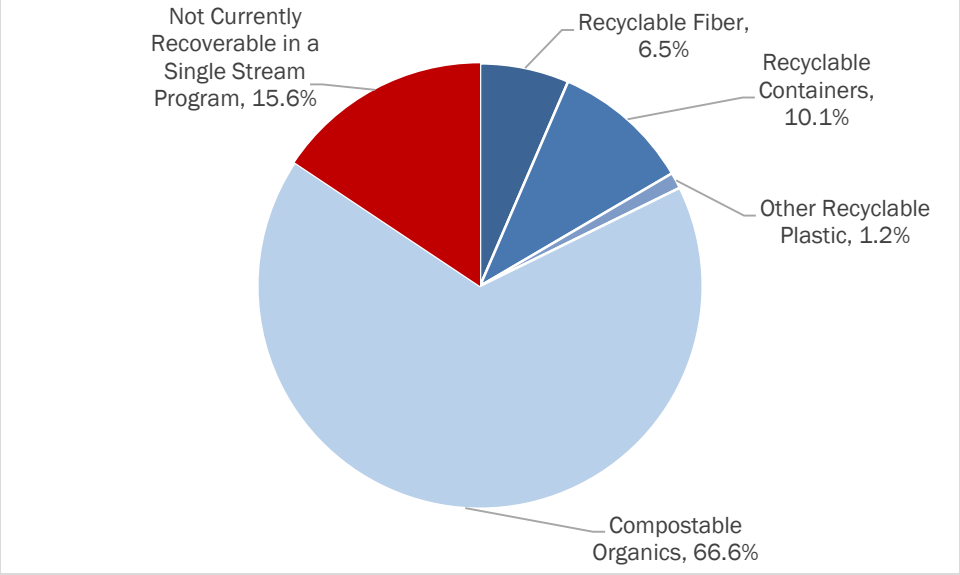


Figure ES 4-3 Recoverable Fiber, Containers and Organics in Hotel Waste

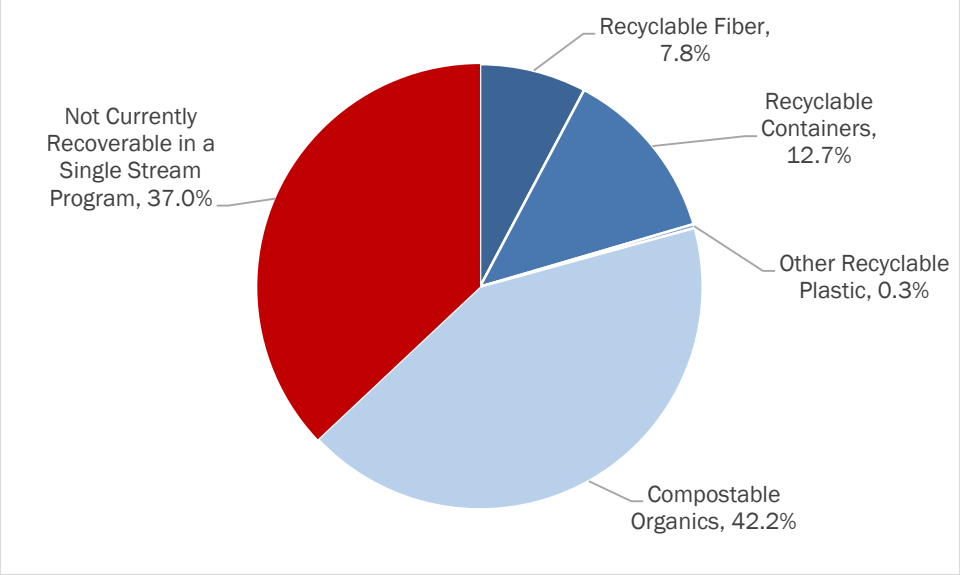


Figure ES 4-4 Recoverable Fiber, Containers and Organics in Retail Big Box Waste

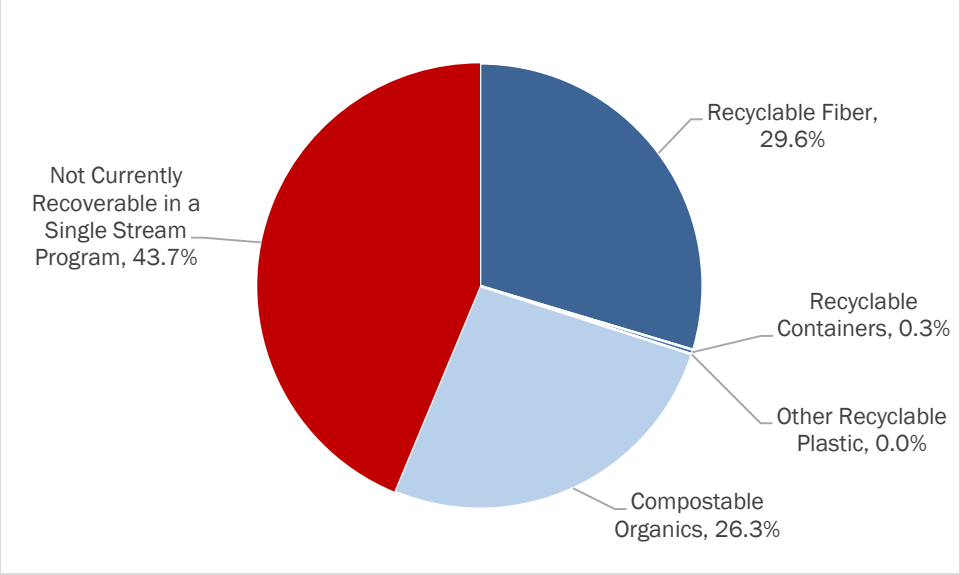


Figure ES 4-5 Recoverable Fiber, Containers and Organics in Small Retail Waste

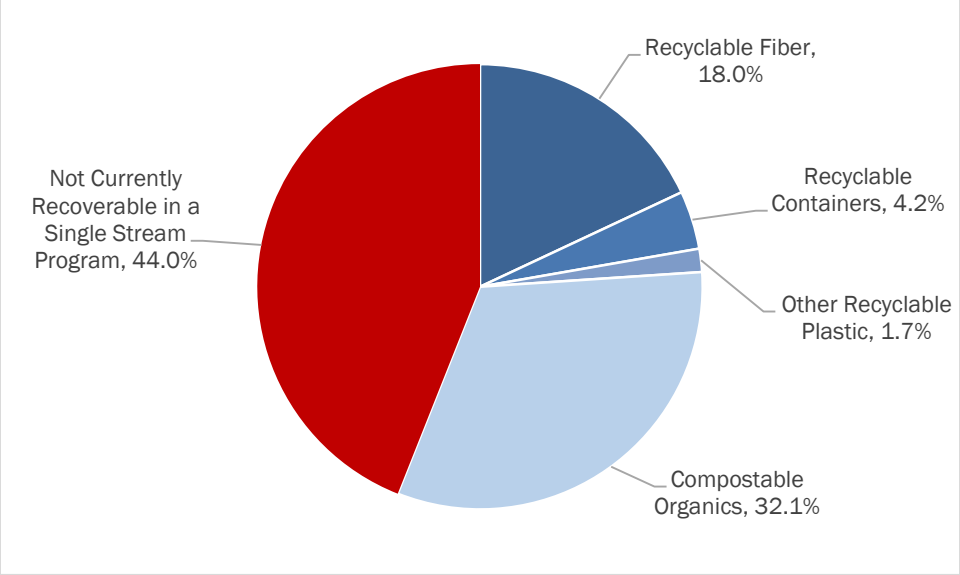
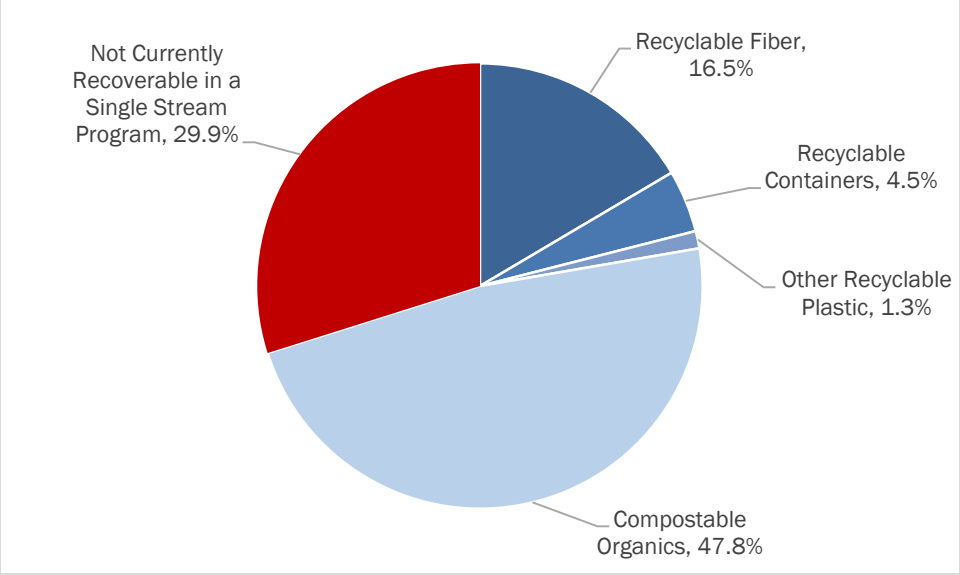


Figure ES 4-6 Recoverable Fiber, Containers and Organics in Office Waste



As shown, the disposed waste profiles for these ICI generator sectors vary significantly, suggesting that recycling and diversion programs must be customized to meet the needs of each sector. Additionally, the maximum achievable diversion rate at each varies significantly.

The full report contains detailed profiles for the targeted ICI sectors, as well as a bar chart showing the five most prevalent materials in the disposed waste of each sector.

1. INTRODUCTION

1.1 BACKGROUND

In 2009, the Connecticut Department of Energy and Environmental Protection (DEEP) sponsored an inaugural statewide waste characterization study to measure the composition of Residential and Industrial/Commercial/Institutional (ICI) municipal solid waste (MSW or "waste") disposed within the State. The results of this study were published in 2010 (2010 Study) and have been used by DEEP and other recycling and waste management program managers, planners, and businesses across Connecticut.

DEEP commissioned the 2015 Statewide Waste Characterization Study (2015 Study) to follow the same methodology as was used in the 2010 Study. The 2015 Study sought to duplicate the methodology of the 2010 Study so that changes in the disposed waste stream could be measured and so that results could inform DEEP's imminent update of the State Solid Waste Management Plan. Additionally, DEEP expanded the 2015 Study scope to include additional sampling and sorting of single stream recyclables at two Material Recovery Facilities (MRFs), as well as targeted sampling of wastes from six specific ICI generators.

1.2 PROJECT TEAM

In 2015, DEEP retained the Project Team of MSW Consultants, LLC, DSM Environmental Services, Inc. (DSM), and Cascadia Consulting Group (Cascadia) to complete a statistically representative update and analysis of Connecticut's disposed waste stream. This Project Team also performed the 2010 Study and was consequently able to assure high continuity of the data collection methods and analysis performed. The roles and responsibilities of each Team member are summarized:

MSW Consultants coordinated the Project Team in all activities and had primary responsibility for:

- Project Management,
- Client Contact,
- Preparation of Study Design,
- Problem Resolution,
- Field Supervision,
- On-site Logistics,
- Sample Selection, Collection, and Sorting,
- Training of Sort Crew,
- Sorting QA/QC,
- Compilation of Sorting Data,
- Preparation of the Interim Report,
- Preparation of the Draft and Final Report.

DSM was responsible for:

- Site Selection Logistics,
- Performance and Analysis of Hauler Surveys to Determine the Residential/ICI Split,
- ICI Special Generator Sampling Plan and Sample Acquisition,
- Monitoring Dedicated Commercial Routes for Generator Samples,
- Review of Interim Report,
- Review of Draft and Final Report.

Cascadia was responsible for:

- Validation of the Sampling Plan,
- Statistical Analysis,
- Overall QA/QC,
- Preparation of Report Tables,
- Report Review.

1.3 COMPARISON TO 2010 STUDY

From the outset, it was the intent of DEEP that the 2015 Study be performed so that the results could be closely compared to the 2010 Study results. In particular, the 2015 Study attempted to follow the 2010 Study methodology to the greatest degree possible. The more closely the 2010 Study methodology could be duplicated, the fewer the number of variables there are that may create differences in results between the two Studies.

This section identifies the similarities and differences between the methodologies used in 2010 and 2015. As shown, most aspects of the field data collection methodology were identical in both studies. Additionally, the 2015 Study was expanded to include three new initiatives that were not performed in 2010. Similarities and differences (including the new initiatives) are described below and addressed in greater detail in the body of the report.

1.3.1 SIMILARITIES BETWEEN STUDIES

- **Host Facilities**: Both the 2010 and 2015 Study performed sampling and sorting at the same host disposal facilities:
  - Bristol Resource Recovery Facility (RRF),
  - Materials Innovation and Recycling Authority (MIRA) Hartford RRF,
  - Covanta-Preston RRF,
  - New Haven Municipal Transfer Station,
  - Wheelabrator-Bridgeport RRF.
- **Definitions of Waste Sectors**: The 2010 and 2015 Studies retained the same two generator sectors: Residential and Institutional/Commercial/Industrial (ICI). Both studies omitted inbound loads that were found to be less than 80 percent pure Residential or ICI. This included all transfer trailer loads because the mix of residential and ICI waste could not be determined.
- **Obtaining Samples from Inbound Trucks**: Both studies relied on systematic sampling protocols to select vehicle for sampling and sorting. Both studies used random grab sampling (assisted by loader operators at each host facility) to obtain materials from the tipped load for sorting.
- **Sample Weights**: Both studies targeted samples between 200 and 250 pounds.
- **Material Categories**: Material categories were substantially identical between the studies. The following minor modifications were incorporated in the 2015 Study:
  - Aseptic boxes and gable top cartons were added as a new category,
  - Food waste *still contained in packaging* was added as a new category to be differentiated from food wastes disposed loose in the waste stream,
  - Flexible (film) plastic packaging (including pouches) was added as a new category,
  - Diapers and sanitary products were added as a new category, and
  - Offshore Cardboard was consolidated into the Old Corrugated Cardboard category.

- **Determination of the Statewide Residential/ICI Split**: In both the 2010 and 2015 Studies, the Project Team performed two days of gate surveys at each host disposal facility to characterize inbound wastes by generator sector. The results of the gate survey were used in both studies to allocate statewide waste disposal between residential generators and ICI generators.

1.3.2 DIFFERENCES BETWEEN THE STUDIES

- **Seasonality of Data Collection**: Field data collection occurred over two seasons in both Studies. However, the 2010 Study observed a more rigorous definition of the winter and fall seasons, collecting data in February-March and October 2009, respectively. Each host facility was sampled once per season in 2009. The 2015 Study also divided data collection into two separate events. The first season was performed over May and June 2015 and represented the spring season. The second season was performed in August and September 2015, reflecting the summer season. Sampling and sorting occurred in both seasons at four of the five host facilities in 2015. Due to factors beyond the control of the Project Team, field data collection was only performed during the summer season at the MIRA Hartford RRF.
- **Characterization of Wastes by Demographic Region**: For most of the samples obtained in the 2015 Study, the Project Team recorded the city or town from which the wastes originated. With input from DEEP, all Connecticut cities and towns were characterized as being *urban*, *suburban*, or *rural*. The 2015 Study consequently estimates disposed waste composition from urban, suburban and rural areas of the state. No comparable results were developed in the 2010 Study.
- **Characterization of Wastes from Targeted ICI Generator Sectors**: The 2015 Study was expanded to allow for additional, targeted analysis of the composition of disposed wastes from six ICI generator sectors. No such generator sector-specific analysis was performed in 2010. The ICI generator sectors targeted in the 2015 Study were:
  - Grocery,
  - Restaurant,
  - Hotel,
  - Retail – Big Box,
  - Retail – Small, and
  - Offices.
- **Single Stream Recycling Composition Study**: The 2015 Study was also expanded to include composition analysis of single stream residential recyclables at two Material Recovery Facilities (MRFs). DEEP and the Project Team believe this is the most comprehensive analysis undertaken by a public entity of single stream recycling to take place in Connecticut to date. The single stream recycling composition analysis was designed to capture a representative sample of residentially generated single stream materials, which were sorted into substantially the same categories as the disposed waste composition analysis. However, the single stream composition analysis utilized several condensed categories of non-targeted materials, as well as several new categories relevant to MRF operators. No composition analysis was performed on single stream recyclables in 2010. The following MRFs hosted single stream composition analysis in the 2015 Study:
  - MIRA Hartford Regional Recycling Center, and
  - Willimantic Waste & Recycling Center, Willimantic.

1.4 REPORT ORGANIZATION

In addition to this Introduction and an Executive Summary (to be developed for the Final Report), the report is divided into the following sections:

- **Methodology:** This section presents an overview of waste generation and disposal data available from disposal facility reports, allocated by direct facility surveys. Also provided in this section is the sampling plan that was developed to guide the study process and to provide statistically defensible data. Additionally, this section summarizes the field data collection methods, and analytical methods applied in the study.
- **Statewide Waste Characterization:** This section presents results about the composition of disposed aggregate statewide waste, as well as the composition by residential and ICI generator sectors. Results are presented in both tabular and graphical format to highlight findings of interest. Additionally, results between generator sectors are compared, along with comparisons amongst host facilities and also between the urban, suburban and rural areas of the state. Further, a comparison with the 2010 Study has been included to indicate how the waste stream has changed or remained the same over time.
- **Single-Stream Recycling Composition:** Detailed results about the composition of single stream recycling are presented in this section. Results are presented in both tabular and graphical format to highlight findings of interest. Results are presented in the aggregate and by host MRF. Analyses of both Recovery Rate and Deposit Containers (in Disposed Waste and in Single-Stream samples) has been included. In addition, this section provides an analysis of hard-to-recycle multi-material constituents of the waste and recycling stream.
- **Commercial Generator Waste Composition:** This section presents results about the composition of commercial generator waste specific to each type targeted for this study. As with the other results sections, findings have been presented in both tabular and graphical format to highlight findings of interest.
- **Conclusions and Recommendations:** This section presents conclusions that can be drawn from the 2015 Study update as well as recommendations for usage of the data and for future study.
- **Appendices:** Supplemental data and analysis are contained in several appendices.

2. METHODOLOGY

2.1 HOST FACILITIES AND SCHEDULE

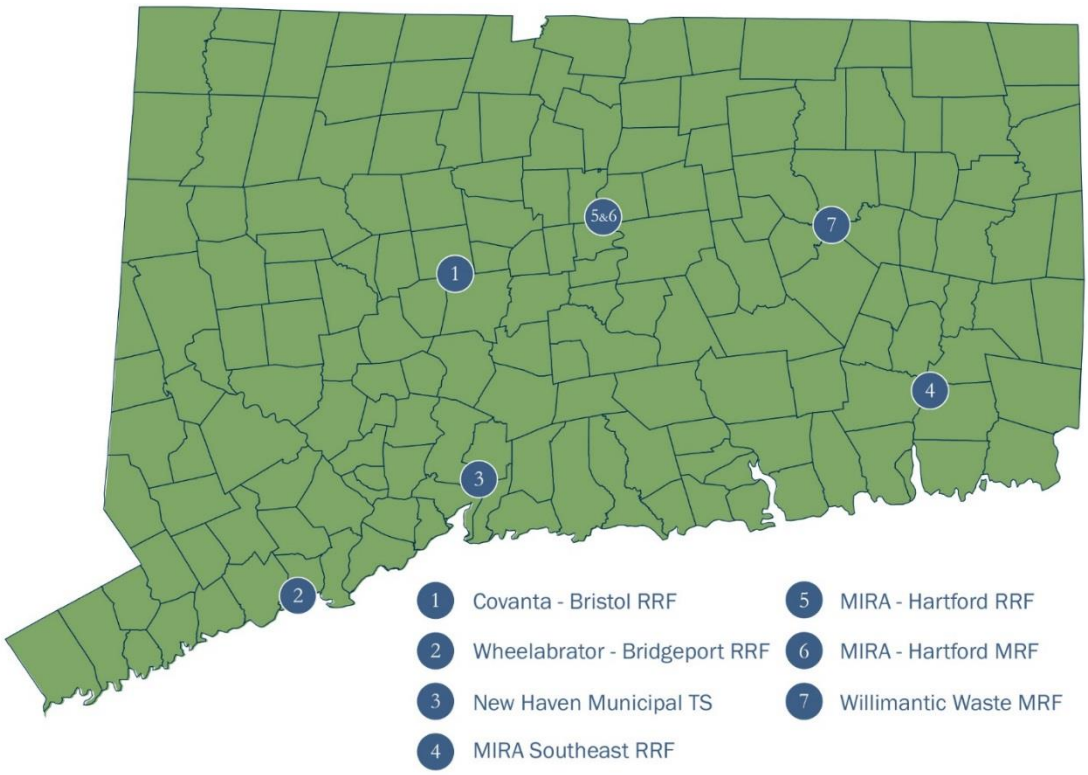
Table 2-1 identifies five waste disposal facilities and two single stream Material Recovery Facilities (MRFs) that were recruited to host field data collection for this project. This table also notes the demographics of the regions served by each of these facilities. The disposal facilities in the 2015 Study are the same facilities that also hosted the 2010 Study field data collection.

Table 2-1 Host Facilities

Material Stream	Host Facility	Service Region Demographics
Disposed Wastes	Covanta Bristol Resource Recovery Facility	Suburban, Rural
	Wheelabrator Bridgeport RRF	Urban, Suburban
	New Haven Municipal Transfer Station	Urban, Suburban
	MIRA Southeast Project (Preston) RRF	Suburban, Rural
	MIRA Connecticut Solid Waste System (Hartford) RRF	Urban, Suburban, Rural
Single Stream Recyclables	MIRA Hartford Regional Recycling Center	Urban, Suburban
	Willimantic Recycling Facility	Suburban, Rural

Figure 2-1 plots the host disposal and recycling facilities. As shown, these facilities capture waste from much of the state.

Figure 2-1 Location of Host Facilities



2.2 WASTE TYPES AND GENERATOR SECTORS

2.2.1 DISPOSED WASTE

Consistent with the 2010 Study, the 2015 Study targeted disposed wastes from the following two generator sectors:

- **Residential:** defined as waste brought to CT DEEP facilities by commercially or municipally operated vehicles, in which 80% or more of the waste was from single-family and/or multifamily residential sources. Vehicles chosen for sampling in the Residential waste sector included Residential Transfer Trucks arriving from rural transfer stations as well as Packer Trucks carrying waste from single family routes.
- **Institutional/Commercial/Industrial (ICI):** defined as waste brought to CT DEEP facilities by commercially operated vehicles, in which 80% or more of the waste was from institutional, commercial, or industrial sources. This sector excluded Construction and Demolition (C&D) debris as well as Bulky Waste. Vehicles chosen for sampling in the ICI sector included Compacted Dropboxes and Packer Trucks.

It should be noted that inbound loads containing less than 80% of either residential or ICI waste, and loads originating from outside of Connecticut, were excluded from the study. It is also important to note that neither the 2010 nor 2015 Studies targeted Bulky Wastes from the residential and ICI waste streams. Although some Bulky Wastes are delivered to the disposal facilities that hosted this study, Bulky Wastes are often non-processible at RRFs, and are more typically managed at Volume Reduction Facilities (VRFs) with construction and demolition (C&D) debris. Bulky wastes (and C&D debris) were excluded from this study.

2.2.2 ICI GENERATOR SAMPLING

The 2015 Study targeted six specific ICI generator types for sampling and sorting. These samples were obtained from trucks that were identified via driver interview and not obtained at random, and in many cases were specially arranged for delivery by a local hauler. The targeted commercial generator types in the 2015 Study are:

- Grocery,
- Restaurant,
- Hotel,
- Retail-Big Box,
- Retail-Small, and
- Offices.

This effort was new in the 2015 Study and was not performed in the 2010 Study.

2.2.3 SINGLE STREAM RECYCLABLES

Only residentially generated recyclables were targeted for the composition analysis of single stream materials. This is important to note because many MRFs process recyclables from both residential and ICI generators, and consequently the results of the residential single stream composition analysis may not be representative of a MRF's plant-wide recovered commodity and residue rates (which include both residential and ICI recyclables mixed together during processing).

2.3 FIELD DATA COLLECTION SCHEDULE

Table 2-2 summarizes the field data collection schedule for the 2015 Study. As shown, data were collected over two seasons, representative of spring (May-June) and summer (August-September). Conversely, the 2010 Study obtained field data in winter (February-March) and fall (October).

Table 2-2 Sorting Schedule

Host Facility	Dates of Field Data Collection	
	Season 1	Season 2
Covanta Bristol Resource Recovery Facility	May 15-19	Sep 14-16
Wheelabrator Bridgeport RRF	May 11-14	Sep 21-23
New Haven Municipal Transfer Station	May 20-22	Sep 17-19
MIRA Southeast Project (Preston) RRF	Jun 9-11	Sep 24-28
MIRA Connecticut Solid Waste System (Hartford) RRF [1]	None	Aug 24 – Sep 3
MIRA Hartford Regional Recycling Center [2]	Jun 4-8	Sep 4
Willimantic Recycling Facility [2]	None	Sep 29 – Oct 2

[1] The first season sort at MIRA WTF (Hartford) was canceled because of a shortage of space on the tip floor to conduct sorting activities.
[2] The original study design called for sorting at one MRF each season. Unforeseen schedule changes to the disposed waste sorting caused sorting at the MIRA MRF to be spread over two seasons.

2.4 STATEWIDE DISPOSED WASTE AND RECYCLED MATERIAL QUANTITIES

2.4.1 OVERALL

DEEP tracks the flow of wastes generated in the state. Table 2-3 provides the reported annual statewide waste disposed in Connecticut as cited in this and the 2010 Study. As shown, disposed waste quantities have remained virtually unchanged.

Table 2-3 Disposed Wastes, 2015 and 2010 Studies

Data Point	2015 Study	2010 Study
Statewide Waste Disposal	2,332,598 tons	2,379,687 tons
Year of Reported Disposal Data	FY2013	CY2009

Statewide estimates of the disposed waste composition include both percentages and tons based on the data in Table 2-3.

It was not within the scope of this study to attempt to estimate the statewide quantity of residentially generated recyclables, and consequently composition results for single stream materials do not include quantities, only percentages. Due to lack of data availability, it also was beyond the scope of this study to apply the composition percentages for other results sets to disposal tonnages.

2.4.2 RESIDENTIAL VS ICI BREAKDOWN

At the current time, there are no routinely reported data to indicate the fraction of disposed wastes originating from Residential and ICI sources. In order to determine a reasonable estimate, the 2015 Study, like the 2010 Study, included a survey of incoming trucks at each of the host disposal facilities to assess this split (hauler survey).

The purpose of the hauler survey was to provide a basis for allocating total mixed solid waste tons disposed in Connecticut, as provided by CT DEEP, between residential and ICI wastes so that the percent composition of each waste stream determined by hand sorting could be applied to total tons by generator type at the state level. The following two rounds of hauler surveys, roughly corresponding to the two season hand sorting, were completed.

- **Season 1** (Spring Season) of Hauler Surveys began on Wednesday, May 13, 2015 and finished on Wednesday, June 10, 2015. Team member DSM Environmental Services, Inc. (DSM) carried out one day of hauler surveys at each of the five facilities participating in the waste composition study, resulting in 272 completed surveys. The number of completed surveys at some participating facilities were limited due to the fullness of tipping floors, resulting in less truck traffic and longer wait times to enter the tipping floor.
- **Season 2** (Summer Season) of Hauler Surveys started on Monday, August 24, 2015 and finished on Tuesday, September 28, 2015. As was the case during Season 1, DSM carried out one day of hauler surveys at each of the facilities participating in the waste composition study, resulting in 278 completed hauler surveys. The number of completed surveys was more evenly split among participating facilities because the tipping floors were not as full as seen in Season 1.

Surveys were not carried out on transfer trailers, dump trucks, or private vehicles; only on roll-offs and packer trucks carrying municipal solid waste (MSW). Loads containing bulky waste, C&D debris, or 'other waste' were eliminated from completed surveys because hand sorting did not include bulky waste loads or C&D wastes, and therefore the MSW allocation is for residential and ICI waste only.

The following bullets describe the surveying carried out at each host disposal facility:

- **Wheelabrator Bridgeport RRF:** Season 1 hauler surveys were performed on Wednesday, May 13, 2015 at the Bridgeport facility resulting in 26 hauler surveys. Season 2 had 42 completed hauler surveys at the Bridgeport facility during the afternoon of Monday, September 21, 2015 and the morning of Tuesday, September 22, 2015 resulting in one full surveying day. Season 1 drivers reported waiting two to four hours to tip due to the fullness of the tipping floor. The limited number of Season 1 hauler surveys reflect the full tipping floor and the lack of trucks entering the facility that were not transfer trailers. Season 2 saw an increase in hauler surveys with a decrease in average wait times.
- **New Haven Municipal Transfer Station:** A total of 24 hauler surveys were obtained during Season 1 at the New Haven Municipal Transfer Station on Thursday, May 14, 2015 and 24 hauler surveys during Season 2 on Thursday, August 27, 2015. Season 1 surveys included 'Bulky' waste coming in from dormitory cleanouts at Yale University; these surveys were ultimately excluded from the analysis. Drivers did not have to wait to tip at the New Haven Municipal Transfer Station and it appeared that the tipping floor was not full. The majority of haulers using the New Haven Municipal Transfer Station were from the City of New Haven, or private haulers that service the Yale University campus.
- **MIRA Connecticut Mid-Connecticut (Hartford) RRF:** A total of 112 hauler surveys were obtained during Season 1 at the MIRA Connecticut Solid Waste System (Hartford) RRF on Thursday, June 4, 2015 and 75 driver surveys during Season 2 on August 26, 2015. The day prior to surveying for Season 1, MIRA had stopped accepting trucks in the early afternoon to 'catch up' with the amount of waste on the tipping floor. Due to this early closure they were able to accept more trucks at a lower wait time on the day the survey took place. The number of surveys completed at MIRA Hartford during Season 2 may reflect a more typical delivery day at the facility
- **Bristol RRF:** Forty-three (43) hauler surveys were obtained during Season 1 at the Bristol RRF on Friday, June 5, 2014 and 59 surveys during Season 2 on Monday, August 24, 2015. During Season 1 drivers were reporting a wait time upwards of five hours due to the fullness of the tipping room floor. Season 2 saw significantly decreased wait times for drivers, and an increase in truck surveys.
- **Covanta Preston RRF** – Two partial days of hauler surveys were performed at the Covanta (Preston) facility during Season 1 on Tuesday, June 9, 2015 and Wednesday, June 10, 2015 resulting in a total of 67 hauler surveys; and 78 hauler surveys at Covanta (Preston) on Monday, September 28th, 2015 during Season 2. Preston did not see a significant change in wait times, or completed surveys between Season 1 and Season 2.

For the surveys, each hauler's truck number was matched with the corresponding weight ticket so that the surveys could be tabulated by tonnage rather than number of loads observed. Table 2-4 provides the results of the hauler surveys.

Table 2-4 Hauler Survey Results

Facility	Survey Summary			Generator	
	No. of Trucks Surveyed	Tonnage of Trucks Surveyed	Percent of Total Tonnage	Resi-dential	ICI
Wheelabrator Bridgeport, RRF	68	673	15.3%	58.7%	41.3%
New Haven Municipal Transfer Station	48	323	7.3%	58.8%	41.2%
MIRA, Mid-CT (Hartford) RRF	187	1593	36.2%	51.7%	48.3%
Bristol RRF	102	829	18.9%	75.6%	24.4%
Covanta, Preston RRF	145	979	22.3%	54.5%	45.5%
Total	**550**	**4,397**	**100%**	**58.4%**	**41.6%**

As presented in Table 2-4, truck surveys at MIRA, Mid-Connecticut (Hartford) RRF represent 36 percent of total truck tons captured during the surveys, with the next closest facility (Covanta, Preston RRF) representing another 22 percent. Combined, these two facilities represent 58 percent of the total truck tons surveyed, somewhat influencing the residential versus commercial allocation. As illustrated by Table 2-4, with the exception of the Bristol RRF, all of the participating facilities had an incoming residential percentage (excluding transfer trailer waste) between 51% and 59% and a commercial percentage between 41% and 49%.

It should be noted that the statewide allocation found in the 2010 Study 56%/44% residential/ICI, compared to the 58%/42% found in 2015. These results suggest that the mix of Residential and ICI wastes at these five host facilities have remained relatively consistent since the 2010 Study.

However, as cautioned in the 2010 waste characterization report, the above allocation is based on truck surveys of waste delivered to in-state facilities, many of which have contracts with municipalities. Because municipalities control primarily residential waste, it is likely that the hauler surveys at these facilities under-represent ICI waste. As such, the waste composition results may be influenced by decisions of haulers to haul certain wastes to in-state facilities and transfer other waste to out-of-state facilities. This is an unknown variable that could influence the state-wide results. Therefore it is important to keep in mind in reviewing the data in this report that it is statistically representative of waste delivered to the host facilities, and that we have extrapolated these data to total tons disposed in-state, ignoring waste delivered out-of-state.

2.4.3 DISPOSAL QUANTITIES BY DEMOGRAPHIC REGION

At the request of DEEP, the 2015 Study sought to differentiate waste composition from urban, suburban and rural areas of the State. The U.S. Census Bureau classifies as "Urban" all territory, population, and housing units located within urbanized areas (UAs) and urban clusters (UCs). It delineates UA and UC boundaries to encompass densely settled territory, which generally consists of:

- A cluster of one or more block groups or census blocks each of which has a population density of at least 1,000 people per square mile at the time, and
- Surrounding block groups and census blocks each of which has a population density of at least 500 people per square mile at the time, and
- Less densely settled blocks that form enclaves or indentations, or are used to connect dis-contiguous areas with qualifying densities.

"Rural" has been classified as all territory, population, and housing units located outside of UAs and UCs. Geographic entities, such as metropolitan areas, counties, minor civil divisions (MCDs), and places, often contain both urban and rural territory, population, and housing units.

For the 2015 Study, DEEP classified every city and town in Connecticut as being Urban, Suburban or Rural. Table 2-5 summarizes the population, square mileage and population density of each demographic type based on the DEEP data. As shown, the majority of the state's population resides in municipalities that meet the definition of an Urban location.

Table 2-5 Disposal Quantities by Demographic Region

Origin	2013 Population	Area (sq. mi.)	Population Density (persons/sq. mi.)
Urban	2,268,865	978.9	2,318
Suburban	649,263	893.8	726
Rural	677,952	2,973.2	228
Total	**3,596,080**	**4,845.9**	**742**

Appendix A contains a detailed listing of the demographic assignment of each town and city in Connecticut.

2.5 SAMPLING TARGETS

The 2015 Study targeted substantially more samples than the 2010 Study as a result of the addition of the single stream recycling and ICI generator samples. Table 2-6 summarizes the 2015 sampling targets by facility and waste type, as well as the actual number of samples obtained.

Table 2-6 Sampling Targets by Host Facility

Material Stream	Host Facility	Planned Samples	Actual Samples	Variance
Disposed Waste	Bristol Resource Recovery Facility (RRF)	48	48	0
	Wheelabrator Bridgeport RRF	48	48	0
	New Haven Municipal Transfer Station	48	48	0
	Covanta Preston RRF	48	52	+4
	MIRA Hartford RRF	48	51	+3
	Subtotal – Disposed Wastes	***240***	***247***	***+7***
Single Stream Recyclables	MIRA Hartford Material Recovery Facility (MRF)	40	37	-3
	Willimantic Waste Paper MRF	40	43	+3
	Subtotal – Single Stream Recyclables	***80***	***80***	***0***
ICI Generator Types	Grocery	8	8	0
	Restaurant	8	8	0
	Hotel	8	2	-6
	Retail Establishments – Big Box	8	3	-5
	Retail Establishments – Small	8	13	+5
	Office	8	8	0
	Subtotal – Generator Samples	***48***	***43***	***-6***
Total		**368**	**370**	**+1**

As shown, the Project Team met overall sampling and sorting targets. However, the following anomalies are noted:

- **Difficulty Obtaining ICI Generator Samples**: The Project Team's strategy for obtaining ICI generator samples involved recruiting haulers to run special routes; or capturing targeted wastes from roll-off compactor boxes from the desired ICI sector identified during the hauler survey and random sampling. In practice, it was not possible to achieve the precise distribution of ICI generator samples as originally targeted, for the following reasons:
  - On more than one occasion, unforeseen schedule changes eliminated previously scheduled ICI generator routes from being delivered on a scheduled day.
  - Recruited haulers' first obligation is to get their primary routes collected; and on at least one occasion, staffing shortages at the participating hauler on the day of a scheduled ICI generator route caused cancellation of the delivery.
  - Surprisingly, the Project Team found very few roll-off compactor boxes originating in retail big-box stores. It is not known if there are simply fewer big box stores in Connecticut that use compactor boxes (as opposed to dumpsters serviced by front loaders) or if these loads are being delivered to other disposal facilities within or outside the state.
- **Mis-characterized Single Stream Samples**: In the first season, three of 40 single stream samples taken at MIRA Hartford Recycling Center were later found to be from commercial sources, not residential, and were omitted from the analysis. These three residential samples were made up in the second season MRF sort (at Willimantic).
- **No Seasonality for MIRA RRF Samples**: Although not shown in Table 2-6, no sampling was performed at the MIRA RRF in the first season due to insufficient space available for obtaining samples on the facility tip floor.

To overcome the issues above, the Project Team maintained planned sampling and sorting productivity and collected additional random samples in cases where ICI generator samples could not be captured, allowing overall sampling targets to be met.

2.6 MATERIAL CATEGORIES AND GROUPS

Samples of waste were manually sorted into the same material categories as the 2010 Study, with the following exceptions:

- Aseptic boxes and gable top cartons were added as a new category,
- Food waste still contained in packaging was added as a new category,
- Flexible (film) plastic packaging (including pouches) was added as a new category,
- Diapers and sanitary products were added as a new category, and
- Offshore Cardboard was consolidated into the Old Corrugated Cardboard category.

The resulting 72 material categories and detailed definitions used for the waste characterization study are shown in Table 2-7.

Table 2-7 Material Categories for Disposed Waste

Paper	**Food Waste**
Corrugated Cardboard/Kraft Paper	Food Waste, Loose
High Grade Office Paper	Food Waste, Emptied from Packaging
Magazines/Catalogs	**Other Organics**
Newsprint	Branches and Stumps
Phone Books and Directories	Prunings and Trimmings
Aseptic Boxes & Gable Top Cartons	Leaves and Grass
Other Recyclable Paper	Manures
Compostable Paper	Diapers & Sanitary Products
Remainder/Composite Paper	Remainder/Composite Organic
Plastic	**C&D Debris**
PET Bottles/Jars	Asphalt, Brick, and Concrete
PET Containers Other than Bottles	Wood – Treated
Plastic CT Deposit Beverage Containers	Wood – Untreated
HDPE Bottles, Colored and Natural	Asphalt Roofing
HDPE Containers other than Bottles	Drywall/Gypsum Board
Plastic Containers #3-#7	Carpet
Expanded Polystyrene Non-food Grade	Carpet Padding
Expanded Food-grade Polystyrene	Remainder/Composite C&D
Durable Plastic Items	**Household Hazardous Waste**
Film (non-bag)	Ballasts, CFLs
Grocery and other Merchandise Bags	Batteries – Lead Acid
Other Film	Other Batteries
Flexible Plastic Pouches and Packaging	Paint
Pallets – Plastic	Sharps
Remainder/Composite Plastic	Vehicle and Equipment Fluids
Metal	Empty Metal/Glass/Plastic HHW Containers
Aluminum Beverage Containers	Pesticides and Fertilizers
Aluminum CT Deposit Beverage Containers	Other Hazardous Waste
Aluminum Plates & Foils	**Electronics**
Tin/Steel Containers	Computer-related Electronics
Other Ferrous	Other Small Consumer Electronics
Other Non-Ferrous	Televisions and Computer Monitors
Appliances	Other Larger Electronics
Compressed Fuel Containers/Propane Tanks	**Other Wastes**
Remainder/Composite Metal	Bulky Items
Glass	Textiles
Non-deposit Clear/Amber Glass	Restaurant Fats, Oils and Grease
Non-deposit Green/Other Colored Glass	Bottom Fines and Dirt
Deposit Glass	Other Miscellaneous
Flat Glass	
Remainder/Composite Glass	

These material categories were condensed for the single stream recycling composition analysis. While all categories of targeted recyclables were sorted in both the refuse and recycling composition analysis, many categories that are considered "reject" or "contaminant" at a MRF were consolidated. Additionally, the categories of "Bagged Newspaper" and "Bagged Wastes" were added to the recycled material categories to account for these common contaminants at MRFs. The 46 categories used for the single stream composition analysis are included in Table 2-8.

Table 2-8 Material Categories for Single Stream Recycling

Paper Corrugated Cardboard/Kraft Paper High Grade Office Paper Magazines/Catalogs Newsprint Phone Books and Directories Aseptic Boxes & Gable Top Cartons Other Recyclable Paper Non-Recyclable Paper Newspaper, Bagged	**Metal** Aluminum Beverage Containers Aluminum CT Deposit Beverage Containers Aluminum Plates & Foils Tin/Steel Containers Other Ferrous Other Non-Ferrous Appliances Compressed Fuel Containers/Propane Tanks Remainder/Composite Metal
Plastic PET Bottles/Jars PET Containers other than Bottles Plastic CT Deposit Beverage Containers HDPE Bottles, Colored and Natural HDPE Containers other than Bottles Plastic Bottles #3-#7 Plastic Non-Bottle Containers #3-#7 Expanded Polystyrene Bulky Plastic Items Plastic Films Remainder/Composite Plastic	**Organics** Food Waste Yard Waste **Construction & Demolition Materials** C&D Debris Wood **Household Hazardous Waste (HHW)** HHW Empty HHW Containers **Electronics** Electronics **Other Wastes** Bulky Items Textiles Diapers & Sanitary Products Other Miscellaneous Bagged Wastes
Glass Non-deposit Clear/Amber Glass Non-deposit Green/Other Colored Glass CT Deposit Glass Beverage Containers Flat Glass Broken Glass	

Detailed definitions of the disposed waste and single stream recycling material categories are contained in Appendix B.

2.7 SAMPLING METHODS

2.7.1 RANDOM SAMPLING

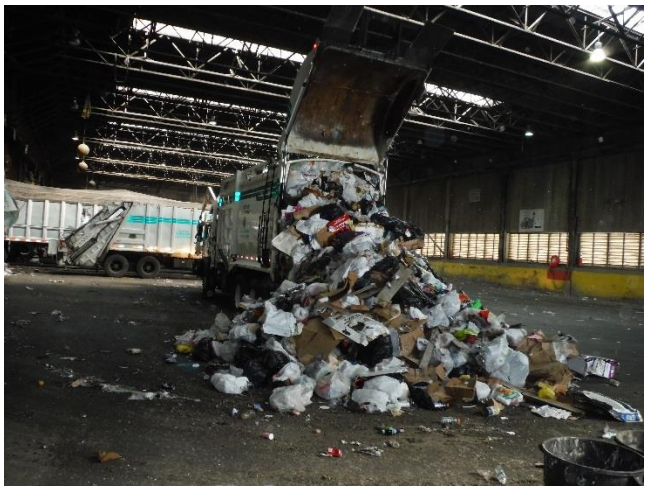
The Field Supervisor followed a systematic selection procedure to identify residential and ICI waste vehicles for sampling. To calculate vehicle sampling frequency for each waste sector, the Project Team established a sampling interval for each based on input from the facility scalehouse each day. Sampling intervals were determined by dividing the total expected number of loads for each sector arriving at the facility on the scheduled day – based on questions asked of each facility in the planning phase of the study – by the number of samples needed each day. The resulting number is the sampling frequency, and determined whether every third vehicle, every sixth vehicle, or every 20th vehicle is selected for sampling. This strategy is referred to as "selecting every nth vehicle" within a waste sector and subsector. A Vehicle Selection Form is shown in Appendix C. It should be noted that, during the second season, the sampling interval was informed by the results of the gate survey performed during the first season.

All vehicles entering the sampling facility were surveyed by the project Field Supervisor or at times a weighmaster in the scalehouse. Information was recorded about the vehicle type, city of origin, and waste type; and the net weight of each sampled load waste obtained.

Once a vehicle was selected for sampling, the Field Supervisor recorded the sample data and placed a Sample Placard on the vehicle's windshield or dashboard. The Sample Placard contained a sample identification number, unique to every sample taken, that was recorded on the survey form and on the

sample data sheet kept by the sorting crew. Selected loads were directed to the tipping area where a sample would be safely and accurately collected. Figure 2-2 shows a tipped load awaiting sampling.

Figure 2-2 Photograph of Tipped Load

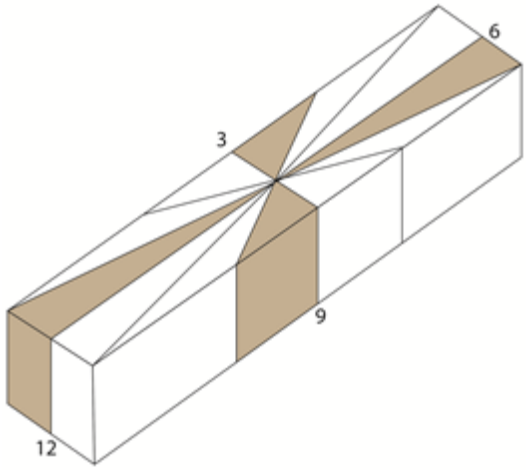


During manual sorting, the Crew Chief would also note on the Hand-Sort Tally Sheet any unusual circumstances associated with the load or the sample. In cases where an insufficient number of vehicles were available for sampling at a disposal facility, the data collection crew would first change the nth vehicle to reduce the number between samples or make up the missing samples at a different location. This strategy could also be used when samples were missed for some other unforeseen reason. In all cases, the sampling plan would assign the frequencies of vehicles to be selected in such a way as to minimize the chance of "running out" of vehicles to represent a particular waste sector at a disposal facility.

2.7.2 GRAB SAMPLES FROM TIPPED LOADS

Selected loads of waste were tipped in the designated area at each host facility. From each selected load, one sample of waste was selected based on systematic "grab" from the load, treating the tipped load as a clock face. For example, if the tipped pile was viewed from the top as a clock face with 12:00 being the part of the load closest to the front of the truck, the first sample would be taken at the 12:00 position. Subsequent samples would be taken from 3 o'clock, 6 o'clock, and 9 o'clock. For the next four loads, the extraction point would shift to 1, 4, 7, and 10 o'clock, and so-on. This concept of systematically rotating around subsequent loads is shown in Figure 2-3.

Figure 2-3 Systematic Sampling Guide for Tipped Loads



From each extraction point, the loader operator was instructed to take a grab sample. From each grab, a sample weighing at least 200 pounds was extracted from the pile and pre-weighed (to verify that the minimum sample weight had been achieved and to prevent sorting overly large samples, which would diminish sorting productivity). Pre-weighed samples were loaded into barrels for placement on the sort table, although bulky items were weighed and recorded separately (thereby eliminating the need to sort them at the sort table). Prior to sorting, a sorting crew member took a photograph of each sample, with the sample placard and identification number visible in the picture.

Depending upon the availability of host facility personnel, the Field Supervisor either collected the sample directly from the bucket of the front-end loader, or directed the sample to be dumped on a tarp or a paved surface. When collecting samples directly from the loader bucket, 35-gallon cans or carts were arranged side-by-side on a tarp, with the loader bucket positioned directly overhead. The Field Supervisor collected the sample systematically, by working from one side of the bucket to the other, emptying all of the contents from the front of the bucket to the back, until the desired sample weight was achieved. To help minimize sample collection bias, samples were collected from the loader bucket in an alternating fashion, that is, working from the left side of the bucket to the right side for one sample, and then from right to left on the next sample. A photograph of a sample in the loader bucket is shown in Figure 2-4, with a sample queued and labeled for sorting is shown in Figure 2-5.

Figure 2-4 Sample in a Loader Bucket

Figure 2-5 Sample Queued for Sorting

2.7.3 SPECIAL GENERATOR SAMPLES

The same methodology was used for taking samples from ICI generator loads. However, because of the need to recruit haulers to collect wastes from each generator category, the 2015 Study methodology allowed up to four samples to be obtained from a single specially-collected load.

2.7.4 SINGLE STREAM RECYCLING SAMPLES

The same methodology was used for taking samples of single stream recyclables. However, single-stream recycling samples were targeted at 150 pounds rather than 200 pounds. Also, grab sampling of single stream loads was slightly modified to capture representative material from the dense inner section of the load and the lighter exterior of the tipped load. For the single stream loads, before the grab sample was obtained, the Field Supervisor directed a loader or skid steer to cut off a cross section of the tipped load, so that the inner section and outer edges was exposed, prior to taking the grab sample. Grab samples were obtained systematically from the edge to the middle of successive cross sections.

2.8 MANUAL SORTING

2.8.1 SORTING PROCEDURE

Once each sample was acquired, the material was manually sorted into the prescribed component categories. Plastic 20-gallon bins with sealed bottoms were used to contain the separated components. A picture of a sample being sorted is shown in Figure 2-6.

Figure 2-6 Manual Sorting

Once the sample was acquired and placed on the sorting table, the material was sorted by hand into the prescribed component categories. Plastic 20-gallon bins with sealed bottoms were used to contain the separated components. Sorters were asked to specialize in certain material groups, with someone handling the paper categories, another the plastics, another the glass and metals, and so on. In this way, sorters became highly knowledgeable in a short period of time as to the definitions of individual material categories.

The Crew Chief monitored the homogeneity of the component bins as they accumulated, rejecting materials that were improperly classified. Open bins allowed the Crew Chief to see the material at all times and verify the purity of each component as it was weighed, before recording the weight into the database. The materials were sorted to particle size of 2 inches or less by hand, until no more than a small amount of homogeneous fine material (—mixed residue‖) remained. This layer of mixed 2-inch-minus material was allocated to the appropriate categories based on the best judgment of the Crew Chief — most often a combination of Other Paper, Other Organics, or Food Waste. The overall goal was to sort each sample directly into component categories in order to reduce the amount of indistinguishable fines or miscellaneous categories.

It should be noted that this sorting method also included the use of a customized, sturdy-framed sorting table that included a removable screen. The screen size was ½ inch, which allowed small particles to pass through to a tray under the screen. These particles, or fines, were swept into their own category.

2.8.2 WEIGHING SORTED SAMPLES

The Crew Chief was singularly responsible for overseeing all weighing and data recording of each manually sorted sample. Once each sample was sorted, and fines swept from the table, the weigh-out was performed. Each bin containing sorted materials from the just completed samples was carried over to the scale. Sorting laborers assisted with carrying and weighing the bins of sorted material, and the Crew Chief recorded all data.

The Crew Chief used a waste composition data sheet to record the composition weights. Each data sheet containing the sorted weights of each sample was matched up against the Field Supervisor's sample sheet to assure accurate tracking of the samples each day. Figure 2-7 shows the scale and a weigh-out in progress.

Figure 2-7 Weigh-out

2.8.3 SORTING WET AND ORGANICS CONTAMINATED WASTE

During the sorting event, it was common to encounter materials that were contaminated or combined with organics or liquids. In such situations, the contaminating material was removed to the extent possible. All food was separated from other materials and all liquid, if beverage based, was removed from containers and placed in the food waste bin for weighing.

2.8.4 SORTING PACKAGED FOODS

For the 2015 Study, packaged food was separated from food that was loose in the sample or contained in a bag, box or other container for disposal. Packaged food included food that remained in its factory or retail packaging, including jars, cans, clamshells, flexible packaging, and any other packaging.

It should be noted that food was removed from the packaging in all cases, except when it was not practical to do so under normal sorting conditions. So, foods that could be easily emptied with the help of gravity were removed; foods that were viscous and not easily removed (e.g., peanut butter, mayonnaise) would remain in their packaging, as would all food still in its original packaging. Figure 2-8 shows packaged food from a food manufacturer (left) and loose food (right) from a grocery store load.

Figure 2-8 Classification of Food Waste

2.8.5 SITE MAINTENANCE AND CLEANUP

As guests at each of the host facilities, the Project Team took considerable effort to leave the work area clean and safe for subsequent operations. The sorting crew was also responsible for keeping litter to a minimum. The Project Team concluded each day of sorting operations with sufficient time to perform site clean-up. Clean-up included the following types of activities:

- Organized stacking and stowing of sorting supplies in a designated location;
- Removal of sorted wastes for burial or transfer (the host facility loader operator would help with this);
- Sweeping and cleaning the sort area to prevent windblown litter and other situations that could attract vectors;
- Removal and discard of day-use personal protective equipment and decontaminating personnel;
- Checking out with the Facility Manager each day; and
- Covering any unsorted samples with a tarp, to leave for manual sorting the next day.

2.9 DATA ANALYSIS

2.9.1 QA/QC PROCEDURE

The collection process followed a well-established set of quality assurance/quality control (QA/QC) strategies to ensure data accuracy and integrity. The QA/QC process involved the following procedures:

- Assigning a unique combination sample number, facility of origin, date and time to each sample, and transferring that information to the tally sheet that was used to record material weights for the sample.
- Encoding the type of waste load into the sample number. For example, on a particular date, samples of commercial waste would be numbered Com-1, Com-2, etc.
- Using the vehicle selection form to track the numbers of each type of load obtained and sampled.
- Verifying that data forms were obtained for each day the data collection crew was in the field.
- Designing the data entry databases to prevent out-of-range values for vehicle and sample characteristics such as vehicle type, net weight, etc.
- Random checks of computer-entered data against the paper forms, to verify that all numbers were being entered correctly, and to look for any systematic or random errors.

Following each season of fieldwork, all field forms were transmitted to MSW Consultants' office and entered into a waste composition database created specifically for the Connecticut Statewide Study. After the sample tally sheets were checked by the Field Supervisor, the data manager verified that all required data was recorded properly and also supervised the data entry process. As an additional step in quality control, an inspection of randomly selected records was carried out to monitor the accuracy of the data entry process.

2.9.2 STATISTICAL ANALYSIS

Generally, the waste composition calculations and the aggregation across groups was completed as follows. Composition estimates represented the **ratio of the components' weight to the total waste** for each noted material component in a particular segment of the waste stream. They were derived by summing each component's weight across all of the relevant samples and dividing by the sum of the total weight of waste, as shown in the following equation:

$$r_j = \frac{\sum_i c_{ij}}{\sum_i w_i}$$

where:

c = weight of particular material component

w = sum of all component weights

for i = 1 to n

where n = number of selected samples

for j = 1 to m

where m = number of material components

The confidence interval for this estimate was derived in two steps. First, the variance around the estimate was calculated, accounting for the fact that the ratio included two random variables (the component and total sample weights). The **variance of the ratio estimator** equation follows:

$$\hat{V}_{r_j} = \left(\frac{1}{n}\right) \cdot \left(\frac{1}{\overline{w}^2}\right) \cdot \left(\frac{\sum_i \left(c_{ij} - r_j w_i\right)^2}{n-1}\right)$$

where:

$$\overline{w} = \frac{\sum_i w_i}{n}$$

(Note: the standard deviation is the square root of the variance term.)

Second, **confidence intervals** at the 90% confidence level were calculated for a component's mean as follows:

$$r_j \pm \left(t \cdot \sqrt{\hat{V}_{r_j}}\right)$$

where:

t = the value of the t-statistic corresponding to a 90% confidence level

A weighted average of composition percents was used when the findings for small segments of the waste stream were aggregated to describe a larger piece of the waste stream. The **weighted average for an aggregated composition estimate** was performed as follows:

$$O_j = \left(p_1 * r_{j1}\right) + \left(p_2 * r_{j2}\right) + \left(p_3 * r_{j3}\right) + \ldots$$

where:

p = the proportion of tonnage contributed by the noted substream (i.e., the weighting factor)

r = ratio of component weight to total waste weight in the noted substream (i.e., the composition percent for the given material component)

for j = 1 to m

where m = number of material components

The **variance of the weighted average** was calculated:

$$VarO_j = \left(p_1^{\,2} * \hat{V}_{r_{j1}}\right) + \left(p_2^{\,2} * \hat{V}_{r_{j2}}\right) + \left(p_3^{\,2} * \hat{V}_{r_{j3}}\right) + \ldots$$

(Note: the **standard deviation** is the square root of the variance term.)

3. STATEWIDE WASTE CHARACTERIZATION RESULTS

3.1 STATEWIDE AGGREGATE MSW COMPOSITION

Figure 3-1 shows the composition and tonnage of disposed wastes in 2015, aggregating the Residential and ICI generator sectors. As shown, Paper and Food Waste are the most common material groups.

Figure 3-1 Municipal Solid Waste Composition and Quantities Disposed (tons)

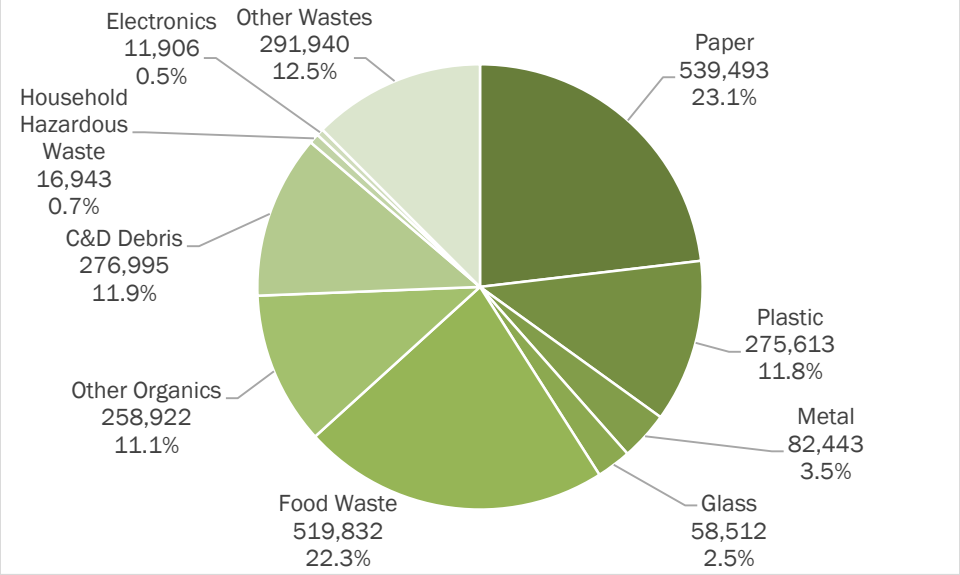


Figure 3-2 compares the composition in 2015 with the same result from the 2010 Study. The most noteworthy change in the waste stream since 2010 is the heightened fraction of Food Waste remaining in disposed wastes, along with relatively lower incidence of most other materials. This will be discussed in more detail in the Residential and ICI results sections later in this chapter. It should be noted that when data are presented in percentages, a significant change in the percent of one fraction of the waste stream automatically results in a change in the percentages of all other materials. For example, the large increase in food waste drives down the percentage composition of other materials.

Figure 3-2 Comparison of 2010 and 2015 MSW Composition

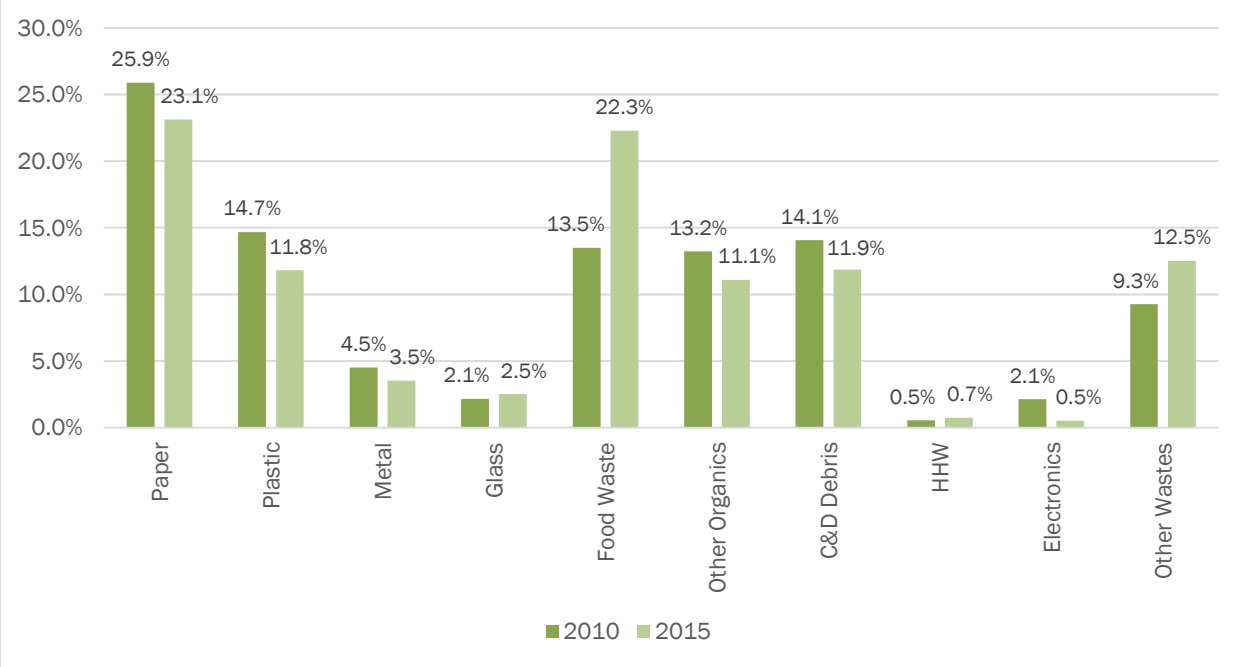
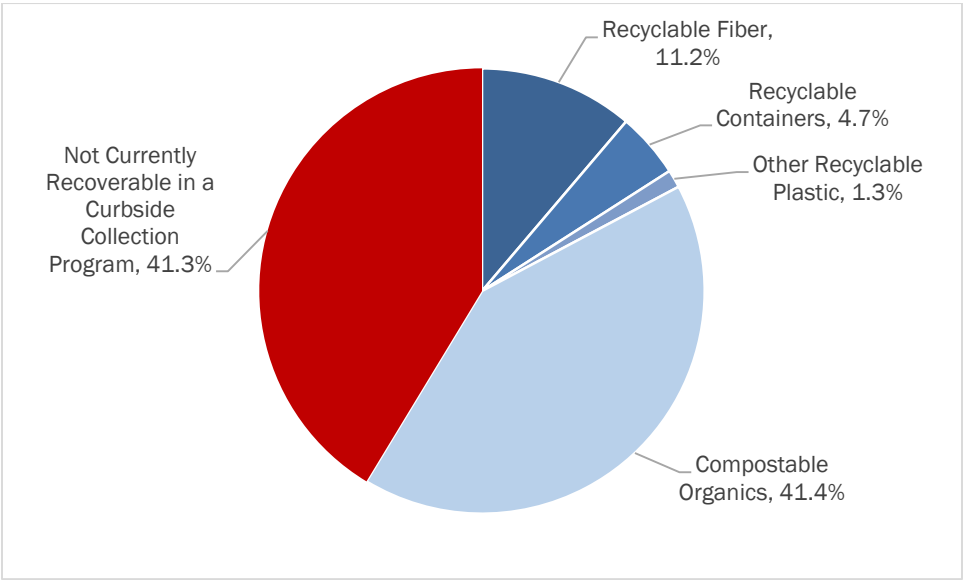


Figure 3-3 shows the breakdown of recoverable materials within the disposed MSW stream. This figure categorizes materials as they would be separated in a residential curbside program with separate recycling, organics, and trash collection.[1]

Figure 3-3 Recoverability of Disposed Wastes in Existing Curbside/On-site Collection Programs



The above figure highlights a number of important findings:

[1] In practice, there are many materials included in the red pie piece in Figure 3-3 that are readily recyclable or recoverable in an organics program. This figure intends only to show the limitations of recycling and organics diversion through curbside collection.

- The fraction of targeted curbside recyclables – dry fiber and plastic, metal and glass containers – remaining in the waste stream is a relatively small piece of the pie at a combined 15.9 percent.
- Compostable organics – which include food wastes, green wastes, and some compostable papers – are quite significant at 41.4 percent. However, it is important to note that these materials may not be easily source- separated prior to disposal, nor separated from disposed wastes such that they could be recovered for feedstock in a plant designed to manage organic wastes.
- Even with significantly enhanced capture of targeted fiber, recyclable containers, and organics, over 41 percent of the disposed waste stream is not readily recyclable in existing curbside (or on-site commercial) recycling programs without:
  - Adding materials to the existing programs,
  - Making better use of other outlets for diverting materials (home composting, scrap metal recyclers, reuse stores, etc.)
  - Adding new recycling programs possibly in conjunction with development of local markets to accept such materials.

It is also critical to note that the above figure represents the rosiest possible definition of what is "recoverable" in existing programs. Manual sorters were trained to separate all items for placement in the correct category, and did not make any adjustments for contamination of sorted materials, nor the ability of a mechanical processing system to accurately separate such materials for recovery. The results of this exercise can be considered an "academic" characterization of the wastes stream. Many of the recyclable and compostable organic items would never be recovered or diverted because of contamination, or because they are so intermingled with non-recoverable items prior to placement in the waste receptacle (or as a result of the collection process) that no processing line could economically separate and recover the item.

Figure 3-4 shows the top 10 most prevalent materials in the MSW stream in both the 2010 and 2015 Studies. As shown, the most prevalent material in both studies was Food Waste and Compostable Paper, although the incidence of both has increased in 2015.

Figure 3-4 Comparison of 2015 and 2010 Top 10 Materials

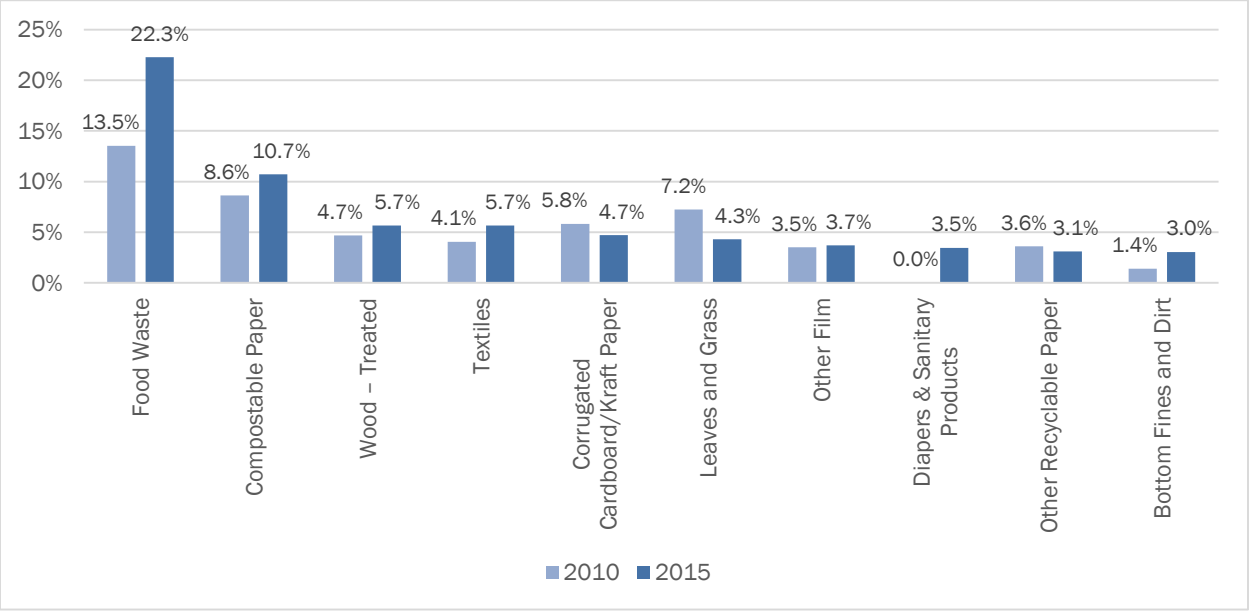


Table 3-1 on the following page provides a detailed statistical profile of the 2015 statewide aggregate disposed waste stream. For each material category, the mean percent, confidence intervals, and estimated tonnage are shown.

Confidence intervals are calculated at a 90 percent level of confidence. It should be noted that the sum of the mean percentages for all of the individual materials within a material group sum to the mean percentage shown for the group. For example, the sum of all of the paper materials is the same as the 23.1 percent shown for Paper as a material group. However, the same does not hold true for the confidence intervals. Confidence intervals are calculated individually for each row in this table; the sum of the confidence intervals for each individual material will not equal the confidence interval for the material group as a whole.

Table 3-1 Detailed MSW Composition

Material Category	Est. Percent	Conf. Int (+/-)	Tons	Material Category	Est. Percent	Conf. Int (+/-)	Tons
Paper	**23.1%**		**539,493**	**Food Waste**	**22.3%**		**519,832**
Corrugated Cardboard/Kraft Paper	4.7%	0.6%	109,601	Food Waste, Loose	19.5%	1.7%	455,450
High Grade Office Paper	1.1%	0.3%	26,511	Food Waste, Emptied from Packaging	2.8%	0.8%	64,382
Magazines/Catalogs	0.8%	0.2%	18,902	**Other Organics**	**11.1%**		**258,922**
Newsprint	1.4%	0.4%	32,276	Branches and Stumps	0.5%	0.3%	11,722
Phone Books and Directories	0.1%	0.0%	2,207	Prunings and Trimmings	1.9%	0.6%	44,819
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	5,990	Leaves and Grass	4.3%	0.9%	100,548
Other Recyclable Paper	3.1%	0.4%	72,116	Manures	0.2%	0.2%	5,082
Compostable Paper	10.7%	0.9%	249,829	Diapers & Sanitary Products	3.5%	0.6%	80,550
Remainder/Composite Paper	0.9%	0.2%	22,061	Remainder/Composite Organic	0.7%	0.2%	16,201
Plastic	**11.8%**		**275,613**	**C&D Debris**	**11.9%**		**276,995**
PET Bottles/Jars	0.6%	0.1%	13,378	Asphalt, Brick, and Concrete	0.3%	0.3%	8,099
PET Containers Other than Bottles	0.2%	0.0%	5,634	Wood – Treated	5.7%	1.1%	132,162
Plastic CT Deposit Beverage Containers	0.3%	0.0%	7,293	Wood – Untreated	1.7%	0.6%	39,953
HDPE Bottles, Colored and Natural	0.5%	0.1%	12,018	Asphalt Roofing	0.3%	0.2%	6,642
HDPE Containers other than Bottles	0.2%	0.1%	5,009	Drywall/Gypsum Board	0.6%	0.3%	13,932
Plastic Containers #3-#7	0.7%	0.1%	17,433	Carpet	1.2%	0.5%	29,032
Expanded Polystyrene Non-food Grade	0.1%	0.0%	2,897	Carpet Padding	0.3%	0.2%	6,876
Expanded Food-grade Polystyrene	0.5%	0.1%	11,700	Remainder/Composite C&D	1.7%	0.6%	40,300
Durable Plastic Items	0.8%	0.2%	19,693	**Household Hazardous Waste**	**0.7%**		**16,943**
Film (non-bag)	0.8%	0.1%	18,318	Ballasts, CFLs	0.0%	0.0%	76
Grocery and other Merchandise Bags	0.7%	0.1%	16,902	Batteries – Lead Acid	0.0%	0.0%	4
Other Film	3.7%	0.3%	85,934	Other Batteries	0.0%	0.0%	772
Flexible Plastic Pouches and Packaging	0.2%	0.1%	4,077	Paint	0.0%	0.0%	1,079
Pallets – Plastic	0.1%	0.1%	1,627	Sharps	0.0%	0.0%	102
Remainder/Composite Plastic	2.3%	0.4%	53,701	Vehicle and Equipment Fluids	0.1%	0.1%	1,387
Metal	**3.5%**		**82,443**	Empty Metal/Glass/Plastic HHW Containe	0.3%	0.1%	7,941
Aluminum Beverage Containers	0.1%	0.0%	2,502	Pesticides and Fertilizers	0.0%	0.0%	125
Aluminum CT Deposit Beverage Container	0.1%	0.0%	3,062	Other Hazardous Waste	0.2%	0.1%	5,458
Aluminum Plates & Foils	0.4%	0.1%	8,619	**Electronics**	**0.5%**		**11,906**
Tin/Steel Containers	0.5%	0.1%	11,553	Computer-related Electronics	0.1%	0.1%	2,624
Other Ferrous	0.3%	0.1%	7,085	Other Small Consumer Electronics	0.3%	0.1%	6,472
Other Non-Ferrous	0.2%	0.2%	5,076	Televisions and Computer Monitors	0.0%	0.1%	923
Appliances	0.3%	0.3%	6,932	Other Larger Electronics	0.1%	0.1%	1,885
Compressed Fuel Containers/Propane Ta	0.2%	0.2%	4,045	**Other Wastes**	**12.5%**		**291,940**
Remainder/Composite Metal	1.4%	0.3%	33,567	Bulky Items	1.6%	0.7%	37,940
Glass	**2.5%**		**58,512**	Textiles	5.7%	0.7%	131,904
Non-deposit Clear/Amber Glass	1.1%	0.2%	25,100	Restaurant Fats, Oils and Grease	0.0%	0.0%	618
Non-deposit Green/Other Colored Glass	0.2%	0.1%	4,513	Bottom Fines and Dirt	3.0%	0.4%	70,709
Deposit Glass	0.3%	0.1%	7,311	Other Miscellaneous	2.2%	0.5%	50,768
Flat Glass	0.1%	0.1%	1,841	**Grand Total**	**100%**		**2,332,598**
Remainder/Composite Glass	0.8%	0.3%	19,746	***No. of Samples***	***247***		

Table 3-2 compares the composition and disposed MSW tonnage for 2015 and 2010.

Table 3-2 Comparison of Detailed MSW Composition

Material Category	Estimate Percent Composition 2010	2015	Change	Estimated Tons 2010	2015	Change
Paper	**25.9%**	**23.1%**	**-2.8%**	**616,223**	**539,493**	**-76,730**
Corrugated Cardboard/Kraft Paper	5.8%	4.7%	-1.1%	138,240	109,601	-28,639
High Grade Office Paper	1.7%	1.1%	-0.6%	41,229	26,511	-14,717
Magazines/Catalogs	1.3%	0.8%	-0.5%	30,570	18,902	-11,668
Newsprint	2.0%	1.4%	-0.6%	47,510	32,276	-15,234
Phone Books and Directories	0.3%	0.1%	-0.2%	7,797	2,207	-5,590
Aseptic Boxes & Gable Top Cartons	NA	0.3%	NA	NA	5,990	NA
Other Recyclable Paper	3.6%	3.1%	-0.5%	85,517	72,116	-13,401
Compostable Paper	8.6%	10.7%	2.1%	205,542	249,829	44,288
Remainder/Composite Paper	2.5%	0.9%	-1.6%	59,819	22,061	-37,759
Plastic	**14.7%**	**11.8%**	**-2.9%**	**349,480**	**275,613**	**-73,867**
PET Bottles/Jars	0.5%	0.6%	0.0%	12,531	13,378	847
PET Containers Other than Bottles	0.1%	0.2%	0.1%	3,126	5,634	2,508
Plastic CT Deposit Beverage Containers	0.5%	0.3%	-0.1%	10,734	7,293	-3,441
HDPE Bottles, Colored and Natural	0.5%	0.5%	0.1%	10,829	12,018	1,189
HDPE Containers other than Bottles	0.2%	0.2%	0.0%	4,398	5,009	611
Plastic Containers #3-#7	0.5%	0.7%	0.3%	11,546	17,433	5,887
Expanded Polystyrene Non-food Grade	0.8%	0.1%	-0.7%	20,095	2,897	-17,197
Expanded Food-grade Polystyrene	0.7%	0.5%	-0.2%	16,021	11,700	-4,321
Durable Plastic Items	3.6%	0.8%	-2.8%	86,325	19,693	-66,633
Film (non-bag)	0.6%	0.8%	0.2%	13,329	18,318	4,989
Grocery and other Merchandise Bags	0.5%	0.7%	0.2%	11,823	16,902	5,079
Other Film	3.5%	3.7%	0.2%	83,478	85,934	2,456
Flexible Plastic Pouches and Packaging	NA	0.2%	NA	NA	4,077	NA
Pallets – Plastic	0.3%	0.1%	-0.2%	6,989	1,627	-5,361
Remainder/Composite Plastic	2.4%	2.3%	-0.1%	58,258	53,701	-4,557
Metal	**4.5%**	**3.5%**	**-1.0%**	**107,475**	**82,443**	**-25,032**
Aluminum Beverage Containers	0.1%	0.1%	0.1%	1,249	2,502	1,254
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	0.0%	3,519	3,062	-457
Aluminum Plates & Foils	NA	0.4%	NA	NA	8,619	NA
Tin/Steel Containers	0.8%	0.5%	-0.3%	18,878	11,553	-7,325
Other Ferrous	1.6%	0.3%	-1.3%	38,452	7,085	-31,367
Other Non-Ferrous	0.6%	0.2%	-0.4%	14,936	5,076	-9,859
Appliances	0.5%	0.3%	-0.2%	12,185	6,932	-5,252
Compressed Fuel Containers/Propane Tanks	0.1%	0.2%	0.1%	1,849	4,045	2,195
Remainder/Composite Metal	0.7%	1.4%	0.7%	16,408	33,567	17,160
Glass	**2.1%**	**2.5%**	**0.4%**	**51,065**	**58,512**	**7,447**
Non-deposit Clear/Amber Glass	1.2%	1.1%	-0.1%	27,659	25,100	-2,558
Non-deposit Green/Other Colored Glass	0.2%	0.2%	0.0%	4,272	4,513	242
Deposit Glass	0.3%	0.3%	0.0%	7,364	7,311	-53
Flat Glass	0.2%	0.1%	-0.1%	3,621	1,841	-1,780
Remainder/Composite Glass	0.3%	0.8%	0.5%	8,150	19,746	11,595
Food Waste	**13.5%**	**22.3%**	**8.8%**	**321,481**	**519,832**	**198,351**
Food Waste, Loose	13.5%	19.5%	6.0%	321,481	455,450	133,969
Food Waste, Emptied from Packaging	NA	2.8%	NA	NA	64,382	NA

Table 3-2 Comparison of Detailed MSW Composition (continued)

Material Category	2010	2015	Change	2010	2015	Change
Other Organics	**13.2%**	**11.1%**	**-2.1%**	**314,734**	**258,922**	**-55,812**
Branches and Stumps	0.4%	0.5%	0.1%	10,149	11,722	1,574
Prunings and Trimmings	2.2%	1.9%	-0.2%	51,550	44,819	-6,731
Leaves and Grass	7.2%	4.3%	-2.9%	172,408	100,548	-71,861
Manures	0.2%	0.2%	0.0%	5,432	5,082	-350
Diapers & Sanitary Products	NA	3.5%	NA	NA	80,550	NA
Remainder/Composite Organic	3.2%	0.7%	-2.5%	75,195	16,201	-58,993
C&D Debris	**14.1%**	**11.9%**	**-2.2%**	**334,817**	**276,995**	**-57,821**
Asphalt, Brick, and Concrete	0.1%	0.3%	0.2%	2,752	8,099	5,347
Wood – Treated	4.7%	5.7%	1.0%	111,404	132,162	20,757
Wood – Untreated	2.7%	1.7%	-1.0%	63,566	39,953	-23,612
Asphalt Roofing	0.3%	0.3%	0.0%	6,145	6,642	497
Drywall/Gypsum Board	0.6%	0.6%	0.0%	15,263	13,932	-1,331
Carpet	3.5%	1.2%	-2.2%	83,125	29,032	-54,093
Carpet Padding	0.8%	0.3%	-0.5%	17,945	6,876	-11,069
Remainder/Composite C&D	1.5%	1.7%	0.3%	34,616	40,300	5,684
Household Hazardous Waste	**0.5%**	**0.7%**	**0.2%**	**12,986**	**16,943**	**3,957**
Ballasts, CFLs	0.0%	0.0%	0.0%	142	76	-66
Batteries – Lead Acid	0.0%	0.0%	0.0%	178	4	-173
Other Batteries	0.1%	0.0%	0.0%	1,562	772	-790
Paint	0.0%	0.0%	0.0%	815	1,079	264
Sharps	0.0%	0.0%	0.0%	281	102	-179
Vehicle and Equipment Fluids	0.0%	0.1%	0.0%	950	1,387	436
Empty Metal/Glass/Plastic HHW Containers	0.2%	0.3%	0.2%	4,298	7,941	3,643
Pesticides and Fertilizers	0.0%	0.0%	0.0%	50	125	75
Other Hazardous Waste	0.2%	0.2%	0.0%	4,711	5,458	747
Electronics	**2.1%**	**0.5%**	**-1.6%**	**50,738**	**11,906**	**-38,833**
Computer-related Electronics	0.4%	0.1%	-0.3%	9,125	2,624	-6,500
Other Small Consumer Electronics	0.4%	0.3%	-0.2%	10,225	6,472	-3,752
Televisions and Computer Monitors	1.0%	0.0%	-0.9%	22,734	923	-21,810
Other Larger Electronics	0.4%	0.1%	-0.3%	8,655	1,885	-6,770
Other Wastes	**9.3%**	**12.5%**	**3.2%**	**220,687**	**291,940**	**71,253**
Bulky Items	2.5%	1.6%	-0.9%	60,223	37,940	-22,282
Textiles	4.1%	5.7%	1.6%	96,521	131,904	35,383
Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%	196	618	422
Bottom Fines and Dirt	1.4%	3.0%	1.6%	33,303	70,709	37,406
Other Miscellaneous	1.3%	2.2%	0.9%	30,445	50,768	20,324
Grand Total	**100.0%**	**100.0%**	**0.0%**	**2,379,687**	**2,332,598**	**-47,089**

3.1.1 FOOD WASTE IN PACKAGING

DEEP recognized that a significant fraction of food is discarded while still contained in packaging, and that this still-packaged food waste may be problematic for some processors. Given the heightened interest in the state at the current time in developing anaerobic digestion, composting, and other organics recovery facilities in an attempt to increase diversion of organics, DEEP requested a closer analysis of food wastes.

In an effort to investigate the constraints of separating food, the 2015 Study attempted to differentiate between (a) packaged food from (b) food that is loose in the sample or is contained in a bag, box or other

container for disposal. Packaged food includes food that is remaining in its factory or retail packaging, including jars, cans, clamshells, flexible packaging, and any other packaging.

Table 3-3 summarizes the observed split between food that was found loose in the waste stream compared to food that was discarded while still substantially contained in some form of packaging. Presumably the 12.4 percent of disposed food waste still contained in packaging would either not be available for capture in many organics recovery systems, or else might diminish the performance of such systems.

Table 3-3 Analysis of Loose and Packaged Food in Connecticut Waste Stream

Material	Tons Disposed	Percent
Food Waste - Loose	455,450	88.6%
Food Waste - Emptied from Packaging	64,382	12.4%
Total	519,832	100%

It is critical to note that this study did not include food discarded in film plastic bags (including garbage bags) as being "contained in packaging." The manual sorting process for waste characterization studies is very effective at fully separating food from all packaging and other materials – much more so than a mechanical processing line would be expected to perform. Any processing system that is intending to accept mixed wastes should expect to encounter a significantly higher fraction of food wastes that are not easily separable without substantial resources devoted to the task.

3.1.2 FLEXIBLE FILM PACKAGING

DEEP also specified film pouches and other hard-to-recycle films as a material type of interest. Flexible Film Packaging was defined in this study as:

> Plastic film packaging that is multi-layered (laminated) with multiple resins, sometimes with flat bottoms allowing pouch to stand on its own. May contain non-plastic foil layers and "tie-layers" that bond or fuse different layers together. Mostly used for preserving food. Examples include coffee bags, juice pouches, wine pouches, baby food, and some soap or detergent pouches.

Significant growth in the use of flexible film packaging has been widely reported, due to its attractive lifecycle environmental and economic profile. The 2015 Study tested the incidence of flexible film packaging on the disposed waste stream.

Summary data are shown in Table 3-4. As shown in this table, flexible film packaging was found to be almost negligible in the disposed waste stream, at approximately 0.2% and just over 4,000 tons statewide. Of particular interest, flexible film packaging makes up only 1.5 percent of all plastics in disposed wastes. Given that one of the primary objectives of flexible film packaging is to greatly reduce the weight associated with transporting packaged food and other goods, it is perhaps not surprising that this type of packaging makes up such a small fraction of the waste stream.

Table 3-4 Analysis of Flexible Film Packaging in Connecticut Waste Stream

Material	Percentage	Tons
All Plastics	11.8%	275,613
Flexible Plastic Packaging	0.2%	4,077
Flexible Plastic Packaging as a Percentage of All Plastics	*1.5%*	

3.2 STATEWIDE RESIDENTIAL WASTE COMPOSITION

Figure 3-5 shows the composition and tonnage of Residential wastes in 2015. As shown, Paper and Food Waste are the most common material groups, although significant contributions come from Other Wastes, Other Organics, C&D Debris and Plastics.

Figure 3-5 2015 Residential Waste Composition and Disposed Quantities (tons)

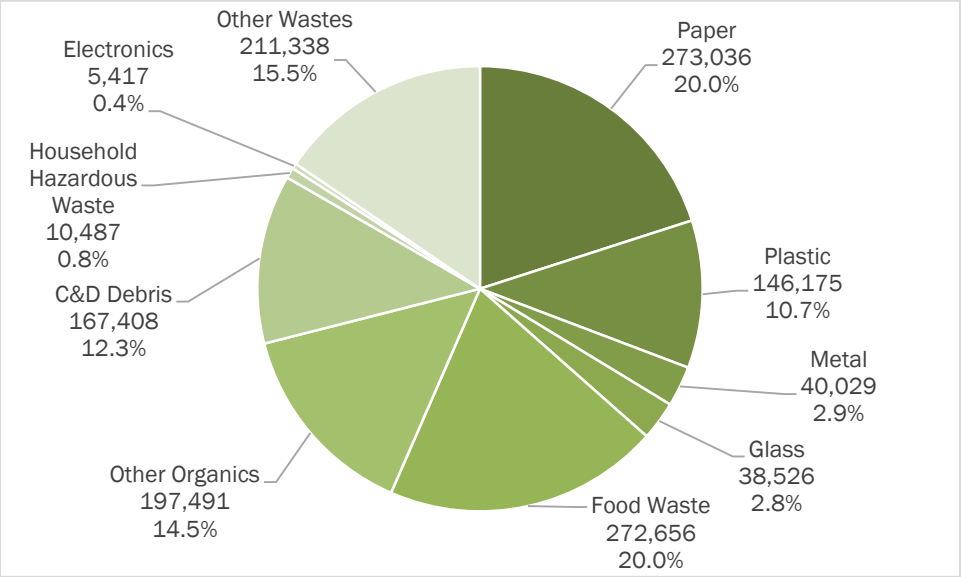


Figure 3-6 compares the composition of Residential waste in 2015 with the same result from the 2010 Study. Although it was beyond the scope of this study to determine the causes of observed changes in the waste stream, these findings suggest that expansion of curbside single stream recycling has successfully reduced the incidence of targeted recyclables in the disposed waste stream. A side effect of increased recycling – observed in many other waste characterization studies that have been updated in the past three years – is that the percentage of Food Waste, C&D Debris, and Other wastes is significantly higher as targeted recyclables are removed from the stream.

Figure 3-6 Comparison of 2015 and 2010 Residential Waste Composition

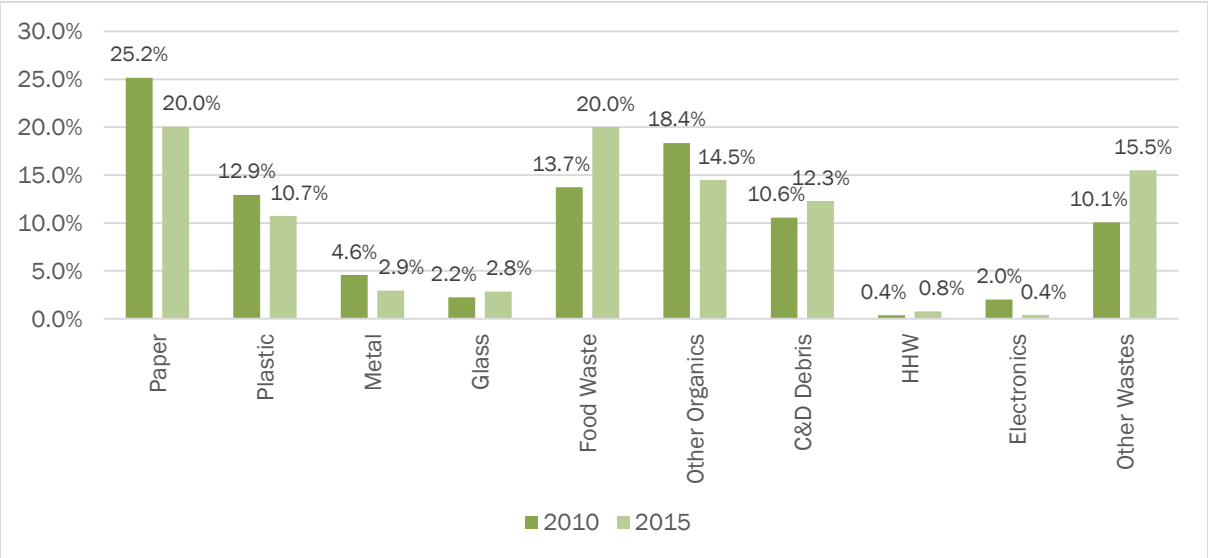


Figure 3-7 below shows the mean percentage of recoverable materials in the residential waste stream. The "Not Currently Recoverable" portion includes materials that are potentially recoverable, but are not targeted in residential single stream recycling programs. Readers are encouraged to review the discussion surrounding Figure 3-3 for additional consideration about how to interpret the data in Figure 3-7.

Figure 3-7 Recoverability of Residential Wastes in Existing Curbside Programs

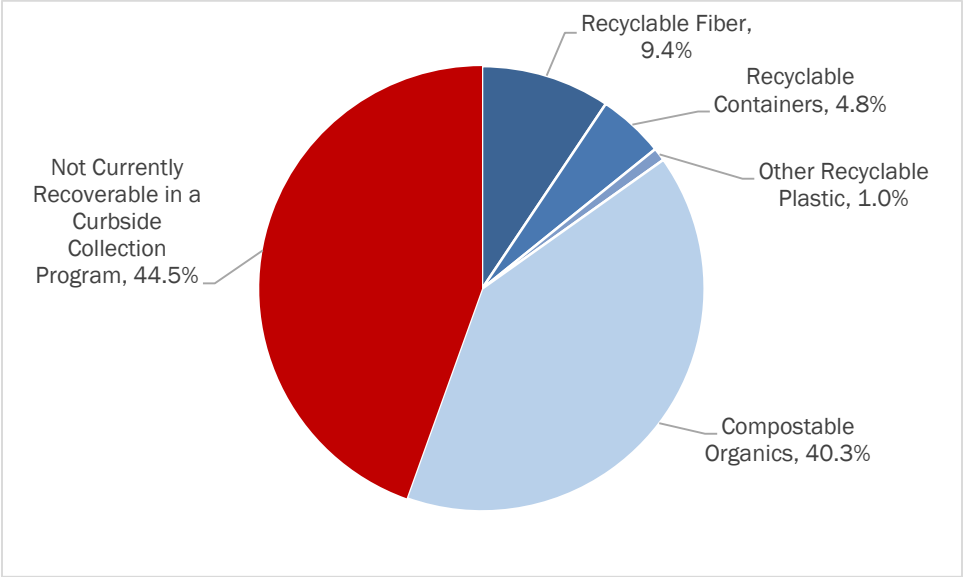


Figure 3-8 compares the top ten most prevalent materials in the 2015 and 2010 Studies. This figure highlights the significant increase in the contribution of food waste. This figure also shows a significant reduction in Leaves and Grass; it must be noted that some of this difference may be attributable to the different seasons in which sorting was performed in each Study, and whether heavy generation of grass clippings (spring) and leaves (fall) were or were not captured during the sampling periods.

Figure 3-8 Comparison of 2015 and 2010 Top 10 Materials – Residential Sector

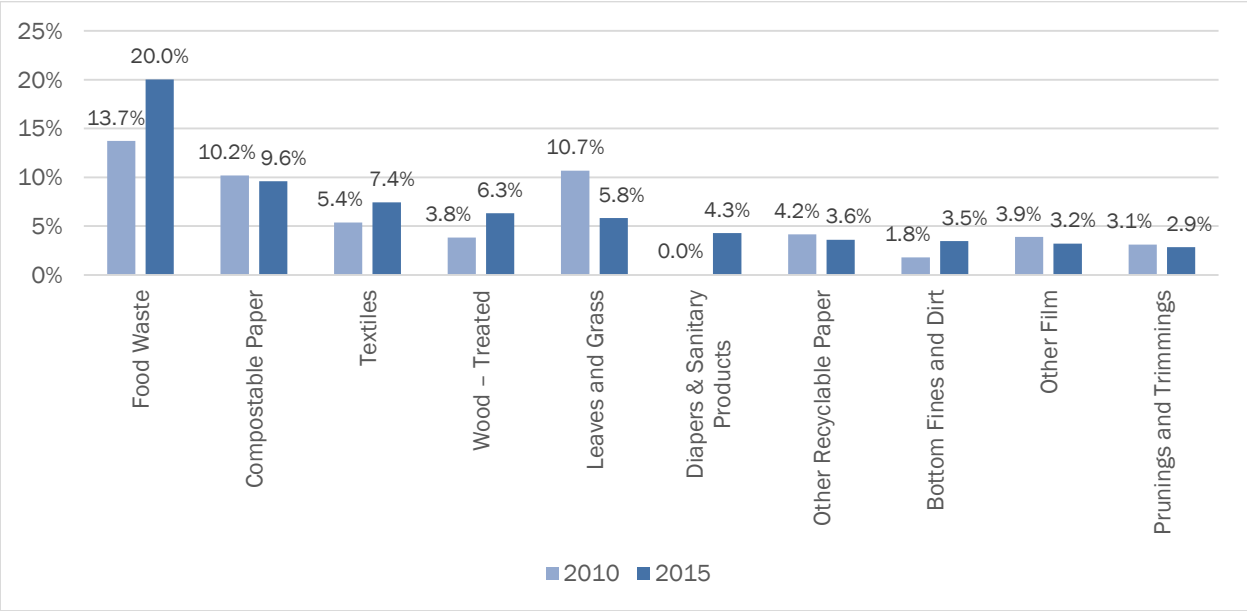


Table 3-5 provides a detailed statistical profile of the statewide disposed Residential waste stream.

Table 3-5 Detailed Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Tons	Material Category	Est. Percent	Conf. Int (+/-)	Tons
Paper	**20.0%**		**273,036**	**Food Waste**	**20.0%**		**272,656**
Corrugated Cardboard/Kraft Paper	2.1%	0.4%	28,551	Food Waste, Loose	17.8%	1.9%	242,767
High Grade Office Paper	0.8%	0.2%	10,631	Food Waste, Emptied from Packaging	2.2%	0.4%	29,889
Magazines/Catalogs	0.9%	0.2%	12,206	**Other Organics**	**14.5%**		**197,491**
Newsprint	1.9%	0.7%	26,157	Branches and Stumps	0.7%	0.4%	9,968
Phone Books and Directories	0.1%	0.1%	1,548	Prunings and Trimmings	2.9%	1.0%	38,900
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	2,892	Leaves and Grass	5.8%	1.3%	79,262
Other Recyclable Paper	3.6%	0.5%	48,870	Manures	0.1%	0.2%	1,766
Compostable Paper	9.6%	0.8%	130,759	Diapers & Sanitary Products	4.3%	0.8%	58,381
Remainder/Composite Paper	0.8%	0.2%	11,422	Remainder/Composite Organic	0.7%	0.2%	9,215
Plastic	**10.7%**		**146,175**	**C&D Debris**	**12.3%**		**167,408**
PET Bottles/Jars	0.6%	0.1%	8,068	Asphalt, Brick, and Concrete	0.4%	0.4%	5,322
PET Containers Other than Bottles	0.3%	0.0%	3,447	Wood – Treated	6.3%	1.6%	86,020
Plastic CT Deposit Beverage Containers	0.3%	0.0%	3,856	Wood – Untreated	1.3%	0.6%	18,011
HDPE Bottles, Colored and Natural	0.6%	0.1%	8,056	Asphalt Roofing	0.2%	0.2%	3,353
HDPE Containers other than Bottles	0.1%	0.0%	1,213	Drywall/Gypsum Board	0.5%	0.3%	7,461
Plastic Containers #3-#7	0.7%	0.1%	9,294	Carpet	1.7%	0.8%	22,491
Expanded Polystyrene Non-food Grade	0.1%	0.0%	1,066	Carpet Padding	0.5%	0.4%	6,453
Expanded Food-grade Polystyrene	0.5%	0.1%	7,271	Remainder/Composite C&D	1.3%	0.5%	18,297
Durable Plastic Items	0.6%	0.2%	8,411	**Household Hazardous Waste**	**0.8%**		**10,487**
Film (non-bag)	0.5%	0.1%	7,481	Ballasts, CFLs	0.0%	0.0%	33
Grocery and other Merchandise Bags	0.9%	0.1%	12,262	Batteries – Lead Acid	0.0%	0.0%	2
Other Film	3.2%	0.3%	43,487	Other Batteries	0.0%	0.0%	632
Flexible Plastic Pouches and Packaging	0.2%	0.0%	2,105	Paint	0.1%	0.1%	727
Pallets – Plastic	0.0%	0.0%	178	Sharps	0.0%	0.0%	88
Remainder/Composite Plastic	2.2%	0.5%	29,979	Vehicle and Equipment Fluids	0.1%	0.1%	1,239
Metal	**2.9%**		**40,029**	Empty Metal/Glass/Plastic HHW Containe	0.3%	0.2%	4,768
Aluminum Beverage Containers	0.1%	0.0%	1,640	Pesticides and Fertilizers	0.0%	0.0%	125
Aluminum CT Deposit Beverage Containe	0.1%	0.0%	1,826	Other Hazardous Waste	0.2%	0.1%	2,872
Aluminum Plates & Foils	0.4%	0.1%	5,173	**Electronics**	**0.4%**		**5,417**
Tin/Steel Containers	0.5%	0.1%	7,415	Computer-related Electronics	0.0%	0.0%	216
Other Ferrous	0.2%	0.1%	3,356	Other Small Consumer Electronics	0.3%	0.1%	4,138
Other Non-Ferrous	0.3%	0.3%	4,291	Televisions and Computer Monitors	0.0%	0.0%	232
Appliances	0.1%	0.1%	1,125	Other Larger Electronics	0.1%	0.1%	830
Compressed Fuel Containers/Propane Ta	0.0%	0.0%	62	**Other Wastes**	**15.5%**		**211,338**
Remainder/Composite Metal	1.1%	0.3%	15,139	Bulky Items	2.2%	1.0%	29,310
Glass	**2.8%**		**38,526**	Textiles	7.4%	0.9%	101,413
Non-deposit Clear/Amber Glass	1.2%	0.3%	15,881	Restaurant Fats, Oils and Grease	0.0%	0.0%	235
Non-deposit Green/Other Colored Glass	0.2%	0.1%	2,954	Bottom Fines and Dirt	3.5%	0.6%	47,332
Deposit Glass	0.3%	0.1%	3,668	Other Miscellaneous	2.4%	0.6%	33,049
Flat Glass	0.1%	0.1%	1,756	**Grand Total**	**100%**		**1,362,563**
Remainder/Composite Glass	1.0%	0.5%	14,266	***No. of Samples***	***136***		

The following observations can be made about the results in Table 3-5:

- **Curbside Recycling**: The incidence of recyclable paper (including OCC) and containers is relatively low, suggesting that the curbside programs that have been implemented in Connecticut have made an impact at diverting these materials from disposal.
- **Diversity of Plastic Waste**: The diversity of plastic resins, packaging types, durable product types, and overall uses remains high as in the 2010 Study.
- **Food Waste**: Food waste is the most significant material in the residential waste stream, by weight, with most of the food being disposed after removal from its original packaging (although often re-

wrapped in plastic or other packaging and placed in plastics trash bags). Experience has shown that recovery of food waste is costly, both from a collection and a processing standpoint, and therefore recovery projections should err on the conservative side.

- **C&D Debris**: A meaningful fraction of C&D debris, mostly associated with home renovation projects, is disposed in residential waste.
- **Electronic Waste**: There was very little electronic waste, suggesting that programs available to divert these materials are successful keeping them out of landfills.
- **HHW**: Similarly, the incidence of HHW is quite low, with much of this group attributable to the empty HHW containers which contain a significant amount of the weight.
- **Compostability of Other Organics**: Although this category is significant, only the green waste categories are compostable. It is not clear if the seasonality of sampling events impacted the incidence of these green waste categories.
- **Problem Materials**: There are still a number of materials that are commonly disposed that cannot be readily diverted. These include Diapers and Sanitary Products, Treated Wood, Fines, and a number of "remainder and composite" (catch-all) categories.

Table 3-6 compares Residential waste stream composition in 2010 and 2015.

Table 3-6 Comparison of 2010 and 2015 Residential Waste Composition

	Estimate Percent Composition			Estimated Tons		
Material Category	2010	2015	Change	2010	2015	Change
Paper	**25.2%**	**20.0%**	**-5.1%**	**335,752**	**273,036**	**-62,716**
Corrugated Cardboard/Kraft Paper	2.7%	2.1%	-0.6%	35,683	28,551	-7,132
High Grade Office Paper	1.5%	0.8%	-0.7%	19,445	10,631	-8,814
Magazines/Catalogs	1.6%	0.9%	-0.7%	21,787	12,206	-9,581
Newsprint	2.3%	1.9%	-0.4%	30,903	26,157	-4,746
Phone Books and Directories	0.3%	0.1%	-0.2%	4,163	1,548	-2,615
Aseptic Boxes & Gable Top Cartons	NA	0.2%	NA	NA	2,892	NA
Other Recyclable Paper	4.2%	3.6%	-0.6%	55,594	48,870	-6,724
Compostable Paper	10.2%	9.6%	-0.6%	136,111	130,759	-5,352
Remainder/Composite Paper	2.4%	0.8%	-1.6%	32,065	11,422	-20,644
Plastic	**12.9%**	**10.7%**	**-2.2%**	**172,626**	**146,175**	**-26,451**
PET Bottles/Jars	0.6%	0.6%	0.0%	7,779	8,068	289
PET Containers Other than Bottles	0.2%	0.3%	0.1%	2,076	3,447	1,371
Plastic CT Deposit Beverage Containers	0.2%	0.3%	0.1%	2,942	3,856	914
HDPE Bottles, Colored and Natural	0.5%	0.6%	0.1%	6,691	8,056	1,364
HDPE Containers other than Bottles	0.2%	0.1%	-0.1%	2,018	1,213	-805
Plastic Containers #3-#7	0.5%	0.7%	0.2%	7,041	9,294	2,253
Expanded Polystyrene Non-food Grade	0.1%	0.1%	0.0%	1,196	1,066	-130
Expanded Food-grade Polystyrene	0.8%	0.5%	-0.2%	10,160	7,271	-2,889
Durable Plastic Items	2.8%	0.6%	-2.2%	37,782	8,411	-29,371
Film (non-bag)	0.4%	0.5%	0.1%	5,678	7,481	1,803
Grocery and other Merchandise Bags	0.7%	0.9%	0.2%	9,005	12,262	3,257
Other Film	3.9%	3.2%	-0.7%	51,880	43,487	-8,393
Flexible Plastic Pouches and Packaging	NA	0.2%	NA	NA	2,105	NA
Pallets – Plastic	0.1%	0.0%	-0.1%	1,423	178	-1,244
Remainder/Composite Plastic	2.0%	2.2%	0.2%	26,953	29,979	3,026
Metal	**4.6%**	**2.9%**	**-1.6%**	**60,953**	**40,029**	**-20,924**
Aluminum Beverage Containers	0.1%	0.1%	0.1%	866	1,640	774
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	0.0%	1,507	1,826	319
Aluminum Plates & Foils	NA	0.4%	NA	NA	5,173	NA
Tin/Steel Containers	0.9%	0.5%	-0.4%	12,297	7,415	-4,881
Other Ferrous	1.5%	0.2%	-1.2%	19,389	3,356	-16,033
Other Non-Ferrous	0.8%	0.3%	-0.5%	10,818	4,291	-6,527
Appliances	0.7%	0.1%	-0.6%	8,934	1,125	-7,809
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	0.0%	116	62	-54
Remainder/Composite Metal	0.5%	1.1%	0.6%	7,026	15,139	8,113
Glass	**2.2%**	**2.8%**	**0.6%**	**29,921**	**38,526**	**8,605**
Non-deposit Clear/Amber Glass	1.3%	1.2%	-0.1%	16,862	15,881	-980
Non-deposit Green/Other Colored Glass	0.2%	0.2%	0.0%	2,279	2,954	676
Deposit Glass	0.3%	0.3%	0.0%	3,760	3,668	-92
Flat Glass	0.0%	0.1%	0.1%	293	1,756	1,463
Remainder/Composite Glass	0.5%	1.0%	0.5%	6,729	14,266	7,538
Food Waste	**13.7%**	**20.0%**	**6.3%**	**183,112**	**272,656**	**89,544**
Food Waste, Loose	13.7%	17.8%	4.1%	183,112	242,767	59,655
Food Waste, Emptied from Packaging	NA	2.2%	NA	NA	29,889	NA

Table 3-6 Comparison of 2010 and 2015 Residential Waste Composition (continued)

Material Category	2010	2015	Change	2010	2015	Change
Other Organics	**18.4%**	**14.5%**	**-3.9%**	**244,976**	**197,491**	**-47,485**
Branches and Stumps	0.3%	0.7%	0.4%	4,139	9,968	5,828
Prunings and Trimmings	3.1%	2.9%	-0.2%	41,384	38,900	-2,484
Leaves and Grass	10.7%	5.8%	-4.9%	142,441	79,262	-63,179
Manures	0.3%	0.1%	-0.2%	3,928	1,766	-2,163
Diapers & Sanitary Products	NA	4.3%	NA	NA	58,381	NA
Remainder/Composite Organic	4.0%	0.7%	-3.3%	53,084	9,215	-43,869
C&D Debris	**10.6%**	**12.3%**	**1.7%**	**141,057**	**167,408**	**26,350**
Asphalt, Brick, and Concrete	0.0%	0.4%	0.3%	665	5,322	4,657
Wood – Treated	3.8%	6.3%	2.5%	51,222	86,020	34,797
Wood – Untreated	0.5%	1.3%	0.8%	7,225	18,011	10,785
Asphalt Roofing	0.1%	0.2%	0.2%	698	3,353	2,655
Drywall/Gypsum Board	0.7%	0.5%	-0.1%	8,969	7,461	-1,507
Carpet	4.0%	1.7%	-2.3%	53,008	22,491	-30,517
Carpet Padding	0.4%	0.5%	0.1%	5,007	6,453	1,446
Remainder/Composite C&D	1.1%	1.3%	0.3%	14,263	18,297	4,035
Household Hazardous Waste	**0.4%**	**0.8%**	**0.4%**	**5,147**	**10,487**	**5,340**
Ballasts, CFLs	0.0%	0.0%	0.0%	36	33	-3
Batteries – Lead Acid	0.0%	0.0%	0.0%	26	2	-25
Other Batteries	0.1%	0.0%	0.0%	1,101	632	-469
Paint	0.1%	0.1%	0.0%	744	727	-17
Sharps	0.0%	0.0%	0.0%	125	88	-36
Vehicle and Equipment Fluids	0.0%	0.1%	0.1%	271	1,239	968
Empty Metal/Glass/Plastic HHW Containers	0.1%	0.3%	0.2%	1,443	4,768	3,325
Pesticides and Fertilizers	0.0%	0.0%	0.0%	22	125	103
Other Hazardous Waste	0.1%	0.2%	0.1%	1,378	2,872	1,494
Electronics	**2.0%**	**0.4%**	**-1.6%**	**26,811**	**5,417**	**-21,394**
Computer-related Electronics	0.1%	0.0%	-0.1%	1,637	216	-1,421
Other Small Consumer Electronics	0.6%	0.3%	-0.2%	7,369	4,138	-3,231
Televisions and Computer Monitors	1.1%	0.0%	-1.1%	15,021	232	-14,789
Other Larger Electronics	0.2%	0.1%	-0.1%	2,784	830	-1,954
Other Wastes	**10.1%**	**15.5%**	**5.4%**	**134,295**	**211,338**	**77,043**
Bulky Items	2.2%	2.2%	0.0%	29,341	29,310	-32
Textiles	5.4%	7.4%	2.1%	71,819	101,413	29,594
Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%	102	235	132
Bottom Fines and Dirt	1.8%	3.5%	1.7%	23,903	47,332	23,429
Other Miscellaneous	0.7%	2.4%	1.7%	9,130	33,049	23,919
Grand Total	**100.0%**	**100.0%**	**0.0%**	**1,334,651**	**1,362,563**	**27,912**

3.3 STATEWIDE ICI WASTE COMPOSITION

Figure 3-9 shows the composition and tonnage of ICI wastes in 2015. As shown, Paper and Food Waste are the most common material groups in the ICI stream.

Figure 3-9 ICI Waste Composition

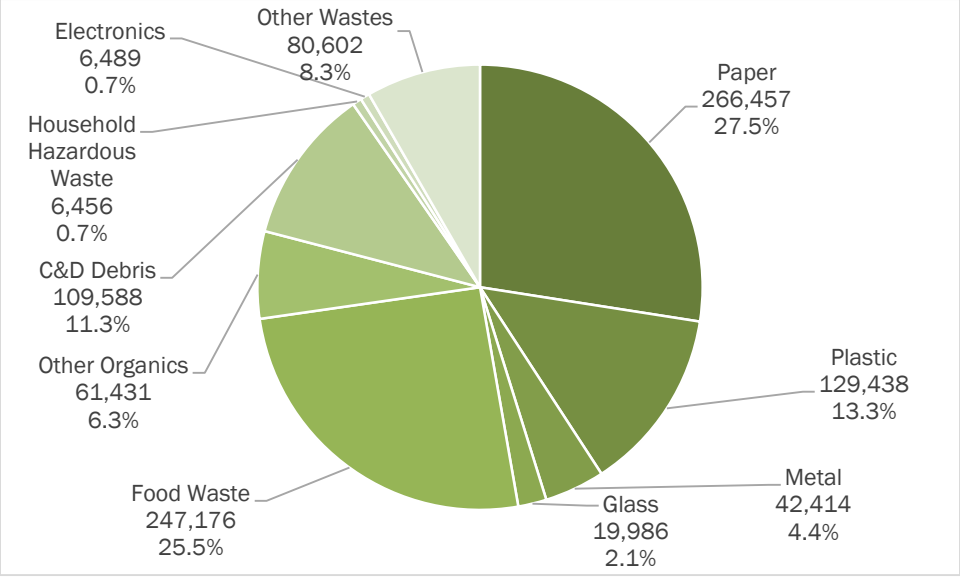


Figure 3-10 compares the composition of ICI waste in 2015 with the same result from the 2010 Study. Once again, there is an increased incidence of Food Waste. The magnitude of the increase in Food Waste tonnage cannot be readily explained in the absence of a better understanding of changes in waste generation, collection, and processing dynamics at the five host facilities since the 2010 Study. Such changes in these dynamics are also suggested by the decrease in C&D. Ultimately, it was beyond the scope of this study to pinpoint the causes of the observed change in disposed Food Waste and C&D at the host disposal facilities in the 2015 Study.

Figure 3-10 Comparison of 2015 and 2010 ICI Composition

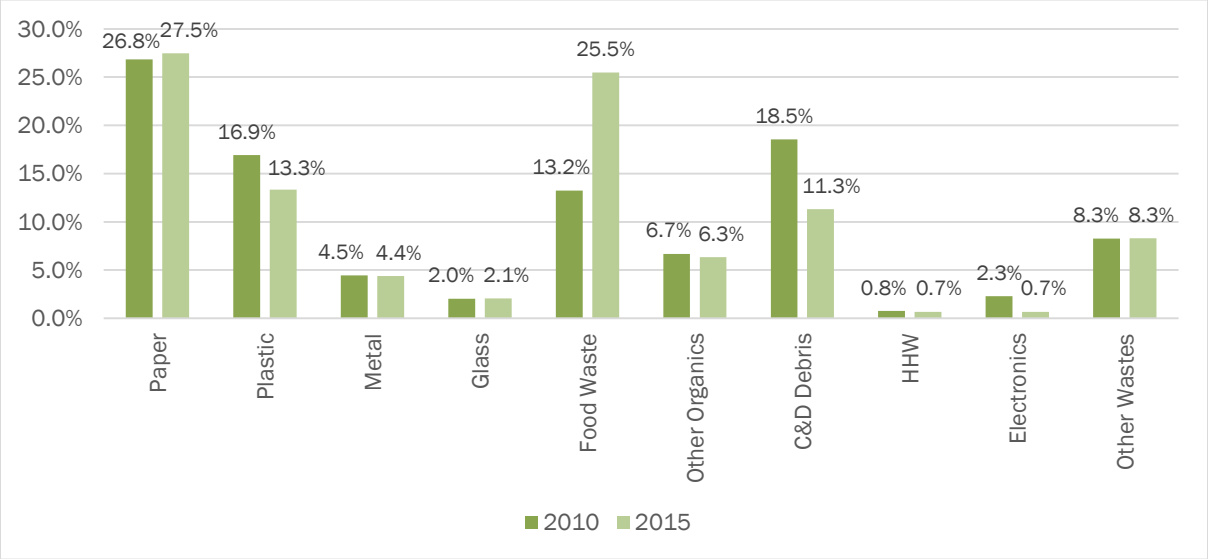


Figure 3-11 below shows the mean percentage of recoverable materials in the ICI waste stream. The "Not Currently Recoverable" portion includes materials that are potentially recoverable, but are not targeted in a typical single stream recycling programs. Readers are encouraged to review the discussion surrounding Figure 3-3 for additional consideration about how to interpret the data in Figure 3-11.

Figure 3-11 Recoverability of ICI Wastes in Existing Single Stream Programs

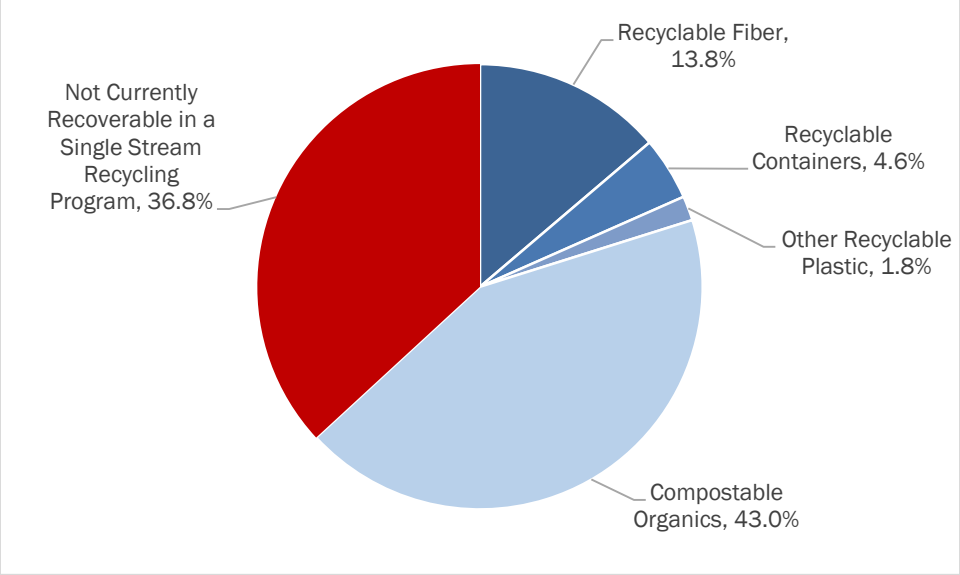


Figure 3-12 compares the top ten most prevalent ICI materials in the 2015 and 2010 Studies. This figure highlights the significant increase in the contribution of both food waste and compostable paper. The most common materials remained fairly consistent between the two studies.

Figure 3-12 Comparison of 2015 and 2010 Top 10 Materials – ICI Sector

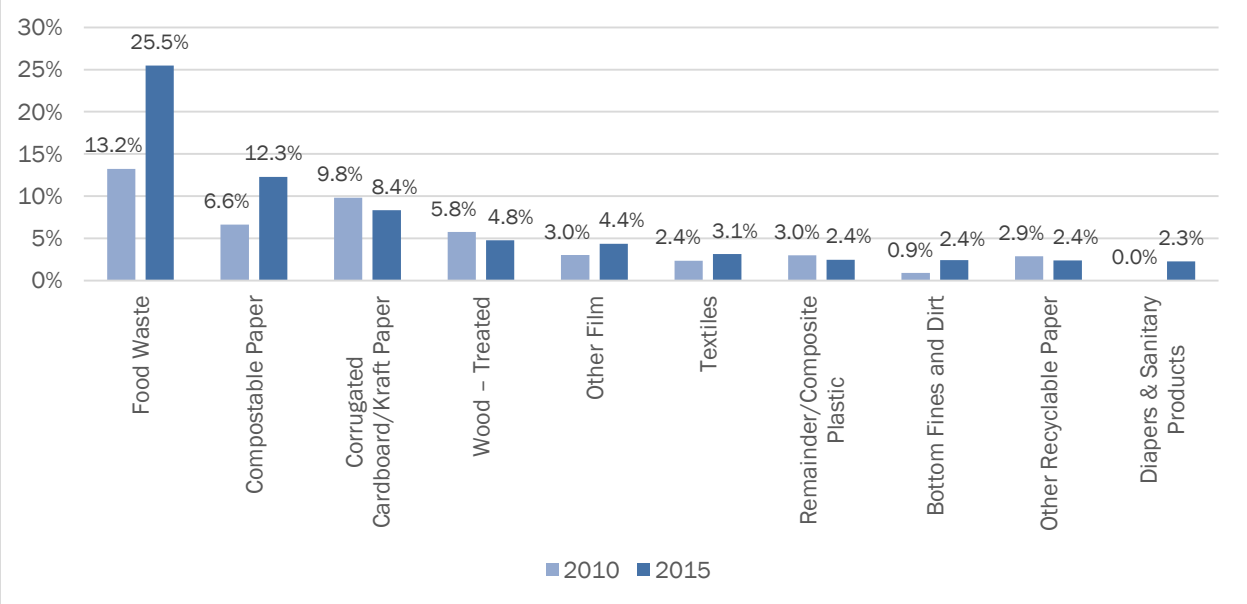


Table 3-7 provides a detailed statistical profile of the statewide disposed ICI waste stream.

Table 3-7 Detailed ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Tons	Material Category	Est. Percent	Conf. Int (+/-)	Tons
Paper	**27.5%**		**266,457**	**Food Waste**	**25.5%**		**247,176**
Corrugated Cardboard/Kraft Paper	8.4%	1.4%	81,049	Food Waste, Loose	21.9%	3.1%	212,683
High Grade Office Paper	1.6%	0.6%	15,880	Food Waste, Emptied from Packaging	3.6%	1.8%	34,493
Magazines/Catalogs	0.7%	0.3%	6,696	**Other Organics**	**6.3%**		**61,431**
Newsprint	0.6%	0.2%	6,119	Branches and Stumps	0.2%	0.2%	1,755
Phone Books and Directories	0.1%	0.1%	659	Prunings and Trimmings	0.6%	0.6%	5,919
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	3,098	Leaves and Grass	2.2%	1.2%	21,286
Other Recyclable Paper	2.4%	0.6%	23,246	Manures	0.3%	0.4%	3,316
Compostable Paper	12.3%	1.7%	119,070	Diapers & Sanitary Products	2.3%	1.1%	22,169
Remainder/Composite Paper	1.1%	0.4%	10,639	Remainder/Composite Organic	0.7%	0.4%	6,987
Plastic	**13.3%**		**129,438**	**C&D Debris**	**11.3%**		**109,588**
PET Bottles/Jars	0.5%	0.1%	5,310	Asphalt, Brick, and Concrete	0.3%	0.3%	2,776
PET Containers Other than Bottles	0.2%	0.1%	2,186	Wood – Treated	4.8%	1.7%	46,142
Plastic CT Deposit Beverage Containers	0.4%	0.1%	3,437	Wood – Untreated	2.3%	1.0%	21,943
HDPE Bottles, Colored and Natural	0.4%	0.1%	3,962	Asphalt Roofing	0.3%	0.4%	3,289
HDPE Containers other than Bottles	0.4%	0.3%	3,796	Drywall/Gypsum Board	0.7%	0.7%	6,471
Plastic Containers #3-#7	0.8%	0.1%	8,138	Carpet	0.7%	0.4%	6,541
Expanded Polystyrene Non-food Grade	0.2%	0.1%	1,831	Carpet Padding	0.0%	0.1%	423
Expanded Food-grade Polystyrene	0.5%	0.1%	4,429	Remainder/Composite C&D	2.3%	1.2%	22,003
Durable Plastic Items	1.2%	0.5%	11,282	**Household Hazardous Waste**	**0.7%**		**6,456**
Film (non-bag)	1.1%	0.3%	10,837	Ballasts, CFLs	0.0%	0.0%	43
Grocery and other Merchandise Bags	0.5%	0.1%	4,640	Batteries – Lead Acid	0.0%	0.0%	3
Other Film	4.4%	0.5%	42,447	Other Batteries	0.0%	0.0%	140
Flexible Plastic Pouches and Packaging	0.2%	0.2%	1,972	Paint	0.0%	0.0%	351
Pallets – Plastic	0.1%	0.2%	1,449	Sharps	0.0%	0.0%	13
Remainder/Composite Plastic	2.4%	0.7%	23,721	Vehicle and Equipment Fluids	0.0%	0.0%	147
Metal	**4.4%**		**42,414**	Empty Metal/Glass/Plastic HHW Contain	0.3%	0.1%	3,174
Aluminum Beverage Containers	0.1%	0.0%	862	Pesticides and Fertilizers	0.0%	0.0%	0
Aluminum CT Deposit Beverage Container	0.1%	0.0%	1,236	Other Hazardous Waste	0.3%	0.2%	2,586
Aluminum Plates & Foils	0.4%	0.1%	3,446	**Electronics**	**0.7%**		**6,489**
Tin/Steel Containers	0.4%	0.1%	4,138	Computer-related Electronics	0.2%	0.3%	2,408
Other Ferrous	0.4%	0.3%	3,729	Other Small Consumer Electronics	0.2%	0.1%	2,334
Other Non-Ferrous	0.1%	0.1%	785	Televisions and Computer Monitors	0.1%	0.1%	691
Appliances	0.6%	0.8%	5,807	Other Larger Electronics	0.1%	0.1%	1,056
Compressed Fuel Containers/Propane Ta	0.4%	0.5%	3,983	**Other Wastes**	**8.3%**		**80,602**
Remainder/Composite Metal	1.9%	0.6%	18,429	Bulky Items	0.9%	0.6%	8,631
Glass	**2.1%**		**19,986**	Textiles	3.1%	0.9%	30,491
Non-deposit Clear/Amber Glass	1.0%	0.3%	9,219	Restaurant Fats, Oils and Grease	0.0%	0.1%	383
Non-deposit Green/Other Colored Glass	0.2%	0.1%	1,559	Bottom Fines and Dirt	2.4%	0.3%	23,377
Deposit Glass	0.4%	0.1%	3,643	Other Miscellaneous	1.8%	0.7%	17,719
Flat Glass	0.0%	0.0%	85	**Grand Total**	**100%**		**970,035**
Remainder/Composite Glass	0.6%	0.3%	5,480	***No. of Samples***	***111***		

Table 3-8 compares the ICI waste stream composition in 2010 and 2015.

Table 3-8 Comparison of 2010 and 2015 ICI Waste Composition

	Estimate Percent Composition			Estimated Tons		
Material Category	2010	2015	Change	2010	2015	Change
Paper	**26.8%**	**27.5%**	**0.6%**	**280,471**	**266,457**	**-14,014**
Corrugated Cardboard/Kraft Paper	9.8%	8.4%	-1.5%	102,556	81,049	-21,507
High Grade Office Paper	2.1%	1.6%	-0.4%	21,784	15,880	-5,903
Magazines/Catalogs	0.8%	0.7%	-0.2%	8,783	6,696	-2,087
Newsprint	1.6%	0.6%	-1.0%	16,607	6,119	-10,487
Phone Books and Directories	0.3%	0.1%	-0.3%	3,634	659	-2,975
Aseptic Boxes & Gable Top Cartons	NA	0.3%	NA	NA	3,098	NA
Other Recyclable Paper	2.9%	2.4%	-0.5%	29,923	23,246	-6,677
Compostable Paper	6.6%	12.3%	5.6%	69,430	119,070	49,640
Remainder/Composite Paper	2.7%	1.1%	-1.6%	27,754	10,639	-17,115
Plastic	**16.9%**	**13.3%**	**-3.6%**	**176,854**	**129,438**	**-47,416**
PET Bottles/Jars	0.5%	0.5%	0.1%	4,751	5,310	558
PET Containers Other than Bottles	0.1%	0.2%	0.1%	1,049	2,186	1,137
Plastic CT Deposit Beverage Containers	0.7%	0.4%	-0.4%	7,792	3,437	-4,355
HDPE Bottles, Colored and Natural	0.4%	0.4%	0.0%	4,137	3,962	-175
HDPE Containers other than Bottles	0.2%	0.4%	0.2%	2,380	3,796	1,416
Plastic Containers #3-#7	0.4%	0.8%	0.4%	4,504	8,138	3,634
Expanded Polystyrene Non-food Grade	1.8%	0.2%	-1.6%	18,899	1,831	-17,067
Expanded Food-grade Polystyrene	0.6%	0.5%	-0.1%	5,861	4,429	-1,432
Durable Plastic Items	4.6%	1.2%	-3.5%	48,543	11,282	-37,262
Film (non-bag)	0.7%	1.1%	0.4%	7,650	10,837	3,186
Grocery and other Merchandise Bags	0.3%	0.5%	0.2%	2,818	4,640	1,822
Other Film	3.0%	4.4%	1.4%	31,598	42,447	10,849
Flexible Plastic Pouches and Packaging	NA	0.2%	NA	NA	1,972	NA
Pallets – Plastic	0.5%	0.1%	-0.4%	5,566	1,449	-4,117
Remainder/Composite Plastic	3.0%	2.4%	-0.6%	31,305	23,721	-7,583
Metal	**4.5%**	**4.4%**	**-0.1%**	**46,523**	**42,414**	**-4,108**
Aluminum Beverage Containers	0.0%	0.1%	0.1%	382	862	480
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	-0.1%	2,012	1,236	-776
Aluminum Plates & Foils	NA	0.4%	NA	NA	3,446	NA
Tin/Steel Containers	0.6%	0.4%	-0.2%	6,581	4,138	-2,444
Other Ferrous	1.8%	0.4%	-1.4%	19,063	3,729	-15,335
Other Non-Ferrous	0.4%	0.1%	-0.3%	4,118	785	-3,332
Appliances	0.3%	0.6%	0.3%	3,250	5,807	2,556
Compressed Fuel Containers/Propane Tanks	0.2%	0.4%	0.2%	1,733	3,983	2,250
Remainder/Composite Metal	0.9%	1.9%	1.0%	9,382	18,429	9,047
Glass	**2.0%**	**2.1%**	**0.0%**	**21,144**	**19,986**	**-1,158**
Non-deposit Clear/Amber Glass	1.0%	1.0%	-0.1%	10,797	9,219	-1,578
Non-deposit Green/Other Colored Glass	0.2%	0.2%	0.0%	1,993	1,559	-434
Deposit Glass	0.3%	0.4%	0.0%	3,604	3,643	39
Flat Glass	0.3%	0.0%	-0.3%	3,328	85	-3,243
Remainder/Composite Glass	0.1%	0.6%	0.4%	1,422	5,480	4,058
Food Waste	**13.2%**	**25.5%**	**12.2%**	**138,369**	**247,176**	**108,806**
Food Waste, Loose	13.2%	21.9%	8.7%	138,369	212,683	74,313
Food Waste, Emptied from Packaging	NA	3.6%	NA	NA	34,493	NA

Table 3-8 Comparison of 2010 and 2015 ICI Waste Composition (continued)

Material Category	2010	2015	Change	2010	2015	Change
Other Organics	**6.7%**	**6.3%**	**-0.3%**	**69,758**	**61,431**	**-8,327**
Branches and Stumps	0.6%	0.2%	-0.4%	6,010	1,755	-4,255
Prunings and Trimmings	1.0%	0.6%	-0.4%	10,166	5,919	-4,248
Leaves and Grass	2.9%	2.2%	-0.7%	29,968	21,286	-8,682
Manures	0.1%	0.3%	0.2%	1,503	3,316	1,813
Diapers & Sanitary Products	NA	2.3%	NA	NA	22,169	NA
Remainder/Composite Organic	2.1%	0.7%	-1.4%	22,111	6,987	-15,124
C&D Debris	**18.5%**	**11.3%**	**-7.2%**	**193,759**	**109,588**	**-84,172**
Asphalt, Brick, and Concrete	0.2%	0.3%	0.1%	2,086	2,776	690
Wood – Treated	5.8%	4.8%	-1.0%	60,182	46,142	-14,040
Wood – Untreated	5.4%	2.3%	-3.1%	56,340	21,943	-34,397
Asphalt Roofing	0.5%	0.3%	-0.2%	5,447	3,289	-2,158
Drywall/Gypsum Board	0.6%	0.7%	0.1%	6,294	6,471	176
Carpet	2.9%	0.7%	-2.2%	30,117	6,541	-23,576
Carpet Padding	1.2%	0.0%	-1.2%	12,938	423	-12,515
Remainder/Composite C&D	1.9%	2.3%	0.3%	20,354	22,003	1,649
Household Hazardous Waste	**0.8%**	**0.7%**	**-0.1%**	**7,839**	**6,456**	**-1,383**
Ballasts, CFLs	0.0%	0.0%	0.0%	106	43	-62
Batteries – Lead Acid	0.0%	0.0%	0.0%	151	3	-149
Other Batteries	0.0%	0.0%	0.0%	461	140	-321
Paint	0.0%	0.0%	0.0%	71	351	280
Sharps	0.0%	0.0%	0.0%	156	13	-143
Vehicle and Equipment Fluids	0.1%	0.0%	0.0%	679	147	-532
Empty Metal/Glass/Plastic HHW Containers	0.3%	0.3%	0.1%	2,855	3,174	319
Pesticides and Fertilizers	0.0%	0.0%	0.0%	28	0	-28
Other Hazardous Waste	0.3%	0.3%	-0.1%	3,333	2,586	-747
Electronics	**2.3%**	**0.7%**	**-1.6%**	**23,928**	**6,489**	**-17,438**
Computer-related Electronics	0.7%	0.2%	-0.5%	7,488	2,408	-5,080
Other Small Consumer Electronics	0.3%	0.2%	0.0%	2,856	2,334	-522
Televisions and Computer Monitors	0.7%	0.1%	-0.7%	7,713	691	-7,021
Other Larger Electronics	0.6%	0.1%	-0.5%	5,871	1,056	-4,816
Other Wastes	**8.3%**	**8.3%**	**0.0%**	**86,392**	**80,602**	**-5,790**
Bulky Items	3.0%	0.9%	-2.1%	30,881	8,631	-22,251
Textiles	2.4%	3.1%	0.8%	24,702	30,491	5,789
Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%	94	383	290
Bottom Fines and Dirt	0.9%	2.4%	1.5%	9,400	23,377	13,977
Other Miscellaneous	2.0%	1.8%	-0.2%	21,315	17,719	-3,596
Grand Total	**100.0%**	**100.0%**	**0.0%**	**1,045,036**	**970,035**	**-75,001**

3.4 COMPARISON BY GENERATOR SECTOR

Figure 3-13 compares the percentage composition of material groups for Residential and ICI waste. On a percentage basis, it is shown that ICI waste contains a higher incidence of Paper and Food Waste, while the Residential sector disposes a higher percentage of Other Organics (which include yard debris and diapers) and Other Wastes.

Figure 3-13 Comparison of Waste Composition by Generator Sector

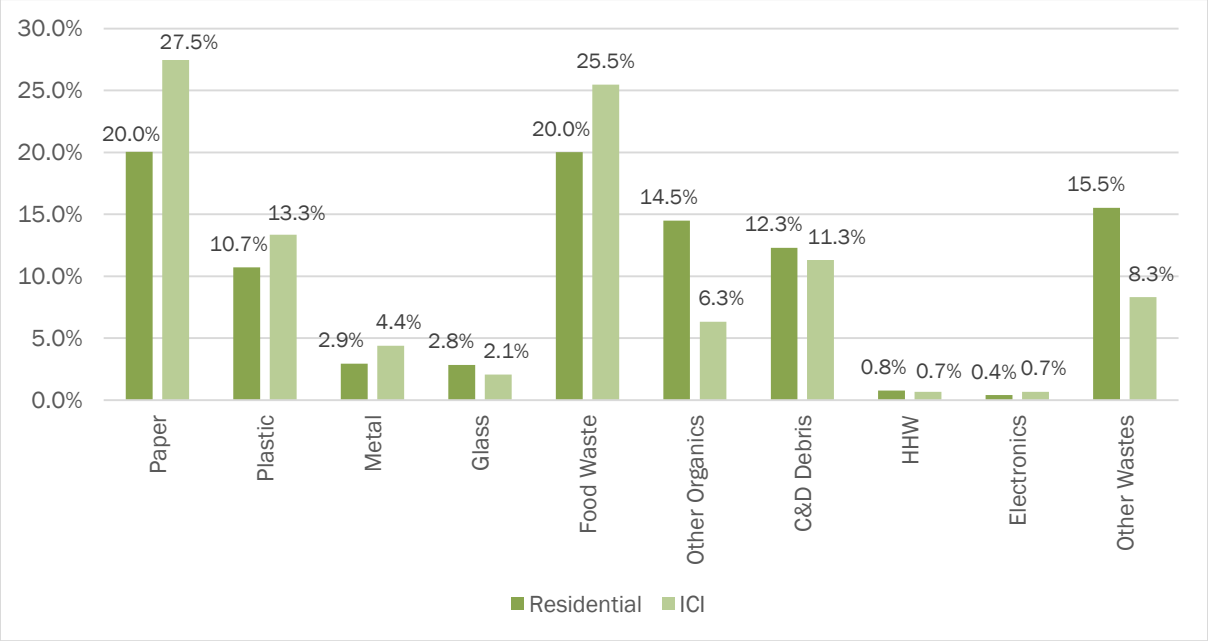


Figure 3-14 shows the same results, instead displaying the tonnage of materials disposed. Because of the estimated split between Residential and Commercial tons, the absolute quantity of both Paper and Food Waste is comparable in both generator sectors.

Figure 3-14 Comparison of Waste Tonnage by Generator Sector

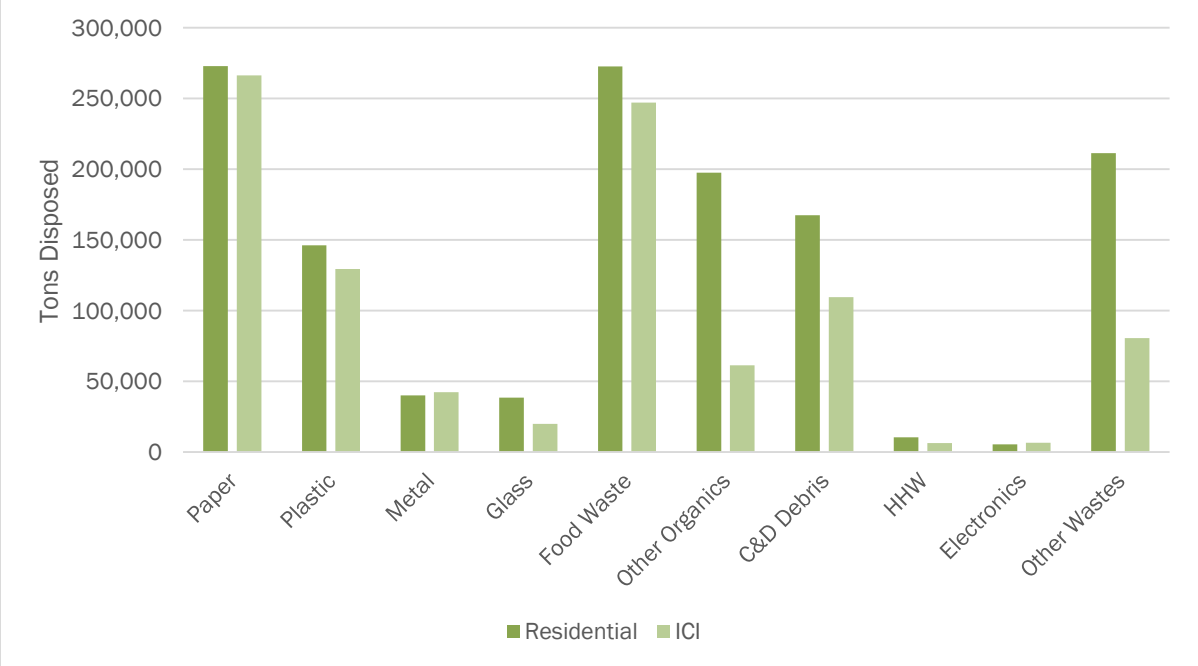


Figure 3-15 compares the top ten most prevalent Residential and ICI materials in the 2015 Study.

Figure 3-15 Comparison of Residential and ICI Top 10 Materials

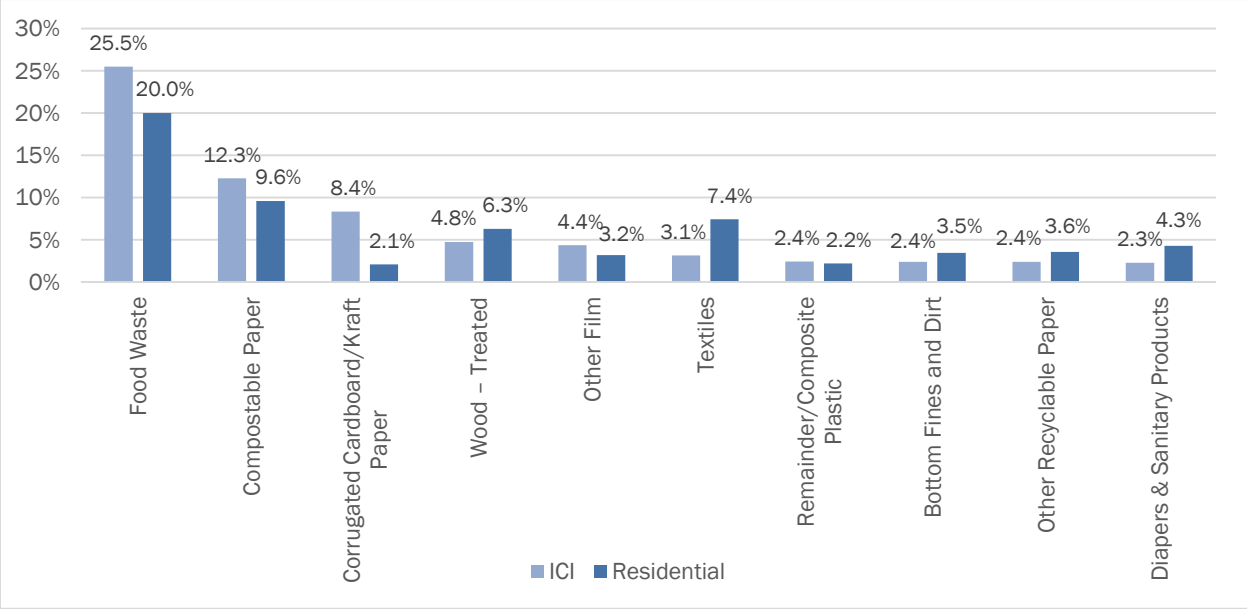


Table 3-9 compares the composition and disposed tons from the Residential and ICI sectors.

Table 3-9 Comparison of Waste Composition by Generator Sector

	Estimate Percent Composition			Estimated Tons		
Material Category	Res-idential	ICI	Differ-ence	Res-idential	ICI	Differ-ence
Paper	**20.0%**	**27.5%**	**7.4%**	**273,036**	**266,457**	**6,579**
Corrugated Cardboard/Kraft Paper	2.1%	8.4%	6.3%	28,551	81,049	-52,498
High Grade Office Paper	0.8%	1.6%	0.9%	10,631	15,880	-5,249
Magazines/Catalogs	0.9%	0.7%	-0.2%	12,206	6,696	5,511
Newsprint	1.9%	0.6%	-1.3%	26,157	6,119	20,038
Phone Books and Directories	0.1%	0.1%	0.0%	1,548	659	889
Aseptic Boxes & Gable Top Cartons	0.2%	0.3%	0.1%	2,892	3,098	-206
Other Recyclable Paper	3.6%	2.4%	-1.2%	48,870	23,246	25,624
Compostable Paper	9.6%	12.3%	2.7%	130,759	119,070	11,689
Remainder/Composite Paper	0.8%	1.1%	0.3%	11,422	10,639	782
Plastic	**10.7%**	**13.3%**	**2.6%**	**146,175**	**129,438**	**16,737**
PET Bottles/Jars	0.6%	0.5%	0.0%	8,068	5,310	2,758
PET Containers Other than Bottles	0.3%	0.2%	0.0%	3,447	2,186	1,261
Plastic CT Deposit Beverage Containers	0.3%	0.4%	0.1%	3,856	3,437	419
HDPE Bottles, Colored and Natural	0.6%	0.4%	-0.2%	8,056	3,962	4,094
HDPE Containers other than Bottles	0.1%	0.4%	0.3%	1,213	3,796	-2,583
Plastic Containers #3-#7	0.7%	0.8%	0.2%	9,294	8,138	1,156
Expanded Polystyrene Non-food Grade	0.1%	0.2%	0.1%	1,066	1,831	-765
Expanded Food-grade Polystyrene	0.5%	0.5%	-0.1%	7,271	4,429	2,841
Durable Plastic Items	0.6%	1.2%	0.5%	8,411	11,282	-2,870
Film (non-bag)	0.5%	1.1%	0.6%	7,481	10,837	-3,355
Grocery and other Merchandise Bags	0.9%	0.5%	-0.4%	12,262	4,640	7,622
Other Film	3.2%	4.4%	1.2%	43,487	42,447	1,040
Flexible Plastic Pouches and Packaging	0.2%	0.2%	0.0%	2,105	1,972	133
Pallets – Plastic	0.0%	0.1%	0.1%	178	1,449	-1,271
Remainder/Composite Plastic	2.2%	2.4%	0.2%	29,979	23,721	6,258
Metal	**2.9%**	**4.4%**	**1.4%**	**40,029**	**42,414**	**-2,386**
Aluminum Beverage Containers	0.1%	0.1%	0.0%	1,640	862	778
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	0.0%	1,826	1,236	590
Aluminum Plates & Foils	0.4%	0.4%	0.0%	5,173	3,446	1,727
Tin/Steel Containers	0.5%	0.4%	-0.1%	7,415	4,138	3,278
Other Ferrous	0.2%	0.4%	0.1%	3,356	3,729	-373
Other Non-Ferrous	0.3%	0.1%	-0.2%	4,291	785	3,506
Appliances	0.1%	0.6%	0.5%	1,125	5,807	-4,681
Compressed Fuel Containers/Propane Tanks	0.0%	0.4%	0.4%	62	3,983	-3,921
Remainder/Composite Metal	1.1%	1.9%	0.8%	15,139	18,429	-3,290
Glass	**2.8%**	**2.1%**	**-0.8%**	**38,526**	**19,986**	**18,541**
Non-deposit Clear/Amber Glass	1.2%	1.0%	-0.2%	15,881	9,219	6,663
Non-deposit Green/Other Colored Glass	0.2%	0.2%	-0.1%	2,954	1,559	1,396
Deposit Glass	0.3%	0.4%	0.1%	3,668	3,643	25
Flat Glass	0.1%	0.0%	-0.1%	1,756	85	1,671
Remainder/Composite Glass	1.0%	0.6%	-0.5%	14,266	5,480	8,787
Food Waste	**20.0%**	**25.5%**	**5.5%**	**272,656**	**247,176**	**25,481**
Food Waste, Loose	17.8%	21.9%	4.1%	242,767	212,683	30,085
Food Waste, Emptied from Packaging	2.2%	3.6%	1.4%	29,889	34,493	-4,604

Table 3-9 Comparison of Waste Composition by Generator Sector (continued)

	Estimate Percent Composition			Estimated Tons		
Material Category	Res-idential	ICI	Differ-ence	Res-idential	ICI	Differ-ence
Other Organics	**14.5%**	**6.3%**	**-8.2%**	**197,491**	**61,431**	136,061
Branches and Stumps	0.7%	0.2%	-0.6%	9,968	1,755	8,213
Prunings and Trimmings	2.9%	0.6%	-2.2%	38,900	5,919	32,981
Leaves and Grass	5.8%	2.2%	-3.6%	79,262	21,286	57,976
Manures	0.1%	0.3%	0.2%	1,766	3,316	-1,551
Diapers & Sanitary Products	4.3%	2.3%	-2.0%	58,381	22,169	36,213
Remainder/Composite Organic	0.7%	0.7%	0.0%	9,215	6,987	2,228
C&D Debris	**12.3%**	**11.3%**	**-1.0%**	**167,408**	**109,588**	**57,820**
Asphalt, Brick, and Concrete	0.4%	0.3%	-0.1%	5,322	2,776	2,546
Wood – Treated	6.3%	4.8%	-1.6%	86,020	46,142	39,877
Wood – Untreated	1.3%	2.3%	0.9%	18,011	21,943	-3,932
Asphalt Roofing	0.2%	0.3%	0.1%	3,353	3,289	63
Drywall/Gypsum Board	0.5%	0.7%	0.1%	7,461	6,471	991
Carpet	1.7%	0.7%	-1.0%	22,491	6,541	15,950
Carpet Padding	0.5%	0.0%	-0.4%	6,453	423	6,030
Remainder/Composite C&D	1.3%	2.3%	0.9%	18,297	22,003	-3,705
Household Hazardous Waste	**0.8%**	**0.7%**	**-0.1%**	**10,487**	**6,456**	**4,030**
Ballasts, CFLs	0.0%	0.0%	0.0%	33	43	-10
Batteries – Lead Acid	0.0%	0.0%	0.0%	2	3	-1
Other Batteries	0.0%	0.0%	0.0%	632	140	492
Paint	0.1%	0.0%	0.0%	727	351	376
Sharps	0.0%	0.0%	0.0%	88	13	75
Vehicle and Equipment Fluids	0.1%	0.0%	-0.1%	1,239	147	1,092
Empty Metal/Glass/Plastic HHW Containers	0.3%	0.3%	0.0%	4,768	3,174	1,594
Pesticides and Fertilizers	0.0%	0.0%	0.0%	125	0	125
Other Hazardous Waste	0.2%	0.3%	0.1%	2,872	2,586	287
Electronics	**0.4%**	**0.7%**	**0.3%**	**5,417**	**6,489**	**-1,072**
Computer-related Electronics	0.0%	0.2%	0.2%	216	2,408	-2,192
Other Small Consumer Electronics	0.3%	0.2%	-0.1%	4,138	2,334	1,804
Televisions and Computer Monitors	0.0%	0.1%	0.1%	232	691	-459
Other Larger Electronics	0.1%	0.1%	0.0%	830	1,056	-226
Other Wastes	**15.5%**	**8.3%**	**-7.2%**	**211,338**	**80,602**	**130,736**
Bulky Items	2.2%	0.9%	-1.3%	29,310	8,631	20,679
Textiles	7.4%	3.1%	-4.3%	101,413	30,491	70,922
Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%	235	383	-149
Bottom Fines and Dirt	3.5%	2.4%	-1.1%	47,332	23,377	23,954
Other Miscellaneous	2.4%	1.8%	-0.6%	33,049	17,719	15,330
Grand Total	**100.0%**	**100.0%**		**1,362,563**	**970,035**	**392,528**

3.5 RESULTS BY DEMOGRAPHIC REGION

The following subsections provide detailed statistical results for Residential and ICI wastes from the Urban, Suburban and Rural regions of the state.

Table 3-10 provides a count of the number of samples obtained for each combination of generator sector and demographic origin.

Table 3-10 Urban, Suburban and Rural Waste Sample Counts

Sector	Residential Samples	ICI Samples	Total Samples
Urban	114	78	192
Suburban	11	10	21
Rural	10	12	22
Total	**135**	**100**	**235**

As shown in the table, the majority of samples were found (through scalehouse personnel and driver interviews) to have originated in cities or towns classified as Urban based on their population density. This exercise confirms that the statewide aggregate results presented in this report are heavily weighted toward Urban areas of the state, and future studies may want to increase sampling from Suburban and Rural areas.

Also because of the relatively small samples size for Suburban and Rural wastes, the composition estimates for these two demographic regions exhibit lower certainty (i.e., wider confidence intervals) compared to the results from Urban areas. It is therefore less meaningful to rigorously compare the results across demographic regions.

Finally, no data are available to use as weighting factors to aggregate Residential and ICI waste within each demographic stratum. Because of these reasons, this report presents the tabular results separately for Residential and ICI waste within each demographic region, but does not aggregate waste composition by demographic stratum or attempt to compare the results.

3.5.1 URBAN WASTE COMPOSITION

Table 3-11 presents the composition of Residential waste generated in Urban areas of the State.

Table 3-11 Urban/Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**20.3%**		**Food Waste**	**20.9%**	
Corrugated Cardboard/Kraft Paper	2.0%	0.4%	Food Waste, Loose	18.2%	1.8%
High Grade Office Paper	0.9%	0.2%	Food Waste, Emptied from Packaging	2.6%	0.5%
Magazines/Catalogs	0.8%	0.2%	**Other Organics**	**14.7%**	
Newsprint	1.9%	0.6%	Branches and Stumps	0.5%	0.4%
Phone Books and Directories	0.2%	0.1%	Prunings and Trimmings	2.0%	0.7%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	6.6%	1.4%
Other Recyclable Paper	3.7%	0.5%	Manures	0.1%	0.1%
Compostable Paper	9.8%	0.8%	Diapers & Sanitary Products	4.7%	0.6%
Remainder/Composite Paper	0.8%	0.2%	Remainder/Composite Organic	0.8%	0.3%
Plastic	**11.2%**		**C&D Debris**	**10.9%**	
PET Bottles/Jars	0.6%	0.1%	Asphalt, Brick, and Concrete	0.5%	0.5%
PET Containers Other than Bottles	0.3%	0.1%	Wood – Treated	5.0%	1.6%
Plastic CT Deposit Beverage Containers	0.3%	0.0%	Wood – Untreated	1.3%	0.6%
HDPE Bottles, Colored and Natural	0.7%	0.1%	Asphalt Roofing	0.2%	0.2%
HDPE Containers other than Bottles	0.1%	0.0%	Drywall/Gypsum Board	0.5%	0.3%
Plastic Containers #3-#7	0.7%	0.1%	Carpet	1.8%	0.7%
Expanded Polystyrene Non-food Grade	0.1%	0.0%	Carpet Padding	0.2%	0.1%
Expanded Food-grade Polystyrene	0.6%	0.1%	Remainder/Composite C&D	1.4%	0.7%
Durable Plastic Items	0.6%	0.2%	**Household Hazardous Waste**	**0.6%**	
Film (non-bag)	0.7%	0.1%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	1.1%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.2%	0.3%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.0%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.9%	0.3%	Vehicle and Equipment Fluids	0.0%	0.1%
Metal	**2.9%**		Empty Metal/Glass/Plastic HHW Containe	0.3%	0.1%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.0%	Other Hazardous Waste	0.2%	0.1%
Aluminum Plates & Foils	0.5%	0.1%	**Electronics**	**0.4%**	
Tin/Steel Containers	0.6%	0.1%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.3%	0.1%	Other Small Consumer Electronics	0.3%	0.1%
Other Non-Ferrous	0.2%	0.2%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.1%	0.1%	Other Larger Electronics	0.1%	0.1%
Compressed Fuel Containers/Propane Tan	0.0%	0.0%	**Other Wastes**	**15.7%**	
Remainder/Composite Metal	0.9%	0.2%	Bulky Items	2.6%	1.4%
Glass	**2.4%**		Textiles	7.3%	0.9%
Non-deposit Clear/Amber Glass	1.1%	0.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.2%	0.1%	Bottom Fines and Dirt	3.8%	0.7%
Deposit Glass	0.2%	0.1%	Other Miscellaneous	1.9%	0.4%
Flat Glass	0.1%	0.1%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.9%	0.4%	***No. of Samples***	***114***	

Table 3-12 presents the composition of ICI waste generated in Urban areas of the State.

Table 3-12 Urban/ICI Waste Composition

3. STATEWIDE WASTE CHARACTERIZATION RESULTS

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**29.3%**		**Food Waste**	**24.9%**	
Corrugated Cardboard/Kraft Paper	11.2%	2.6%	Food Waste, Loose	21.1%	3.4%
High Grade Office Paper	1.9%	0.7%	Food Waste, Emptied from Packaging	3.8%	1.9%
Magazines/Catalogs	0.6%	0.2%	**Other Organics**	**8.2%**	
Newsprint	0.6%	0.2%	Branches and Stumps	0.4%	0.4%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.8%	0.6%
Aseptic Boxes & Gable Top Cartons	0.4%	0.1%	Leaves and Grass	1.8%	1.2%
Other Recyclable Paper	2.0%	0.6%	Manures	1.6%	2.1%
Compostable Paper	11.4%	1.9%	Diapers & Sanitary Products	2.1%	1.3%
Remainder/Composite Paper	1.2%	0.5%	Remainder/Composite Organic	1.6%	1.4%
Plastic	**12.7%**		**C&D Debris**	**10.6%**	
PET Bottles/Jars	0.4%	0.1%	Asphalt, Brick, and Concrete	0.4%	0.5%
PET Containers Other than Bottles	0.3%	0.1%	Wood – Treated	3.0%	1.7%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	4.1%	2.0%
HDPE Bottles, Colored and Natural	0.4%	0.1%	Asphalt Roofing	0.4%	0.5%
HDPE Containers other than Bottles	0.4%	0.4%	Drywall/Gypsum Board	0.4%	0.5%
Plastic Containers #3-#7	0.8%	0.2%	Carpet	0.5%	0.4%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.1%	0.1%
Expanded Food-grade Polystyrene	0.5%	0.1%	Remainder/Composite C&D	1.7%	0.9%
Durable Plastic Items	0.6%	0.3%	**Household Hazardous Waste**	**0.9%**	
Film (non-bag)	1.5%	0.5%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.4%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.1%	0.6%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.0%	Paint	0.0%	0.0%
Pallets – Plastic	0.1%	0.2%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.7%	1.1%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**4.0%**		Empty Metal/Glass/Plastic HHW Contain	0.4%	0.2%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Container	0.1%	0.0%	Other Hazardous Waste	0.4%	0.4%
Aluminum Plates & Foils	0.3%	0.1%	**Electronics**	**0.9%**	
Tin/Steel Containers	0.7%	0.5%	Computer-related Electronics	0.3%	0.5%
Other Ferrous	0.4%	0.3%	Other Small Consumer Electronics	0.2%	0.1%
Other Non-Ferrous	0.3%	0.5%	Televisions and Computer Monitors	0.1%	0.2%
Appliances	0.6%	1.0%	Other Larger Electronics	0.2%	0.4%
Compressed Fuel Containers/Propane Ta	0.1%	0.1%	**Other Wastes**	**6.8%**	
Remainder/Composite Metal	1.5%	0.7%	Bulky Items	1.1%	1.0%
Glass	**1.9%**		Textiles	2.0%	0.6%
Non-deposit Clear/Amber Glass	0.8%	0.4%	Restaurant Fats, Oils and Grease	0.1%	0.1%
Non-deposit Green/Other Colored Glass	0.2%	0.1%	Bottom Fines and Dirt	1.9%	0.3%
Deposit Glass	0.3%	0.1%	Other Miscellaneous	1.7%	1.0%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.6%	0.4%	***No. of Samples***	***78***	

3.5.2 SUBURBAN WASTE COMPOSITION

Table 3-13 presents the composition of Residential waste generated in Suburban areas of the State.

Table 3-13 Suburban/Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**21.7%**		**Food Waste**	**18.1%**	
Corrugated Cardboard/Kraft Paper	2.7%	1.4%	Food Waste, Loose	16.3%	2.9%
High Grade Office Paper	0.5%	0.6%	Food Waste, Emptied from Packaging	1.8%	0.9%
Magazines/Catalogs	0.7%	0.4%	**Other Organics**	**17.3%**	
Newsprint	0.7%	0.4%	Branches and Stumps	2.1%	3.4%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	5.2%	4.1%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	5.6%	3.2%
Other Recyclable Paper	3.8%	1.4%	Manures	0.0%	0.0%
Compostable Paper	12.1%	2.6%	Diapers & Sanitary Products	3.8%	2.3%
Remainder/Composite Paper	1.0%	0.7%	Remainder/Composite Organic	0.6%	0.4%
Plastic	**9.6%**		**C&D Debris**	**8.0%**	
PET Bottles/Jars	0.5%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.1%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	4.2%	3.2%
Plastic CT Deposit Beverage Containers	0.2%	0.1%	Wood – Untreated	0.4%	0.6%
HDPE Bottles, Colored and Natural	0.4%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.0%	0.0%	Drywall/Gypsum Board	0.3%	0.4%
Plastic Containers #3-#7	0.6%	0.2%	Carpet	0.1%	0.1%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	1.4%	2.2%
Expanded Food-grade Polystyrene	0.3%	0.2%	Remainder/Composite C&D	1.6%	1.8%
Durable Plastic Items	1.1%	0.8%	**Household Hazardous Waste**	**0.4%**	
Film (non-bag)	0.7%	0.5%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.1%	0.8%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.7%	0.9%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**1.9%**		Empty Metal/Glass/Plastic HHW Containe	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Container	0.1%	0.1%	Other Hazardous Waste	0.2%	0.2%
Aluminum Plates & Foils	0.3%	0.2%	**Electronics**	**0.4%**	
Tin/Steel Containers	0.4%	0.2%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.2%	0.2%	Other Small Consumer Electronics	0.3%	0.3%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.1%	0.1%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Ta	0.0%	0.0%	**Other Wastes**	**19.3%**	
Remainder/Composite Metal	0.8%	0.5%	Bulky Items	0.0%	0.0%
Glass	**3.3%**		Textiles	8.2%	3.7%
Non-deposit Clear/Amber Glass	1.7%	1.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.5%	0.7%	Bottom Fines and Dirt	3.5%	1.7%
Deposit Glass	0.4%	0.3%	Other Miscellaneous	7.5%	6.0%
Flat Glass	0.2%	0.3%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.6%	0.2%	***No. of Samples***	***11***	

Table 3-14 presents the composition of ICI waste generated in Suburban areas of the State.

Table 3-14 Suburban/ICI Waste Composition

3. STATEWIDE WASTE CHARACTERIZATION RESULTS

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**30.1%**		**Food Waste**	**25.2%**	
Corrugated Cardboard/Kraft Paper	7.8%	3.3%	Food Waste, Loose	21.1%	8.2%
High Grade Office Paper	1.2%	1.1%	Food Waste, Emptied from Packaging	4.1%	3.3%
Magazines/Catalogs	1.4%	1.2%	**Other Organics**	**7.1%**	
Newsprint	0.8%	0.8%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.2%	0.3%
Aseptic Boxes & Gable Top Cartons	0.3%	0.3%	Leaves and Grass	5.3%	7.4%
Other Recyclable Paper	5.2%	3.8%	Manures	0.0%	0.0%
Compostable Paper	12.5%	3.5%	Diapers & Sanitary Products	1.4%	1.4%
Remainder/Composite Paper	1.0%	0.7%	Remainder/Composite Organic	0.1%	0.1%
Plastic	**14.2%**		**C&D Debris**	**4.0%**	
PET Bottles/Jars	1.1%	0.7%	Asphalt, Brick, and Concrete	0.0%	0.1%
PET Containers Other than Bottles	0.3%	0.1%	Wood – Treated	1.1%	1.1%
Plastic CT Deposit Beverage Containers	0.4%	0.2%	Wood – Untreated	1.2%	1.7%
HDPE Bottles, Colored and Natural	0.3%	0.1%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.3%	0.4%	Drywall/Gypsum Board	0.6%	1.0%
Plastic Containers #3-#7	1.1%	0.4%	Carpet	0.4%	0.5%
Expanded Polystyrene Non-food Grade	0.8%	1.2%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.3%	0.1%	Remainder/Composite C&D	0.7%	0.9%
Durable Plastic Items	1.5%	1.0%	**Household Hazardous Waste**	**0.5%**	
Film (non-bag)	0.6%	0.6%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.3%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.2%	1.0%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	1.4%	2.0%	Paint	0.1%	0.2%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.6%	0.8%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**7.0%**		Empty Metal/Glass/Plastic HHW Containe	0.1%	0.2%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	Other Hazardous Waste	0.2%	0.3%
Aluminum Plates & Foils	0.6%	0.5%	**Electronics**	**1.1%**	
Tin/Steel Containers	0.2%	0.1%	Computer-related Electronics	0.8%	1.4%
Other Ferrous	0.2%	0.4%	Other Small Consumer Electronics	0.2%	0.2%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.1%	0.2%
Compressed Fuel Containers/Propane Tar	3.3%	5.4%	**Other Wastes**	**9.0%**	
Remainder/Composite Metal	2.4%	2.2%	Bulky Items	0.2%	0.3%
Glass	**1.8%**		Textiles	4.4%	3.2%
Non-deposit Clear/Amber Glass	0.7%	0.5%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.0%	0.0%	Bottom Fines and Dirt	2.4%	0.8%
Deposit Glass	0.4%	0.2%	Other Miscellaneous	2.1%	1.3%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.7%	0.5%	***No. of Samples***	***10***	

3.5.3 RURAL WASTE COMPOSITION

Table 3-15 presents the composition of Residential waste generated in Rural areas of the State.

Table 3-15 Rural/Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**22.7%**		**Food Waste**	**20.8%**	
Corrugated Cardboard/Kraft Paper	2.5%	1.2%	Food Waste, Loose	17.8%	6.9%
High Grade Office Paper	0.5%	0.3%	Food Waste, Emptied from Packaging	3.1%	1.7%
Magazines/Catalogs	1.9%	0.9%	**Other Organics**	**8.0%**	
Newsprint	1.8%	1.0%	Branches and Stumps	0.8%	1.3%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	2.3%	2.8%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	1.3%	1.9%
Other Recyclable Paper	5.6%	3.3%	Manures	0.0%	0.0%
Compostable Paper	9.0%	3.0%	Diapers & Sanitary Products	3.0%	1.3%
Remainder/Composite Paper	1.1%	0.6%	Remainder/Composite Organic	0.6%	0.3%
Plastic	**12.4%**		**C&D Debris**	**11.7%**	
PET Bottles/Jars	0.5%	0.3%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	9.5%	8.5%
Plastic CT Deposit Beverage Containers	0.3%	0.2%	Wood – Untreated	0.5%	0.6%
HDPE Bottles, Colored and Natural	0.5%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.2%	0.2%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.9%	0.3%	Carpet	0.1%	0.2%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.8%	1.0%
Expanded Food-grade Polystyrene	0.4%	0.2%	Remainder/Composite C&D	0.8%	1.1%
Durable Plastic Items	1.1%	1.2%	**Household Hazardous Waste**	**1.9%**	
Film (non-bag)	0.5%	0.3%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.8%	0.3%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.8%	1.6%	Other Batteries	0.1%	0.1%
Flexible Plastic Pouches and Packaging	0.1%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	3.1%	1.8%	Vehicle and Equipment Fluids	0.1%	0.2%
Metal	**4.5%**		Empty Metal/Glass/Plastic HHW Containe	1.2%	1.0%
Aluminum Beverage Containers	0.2%	0.1%	Pesticides and Fertilizers	0.1%	0.1%
Aluminum CT Deposit Beverage Container	0.1%	0.1%	Other Hazardous Waste	0.3%	0.3%
Aluminum Plates & Foils	0.3%	0.1%	**Electronics**	**0.5%**	
Tin/Steel Containers	0.6%	0.4%	Computer-related Electronics	0.1%	0.1%
Other Ferrous	0.3%	0.4%	Other Small Consumer Electronics	0.4%	0.4%
Other Non-Ferrous	0.1%	0.1%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tai	0.0%	0.0%	**Other Wastes**	**13.5%**	
Remainder/Composite Metal	2.9%	2.7%	Bulky Items	1.4%	1.5%
Glass	**4.0%**		Textiles	6.1%	2.3%
Non-deposit Clear/Amber Glass	1.3%	0.9%	Restaurant Fats, Oils and Grease	0.1%	0.1%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	2.8%	1.0%
Deposit Glass	0.7%	0.5%	Other Miscellaneous	3.1%	1.8%
Flat Glass	0.0%	0.1%	**Grand Total**	**100%**	
Remainder/Composite Glass	2.0%	1.8%	***No. of Samples***	***10***	

Table 3-16 presents the composition of ICI waste generated in Rural areas of the State.

Table 3-16 Rural/ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**28.7%**		**Food Waste**	**20.6%**	
Corrugated Cardboard/Kraft Paper	9.2%	3.5%	Food Waste, Loose	18.2%	9.2%
High Grade Office Paper	3.1%	3.0%	Food Waste, Emptied from Packaging	2.3%	1.1%
Magazines/Catalogs	0.3%	0.3%	**Other Organics**	**4.8%**	
Newsprint	0.5%	0.3%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.1%	0.1%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	0.8%	1.0%
Other Recyclable Paper	2.3%	0.6%	Manures	0.3%	0.5%
Compostable Paper	11.5%	3.1%	Diapers & Sanitary Products	2.5%	1.6%
Remainder/Composite Paper	1.6%	1.7%	Remainder/Composite Organic	1.0%	1.1%
Plastic	**14.0%**		**C&D Debris**	**13.4%**	
PET Bottles/Jars	0.5%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	9.9%	4.7%
Plastic CT Deposit Beverage Containers	0.6%	0.2%	Wood – Untreated	0.6%	0.6%
HDPE Bottles, Colored and Natural	0.3%	0.1%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.0%	0.1%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	1.0%	0.3%	Carpet	0.2%	0.3%
Expanded Polystyrene Non-food Grade	0.3%	0.3%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.5%	0.2%	Remainder/Composite C&D	2.7%	3.6%
Durable Plastic Items	2.2%	2.1%	**Household Hazardous Waste**	**0.3%**	
Film (non-bag)	0.5%	0.4%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.6%	0.3%	Batteries – Lead Acid	0.0%	0.0%
Other Film	5.5%	2.3%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.0%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.9%	0.8%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**4.8%**		Empty Metal/Glass/Plastic HHW Containe	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Container	0.2%	0.1%	Other Hazardous Waste	0.0%	0.0%
Aluminum Plates & Foils	0.3%	0.1%	**Electronics**	**0.2%**	
Tin/Steel Containers	0.4%	0.3%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.2%	0.3%	Other Small Consumer Electronics	0.2%	0.3%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	1.0%	1.7%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Ta	0.2%	0.3%	**Other Wastes**	**11.0%**	
Remainder/Composite Metal	2.4%	2.1%	Bulky Items	0.7%	1.2%
Glass	**2.2%**		Textiles	4.0%	3.4%
Non-deposit Clear/Amber Glass	1.2%	1.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.2%	0.2%	Bottom Fines and Dirt	2.3%	0.6%
Deposit Glass	0.5%	0.3%	Other Miscellaneous	3.9%	4.0%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.3%	0.2%	***No. of Samples***	***12***	

3.6 RESULTS BY HOST FACILITY

This section compares the aggregate composition of wastes from each of the five host disposal facilities from the 2015 and 2010 Studies. Detailed statistical results by host facility for the 2015 Study, including aggregate, Residential and ICI wastes, are contained in Appendix D.

3.6.1 MIRA CONNECTICUT SOLID WASTE SYSTEM (HARTFORD) RRF

Table 3-17 compares the composition of aggregate waste at the MIRA Hartford RRF.

Table 3-17 Comparison of Aggregate Waste Composition (MIRA Hartford RRF)

	Estimate Percent Composition				Estimate Percent Composition		
Material Category	**2010**	**2015**	**Change**	**Material Category**	**2010**	**2015**	**Change**
Paper	**25.3%**	**21.2%**	**-4.1%**	**Food Waste**	**13.0%**	**22.9%**	**10.0%**
Corrugated Cardboard/Kraft Paper	3.4%	4.3%	1.0%	Food Waste, Loose	13.0%	21.2%	8.2%
High Grade Office Paper	1.6%	0.7%	-0.9%	Food Waste, Emptied from Packaging	NA	1.7%	NA
Magazines/Catalogs	1.3%	0.9%	-0.4%	**Other Organics**	**15.5%**	**10.7%**	**-4.9%**
Newsprint	2.4%	1.4%	-1.0%	Branches and Stumps	0.1%	0.4%	0.3%
Phone Books and Directories	0.2%	0.1%	-0.1%	Prunings and Trimmings	3.5%	2.8%	-0.7%
Aseptic Boxes & Gable Top Cartons	NA	0.2%	NA	Leaves and Grass	9.6%	4.2%	-5.3%
Other Recyclable Paper	3.5%	2.5%	-1.0%	Manures	0.1%	0.2%	0.1%
Compostable Paper	10.2%	10.1%	-0.1%	Diapers & Sanitary Products	NA	2.8%	NA
Remainder/Composite Paper	2.6%	1.0%	-1.7%	Remainder/Composite Organic	2.3%	0.2%	-2.0%
Plastic	**14.0%**	**12.6%**	**-1.5%**	**C&D Debris**	**15.0%**	**13.1%**	**-1.9%**
PET Bottles/Jars	0.4%	0.5%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.0%	0.0%
PET Containers Other than Bottles	0.1%	0.2%	0.0%	Wood – Treated	4.1%	6.2%	2.1%
Plastic CT Deposit Beverage Containers	0.2%	0.3%	0.2%	Wood – Untreated	2.6%	2.0%	-0.6%
HDPE Bottles, Colored and Natural	0.4%	0.5%	0.1%	Asphalt Roofing	0.1%	0.4%	0.3%
HDPE Containers other than Bottles	0.1%	0.5%	0.3%	Drywall/Gypsum Board	1.1%	1.0%	-0.1%
Plastic Containers #3-#7	0.4%	0.8%	0.3%	Carpet	5.0%	1.1%	-3.9%
Expanded Polystyrene Non-food Grade	0.6%	0.1%	-0.5%	Carpet Padding	1.0%	0.5%	-0.5%
Expanded Food-grade Polystyrene	0.5%	0.4%	-0.2%	Remainder/Composite C&D	1.1%	1.9%	0.8%
Durable Plastic Items	4.1%	0.9%	-3.2%	**Household Hazardous Waste**	**0.6%**	**0.8%**	**0.2%**
Film (non-bag)	0.4%	0.4%	0.1%	Ballasts, CFLs	0.0%	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.6%	0.2%	Batteries – Lead Acid	0.0%	0.0%	0.0%
Other Film	3.6%	3.9%	0.3%	Other Batteries	0.0%	0.0%	0.0%
Flexible Plastic Pouches and Packaging	NA	0.1%	NA	Paint	0.0%	0.1%	0.1%
Pallets – Plastic	0.4%	0.2%	-0.2%	Sharps	0.0%	0.0%	0.0%
Remainder/Composite Plastic	2.4%	3.3%	0.9%	Vehicle and Equipment Fluids	0.0%	0.1%	0.1%
Metal	**4.1%**	**3.4%**	**-0.7%**	Empty Metal/Glass/Plastic HHW Containe	0.2%	0.4%	0.2%
Aluminum Beverage Containers	0.0%	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	0.0%	Other Hazardous Waste	0.3%	0.2%	-0.2%
Aluminum Plates & Foils	NA	0.3%	NA	**Electronics**	**2.8%**	**0.5%**	**-2.4%**
Tin/Steel Containers	0.7%	0.4%	-0.3%	Computer-related Electronics	0.7%	0.2%	-0.5%
Other Ferrous	2.1%	0.3%	-1.8%	Other Small Consumer Electronics	0.4%	0.3%	-0.2%
Other Non-Ferrous	0.9%	0.4%	-0.5%	Televisions and Computer Monitors	1.7%	0.0%	-1.7%
Appliances	0.1%	0.0%	-0.1%	Other Larger Electronics	0.0%	0.0%	0.0%
Compressed Fuel Containers/Propane Tank	0.0%	0.2%	0.2%	**Other Wastes**	**7.7%**	**11.9%**	**4.3%**
Remainder/Composite Metal	0.3%	1.7%	1.4%	Bulky Items	2.1%	0.9%	-1.2%
Glass	**1.9%**	**2.9%**	**0.9%**	Textiles	3.0%	6.4%	3.4%
Non-deposit Clear/Amber Glass	1.2%	1.3%	0.1%	Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.3%	0.2%	Bottom Fines and Dirt	1.3%	2.7%	1.4%
Deposit Glass	0.3%	0.3%	0.0%	Other Miscellaneous	1.3%	2.0%	0.7%
Flat Glass	0.1%	0.2%	0.0%	**Grand Total**	**100%**	**100%**	
Remainder/Composite Glass	0.2%	0.9%	0.6%				

3.6.2 COVANTA-BRISTOL RRF

Table 3-18 compares the composition of aggregate waste at the Bristol RRF.

Table 3-18 Comparison of Aggregate Waste Composition (Bristol RRF)

	Estimate Percent Composition				Estimate Percent Composition		
Material Category	**2010**	**2015**	**Change**	**Material Category**	**2010**	**2015**	**Change**
Paper	**25.3%**	**22.7%**	**-2.6%**	**Food Waste**	**10.6%**	**18.7%**	**8.1%**
Corrugated Cardboard/Kraft Paper	4.9%	2.5%	-2.4%	Food Waste, Loose	10.6%	17.0%	6.3%
High Grade Office Paper	1.9%	1.4%	-0.5%	Food Waste, Emptied from Packaging	NA	1.8%	NA
Magazines/Catalogs	1.5%	0.7%	-0.8%	**Other Organics**	**15.6%**	**14.7%**	**-0.9%**
Newsprint	1.7%	1.2%	-0.5%	Branches and Stumps	0.8%	1.2%	0.3%
Phone Books and Directories	0.6%	0.1%	-0.5%	Prunings and Trimmings	1.5%	1.8%	0.3%
Aseptic Boxes & Gable Top Cartons	NA	0.3%	NA	Leaves and Grass	9.4%	5.7%	-3.7%
Other Recyclable Paper	3.8%	4.1%	0.3%	Manures	0.5%	0.0%	-0.5%
Compostable Paper	8.3%	11.6%	3.3%	Diapers & Sanitary Products	NA	4.8%	NA
Remainder/Composite Paper	2.7%	0.8%	-1.8%	Remainder/Composite Organic	3.4%	1.2%	-2.2%
Plastic	**14.0%**	**10.6%**	**-3.4%**	**C&D Debris**	**14.6%**	**11.3%**	**-3.3%**
PET Bottles/Jars	0.6%	0.7%	0.1%	Asphalt, Brick, and Concrete	0.0%	0.6%	0.5%
PET Containers Other than Bottles	0.1%	0.3%	0.2%	Wood – Treated	5.0%	3.8%	-1.2%
Plastic CT Deposit Beverage Containers	0.2%	0.2%	0.0%	Wood – Untreated	1.6%	2.5%	0.9%
HDPE Bottles, Colored and Natural	0.4%	0.6%	0.1%	Asphalt Roofing	0.0%	0.2%	0.1%
HDPE Containers other than Bottles	0.3%	0.0%	-0.3%	Drywall/Gypsum Board	0.5%	0.5%	-0.1%
Plastic Containers #3-#7	0.4%	0.6%	0.1%	Carpet	4.7%	1.7%	-3.0%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	0.0%	Carpet Padding	0.7%	0.2%	-0.5%
Expanded Food-grade Polystyrene	0.8%	0.4%	-0.3%	Remainder/Composite C&D	2.0%	1.9%	-0.1%
Durable Plastic Items	4.2%	1.1%	-3.1%	**Household Hazardous Waste**	**0.6%**	**0.8%**	**0.1%**
Film (non-bag)	0.7%	1.0%	0.3%	Ballasts, CFLs	0.0%	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.6%	0.1%	Batteries – Lead Acid	0.0%	0.0%	0.0%
Other Film	3.6%	3.3%	-0.3%	Other Batteries	0.1%	0.0%	-0.1%
Flexible Plastic Pouches and Packaging	NA	0.2%	NA	Paint	0.2%	0.0%	-0.1%
Pallets – Plastic	0.1%	0.0%	-0.1%	Sharps	0.0%	0.0%	0.0%
Remainder/Composite Plastic	1.9%	1.6%	-0.2%	Vehicle and Equipment Fluids	0.1%	0.0%	-0.1%
Metal	**5.5%**	**3.7%**	**-1.9%**	Empty Metal/Glass/Plastic HHW Containers	0.1%	0.4%	0.3%
Aluminum Beverage Containers	0.0%	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	0.0%	Other Hazardous Waste	0.2%	0.3%	0.1%
Aluminum Plates & Foils	NA	0.4%	NA	**Electronics**	**1.2%**	**0.3%**	**-0.9%**
Tin/Steel Containers	1.1%	0.5%	-0.6%	Computer-related Electronics	0.0%	0.0%	0.0%
Other Ferrous	2.7%	0.5%	-2.2%	Other Small Consumer Electronics	0.3%	0.3%	0.0%
Other Non-Ferrous	0.3%	0.3%	0.0%	Televisions and Computer Monitors	0.7%	0.0%	-0.7%
Appliances	0.5%	0.3%	-0.3%	Other Larger Electronics	0.2%	0.0%	-0.2%
Compressed Fuel Containers/Propane Tank	0.2%	0.0%	-0.2%	**Other Wastes**	**10.1%**	**15.0%**	**4.9%**
Remainder/Composite Metal	0.6%	1.7%	1.1%	Bulky Items	3.7%	2.7%	-0.9%
Glass	**2.3%**	**2.1%**	**-0.2%**	Textiles	3.9%	5.2%	1.3%
Non-deposit Clear/Amber Glass	0.9%	0.7%	-0.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	0.0%	Bottom Fines and Dirt	1.4%	4.0%	2.7%
Deposit Glass	0.1%	0.2%	0.2%	Other Miscellaneous	1.2%	3.1%	1.8%
Flat Glass	0.2%	0.1%	-0.1%	**Grand Total**	**100%**	**100%**	
Remainder/Composite Glass	1.1%	1.0%	-0.1%				

3.6.3 COVANTA-PRESTON RRF

Table 3-19 compares the composition of aggregate waste at the Covanta-Preston RRF.

Table 3-19 Comparison of Aggregate Waste Composition (Covanta-Preston RRF)

	Estimate Percent Composition				Estimate Percent Compositio		
Material Category	**2010**	**2015**	**Change**	**Material Category**	**2010**	**2015**	**Change**
Paper	**24.0%**	**24.8%**	**0.7%**	**Food Waste**	**17.6%**	**18.3%**	**0.7%**
Corrugated Cardboard/Kraft Paper	4.9%	6.3%	1.4%	Food Waste, Loose	17.6%	16.4%	-1.2%
High Grade Office Paper	1.9%	1.4%	-0.5%	Food Waste, Emptied from Packaging	NA	2.0%	NA
Magazines/Catalogs	1.0%	0.7%	-0.3%	**Other Organics**	**8.6%**	**9.4%**	**0.8%**
Newsprint	1.1%	1.8%	0.7%	Branches and Stumps	0.2%	0.1%	0.0%
Phone Books and Directories	0.2%	0.1%	-0.1%	Prunings and Trimmings	1.6%	1.8%	0.2%
Aseptic Boxes & Gable Top Cartons	NA	0.2%	NA	Leaves and Grass	3.4%	3.7%	0.3%
Other Recyclable Paper	3.6%	2.9%	-0.7%	Manures	0.2%	0.1%	-0.1%
Compostable Paper	8.5%	10.4%	1.9%	Diapers & Sanitary Products	NA	2.9%	NA
Remainder/Composite Paper	2.8%	0.9%	-1.9%	Remainder/Composite Organic	3.3%	0.7%	-2.6%
Plastic	**18.1%**	**10.9%**	**-7.1%**	**C&D Debris**	**12.2%**	**17.0%**	**4.8%**
PET Bottles/Jars	0.6%	0.5%	-0.1%	Asphalt, Brick, and Concrete	0.1%	0.5%	0.5%
PET Containers Other than Bottles	0.1%	0.2%	0.1%	Wood – Treated	5.3%	10.3%	5.0%
Plastic CT Deposit Beverage Containers	1.0%	0.3%	-0.6%	Wood – Untreated	2.4%	1.3%	-1.1%
HDPE Bottles, Colored and Natural	0.7%	0.4%	-0.4%	Asphalt Roofing	0.2%	0.5%	0.3%
HDPE Containers other than Bottles	0.2%	0.1%	-0.2%	Drywall/Gypsum Board	0.1%	0.5%	0.4%
Plastic Containers #3-#7	0.8%	0.7%	-0.1%	Carpet	2.1%	1.6%	-0.6%
Expanded Polystyrene Non-food Grade	1.9%	0.2%	-1.7%	Carpet Padding	0.7%	0.3%	-0.4%
Expanded Food-grade Polystyrene	0.9%	0.5%	-0.4%	Remainder/Composite C&D	1.3%	2.0%	0.7%
Durable Plastic Items	2.9%	0.7%	-2.2%	**Household Hazardous Waste**	**0.7%**	**0.5%**	**-0.1%**
Film (non-bag)	0.4%	0.8%	0.3%	Ballasts, CFLs	0.0%	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.7%	0.2%	Batteries – Lead Acid	0.0%	0.0%	0.0%
Other Film	4.0%	3.7%	-0.3%	Other Batteries	0.0%	0.0%	0.0%
Flexible Plastic Pouches and Packaging	NA	0.2%	NA	Paint	0.0%	0.0%	0.0%
Pallets – Plastic	0.3%	0.0%	-0.3%	Sharps	0.0%	0.0%	0.0%
Remainder/Composite Plastic	3.6%	1.9%	-1.7%	Vehicle and Equipment Fluids	0.1%	0.0%	0.0%
Metal	**4.4%**	**4.1%**	**-0.3%**	Empty Metal/Glass/Plastic HHW Containers	0.4%	0.3%	-0.1%
Aluminum Beverage Containers	0.0%	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.3%	0.1%	-0.2%	Other Hazardous Waste	0.2%	0.1%	-0.1%
Aluminum Plates & Foils	NA	0.3%	NA	**Electronics**	**1.6%**	**0.4%**	**-1.2%**
Tin/Steel Containers	0.5%	0.4%	-0.1%	Computer-related Electronics	0.1%	0.0%	-0.1%
Other Ferrous	0.5%	0.1%	-0.3%	Other Small Consumer Electronics	0.3%	0.3%	0.0%
Other Non-Ferrous	0.3%	0.0%	-0.3%	Televisions and Computer Monitors	0.8%	0.0%	-0.8%
Appliances	1.7%	1.1%	-0.6%	Other Larger Electronics	0.3%	0.1%	-0.2%
Compressed Fuel Containers/Propane Tank	0.0%	0.5%	0.5%	**Other Wastes**	**10.9%**	**12.0%**	**1.2%**
Remainder/Composite Metal	1.1%	1.5%	0.4%	Bulky Items	3.2%	2.6%	-0.7%
Glass	**1.9%**	**2.5%**	**0.6%**	Textiles	4.7%	4.5%	-0.2%
Non-deposit Clear/Amber Glass	0.8%	1.0%	0.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.4%	0.1%	-0.3%	Bottom Fines and Dirt	1.3%	2.7%	1.3%
Deposit Glass	0.5%	0.4%	-0.1%	Other Miscellaneous	1.6%	2.3%	0.7%
Flat Glass	0.0%	0.0%	0.0%	**Grand Total**	**100%**	**100%**	
Remainder/Composite Glass	0.1%	1.0%	0.9%				

3.6.4 WHEELABRATOR-BRIDGEPORT RRF

Table 3-20 compares the composition of aggregate waste at the Wheelabrator-Bridgeport RRF.

Table 3-20 Comparison of Aggregate Waste Composition (Wheelabrator-Bridgeport RRF)

	Estimate Percent Composition				Estimate Percent Compositio		
Material Category	**2010**	**2015**	**Change**	**Material Category**	**2010**	**2015**	**Change**
Paper	**29.0%**	**26.5%**	**-2.5%**	**Food Waste**	**13.6%**	**29.1%**	**15.5%**
Corrugated Cardboard/Kraft Paper	10.6%	5.2%	-5.4%	Food Waste, Loose	13.6%	22.0%	8.4%
High Grade Office Paper	1.5%	1.5%	0.0%	Food Waste, Emptied from Packaging	NA	7.1%	NA
Magazines/Catalogs	1.4%	1.0%	-0.5%	**Other Organics**	**11.5%**	**7.5%**	**-4.1%**
Newsprint	2.3%	1.1%	-1.2%	Branches and Stumps	0.9%	0.5%	-0.3%
Phone Books and Directories	0.4%	0.2%	-0.2%	Prunings and Trimmings	1.1%	0.6%	-0.6%
Aseptic Boxes & Gable Top Cartons	NA	0.3%	NA	Leaves and Grass	5.2%	2.1%	-3.1%
Other Recyclable Paper	3.6%	4.0%	0.4%	Manures	0.1%	0.0%	-0.1%
Compostable Paper	7.0%	12.2%	5.2%	Diapers & Sanitary Products	NA	3.7%	NA
Remainder/Composite Paper	2.3%	1.2%	-1.1%	Remainder/Composite Organic	4.3%	0.6%	-3.7%
Plastic	**14.3%**	**13.2%**	**-1.1%**	**C&D Debris**	**12.1%**	**5.2%**	**-6.9%**
PET Bottles/Jars	0.7%	0.6%	-0.1%	Asphalt, Brick, and Concrete	0.3%	0.7%	0.4%
PET Containers Other than Bottles	0.1%	0.4%	0.3%	Wood – Treated	3.4%	1.6%	-1.8%
Plastic CT Deposit Beverage Containers	0.8%	0.4%	-0.5%	Wood – Untreated	4.4%	1.3%	-3.1%
HDPE Bottles, Colored and Natural	0.3%	0.8%	0.5%	Asphalt Roofing	1.0%	0.0%	-1.0%
HDPE Containers other than Bottles	0.1%	0.1%	0.0%	Drywall/Gypsum Board	0.0%	0.2%	0.2%
Plastic Containers #3-#7	0.4%	1.1%	0.7%	Carpet	1.2%	0.4%	-0.8%
Expanded Polystyrene Non-food Grade	1.4%	0.1%	-1.2%	Carpet Padding	0.5%	0.0%	-0.5%
Expanded Food-grade Polystyrene	0.5%	0.7%	0.2%	Remainder/Composite C&D	1.3%	1.0%	-0.3%
Durable Plastic Items	3.2%	0.9%	-2.3%	**Household Hazardous Waste**	**0.4%**	**0.9%**	**0.5%**
Film (non-bag)	0.7%	1.2%	0.5%	Ballasts, CFLs	0.0%	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	1.1%	0.6%	Batteries – Lead Acid	0.0%	0.0%	0.0%
Other Film	3.0%	4.0%	1.0%	Other Batteries	0.1%	0.1%	-0.1%
Flexible Plastic Pouches and Packaging	NA	0.3%	NA	Paint	0.0%	0.0%	0.0%
Pallets – Plastic	0.3%	0.0%	-0.3%	Sharps	0.0%	0.0%	0.0%
Remainder/Composite Plastic	2.1%	1.6%	-0.6%	Vehicle and Equipment Fluids	0.0%	0.0%	0.0%
Metal	**4.6%**	**3.4%**	**-1.2%**	Empty Metal/Glass/Plastic HHW Containe	0.2%	0.4%	0.2%
Aluminum Beverage Containers	0.2%	0.1%	-0.1%	Pesticides and Fertilizers	0.0%	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.2%	0.1%	Other Hazardous Waste	0.1%	0.5%	0.5%
Aluminum Plates & Foils	NA	0.7%	NA	**Electronics**	**2.2%**	**0.8%**	**-1.5%**
Tin/Steel Containers	0.8%	0.8%	0.0%	Computer-related Electronics	0.4%	0.0%	-0.3%
Other Ferrous	1.3%	0.6%	-0.7%	Other Small Consumer Electronics	0.7%	0.3%	-0.4%
Other Non-Ferrous	0.7%	0.1%	-0.6%	Televisions and Computer Monitors	0.1%	0.2%	0.1%
Appliances	0.4%	0.0%	-0.4%	Other Larger Electronics	1.1%	0.2%	-0.8%
Compressed Fuel Containers/Propane Tank	0.0%	0.0%	0.0%	**Other Wastes**	**9.6%**	**11.0%**	**1.4%**
Remainder/Composite Metal	1.1%	0.8%	-0.4%	Bulky Items	2.0%	0.7%	-1.4%
Glass	**2.5%**	**2.4%**	**-0.2%**	Textiles	5.1%	5.7%	0.7%
Non-deposit Clear/Amber Glass	1.8%	1.3%	-0.4%	Restaurant Fats, Oils and Grease	0.0%	0.1%	0.1%
Non-deposit Green/Other Colored Glass	0.3%	0.3%	0.0%	Bottom Fines and Dirt	1.7%	2.8%	1.1%
Deposit Glass	0.3%	0.2%	-0.1%	Other Miscellaneous	0.8%	1.6%	0.8%
Flat Glass	0.1%	0.1%	0.0%	**Grand Total**	**100%**	**100%**	
Remainder/Composite Glass	0.1%	0.5%	0.4%				

3.6.5 NEW HAVEN MUNICIPAL TRANSFER STATION

Table 3-21 compares the composition of aggregate waste at the New Haven Municipal Transfer Station.

Table 3-21 Comparison of Aggregate Waste Composition (New Haven Municipal Transfer Station)

	Estimate Percent Composition				Estimate Percent Compositio		
Material Category	**2010**	**2015**	**Change**	**Material Category**	**2010**	**2015**	**Change**
Paper	**26.9%**	**21.6%**	**-5.3%**	**Food Waste**	**13.1%**	**25.9%**	**12.8%**
Corrugated Cardboard/Kraft Paper	10.5%	6.1%	-4.4%	Food Waste, Loose	13.1%	22.2%	9.2%
High Grade Office Paper	2.2%	1.2%	-1.0%	Food Waste, Emptied from Packaging	NA	3.7%	NA
Magazines/Catalogs	0.9%	0.5%	-0.4%	**Other Organics**	**11.0%**	**16.6%**	**5.6%**
Newsprint	1.9%	1.3%	-0.7%	Branches and Stumps	0.6%	0.2%	-0.4%
Phone Books and Directories	0.5%	0.1%	-0.4%	Prunings and Trimmings	0.9%	0.9%	0.0%
Aseptic Boxes & Gable Top Cartons	NA	0.3%	NA	Leaves and Grass	4.8%	7.6%	2.8%
Other Recyclable Paper	3.4%	2.2%	-1.2%	Manures	0.5%	1.8%	1.2%
Compostable Paper	5.9%	9.0%	3.1%	Diapers & Sanitary Products	NA	4.2%	NA
Remainder/Composite Paper	1.5%	0.8%	-0.7%	Remainder/Composite Organic	4.1%	1.9%	-2.2%
Plastic	**12.7%**	**11.1%**	**-1.6%**	**C&D Debris**	**17.0%**	**5.5%**	**-11.5%**
PET Bottles/Jars	0.7%	0.6%	0.0%	Asphalt, Brick, and Concrete	0.5%	0.1%	-0.4%
PET Containers Other than Bottles	0.2%	0.4%	0.2%	Wood – Treated	8.2%	2.1%	-6.1%
Plastic CT Deposit Beverage Containers	0.3%	0.3%	0.0%	Wood – Untreated	1.9%	0.5%	-1.4%
HDPE Bottles, Colored and Natural	0.6%	0.6%	0.1%	Asphalt Roofing	0.0%	0.0%	0.0%
HDPE Containers other than Bottles	0.2%	0.1%	-0.1%	Drywall/Gypsum Board	1.4%	0.1%	-1.3%
Plastic Containers #3-#7	0.3%	0.6%	0.2%	Carpet	2.0%	1.7%	-0.3%
Expanded Polystyrene Non-food Grade	0.1%	0.0%	0.0%	Carpet Padding	0.3%	0.0%	-0.3%
Expanded Food-grade Polystyrene	0.7%	0.7%	0.0%	Remainder/Composite C&D	2.7%	1.0%	-1.7%
Durable Plastic Items	2.6%	0.5%	-2.2%	**Household Hazardous Waste**	**0.3%**	**0.5%**	**0.3%**
Film (non-bag)	0.9%	1.1%	0.2%	Ballasts, CFLs	0.0%	0.0%	0.0%
Grocery and other Merchandise Bags	0.7%	0.9%	0.2%	Batteries – Lead Acid	0.0%	0.0%	0.0%
Other Film	3.0%	3.0%	0.0%	Other Batteries	0.0%	0.0%	0.0%
Flexible Plastic Pouches and Packaging	NA	0.2%	NA	Paint	0.0%	0.0%	0.0%
Pallets – Plastic	0.2%	0.0%	-0.2%	Sharps	0.0%	0.0%	0.0%
Remainder/Composite Plastic	2.2%	2.1%	-0.1%	Vehicle and Equipment Fluids	0.0%	0.0%	0.0%
Metal	**4.0%**	**2.1%**	**-1.9%**	Empty Metal/Glass/Plastic HHW Container	0.1%	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.2%	0.0%	Other Hazardous Waste	0.1%	0.3%	0.2%
Aluminum Plates & Foils	NA	0.4%	NA	**Electronics**	**1.9%**	**1.1%**	**-0.8%**
Tin/Steel Containers	1.3%	0.6%	-0.7%	Computer-related Electronics	0.3%	0.4%	0.1%
Other Ferrous	0.5%	0.1%	-0.3%	Other Small Consumer Electronics	0.5%	0.2%	-0.3%
Other Non-Ferrous	0.5%	0.0%	-0.5%	Televisions and Computer Monitors	0.4%	0.1%	-0.3%
Appliances	0.1%	0.0%	-0.1%	Other Larger Electronics	0.6%	0.5%	-0.2%
Compressed Fuel Containers/Propane Tank	0.6%	0.0%	-0.6%	**Other Wastes**	**10.8%**	**13.6%**	**2.7%**
Remainder/Composite Metal	0.9%	0.7%	-0.2%	Bulky Items	1.9%	1.6%	-0.3%
Glass	**2.4%**	**1.9%**	**-0.5%**	Textiles	5.8%	6.4%	0.6%
Non-deposit Clear/Amber Glass	1.1%	0.9%	-0.1%	Restaurant Fats, Oils and Grease	0.0%	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	0.0%	Bottom Fines and Dirt	1.5%	3.8%	2.3%
Deposit Glass	0.4%	0.3%	-0.1%	Other Miscellaneous	1.7%	1.8%	0.1%
Flat Glass	0.6%	0.0%	-0.6%	**Grand Total**	**100%**	**100%**	
Broken Glass	0.2%	0.6%	0.3%				

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4. SINGLE STREAM RECYCLING RESULTS

4.1 AGGREGATE SINGLE STREAM RECYCLING COMPOSITION

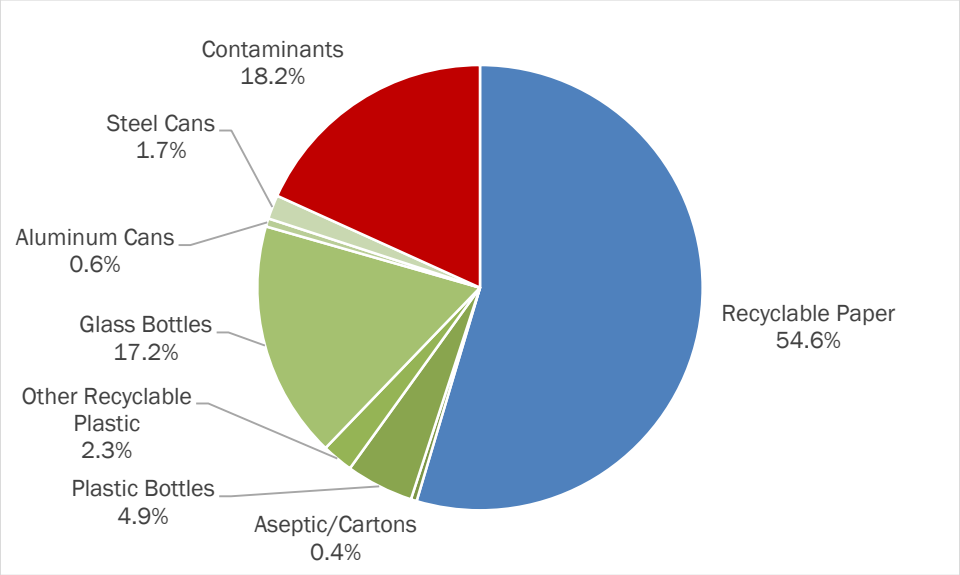
The results in this section combine all 81 samples of residential single stream recyclables to generate the average composition of these recyclables.

4.1.1 COMPOSITION WITH BAGGED WASTE CONSIDERED A CONTAMINANT

The sorting protocol for single stream recyclables included a category for Bagged Wastes. The results below treat bagged waste as if 100 percent of the material in the bags were non-targeted materials, i.e., contamination. Newspapers that have not been removed from the sleeves are also considered non-recyclable in these figures.

Figure 4-1 illustrates the breakdown of recyclable paper (blue), recyclable containers and plastics (green) and contamination (red) in single stream recycling. Recyclable containers comprise just over 27 percent of the total, with glass bottles (including broken glass) the most prevalent container type by weight.

Figure 4-1 Single-Stream Recycling Composition (Bagged Waste as Contaminant)



4. SINGLE STREAM RECYCLING RESULTS

Figure 4-2 presents the 10 most prevalent individual material categories found in single stream recyclables. Eight of the top 10 items are materials that are actively targeted in single stream programs. Non-recyclable Paper (including Newspapers in sleeves) and Bagged Waste made the top 10 list as contaminants, confirming what is often reported anecdotally by MRF operators.

Figure 4-2 Single-Stream Recycling Results (Top 10 Materials)

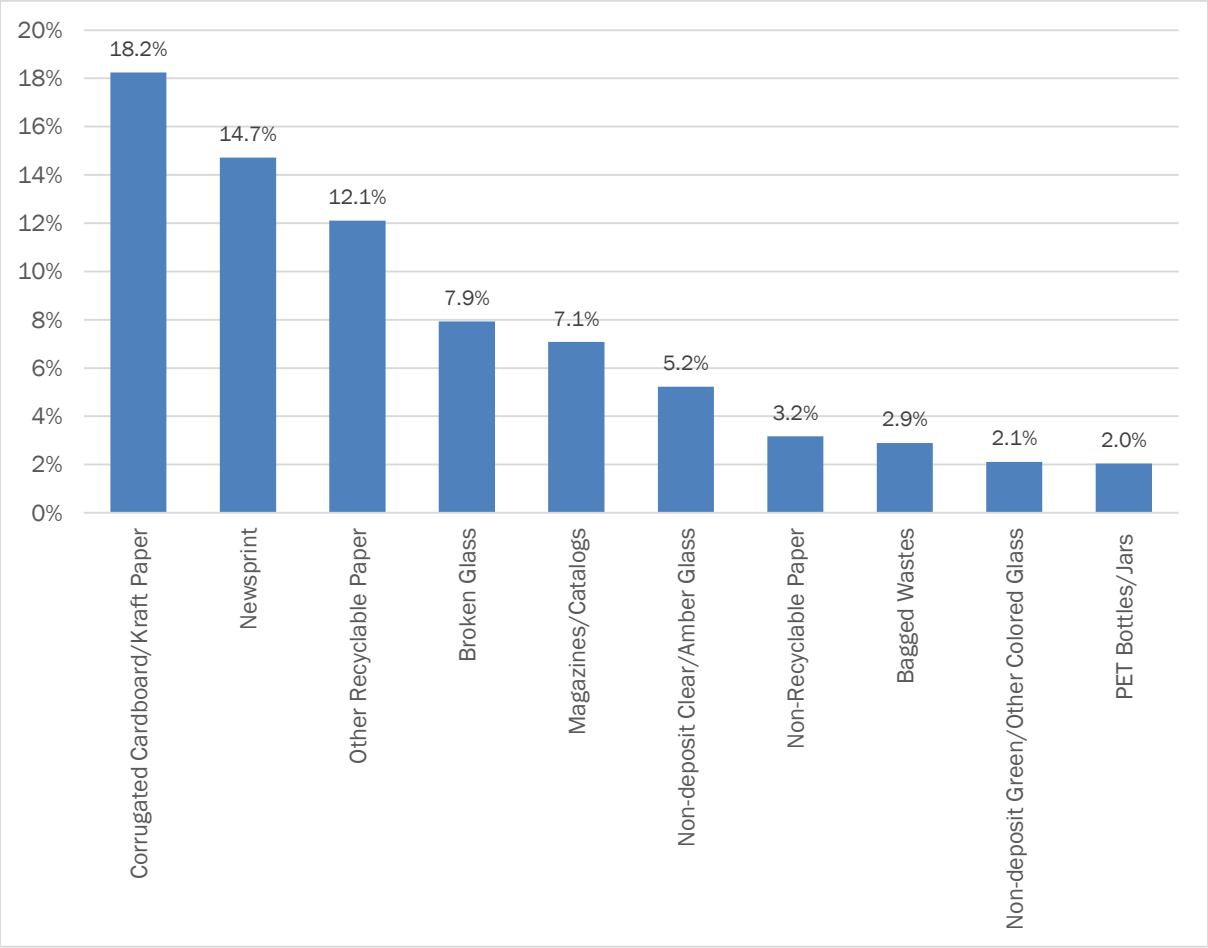


Table 4-1 provides a detailed statistical profile of the single stream recyclable samples obtained for this project. For each material category, the mean percent and confidence intervals are shown. Confidence intervals are calculated at a 90 percent level of confidence.

Table 4-1 Single-Stream Recycling Composition (Bagged Waste as Contaminant)

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Recyclable Paper	**54.6%**		**Non-Recyclable Glass**	**0.2%**	
Corrugated Cardboard/Kraft Paper	18.2%	2.4%	Flat Glass	0.2%	0.1%
High Grade Office Paper	1.8%	0.5%	**Metal - Aluminum Cans**	**0.6%**	
Magazines/Catalogs	7.1%	1.0%	Aluminum Beverage Containers	0.3%	0.0%
Newsprint	14.7%	1.7%	Aluminum CT Deposit Beverage Containers	0.3%	0.1%
Phone Books and Directories	0.7%	0.4%	**Metal - Steel Cans**	**1.7%**	
Other Recyclable Paper	12.1%	0.9%	Tin/Steel Containers	1.7%	0.2%
Aseptic Boxes & Cartons	**0.4%**		**Metal - Other**	**2.2%**	
Aseptic Boxes & Gable Top Cartons	0.4%	0.1%	Aluminum Plates & Foils	0.1%	0.0%
Non-Recyclable Paper	**4.7%**		Other Ferrous	1.0%	0.4%
Non-Recyclable Paper	3.2%	0.6%	Other Non-Ferrous	0.1%	0.1%
Newspaper, Bagged	1.5%	0.6%	Appliances	0.0%	0.0%
Plastic Bottles	**4.9%**		Compressed Fuel Containers/Propane Tank	0.1%	0.1%
PET Bottles/Jars	2.0%	0.2%	Remainder/Composite Metal	0.8%	0.4%
Plastic CT Deposit Beverage Containers	0.7%	0.1%	**Contaminants - Compostable Organics**	**1.5%**	
HDPE Bottles, Colored and Natural	1.9%	0.2%	Food Waste	0.8%	0.3%
Plastic Bottles #3-#7	0.2%	0.0%	Yard Waste	0.6%	0.6%
Rigid Plastic - Recyclable	**2.3%**		**Contaminants - Other**	**6.7%**	
PET Containers other than Bottles	0.5%	0.1%	C&D Debris	0.5%	0.4%
HDPE Containers other than Bottles	0.3%	0.1%	Wood	0.7%	0.6%
Plastic Non-Bottle Containers #3-#7	0.6%	0.1%	HHW	0.1%	0.0%
Bulky Plastic Items	0.9%	0.4%	Empty HHW Containers	0.5%	0.1%
Non-Recyclable Plastic	**3.0%**		Electronics	0.5%	0.2%
Expanded Polystyrene	0.1%	0.0%	Bulky Items	0.0%	0.0%
Plastic Films	1.4%	0.5%	Textiles	1.0%	0.6%
Remainder/Composite Plastic	1.5%	0.2%	Diapers & Sanitary Products	0.1%	0.0%
Glass Bottles	**17.2%**		Other Miscellaneous	0.4%	0.2%
Non-deposit Clear/Amber Glass	5.2%	0.9%	Bagged Wastes	2.9%	1.0%
Non-deposit Green/Other Colored Glass	2.1%	0.6%	**Grand Total**	**100%**	
CT Deposit Glass Beverage Containers	2.0%	0.4%	***No. of Samples***	***81***	
Broken Glass	7.9%	1.5%			

4.1.2 BAGGED WASTE COMPOSITION

Bagged wastes were subsequently analyzed to determine what materials are arriving at single stream MRFs still contained in bags. Figure 4-3 shows the incidence of both targeted recyclables and contaminants in bagged wastes. As shown, bagged wastes were found to be roughly split between trash and recyclables. In practice, some bags contained mostly or entirely recyclables, while other contained mostly or entirely trash. Other bags contained a mix.

Figure 4-3 Composition of Bagged Waste

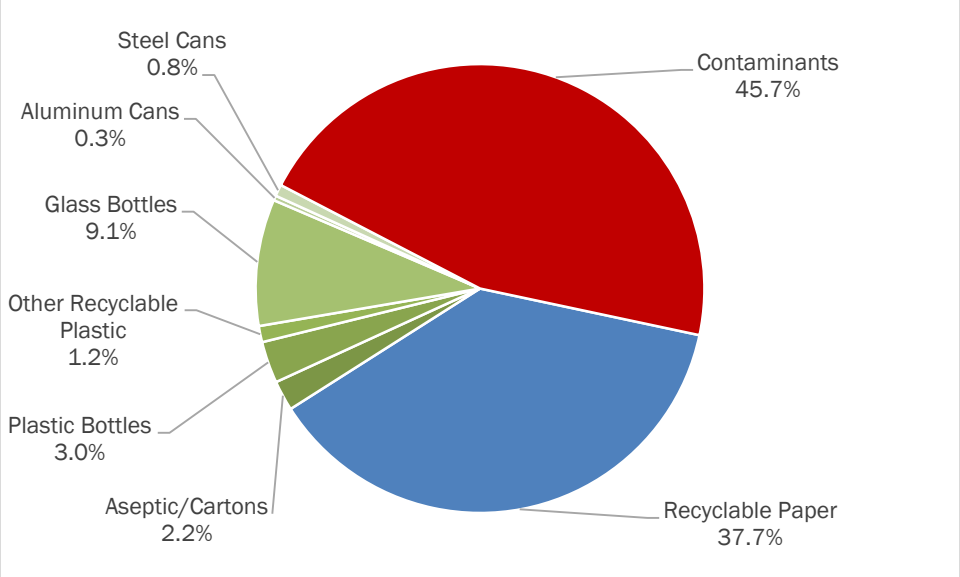


Table 4-2 provides a detailed summary of the composition of bagged wastes found in the inbound single stream recyclable samples. This table excludes newspapers still in the sleeve.

Table 4-2 Bagged Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Recyclable Paper	**37.7%**		**Non-Recyclable Glass**	**0.8%**	
Corrugated Cardboard/Kraft Paper	1.7%	0.6%	Flat Glass	0.8%	0.7%
High Grade Office Paper	2.8%	3.0%	**Metal - Aluminum Cans**	**0.3%**	
Magazines/Catalogs	2.0%	0.9%	Aluminum Beverage Containers	0.3%	0.4%
Newsprint	11.5%	8.3%	Aluminum CT Deposit Beverage Containers	0.0%	0.1%
Phone Books and Directories	0.0%	0.0%	**Metal - Steel Cans**	**0.8%**	
Other Recyclable Paper	19.6%	8.8%	Tin/Steel Containers	0.8%	0.5%
Aseptic Boxes & Cartons	**2.2%**		**Metal - Other**	**1.3%**	
Aseptic Boxes & Gable Top Cartons	2.2%	2.8%	Aluminum Plates & Foils	0.3%	0.3%
Non-Recyclable Paper	**6.9%**		Other Ferrous	0.3%	0.3%
Non-Recyclable Paper	6.9%	6.4%	Other Non-Ferrous	0.0%	0.0%
Newspaper, Bagged	0.0%	0.0%	Appliances	0.6%	1.0%
Plastic Bottles	**3.0%**		Compressed Fuel Containers/Propane Tank	0.0%	0.0%
PET Bottles/Jars	0.8%	0.5%	Remainder/Composite Metal	0.1%	0.3%
Plastic CT Deposit Beverage Containers	1.2%	0.7%	**Contaminants - Compostable Organics**	**9.5%**	
HDPE Bottles, Colored and Natural	0.8%	0.4%	Food Waste	7.7%	6.0%
Plastic Bottles #3-#7	0.1%	0.1%	Yard Waste	1.7%	3.1%
Rigid Plastic - Recyclable	**1.2%**		**Contaminants - Other**	**16.5%**	
PET Containers other than Bottles	0.6%	0.4%	C&D Debris	0.1%	0.2%
HDPE Containers other than Bottles	0.0%	0.0%	Wood	1.8%	2.1%
Plastic Non-Bottle Containers #3-#7	0.5%	0.3%	HHW	0.0%	0.0%
Bulky Plastic Items	0.0%	0.0%	Empty HHW Containers	0.0%	0.0%
Non-Recyclable Plastic	**10.7%**		Electronics	0.2%	0.2%
Expanded Polystyrene	0.6%	0.4%	Bulky Items	3.3%	4.0%
Plastic Films	5.3%	3.0%	Textiles	2.2%	2.8%
Remainder/Composite Plastic	4.9%	4.0%	Diapers & Sanitary Products	5.4%	4.5%
Glass Bottles	**9.1%**		Other Miscellaneous	3.5%	5.1%
Non-deposit Clear/Amber Glass	4.9%	1.2%	Bagged Wastes	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.7%	0.7%	**Grand Total**	**100%**	
CT Deposit Glass Beverage Containers	0.5%	0.6%	***No. of Samples***	***7***	
Broken Glass	3.1%	2.1%			

4.1.3 COMPOSITION WITH BAGGED WASTE SORTED TO PROPER CATEGORY

The composition of single stream recyclables has been restated in this section to reflect the impact of breaking open and sorting the bagged wastes into the appropriate category. Figure 4-4 restates the breakdown of recyclable paper, recyclable containers/plastics, and contamination. As shown, the overall contamination rate drops slightly to 16.7 percent (with bagged newspaper still considered "contamination"). If bagged newspapers are considered acceptable, then the contamination rate drops to 15.2 percent.

Figure 4-4 Single-Stream Recycling Composition (Bagged Waste is Sorted)

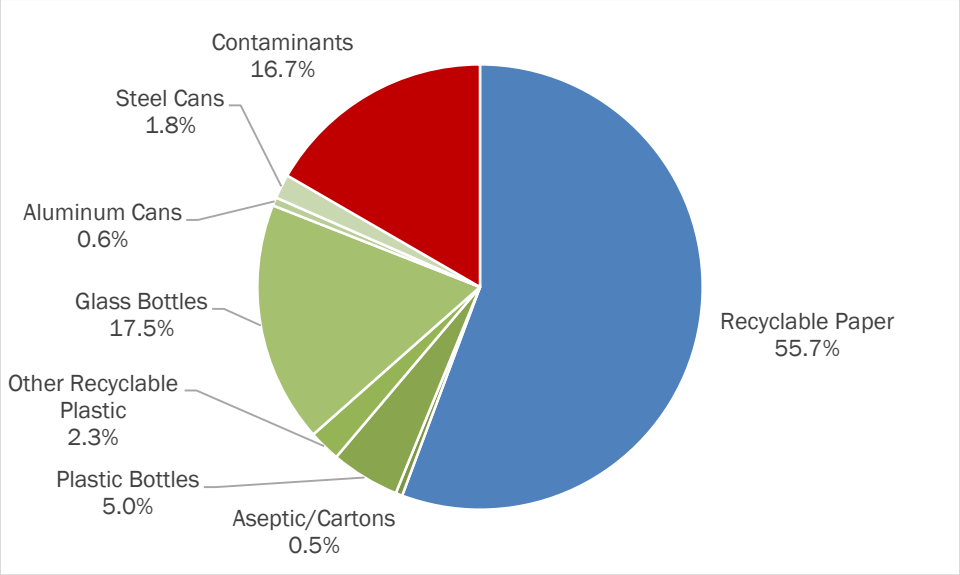


Table 4-3 provides a detailed summary of single stream recycling composition with bagged wastes sorted into the appropriate category. Newspapers in sleeves remain a separate category in this table.

Table 4-3 Single-Stream Recycling Composition (Bagged Waste is Sorted)

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**61.1%**		**Metal**	**4.6%**	
Corrugated Cardboard/Kraft Paper	18.3%	2.4%	Aluminum Beverage Containers	0.3%	0.0%
High Grade Office Paper	1.9%	0.5%	Aluminum CT Deposit Beverage Containers	0.3%	0.1%
Magazines/Catalogs	7.1%	1.0%	Aluminum Plates & Foils	0.1%	0.0%
Newsprint	15.0%	1.7%	Tin/Steel Containers	1.8%	0.2%
Phone Books and Directories	0.7%	0.4%	Other Ferrous	1.0%	0.4%
Aseptic Boxes & Gable Top Cartons	0.5%	0.1%	Other Non-Ferrous	0.1%	0.1%
Other Recyclable Paper	12.7%	0.9%	Appliances	0.0%	0.1%
Non-Recyclable Paper	3.4%	0.6%	Compressed Fuel Containers/Propane Tank	0.1%	0.1%
Newspaper, Bagged	1.5%	0.6%	Remainder/Composite Metal	0.8%	0.4%
Plastic	**10.6%**		**Organics**	**1.8%**	
PET Bottles/Jars	2.1%	0.2%	Food Waste	1.1%	0.3%
PET Containers other than Bottles	0.5%	0.1%	Yard Waste	0.7%	0.7%
Plastic CT Deposit Beverage Containers	0.8%	0.1%	**Construction & Demolition Materials**	**1.2%**	
HDPE Bottles, Colored and Natural	1.9%	0.2%	C&D Debris	0.5%	0.4%
HDPE Containers other than Bottles	0.3%	0.1%	Wood	0.7%	0.6%
Plastic Bottles #3-#7	0.2%	0.0%	**Household Hazardous Waste (HHW)**	**0.6%**	
Plastic Non-Bottle Containers #3-#7	0.6%	0.1%	HHW	0.1%	0.0%
Expanded Polystyrene	0.2%	0.0%	Empty HHW Containers	0.5%	0.1%
Bulky Plastic Items	0.9%	0.4%	**Electronics**	**0.5%**	
Plastic Films	1.6%	0.5%	Electronics	0.5%	0.2%
Remainder/Composite Plastic	1.6%	0.2%	**Other Wastes**	**2.0%**	
Glass	**17.7%**		Bulky Items	0.1%	0.2%
Non-deposit Clear/Amber Glass	5.4%	0.9%	Textiles	1.1%	0.6%
Non-deposit Green/Other Colored Glass	2.1%	0.6%	Diapers & Sanitary Products	0.2%	0.1%
CT Deposit Glass Beverage Containers	2.0%	0.4%	Other Miscellaneous	0.5%	0.3%
Flat Glass	0.2%	0.1%	**Grand Total**	**100%**	
Broken Glass	8.0%	1.5%	***No. of Samples***	***81***	

4.2 SINGLE STREAM COMPOSITION BY MRF

Single stream samples from each host MRF were analyzed separately to investigate differences in the inbound material. Figure 4-5 shows this comparison for the case where bagged wastes and newspapers still in the sleeve are considered to be contaminants. As shown, the two MRFs are receiving a relatively comparable mix of inbound material.

Figure 4-5 Comparison of Single Stream Recycling Composition by MRF (Bagged Waste as Contaminant)

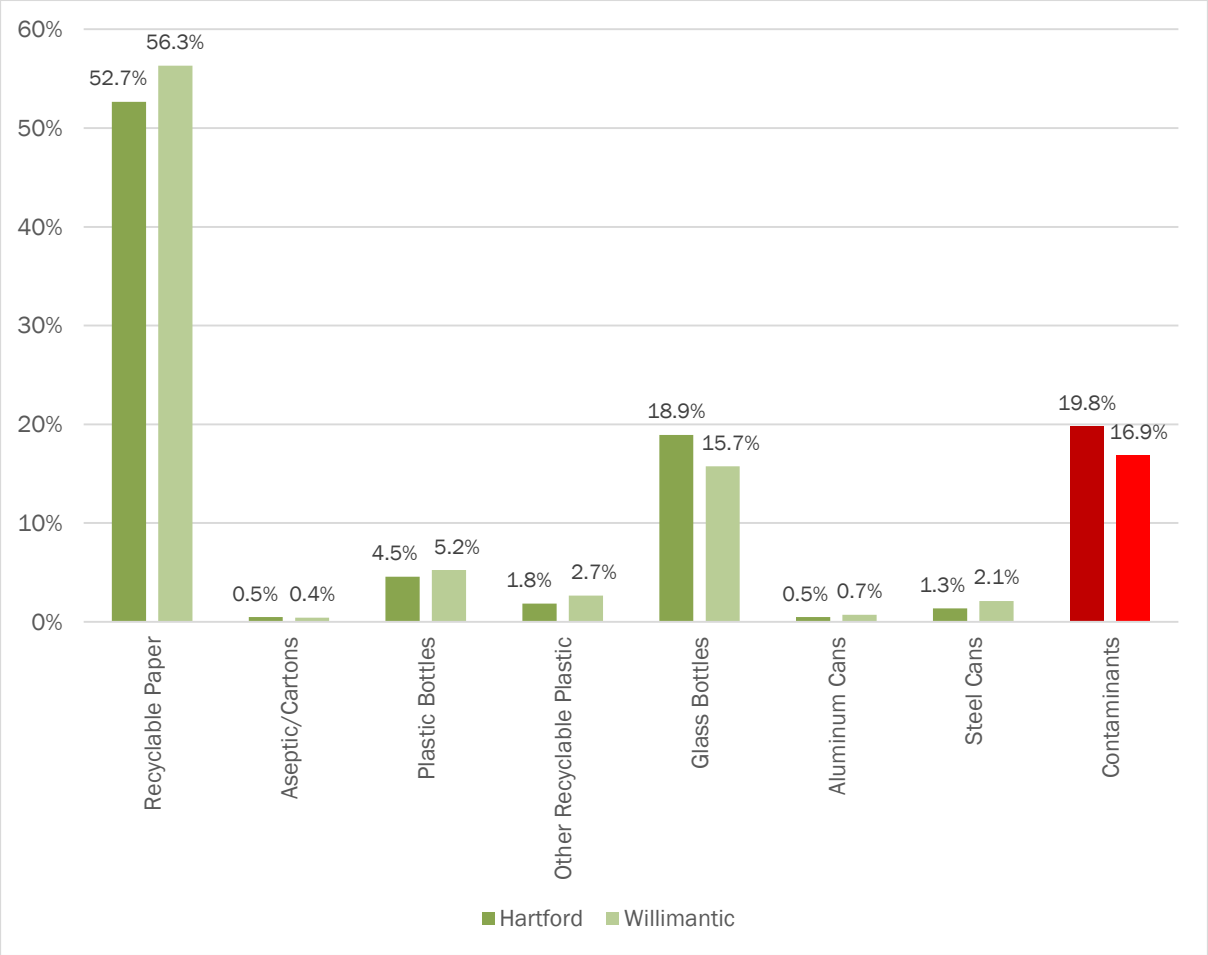


Figure 4-6 shows the same comparison for the case where bagged wastes is sorted into the appropriate categories (although newspapers still in the sleeve are still classified as contamination).

Figure 4-6 Comparison of Single Stream Recycling Composition by MRF (Bagged Waste is Sorted)

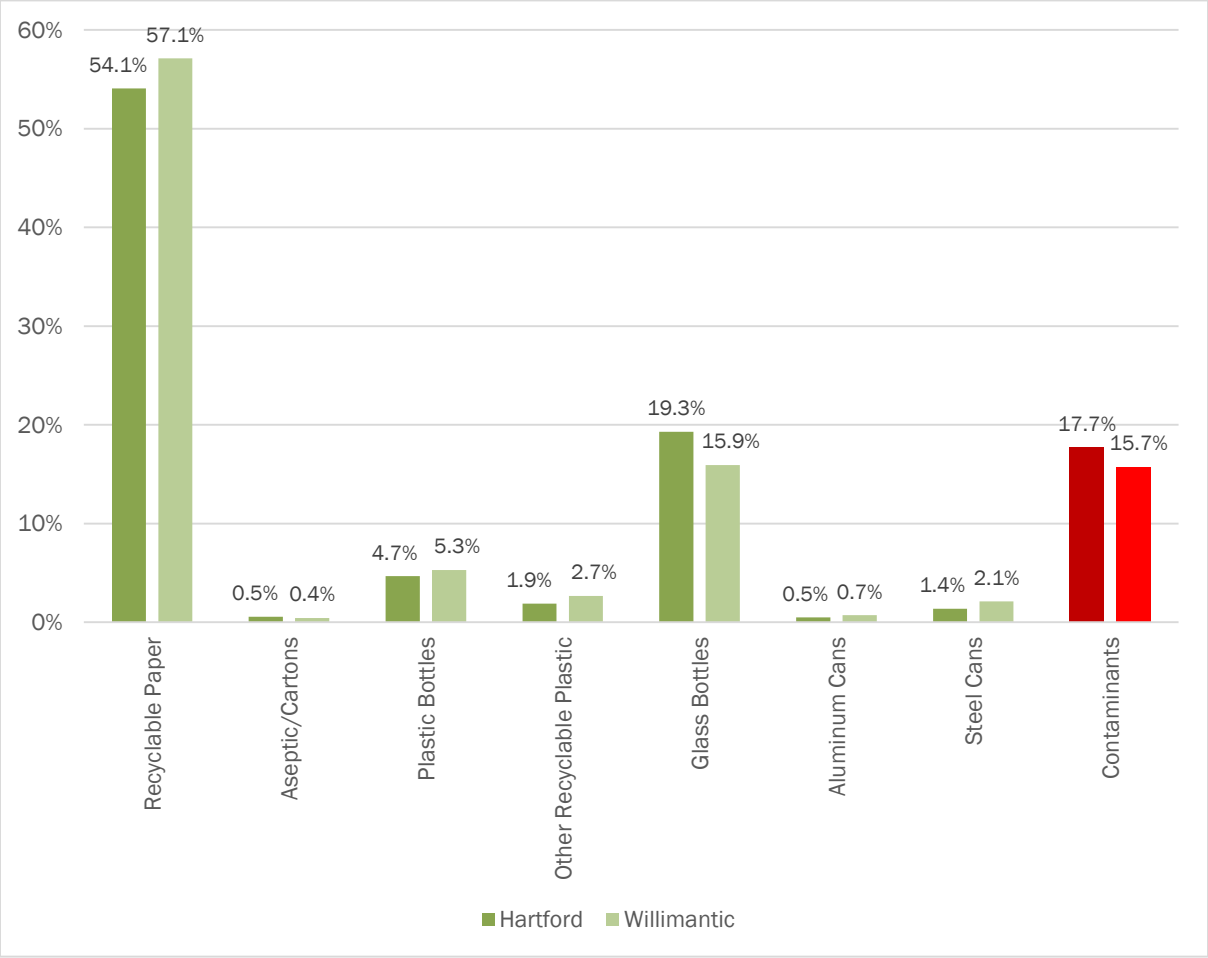


Table 4-4 provides a detailed comparison of the single stream recycling composition at the two participating MRFS.

Table 4-4 Comparison of Single Stream Recyclables MIRA Hartford and Willimantic MRFs

	Estimate Percent Composition				Estimate Percent Composition		
Material Category	Hartford	Willi-mantic	Average	Material Category	Hartford	Willi-mantic	Average
Paper	**56.7%**	**62.4%**	**59.7%**	**Metal**	**4.4%**	**4.6%**	**4.5%**
Corrugated Cardboard/Kraft Paper	19.0%	17.6%	18.2%	Aluminum Beverage Containers	0.2%	0.3%	0.3%
High Grade Office Paper	2.3%	1.3%	1.8%	Aluminum CT Deposit Beverage Containers	0.3%	0.4%	0.3%
Magazines/Catalogs	7.4%	6.8%	7.1%	Aluminum Plates & Foils	0.1%	0.1%	0.1%
Newsprint	11.9%	17.2%	14.7%	Tin/Steel Containers	1.3%	2.1%	1.7%
Phone Books and Directories	0.6%	0.7%	0.7%	Other Ferrous	1.0%	1.0%	1.0%
Aseptic Boxes & Gable Top Cartons	0.5%	0.4%	0.4%	Other Non-Ferrous	0.1%	0.1%	0.1%
Other Recyclable Paper	11.4%	12.7%	12.1%	Appliances	0.1%	0.0%	0.0%
Non-Recyclable Paper	2.7%	3.6%	3.2%	Compressed Fuel Containers/Propane Tanks	0.0%	0.1%	0.1%
Newspaper, Bagged	0.9%	2.1%	1.5%	Remainder/Composite Metal	1.3%	0.4%	0.8%
Plastic	**9.5%**	**10.8%**	**10.2%**	**Organics**	**2.3%**	**0.8%**	**1.5%**
PET Bottles/Jars	1.9%	2.1%	2.0%	Food Waste	1.0%	0.7%	0.8%
PET Containers Other than Bottles	0.5%	0.5%	0.5%	Yard Waste	1.3%	0.1%	0.6%
Plastic CT Deposit Beverage Containers	0.8%	0.7%	0.7%	**Construction & Demolition Materials**	**1.7%**	**0.6%**	**1.1%**
HDPE Bottles, Colored and Natural	1.6%	2.1%	1.9%	C&D Debris	0.7%	0.3%	0.5%
HDPE Containers other than Bottles	0.3%	0.2%	0.3%	Wood	1.0%	0.4%	0.7%
Plastic Bottles #3-#7	0.2%	0.2%	0.2%	**Household Hazardous Waste (HHW)**	**0.5%**	**0.7%**	**0.6%**
Plastic Non-Bottle Containers #3-#7	0.6%	0.6%	0.6%	HHW	0.1%	0.0%	0.1%
Expanded Polystyrene	0.2%	0.1%	0.1%	Empty HHW Containers	0.4%	0.6%	0.5%
Bulky Plastic Items	0.4%	1.4%	0.9%	**Electronics**	**0.2%**	**0.7%**	**0.5%**
Plastic Films	1.4%	1.4%	1.4%	Electronics	0.2%	0.7%	0.5%
Remainder/Composite Plastic	1.6%	1.3%	1.5%	**Other Wastes**	**5.6%**	**3.4%**	**4.5%**
Glass	**19.1%**	**16.0%**	**17.4%**	Bulky Items	0.0%	0.0%	0.0%
Non-deposit Clear/Amber Glass	4.6%	5.7%	5.2%	Textiles	1.5%	0.6%	1.0%
Non-deposit Green/Other Colored Glass	1.6%	2.6%	2.1%	Diapers & Sanitary Products	0.1%	0.1%	0.1%
CT Deposit Glass beverage containers	1.4%	2.5%	2.0%	Other Miscellaneous	0.2%	0.7%	0.4%
Other Glass	0.2%	0.2%	0.2%	Bagged Wastes	3.8%	2.1%	2.9%
Broken Glass	11.3%	4.9%	7.9%	**Grand Total**	**100.0%**	**100.0%**	**100.0%**

Detailed composition data for MIRA Hartford and Willimantic MRFs, with bagged waste treated as both a contaminant and sorted properly, are contained in Appendix E.

4.3 ANALYSIS OF DEPOSIT CONTAINERS

Connecticut's beverage container deposit law targets beer, carbonated soft drinks, and water. These beverage types are packaged in PET plastic bottles, aluminum cans, and glass bottles. The 2015 Study include separate categories for Connecticut deposit bottles and cans as well as non-deposit categories of PET plastic, aluminum and glass. Table 4-5 summarizes the data focusing on Connecticut deposit containers.

Table 4-5 Analysis of Deposit Containers in Connecticut Waste Stream

	Disposed Waste			Single Stream
Container Type	Total Disposed (tons)	Fraction of Total Tons That are Deposit Containers	Disposed Deposit Containers (tons)	Fraction of Total That are Deposit Containers
PET Bottles & Jars	20,671	35.3%	7,293	26.4%
Aluminum Cans (Beverage/Non-Bev)	5,565	55.0%	3,062	57.7%
Glass Bottles & Jars	36,925	19.8%	7,311	21.2%
Total	**63,160**	**28.0%**	**17,666**	**24.1%**
Deposit Containers as a Fraction of All Material		*0.8%*		*3.0%*

The following observations are made about deposit containers in the disposed waste stream and in single stream recyclables:

- The majority of PET bottles/jars and glass bottles/jars being placed in the disposed waste and single stream are non-deposit containers. This suggests that a significant fraction of PET and glass deposit containers are being redeemed through normal channels within the state. It also may suggest that there are many other types of non-carbonated beverages and non-beverage products being packaged in PET bottles and glass jars. It was beyond the scope of this study to investigate the universe of deposit container recycling.
- By weight, deposit containers make up only 0.8 percent of disposed wastes, but this projects to over 17,600 tons of deposit containers that are nonetheless still being disposed.
- Deposit containers were found to be 3.0 percent of single stream recyclables.[1]
- Just over half of the aluminum cans found in both the disposed waste stream and in single stream recyclables were deposit containers. While this may seem like a high fraction, it nonetheless suggests that aluminum cans are being redeemed at a reasonably high level. This conclusion is inferred because the vast majority of aluminum cans sold in the market contain carbonated beverages (beer and soda). Non-deposit aluminum cans include primarily juices and aluminum cat food tins (which were included with non-deposit aluminum cans by definition for this study).

It was beyond the scope of this study to analyze the overall performance of the deposit system, and several statements above may warrant further investigation.

[1] No tonnage data for single stream recyclables was available for inclusion in this report.

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5. ICI GENERATOR RESULTS

5.1 OVERVIEW

The 2015 Study analyzed disposed wastes from six ICI generator types:

- Grocery Stores,
- Restaurants,
- Hotels,
- Retail Big Box Stores,
- Small Retail Stores, and
- Offices.

This chapter contains disposed waste composition profiles for these six generators. For each generator type, the top five most prevalent disposed waste categories are shown, along with a detailed statistical profile of the disposed wastes.

It is important to note that the results contained herein, while indicative of the differences in waste composition across various ICI generator types, are based on limited sampling (in some cases very limited) and it is possible that a more comprehensive study would find materially different results.

5.2 ICI GENERATOR RESULTS: GROCERY STORES

A total of nine samples were obtained from Grocery Stores. Figure 5-1 shows the most prevalent materials in Grocery waste, which cumulatively make up 84.0 percent of wastes from this generator. Although not shown in the table, roughly 13.5 percent of Food Waste was contained in packaging.

Figure 5-1 Top 5 Most Prevalent Constituents in Grocery Store Waste

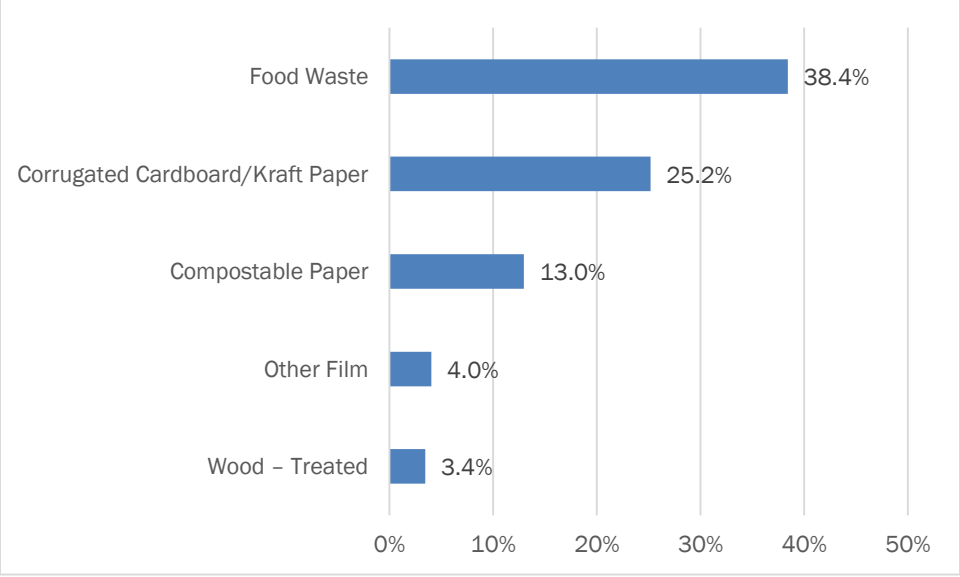
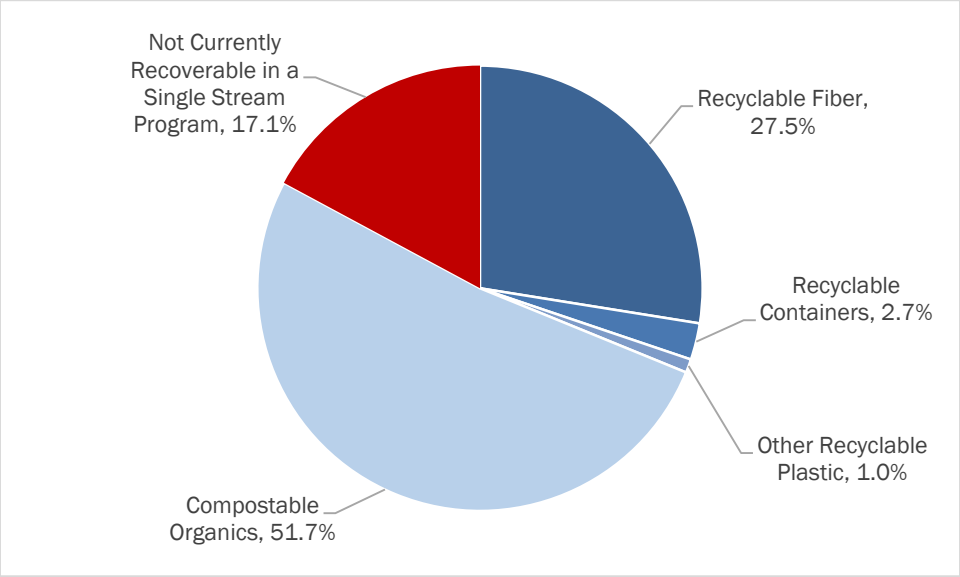


Figure 5-2 shows the incidence of routinely recycled materials (corrugated cardboard, fiber, bottles and cans) as well as compostable organic materials (primarily food waste and low grade paper).[1] In contrast to the overall ICI waste stream, the vast majority of grocery store waste has potential to be diverted; however.

Figure 5-2 Recoverable Fiber, Containers and Organics in Grocery Store Waste



[1] Pie charts in this section use the term "Compostable Organics" to include organic materials – food wastes, green wastes, and low grade papers – that could be composted, digested, or otherwise recovered in a commercial processing facility.

Table 5-1 shows the detailed statistical analysis of grocery store samples.

Table 5-1 Detailed Grocery Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**42.2%**		**Food Waste**	**38.4%**	
Corrugated Cardboard/Kraft Paper	25.2%	8.6%	Food Waste, Loose	24.9%	10.7%
High Grade Office Paper	0.9%	0.9%	Food Waste, Emptied from Packaging	13.5%	5.5%
Magazines/Catalogs	0.0%	0.0%	**Other Organics**	**0.5%**	
Newsprint	0.3%	0.3%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.3%	0.4%
Aseptic Boxes & Gable Top Cartons	0.1%	0.1%	Leaves and Grass	0.0%	0.0%
Other Recyclable Paper	1.1%	0.7%	Manures	0.0%	0.0%
Compostable Paper	13.0%	5.4%	Diapers & Sanitary Products	0.0%	0.0%
Remainder/Composite Paper	1.6%	2.2%	Remainder/Composite Organic	0.2%	0.4%
Plastic	**12.2%**		**C&D Debris**	**3.5%**	
PET Bottles/Jars	0.5%	0.6%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.6%	0.3%	Wood – Treated	3.4%	1.9%
Plastic CT Deposit Beverage Containers	0.2%	0.1%	Wood – Untreated	0.0%	0.0%
HDPE Bottles, Colored and Natural	0.3%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.1%	0.2%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.8%	0.5%	Carpet	0.0%	0.0%
Expanded Polystyrene Non-food Grade	0.5%	0.6%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	1.0%	0.9%	Remainder/Composite C&D	0.1%	0.1%
Durable Plastic Items	0.2%	0.3%	**Household Hazardous Waste**	**0.3%**	
Film (non-bag)	2.7%	0.9%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.6%	0.5%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.0%	1.6%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.0%	0.0%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	0.7%	0.4%	Vehicle and Equipment Fluids	0.2%	0.3%
Metal	**1.2%**		Empty Metal/Glass/Plastic HHW Containe	0.1%	0.1%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	Other Hazardous Waste	0.0%	0.0%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**0.0%**	
Tin/Steel Containers	0.5%	0.6%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.0%	0.0%	Other Small Consumer Electronics	0.0%	0.0%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tan	0.0%	0.0%	**Other Wastes**	**1.4%**	
Remainder/Composite Metal	0.4%	0.6%	Bulky Items	0.0%	0.0%
Glass	**0.2%**		Textiles	0.2%	0.1%
Non-deposit Clear/Amber Glass	0.1%	0.1%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	0.8%	0.2%
Deposit Glass	0.0%	0.1%	Other Miscellaneous	0.5%	0.5%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.0%	0.0%	***No. of Samples***	***9***	

5.3 ICI GENERATOR RESULTS: RESTAURANTS

Eight samples were obtained from Restaurants. Figure 5-3 shows the most prevalent materials in Restaurant waste, which cumulatively make up 81.6 percent of wastes from this generator. Virtually all of the disposed food waste was loose (i.e., not contained in packaging).

Figure 5-3 Top 5 Most Prevalent Constituents in Restaurant Waste

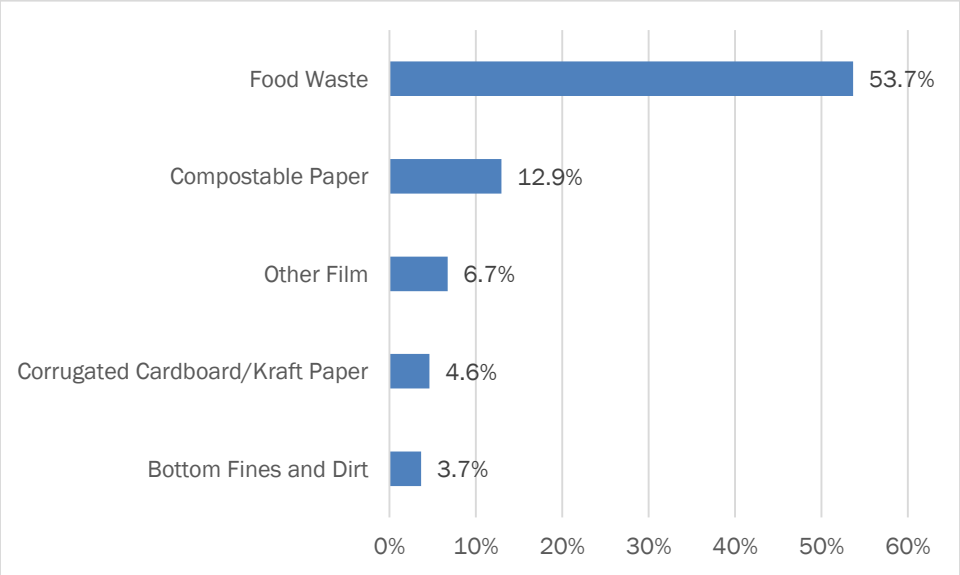


Figure 5-4 shows the incidence of routinely recycled materials (corrugated cardboard, fiber, bottles and cans) as well as compostable organic materials (primarily food waste and low grade paper). In contrast to the overall ICI waste stream, the vast majority of restaurant waste has potential to be diverted.

Figure 5-4 Recoverable Fiber, Containers and Organics in Restaurant Waste

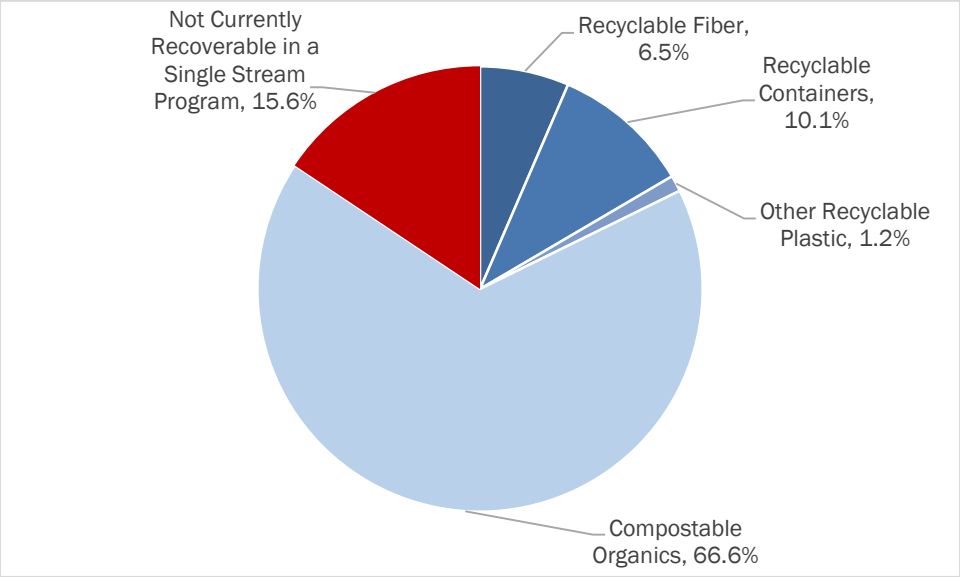


Table 5-2 shows the detailed statistical analysis of restaurant samples.

Table 5-2 Detailed Restaurant Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**19.7%**		**Food Waste**	**53.7%**	
Corrugated Cardboard/Kraft Paper	4.6%	2.7%	Food Waste, Loose	53.1%	9.1%
High Grade Office Paper	0.1%	0.1%	Food Waste, Emptied from Packaging	0.6%	0.4%
Magazines/Catalogs	0.1%	0.1%	**Other Organics**	**0.1%**	
Newsprint	0.7%	0.5%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.0%	0.0%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	0.0%	0.0%
Other Recyclable Paper	1.0%	0.4%	Manures	0.0%	0.0%
Compostable Paper	12.9%	3.6%	Diapers & Sanitary Products	0.1%	0.1%
Remainder/Composite Paper	0.1%	0.1%	Remainder/Composite Organic	0.0%	0.0%
Plastic	**12.5%**		**C&D Debris**	**0.1%**	
PET Bottles/Jars	0.5%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	0.1%	0.1%
Plastic CT Deposit Beverage Containers	0.1%	0.1%	Wood – Untreated	0.0%	0.0%
HDPE Bottles, Colored and Natural	1.0%	0.3%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.9%	1.5%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.8%	0.3%	Carpet	0.0%	0.0%
Expanded Polystyrene Non-food Grade	0.0%	0.0%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.2%	0.1%	Remainder/Composite C&D	0.0%	0.0%
Durable Plastic Items	0.1%	0.1%	**Household Hazardous Waste**	**0.1%**	
Film (non-bag)	0.5%	0.3%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.1%	0.0%	Batteries – Lead Acid	0.0%	0.0%
Other Film	6.7%	2.1%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.3%	0.9%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**2.8%**		Empty Metal/Glass/Plastic HHW Containe	0.0%	0.0%
Aluminum Beverage Containers	0.2%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	Other Hazardous Waste	0.1%	0.1%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**0.0%**	
Tin/Steel Containers	1.4%	0.8%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.0%	0.0%	Other Small Consumer Electronics	0.0%	0.0%
Other Non-Ferrous	0.0%	0.1%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tar	0.0%	0.0%	**Other Wastes**	**4.3%**	
Remainder/Composite Metal	0.9%	1.1%	Bulky Items	0.0%	0.1%
Glass	**6.7%**		Textiles	0.4%	0.3%
Non-deposit Clear/Amber Glass	3.5%	2.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	1.4%	1.4%	Bottom Fines and Dirt	3.7%	0.7%
Deposit Glass	0.9%	0.5%	Other Miscellaneous	0.3%	0.1%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.8%	0.7%	***No. of Samples***	***8***	

5.4 ICI GENERATOR RESULTS: HOTELS

Only two samples were obtained from Hotels, so it is not possible to make judgements on the representativeness of the reported data. Figure 5-5 shows the most prevalent materials in Hotel waste, which cumulatively make up 65.1 percent of wastes from this generator.

Figure 5-5 Top 5 Most Prevalent Constituents in Hotel Waste

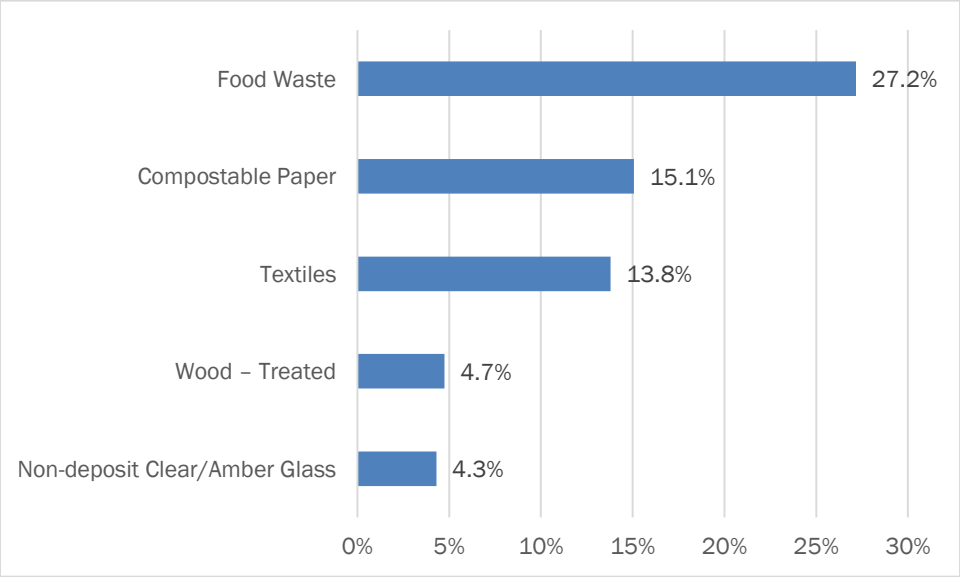


Figure 5-6 shows the incidence of routinely recycled materials (corrugated cardboard, fiber, bottles and cans) as well as compostable organic materials (primarily food waste and low grade paper). Hotel waste appears to have comparable divertibility with the overall ICI waste stream, although with significantly more recyclable containers.

Figure 5-6 Recoverable Fiber, Containers and Organics in Hotel Waste

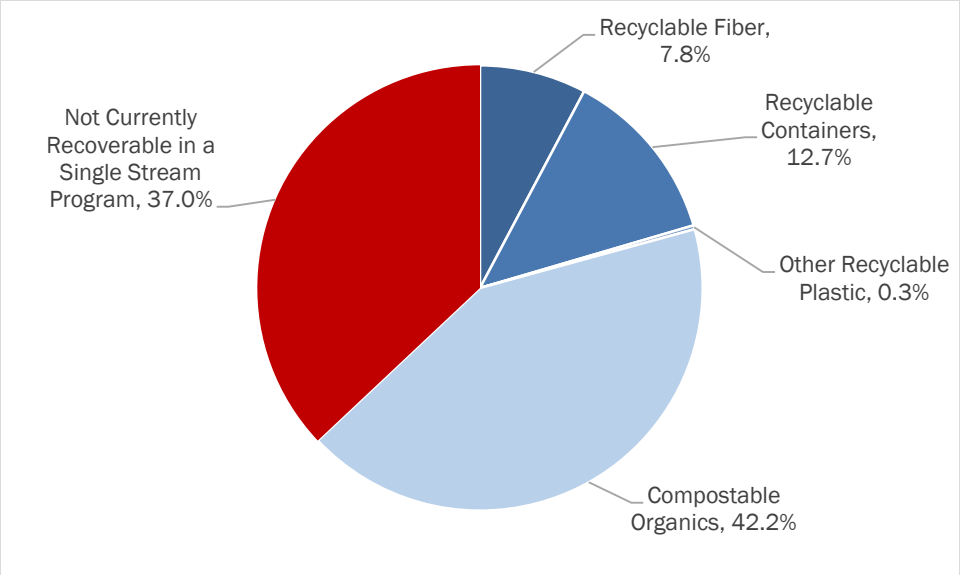


Table 5-3 shows the detailed statistical analysis of hotel samples.

Table 5-3 Detailed Hotel Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**25.2%**		**Food Waste**	**27.2%**	
Corrugated Cardboard/Kraft Paper	2.4%	2.3%	Food Waste, Loose	25.7%	16.7%
High Grade Office Paper	0.1%	0.2%	Food Waste, Emptied from Packaging	1.5%	2.5%
Magazines/Catalogs	2.4%	4.0%	**Other Organics**	**0.9%**	
Newsprint	1.3%	2.0%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.0%	0.0%
Aseptic Boxes & Gable Top Cartons	1.0%	0.6%	Leaves and Grass	0.0%	0.0%
Other Recyclable Paper	1.6%	0.7%	Manures	0.0%	0.0%
Compostable Paper	15.1%	2.5%	Diapers & Sanitary Products	0.1%	0.2%
Remainder/Composite Paper	1.3%	2.1%	Remainder/Composite Organic	0.8%	1.3%
Plastic	**12.8%**		**C&D Debris**	**4.7%**	
PET Bottles/Jars	0.4%	0.0%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.4%	Wood – Treated	4.7%	7.7%
Plastic CT Deposit Beverage Containers	0.3%	0.3%	Wood – Untreated	0.0%	0.0%
HDPE Bottles, Colored and Natural	0.8%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.0%	0.1%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.8%	1.0%	Carpet	0.0%	0.0%
Expanded Polystyrene Non-food Grade	0.5%	0.7%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.9%	1.5%	Remainder/Composite C&D	0.0%	0.0%
Durable Plastic Items	0.0%	0.0%	**Household Hazardous Waste**	**0.3%**	
Film (non-bag)	1.3%	2.1%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.4%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.2%	1.3%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.2%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.8%	2.8%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**1.8%**		Empty Metal/Glass/Plastic HHW Containe	0.3%	0.4%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.0%	0.0%
Aluminum Plates & Foils	0.4%	0.6%	**Electronics**	**0.3%**	
Tin/Steel Containers	0.2%	0.1%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.2%	0.0%	Other Small Consumer Electronics	0.3%	0.1%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tar	0.0%	0.0%	**Other Wastes**	**17.6%**	
Remainder/Composite Metal	0.8%	0.9%	Bulky Items	0.0%	0.0%
Glass	**9.3%**		Textiles	13.8%	21.2%
Non-deposit Clear/Amber Glass	4.3%	4.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.4%	0.7%	Bottom Fines and Dirt	3.4%	1.8%
Deposit Glass	4.3%	3.7%	Other Miscellaneous	0.4%	0.3%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.3%	0.1%	***No. of Samples***	***2***	

5.5 ICI GENERATOR RESULTS: RETAIL BIG BOX STORES

Only three samples were obtained from Retail Big Box stores, so it is not possible to make judgements on the representativeness of the reported data. Figure 5-7 shows the most prevalent materials in Retail Big Box waste, which cumulatively make up about 61 percent of wastes from this generator. Interestingly, significant amounts of corrugated cardboard were found in these samples. Additionally, one sample contained a sizeable amount of compressed fuel cylinders, which is likely skewing the results given that only three samples were obtained.

Figure 5-7 Top 5 Most Prevalent Constituents in Retail Big Box Waste

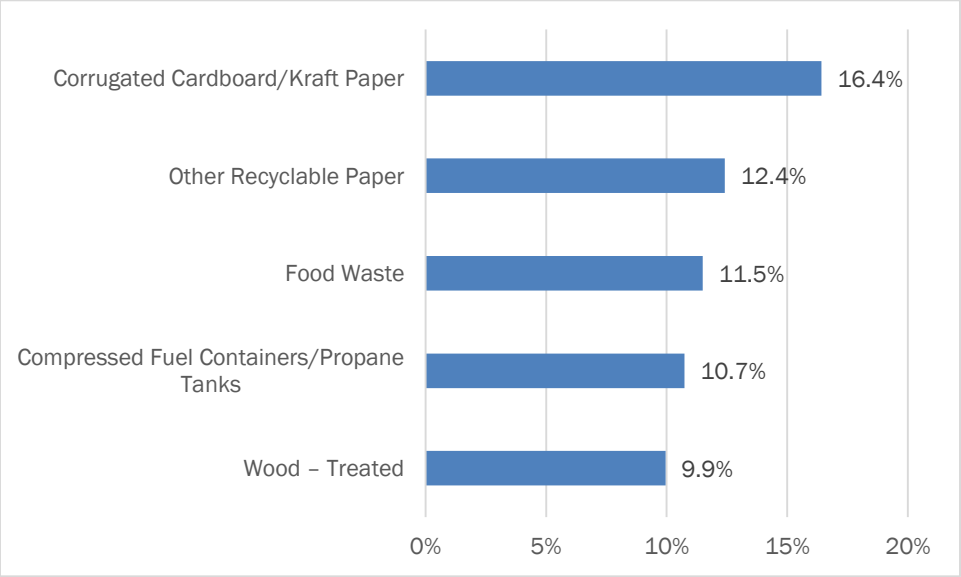


Figure 5-8 shows the incidence of routinely recycled materials (corrugated cardboard, fiber, bottles and cans) as well as compostable organic materials (primarily food waste and low grade paper). Hotel waste appears to have comparable divertibility with the overall ICI waste stream, although with significantly more recyclable containers.

Figure 5-8 Recoverable Fiber, Containers and Organics in Retail Big Box Waste

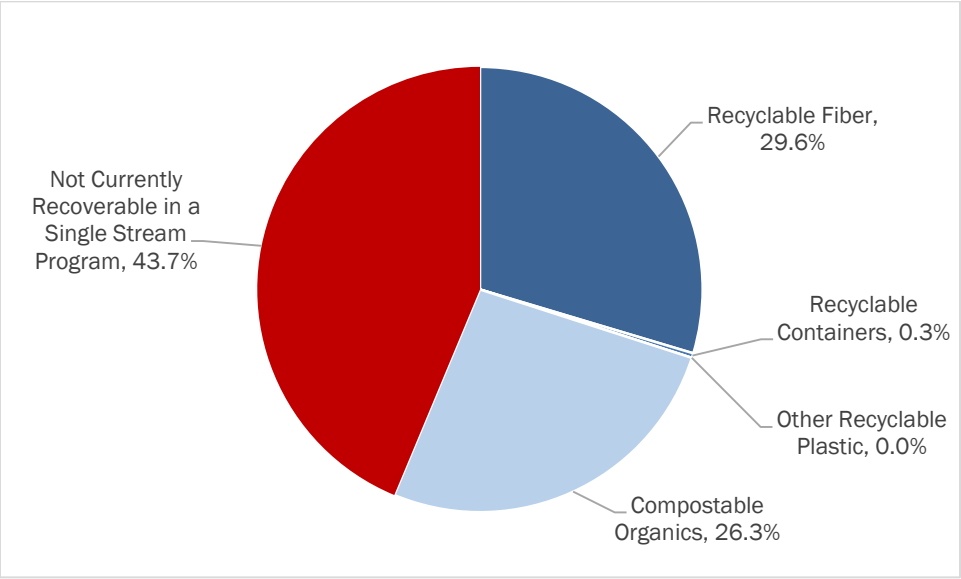


Table 5-4 shows the detailed statistical analysis of retail big box samples.

Table 5-4 Detailed Retail Big Box Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**38.0%**		**Food Waste**	**11.5%**	
Corrugated Cardboard/Kraft Paper	16.4%	8.2%	Food Waste, Loose	2.3%	3.2%
High Grade Office Paper	0.8%	1.2%	Food Waste, Emptied from Packaging	9.2%	15.3%
Magazines/Catalogs	0.0%	0.0%	**Other Organics**	**0.1%**	
Newsprint	0.0%	0.1%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.0%	0.0%
Aseptic Boxes & Gable Top Cartons	0.0%	0.0%	Leaves and Grass	0.0%	0.0%
Other Recyclable Paper	12.4%	12.0%	Manures	0.0%	0.0%
Compostable Paper	8.3%	11.8%	Diapers & Sanitary Products	0.1%	0.2%
Remainder/Composite Paper	0.1%	0.1%	Remainder/Composite Organic	0.0%	0.0%
Plastic	**16.8%**		**C&D Debris**	**16.5%**	
PET Bottles/Jars	0.0%	0.1%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.0%	0.0%	Wood – Treated	9.9%	16.2%
Plastic CT Deposit Beverage Containers	0.1%	0.1%	Wood – Untreated	6.6%	10.7%
HDPE Bottles, Colored and Natural	0.0%	0.1%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.0%	0.0%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.2%	0.2%	Carpet	0.0%	0.0%
Expanded Polystyrene Non-food Grade	2.6%	4.0%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.0%	0.0%	Remainder/Composite C&D	0.0%	0.0%
Durable Plastic Items	0.0%	0.0%	**Household Hazardous Waste**	**0.0%**	
Film (non-bag)	2.5%	4.1%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.3%	0.4%	Batteries – Lead Acid	0.0%	0.0%
Other Film	0.8%	0.9%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	4.1%	6.7%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	6.2%	9.7%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**10.9%**		Empty Metal/Glass/Plastic HHW Containe	0.0%	0.0%
Aluminum Beverage Containers	0.0%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Container	0.0%	0.0%	Other Hazardous Waste	0.0%	0.0%
Aluminum Plates & Foils	0.2%	0.3%	**Electronics**	**0.0%**	
Tin/Steel Containers	0.0%	0.0%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.0%	0.0%	Other Small Consumer Electronics	0.0%	0.0%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Ta	10.7%	17.7%	**Other Wastes**	**6.2%**	
Remainder/Composite Metal	0.0%	0.0%	Bulky Items	5.8%	9.6%
Glass	**0.1%**		Textiles	0.0%	0.0%
Non-deposit Clear/Amber Glass	0.0%	0.0%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.0%	0.0%	Bottom Fines and Dirt	0.3%	0.4%
Deposit Glass	0.0%	0.0%	Other Miscellaneous	0.0%	0.0%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.1%	0.1%	***No. of Samples***	***3***	

5.6 ICI GENERATOR RESULTS: SMALL RETAIL STORES

A total of 13 samples were obtained from Small Retail Stores. Figure 5-9 shows the most prevalent materials in small retail waste, which cumulatively make up only 44.9 percent of wastes from this generator.

Figure 5-9 Top 5 Most Prevalent Constituents in Small Retail Waste

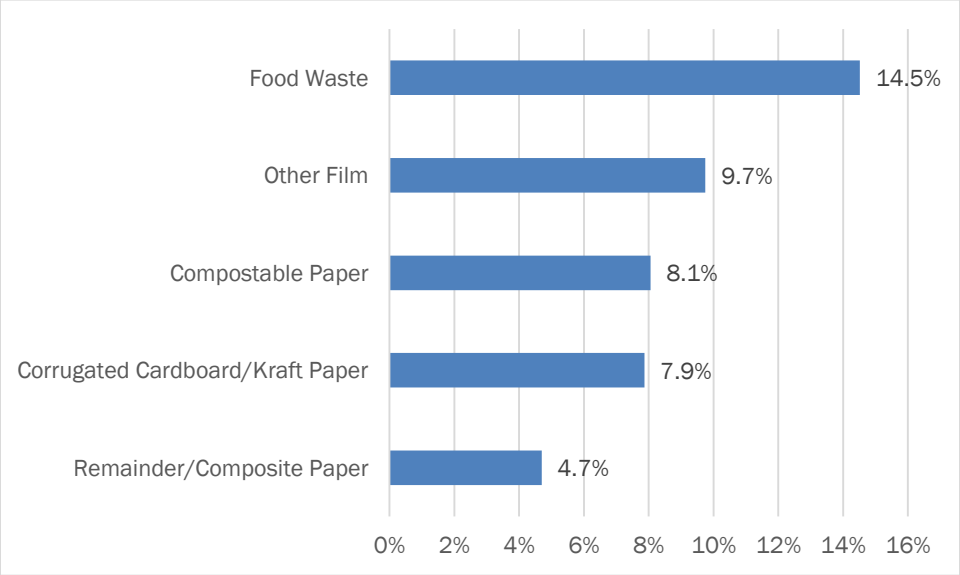


Figure 5-10 shows the incidence of routinely recycled materials (corrugated cardboard, fiber, bottles and cans) as well as compostable organic materials (primarily food waste and low grade paper). This waste profile appears to have comparable divertibility with the overall ICI waste stream.

Figure 5-10 Recoverable Fiber, Containers and Organics in Small Retail Waste

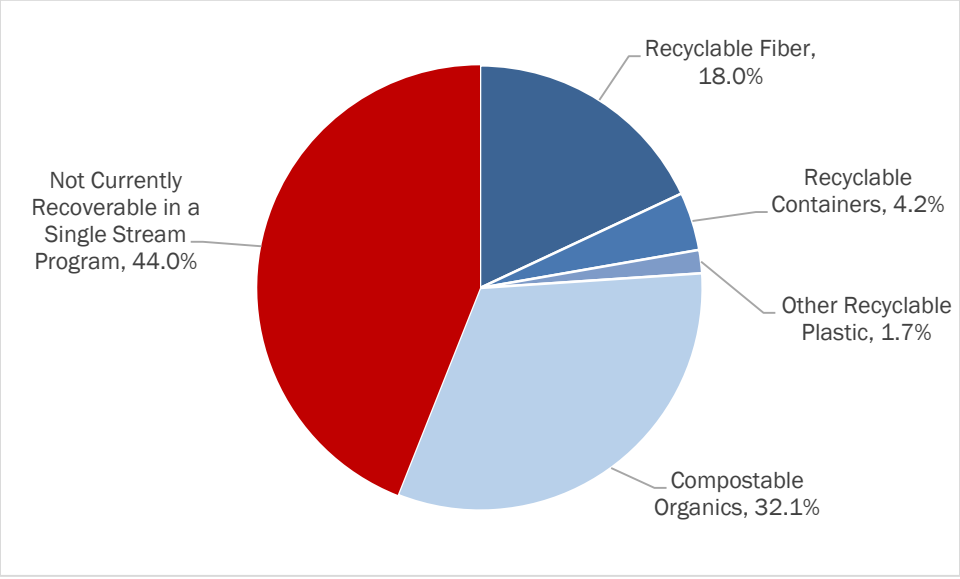


Table 5-5 shows the detailed statistical analysis of small retail samples.

Table 5-5 Detailed Retail Small Generator Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**31.0%**		**Food Waste**	**14.5%**	
Corrugated Cardboard/Kraft Paper	7.9%	2.8%	Food Waste, Loose	12.2%	7.7%
High Grade Office Paper	3.7%	4.1%	Food Waste, Emptied from Packaging	2.3%	1.0%
Magazines/Catalogs	2.2%	2.4%	**Other Organics**	**6.4%**	
Newsprint	1.1%	1.0%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	3.6%	4.1%
Aseptic Boxes & Gable Top Cartons	0.2%	0.2%	Leaves and Grass	2.2%	3.3%
Other Recyclable Paper	3.2%	2.0%	Manures	0.0%	0.0%
Compostable Paper	8.1%	1.5%	Diapers & Sanitary Products	0.5%	0.2%
Remainder/Composite Paper	4.7%	5.7%	Remainder/Composite Organic	0.3%	0.2%
Plastic	**19.8%**		**C&D Debris**	**14.2%**	
PET Bottles/Jars	0.4%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.1%	0.0%	Wood – Treated	3.5%	2.8%
Plastic CT Deposit Beverage Containers	0.5%	0.2%	Wood – Untreated	3.8%	3.6%
HDPE Bottles, Colored and Natural	0.8%	0.5%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.3%	0.3%	Drywall/Gypsum Board	0.1%	0.1%
Plastic Containers #3-#7	0.7%	0.1%	Carpet	3.1%	3.7%
Expanded Polystyrene Non-food Grade	0.3%	0.4%	Carpet Padding	1.9%	2.1%
Expanded Food-grade Polystyrene	0.2%	0.1%	Remainder/Composite C&D	1.8%	2.0%
Durable Plastic Items	1.3%	1.1%	**Household Hazardous Waste**	**1.5%**	
Film (non-bag)	2.0%	1.5%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.3%	Batteries – Lead Acid	0.0%	0.0%
Other Film	9.7%	8.0%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.9%	1.2%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**3.6%**		Empty Metal/Glass/Plastic HHW Containe	1.3%	1.0%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	Other Hazardous Waste	0.2%	0.2%
Aluminum Plates & Foils	0.1%	0.0%	**Electronics**	**0.1%**	
Tin/Steel Containers	0.3%	0.2%	Computer-related Electronics	0.1%	0.1%
Other Ferrous	1.0%	0.9%	Other Small Consumer Electronics	0.0%	0.0%
Other Non-Ferrous	0.1%	0.1%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tar	0.0%	0.0%	**Other Wastes**	**7.6%**	
Remainder/Composite Metal	1.8%	1.7%	Bulky Items	2.1%	2.4%
Glass	**1.4%**		Textiles	2.7%	2.0%
Non-deposit Clear/Amber Glass	0.6%	0.4%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	1.6%	0.5%
Deposit Glass	0.4%	0.2%	Other Miscellaneous	1.2%	0.8%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.3%	0.2%	***No. of Samples***	***13***	

5.7 ICI GENERATOR RESULTS: OFFICES

A total of 8 samples were obtained from Offices. Figure 5-11 shows the most prevalent materials in small retail waste, which cumulatively make up approximately 64 percent of wastes from this generator.

Figure 5-11 Top 5 Most Prevalent Constituents in Office Waste

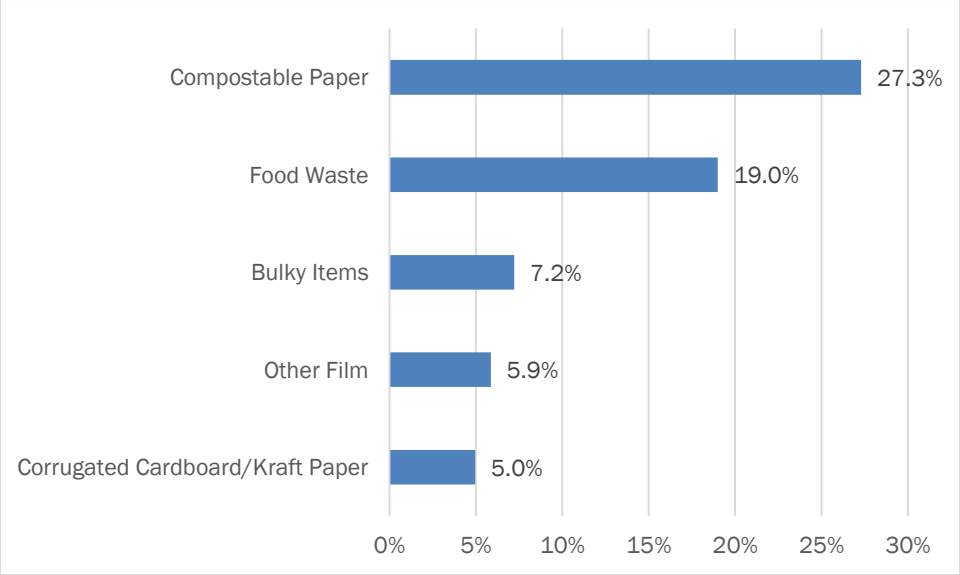


Figure 5-12 shows the incidence of routinely recycled materials (corrugated cardboard, fiber, bottles and cans) as well as compostable organic materials (primarily food waste and low grade paper). This waste profile closely matches the overall ICI waste stream.

Figure 5-12 Recoverable Fiber, Containers and Organics in Office Waste

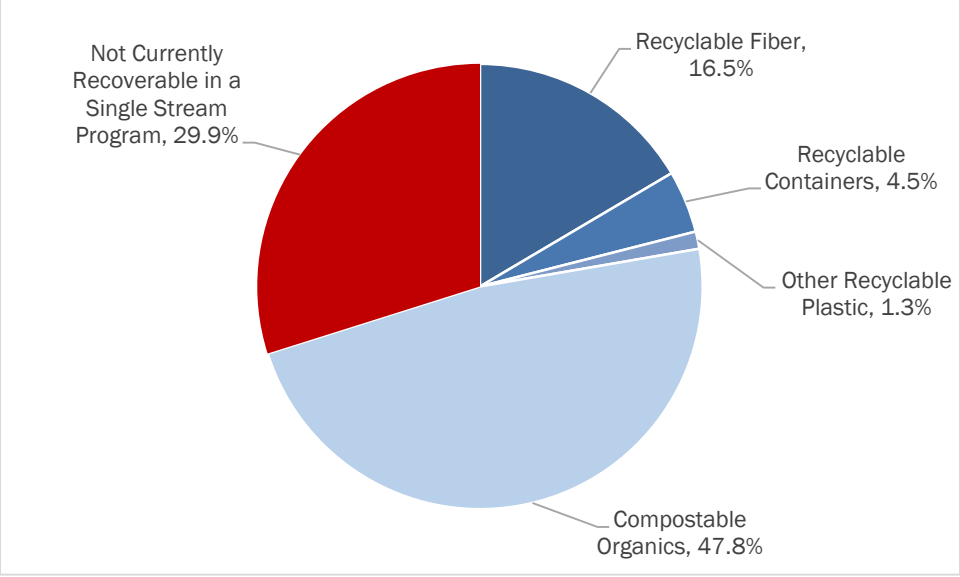


Table 5-6 shows the detailed statistical analysis of office generator samples.

Table 5-6 Detailed Office Generator Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**45.4%**		**Food Waste**	**19.0%**	
Corrugated Cardboard/Kraft Paper	5.0%	2.5%	Food Waste, Loose	16.8%	6.5%
High Grade Office Paper	4.7%	2.8%	Food Waste, Emptied from Packaging	2.2%	1.0%
Magazines/Catalogs	1.7%	1.3%	**Other Organics**	**0.5%**	
Newsprint	2.7%	2.4%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.1%	0.2%	Prunings and Trimmings	0.1%	0.1%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	0.0%	0.0%
Other Recyclable Paper	2.3%	1.1%	Manures	0.0%	0.0%
Compostable Paper	27.3%	8.0%	Diapers & Sanitary Products	0.4%	0.4%
Remainder/Composite Paper	1.5%	0.7%	Remainder/Composite Organic	0.0%	0.1%
Plastic	**14.9%**		**C&D Debris**	**6.2%**	
PET Bottles/Jars	0.7%	0.5%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.4%	0.3%	Wood – Treated	0.3%	0.3%
Plastic CT Deposit Beverage Containers	0.6%	0.3%	Wood – Untreated	1.5%	2.4%
HDPE Bottles, Colored and Natural	0.4%	0.3%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.3%	0.3%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	1.7%	0.9%	Carpet	0.0%	0.0%
Expanded Polystyrene Non-food Grade	0.4%	0.3%	Carpet Padding	0.4%	0.7%
Expanded Food-grade Polystyrene	0.7%	0.3%	Remainder/Composite C&D	4.0%	3.4%
Durable Plastic Items	0.6%	0.6%	**Household Hazardous Waste**	**0.8%**	
Film (non-bag)	0.5%	0.1%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.4%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	5.9%	1.3%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.2%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.3%	0.8%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**1.8%**		Empty Metal/Glass/Plastic HHW Containe	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Container	0.2%	0.1%	Other Hazardous Waste	0.5%	0.7%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**0.9%**	
Tin/Steel Containers	0.3%	0.2%	Computer-related Electronics	0.1%	0.2%
Other Ferrous	0.5%	0.5%	Other Small Consumer Electronics	0.8%	1.0%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tai	0.3%	0.5%	**Other Wastes**	**9.8%**	
Remainder/Composite Metal	0.3%	0.3%	Bulky Items	7.2%	8.0%
Glass	**0.6%**		Textiles	0.4%	0.4%
Non-deposit Clear/Amber Glass	0.4%	0.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	1.4%	0.2%
Deposit Glass	0.0%	0.0%	Other Miscellaneous	0.7%	0.4%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.2%	0.2%	***No. of Samples***	***8***	

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6. CONCLUSIONS & RECOMMENDATIONS

6.1 CONCLUSIONS

- **Comparability**: The disposed waste composition found in the 2015 Study can be closely compared to the results of the 2010 Study. With the exception of a difference in seasonality of data collection, the sampling plan and field data collection methods remain largely unchanged.
- **Dwindling Incidence of Curbside Recyclables**: The results of this study (as well as other studies that have been performed nationally) show that the incidence of recyclable fibers and containers continues to diminish in the disposed waste stream. In the case of fibers, this is probably due to a combination of factors beyond just an increase in recycling (i.e., reductions in paper production). Regardless of the cause, it appears that the incidence of recyclable fiber and containers in disposed waste continues to decrease, and that the expansion of curbside recycling program (especially single stream) contributes to this.
- **Food Waste in Packaging**: This study made a first attempt at determining the fraction of food that is still contained in packaging when disposed. Although this study found that only 12.4 percent of all disposed food was still in its factory or retail packaging, the proportion of food waste that was wrapped in plastic films is significantly higher (although was not measured in this study).
- **Opportunity for Diversion of Organics**: The data are clear in identifying food waste, green waste and low grade compostable papers as being a significant fraction in the disposed waste stream. While this will entice many to push for aggressive diversion of these materials, is should be noted that the food waste and compostable papers may be more difficult to separate and recover than these results might suggest. Mechanical and optical sorting capabilities are not able to achieve the level of accuracy of the manual sorting that occurred in this study.
- **Flexible Film Packaging**: This study found that the weight of flexible film packaging in the disposed waste stream is negligible.
- **Single Stream Recyclables Composition**: This study provides a first comprehensive look at the composition of inbound single stream recyclables. Given that this data has not been in the public domain previously, it will be important for recycling industry stakeholders – especially other MRF operators – to review and comment on the reasonableness of the data. Furthermore, it should be cautioned that the results shown here are very specifically for residential curbside single stream recyclables; any MRF that is also processing residential drop-off, multi-family, or commercial materials together with residential single stream may not find the same incidence of targeted recyclables and contamination.
- **Demographic Influence**: The assignment of samples as being *urban*, *suburban* and *rural* confirms that the statewide aggregate results presented in this report (and in the 2010 Study) are heavily weighted toward urban areas of the state. Relatively few suburban or rural samples were captured.
- **ICI Generator Data**: The ICI generator-specific data were captured to test the differences in ICI waste from several well-known, easily defined generator types. As expected, disposed wastes varied dramatically across ICI generators. This confirms that diversion programs need to be customized for individual industries (and, extending that logic) to individual businesses and institutions in order to maximize diversion from such entities.

6.2 RECOMMENDATIONS

- **Continue Performing Statewide Studies**: Statewide studies both inform about the overall disposed waste stream for state-level planners, and also provide data to municipal and private solid waste and recycling stakeholders for a variety of uses. The CT DEEP joins state agencies from roughly a dozen

other states at conducting statewide waste characterization analyses on a regular basis, and should continue to perform a similar project over five to seven year intervals.

- **Consider Statewide Disposal Facility Gate Survey**: Although the use of the same five host disposal facilities is believed to assure consistency in the results of the 2015 Study compared to the 2010 Study, expanding waste characterization research to other facilities may be valuable. In particular, it may be highly informative to conduct hauler surveys at other disposal facilities to build a better understanding of the breakdown of residential and ICI waste. (Of course, this can only be completed with cooperation from facility owners, many of which are private and may opt not to participate in such research if it risks divulging sensitive customer data.)
- **Expand Analysis of Recycling Characterization**: No tonnage data was included in this study, nor was any attempt to calculate the capture rate (or recovery rate) for commonly targeted single stream recyclables. While it may be difficult to compile the underlying data needed to make this calculation (which includes container redemptions as well as estimates of the quantity of single stream materials collected in the state), the results would be extremely useful to stakeholders attempting to understand the success of current programs. This could be accomplished by funding recovery rate analyses in representative communities and routes in between the waste characterization studies.
- **Perform a Mass-Balance MRF Audit**: The single stream analysis performed in this study followed conventional grab sampling methods. Should the results of this method encounter criticism, it may be worthwhile for DEEP to engage a MRF owner as a partner and to conduct a mass-balance test of inbound composition. Under this alternative MRF auditing approach, the MRF operator makes arrangements to shut down the MRF and clean/empty all bunkers and hoppers; accumulate 50 to 100 tons of single stream material over a period of several days or a week; and then run the accumulated material through the process line to be sorted via normal processes. Once the accumulated recyclables are processed, the MRF must be shut down again to analyze the composition of each sorted commodity and residue, such that inbound material composition can be calculated.
- **Investigate Stakeholder Interest to Expand ICI Generator Sampling**: The six ICI generator types were selected based on input from DEEP and other stakeholders. However, with additional lead time, it may be possible to recruit support from other industries or institutions (e.g., public schools) to participate in generator-specific sampling and sorting in future studies.
- **Expand Analysis of State Reported Disposal**: In future studies, it may be worth expanding the analysis of facility-level disposal reports to see if any changes to the sampling plan are identified. Although this exercise may suggest enhancements for getting more representative results, doing so may reduce comparability with prior studies insofar as different facilities could be hosting field data collection.
- **Add More Host Facilities**: The 2015 Study included single stream recyclables for the first time. It duplicated the same five host disposal facilities as the 2010 Study, which are weighted toward Urban areas of the state. Consider expanding the study to other disposal and recycling facilities, especially to capture more samples from suburban and rural areas of the state.
- **Expand Analysis to Capture Higher Heating Value**: Given that Connecticut relies so heavily on RRFs, it may be worthwhile to begin estimating Btu value of the disposed waste stream. If fiber and plastics are being light weighted and diverted, and if organics (especially food waste) is what remains, what impact does this have on the Btu value of the waste stream?
- **Consider More Detailed Analysis of Organic Wastes**: Because of the interest in capturing energy from organic wastes and/or increasing composting of organics it would be useful to expand the categories of sampling to specifically address what percent of food waste (especially) is contaminated by packaging. This can be critical to the success of organics processing facilities.

APPENDIX A

DEMOGRAPHIC CLASSIFICATION OF CONNECTICUT MUNICIPALITIES

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Appendix A Designation of Connecticut Municipalities

Town	Population (2013)	Area (sq. mi.)	Population Density	Designation	County	Service Agreement
Andover	3,273.0	15.5	211.16	Rural	Tolland	
Ansonia	19,020.0	6.0	3,170.00	Urban	New Haven	
Ashford	4,281.0	38.8	110.34	Rural	Windham	
Avon	18,386.0	23.1	795.93	Suburban	Hartford	MIRA
Barkhamsted	3,745.0	36.2	103.45	Rural	Litchfield	MIRA
Beacon Falls	6,052.0	9.8	617.55	Suburban	New Haven	MIRA
Berlin	20,590.0	26.4	779.92	Suburban	Hartford	BRRFOC
Bethany	5,540.0	21.0	263.81	Rural	New Haven	GBRSWIC
Bethel	19,264.0	16.8	1,146.67	Urban	Fairfield	HRRA
Bethlehem	3,553.0	19.4	183.14	Rural	Litchfield	MIRA
Bloomfield	20,673.0	26.0	795.12	Suburban	Hartford	MIRA
Bolton	4,948.0	14.4	343.61	Rural	Tolland	
Bozrah	2,639.0	20.0	131.95	Rural	New London	
Branford	27,988.0	22.0	1,272.18	Urban	New Haven	BRRFOC
Bridgeport	147,216.0	16.0	9,201.00	Urban	Fairfield	GBRSWIC
Bridgewater	1,696.0	16.2	104.69	Rural	Litchfield	HRRA
Bristol	60,568.0	26.5	2,285.58	Urban	Hartford	BRRFOC
Brookfield	16,860.0	19.8	851.52	Suburban	Fairfield	HRRA
Brooklyn	8,280.0	29.0	285.52	Rural	Windham	
Burlington	9,494.0	29.8	318.59	Rural	Hartford	BRRFOC
Canaan	1,214.0	33.0	36.79	Rural	Litchfield	MIRA
Canterbury	5,096.0	39.9	127.72	Rural	Windham	
Canton	10,357.0	24.6	421.02	Rural	Hartford	MIRA
Chaplin	2,276.0	19.4	117.32	Rural	Windham	
Cheshire	29,150.0	32.9	886.02	Suburban	New Haven	
Chester	4,343.0	16.0	271.44	Rural	Middlesex	MIRA
Clinton	13,180.0	16.3	808.59	Suburban	Middlesex	MIRA
Colchester	16,210.0	49.1	330.14	Rural	New London	
Colebrook	1,457.0	31.5	46.25	Rural	Litchfield	MIRA
Columbia	5,460.0	21.4	255.14	Rural	Tolland	
Cornwall	1,412.0	46.0	30.70	Rural	Litchfield	MIRA
Coventry	12,411.0	37.7	329.20	Rural	Tolland	
Cromwell	14,178.0	12.4	1,143.39	Urban	Middlesex	
Danbury	83,684.0	42.1	1,987.74	Urban	Fairfield	HRRA
Darien	21,330.0	12.9	1,653.49	Urban	Fairfield	
Deep River	4,589.0	13.6	337.43	Rural	Middlesex	MIRA
Derby	12,801.0	5.0	2,560.20	Urban	New Haven	
Durham	7,361.0	23.6	311.91	Rural	Middlesex	MIRA
Eastford	1,736.0	28.9	60.07	Rural	Windham	
East Granby	5,212.0	17.5	297.83	Rural	Hartford	MIRA
East Haddam	9,147.0	54.3	168.45	Rural	Middlesex	
East Hampton	12,912.0	35.6	362.70	Rural	Middlesex	MIRA
East Hartford	51,199.0	18.0	2,844.39	Urban	Hartford	
East Haven	29,121.0	12.3	2,367.56	Urban	New Haven	
East Lyme	18,937.0	34.0	556.97	Suburban	New London	SCRRRA
Easton	7,616.0	27.4	277.96	Rural	Fairfield	GBRSWIC
East Windsor	11,406.0	26.3	433.69	Rural	Hartford	
Ellington	15,786.0	34.1	462.93	Rural	Tolland	MIRA

Appendix A Designation of Connecticut Municipalities

Town	Population (2013)	Area (sq. mi.)	Population Density	Designation	County	Service Agreement
Enfield	44,748.0	33.4	1,339.76	Urban	Hartford	
Essex	6,633.0	10.4	637.79	Suburban	Middlesex	MIRA
Fairfield	60,855.0	30.0	2,028.50	Urban	Fairfield	GBRSWIC
Farmington	25,613.0	28.1	911.49	Suburban	Hartford	MIRA
Franklin	1,987.0	19.5	101.90	Rural	New London	
Glastonbury	34,768.0	51.4	676.42	Suburban	Hartford	MIRA
Goshen	2,945.0	43.7	67.39	Rural	Litchfield	MIRA
Granby	11,323.0	40.7	278.21	Rural	Hartford	MIRA
Greenwich	62,396.0	47.9	1,302.63	Urban	Fairfield	
Griswold	11,959.0	35.0	341.69	Rural	New London	SCRRRA
Groton	40,176.0	31.3	1,283.58	Urban	New London	SCRRRA
Guilford	22,417.0	47.2	474.94	Rural	New Haven	
Haddam	8,363.0	44.0	190.07	Rural	Middlesex	MIRA
Hamden	61,607.0	32.8	1,878.26	Urban	New Haven	
Hampton	1,868.0	25.0	74.72	Rural	Windham	
Hartford	125,017.0	17.3	7,226.42	Urban	Hartford	MIRA
Hartland	2,131.0	33.0	64.58	Rural	Hartford	BRRFOC
Harwinton	5,593.0	30.8	181.59	Rural	Litchfield	MIRA
Hebron	9,588.0	36.9	259.84	Rural	Tolland	
Kent	2,939.0	48.5	60.60	Rural	Kent	HRRA
Killingly	17,233.0	48.5	355.32	Rural	Windham	
Killingworth	6,490.0	35.3	183.85	Rural	Middlesex	MIRA
Lebanon	7,319.0	54.1	135.29	Rural	New London	
Ledyard	15,094.0	38.1	396.17	Rural	New London	SCRRRA
Lisbon	4,348.0	16.3	266.75	Rural	New London	
Litchfield	8,333.0	56.1	148.54	Rural	Litchfield	MIRA
Lyme	2,401.0	31.9	75.27	Rural	New London	MIRA
Madison	18,297.0	36.2	505.44	Suburban	New Haven	
Manchester	58,211.0	27.3	2,132.27	Urban	Hartford	MIRA
Mansfield	25,774.0	44.5	579.19	Suburban	Tolland	
Marlborough	6,431.0	23.3	276.01	Rural	Hartford	MIRA
Meriden	60,456.0	23.7	2,550.89	Urban	New Haven	BRRFOC
Middlebury	7,571.0	17.8	425.34	Rural	New Haven	MIRA
Middlefield	4,425.0	12.7	348.43	Rural	Middlesex	MIRA
Middletown	47,333.0	40.9	1,157.29	Urban	Middlesex	ECRRA
Milford	53,137.0	22.6	2,351.19	Urban	New Haven	GBRSWIC
Monroe	19,834.0	26.1	759.92	Suburban	Fairfield	GBRSWIC
Montville	19,713.0	42.0	469.36	Rural	New London	SCRRRA
Morris	2,345.0	17.2	136.34	Rural	Litchfield	
Naugatuck	31,707.0	16.4	1,933.35	Urban	New Haven	MIRA
New Britain	72,939.0	13.3	5,484.14	Urban	Hartford	BRRFOC
New Canaan	20,194.0	22.1	913.76	Suburban	Fairfield	
New Fairfield	14,145.0	20.5	690.00	Suburban	Fairfield	HRRA
New Hartford	6,886.0	37.0	186.11	Rural	Litchfield	MIRA
New Haven	130,660.0	18.9	6,913.23	Urban	New Haven	
Newington	30,756.0	13.2	2,330.00	Urban	Hartford	
New London	27,545.0	5.5	5,008.18	Urban	New London	SCRRRA
New Milford	27,767.0	61.6	450.76	Rural	Litchfield	HRRA

Appendix A Designation of Connecticut Municipalities

Town	Population (2013)	Area (sq. mi.)	Population Density	Designation	County	Service Agreement
Newtown	28,113.0	57.8	486.38	Rural	Fairfield	HRRA
Norfolk	1,678.0	45.3	37.04	Rural	Litchfield	MIRA
North Branford	14,353.0	24.9	576.43	Suburban	New Haven	
North Canaan	3,241.0	19.5	166.21	Rural	Fairfield	MIRA
North Haven	23,939.0	20.8	1,150.91	Urban	New Haven	
North Stonington	5,291.0	54.3	97.44	Rural	New London	SCRRRA
Norwalk	87,776.0	22.8	3,849.82	Urban	Fairfield	
Norwich	40,347.0	28.3	1,425.69	Urban	New London	SCRRRA
Old Lyme	7,592.0	23.1	328.66	Rural	New London	MIRA
Old Saybrook	10,246.0	15.0	683.07	Suburban	Middlesex	MIRA
Orange	13,953.0	17.2	811.22	Suburban	New Haven	
Oxford	12,874.0	32.9	391.31	Rural	New Haven	MIRA
Plainfield	15,228.0	42.3	360.00	Rural	Windham	
Plainville	17,820.0	9.7	1,837.11	Urban	Hartford	BRRFOC
Plymouth	12,047.0	21.7	555.16	Suburban	Litchfield	BRRFOC
Pomfret	4,198.0	40.3	104.17	Rural	Windham	
Portland	9,456.0	23.4	404.10	Rural	Middlesex	MIRA
Preston	4,755.0	30.9	153.88	Rural	New London	SCRRRA
Prospect	9,671.0	14.3	676.29	Suburban	New Haven	BRRFOC
Putnam	9,465.0	20.3	466.26	Rural	Windham	
Redding	9,312.0	31.5	295.62	Rural	Fairfield	HRRA
Ridgefield	25,164.0	34.4	731.51	Suburban	Fairfield	HRRA
Rocky Hill	19,915.0	13.5	1,475.19	Urban	Hartford	MIRA
Roxbury	2,229.0	26.2	85.08	Rural	Litchfield	MIRA
Salem	4,201.0	29.0	144.86	Rural	New London	
Salisbury	3,693.0	57.3	64.45	Rural	Litchfield	MIRA
Scotland	1,699.0	18.6	91.34	Rural	Windham	
Seymour	16,571.0	14.6	1,135.00	Urban	New Haven	BRRFOC
Sharon	2,743.0	58.7	46.73	Rural	Litchfield	MIRA
Shelton	40,999.0	30.6	1,339.84	Urban	Fairfield	
Sherman	3,670.0	21.8	168.35	Rural	Fairfield	HRRA
Simsbury	23,824.0	33.9	702.77	Suburban	Hartford	MIRA
Somers	11,320.0	28.3	400.00	Rural	Tolland	
Southbury	19,859.0	39.1	507.90	Suburban	New Haven	
Southington	43,661.0	36.0	1,212.81	Urban	Hartford	BRRFOC
South Windsor	25,846.0	28.0	923.07	Suburban	Hartford	MIRA
Sprague	2,979.0	13.2	225.68	Rural	New London	SCRRRA
Stafford	11,928.0	58.0	205.66	Rural	Tolland	
Stamford	126,456.0	37.7	3,354.27	Urban	Fairfield	
Sterling	3,780.0	27.2	138.97	Rural	Windham	
Stonington	18,541.0	38.7	479.10	Rural	New London	SCRRRA
Stratford	52,112.0	17.6	2,960.91	Urban	Fairfield	GBRSWIC
Suffield	15,788.0	42.2	374.12	Rural	Hartford	
Thomaston	7,761.0	12.0	646.75	Suburban	Litchfield	MIRA
Thompson	9,354.0	47.0	199.02	Rural	Windham	
Tolland	14,915.0	39.7	375.69	Rural	Tolland	
Torrington	35,611.0	39.8	894.75	Suburban	Litchfield	MIRA
Trumbull	36,571.0	23.3	1,569.57	Urban	Fairfield	GBRSWIC

Appendix A Designation of Connecticut Municipalities

Town	Population (2013)	Area (sq. mi.)	Population Density	Designation	County	Service Agreement
Union	848.0	28.7	29.55	Rural	Tolland	
Vernon	29,161.0	17.7	1,647.51	Urban	Tolland	
Voluntown	2,611.0	39.0	66.95	Rural	New London	
Wallingford	45,141.0	39.0	1,157.46	Urban	New Haven	
Warren	1,447.0	26.3	55.02	Rural	Litchfield	BRRFOC
Washington	3,526.0	38.2	92.30	Rural	Litchfield	BRRFOC
Waterbury	109,676.0	28.6	3,834.83	Urban	New Haven	
Waterford	19,505.0	32.8	594.66	Suburban	New London	SCRRRA
Watertown	22,228.0	29.2	761.23	Suburban	Litchfield	MIRA
Westbrook	6,906.0	15.7	439.87	Rural	Middlesex	
West Hartford	63,371.0	22.0	2,880.50	Urban	Hartford	
West Haven	55,046.0	10.8	5,096.85	Urban	New Haven	
Weston	10,372.0	19.8	523.84	Suburban	Fairfield	
Westport	27,308.0	20.0	1,365.40	Urban	Fairfield	GBRSWIC
Wethersfield	26,510.0	12.4	2,137.90	Urban	Hartford	MIRA
Willington	5,965.0	33.3	179.13	Rural	Tolland	
Wilton	18,657.0	27.0	691.00	Suburban	Fairfield	
Winchester	11,013.0	32.3	340.96	Rural	Litchfield	MIRA
Windham	25,213.0	27.1	930.37	Suburban	Windham	
Windsor	29,142.0	29.6	984.53	Suburban	Hartford	
Windsor Locks	12,573.0	9.0	1,397.00	Urban	Hartford	
Wolcott	16,725.0	20.4	819.85	Suburban	New Haven	BRRFOC
Woodbridge	8,955.0	18.8	476.33	Rural	New Haven	GBRSWIC
Woodbury	9,822.0	36.5	269.10	Rural	Litchfield	MIRA
Woodstock	7,897.0	60.5	130.53	Rural	Windham	

The U.S. Census Bureau classifies as Urban all territory, population, and housing units located within urbanized areas (UAs) and urban clusters (UCs). It delineates UA and UC boundaries to encompass densely settled territory, which generally consists of:

- *A cluster of one or more block groups or census blocks each of which has a population density of at least 1,000 people per square mile at the time, and*
- *Surrounding block groups and census blocks each of which has a population density of at least 500 people per square mile at the time, and*
- *Less densely settled blocks that form enclaves or indentations, or are used to connect discontiguous areas with qualifying densities.*

Rural consists of all territory, population, and housing units located outside of UAs and UCs. Geographic entities, such as metropolitan areas, counties, minor civil divisions (MCDs), and places, often contain both Urban and Rural territory, population, and housing units.

APPENDIX B

MATERIAL CATEGORY DEFINITIONS

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PAPER

1	UNCOATED CORRUGATED CARDBOARD/KRAFT PAPER: Corrugated boxes or paper bags made from Kraft paper. Wavy center layer sandwiched between two outer layers without wax coating on the inside or outside. Examples include cardboard shipping containers and moving boxes, computer packaging cartons, and sheets and pieces of boxes and cartons. Does not include chipboard. Examples of Kraft paper include paper grocery bags, un-soiled fast food bags, department store bags, and heavyweight sheets of Kraft packing paper.
2	HIGH GRADE OFFICE PAPER: Paper that is free of ground wood fibers; usually sulfite or sulphate paper; includes office printing and writing papers such as white ledger, color ledger, envelopes, and computer printout paper, bond, rag, or stationary grade paper. This subtype does not include fluorescent-dyed paper or deep-tone dyed paper such a goldenrod colored paper.
3	MAGAZINES/CATALOGS: Glossy-coated paper products. This paper is usually slick, smooth to the touch, and reflects light. Examples include glossy magazines, catalogs, brochures, and pamphlets.
4	NEWSPRINT: Paper used chiefly for printing newspapers – uncoated ground wood paper.
5	PHONE BOOKS AND DIRECTORIES: Thin paper between coated covers. These items are bound along the spine with glue. Examples include telephone books, "yellow pages," real estate listings, and some non-glossy mail order catalogs.
6	ASEPTIC BOXES & GABLE TOP CARTONS: Aseptic containers (multi-layered packaging that contains shelf-stable food products such as apple juice, soup, soy/rice milk, etc.) and "gable top" cartons (non-refrigerated items such as granola and crackers; refrigerated items such as milk, juice, egg substitutes, etc.). Rigid food and beverage cartons are usually paper-based, may be any shape, and may include a plastic pour spout as part of the carton.
7	OTHER RECYCLABLE PAPER: Recyclable paper other than the paper mentioned above. Examples include manila folders, manila envelopes, index cards, white envelopes, white window envelopes, notebook paper, carbonless forms, junk mail, chipboard and uncoated paperboard, groundwood paper, and deep-toned or fluorescent dyed paper.
8	COMPOSTABLE PAPER: Low-grade, biodegradable paper that cannot be recycled, as well as food contaminated paper. Examples include paper towels, paper plates, waxed papers and waxed cardboard , and tissues.
9	REMAINDER/COMPOSITE PAPER: Products made mostly of paper but combined with large amounts of other materials such as plastic, metal, glues, foil, and moisture. Examples include corrugated cardboard coated with plastic, cellulose insulation, blueprints, sepia, onion skin, foiled lined fast food wrappers, frozen juice containers, carbon paper, self-adhesive notes, softcover and hardcover books, and photographs.

PLASTICS

10	PET BOTTLES/JARS : Clear or colored PET bottles other than CT deposit containers. When marked for identification, it bears the number "1"in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET". The color is usually transparent green or clear. A PET container usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. This category only includes PET bottles or jars that did not previously contain hazardous materials.
11	PET CONTAINERS OTHER THAN BOTTLES : Types of containers such as PET jars, rectangular PET containers used for produce; etc. - This category only includes PET containers that did not previously contain hazardous materials.
12	PLASTIC CT DEPOSIT BEVERAGE CONTAINERS: Plastic beverage containers subject to CT's bottle bill and marked as deposit containers in Connecticut.
13	HDPE BOTTLES, COLORED AND NATURAL: Natural and colored HDPE containers. This plastic is usually either cloudy white, allowing light to pass through it (natural) or a solid color, preventing light from passing through it (colored). When marked for identification, it bears the number "2" in the triangular recycling symbol and may also bear the letters "HDPE. This category only includes HDPE bottles that did not previously contain hazardous materials.

14 HDPE CONTAINERS OTHER THAN BOTTLES: Colored and natural buckets, pails or paint cans made of HDPE and designed to hold 5 gallons or less of material. This category includes buckets regardless of whether they are attached to metal handles. Examples include large paint buckets and commercial buckets used to contain food for commercial use (restaurants, etc.). These objects are packages containing material for sale, and are not sold as buckets themselves.

15 PLASTIC CONTAINERS #3-#7 : Containers made of types of plastic other than HDPE or PET. Items may be made of PVC, PP, or PS. When marked for identification, these items may bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. This subtype also includes unmarked plastic containers. This category only includes plastic #3-#7 containers that did not previously contain hazardous materials.

16 EXPANDED POLYSTYRENE NON-FOOD GRADE: Non-food packaging and finished products made of expanded polystyrene. Excludes "Styrofoam" products such as cups, plates, and bowls.

17 EXPANDED FOOD-GRADE POLYSTYRENE: "Styrofoam" products used to contain food such as "clamshells," cups, plates, and bowls.

18 DURABLE PLASTIC ITEMS: Plastic objects other than disposable package items. These items are usually made to last for a few months up to many years and include children toys, furniture, plastic landscape ties; plastic railroad ties, mop buckets, sporting goods, etc.

19 FILM (NON-BAG): Non-bag clean commercial and industrial packaging film used for large-scale packaging or transport packaging. Examples include shrink-wrap, mattress bags, furniture wrap, and film bubble wrap.

20 GROCERY AND OTHER MERCHANDISE BAGS: Plastic shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase. Includes dry-cleaning plastic bags intended for one-time use.

21 OTHER FILM: Plastic film that is contaminated or otherwise non-recyclable. Examples include garbage bags and other types of plastic bags (sandwich bags, zip (recloseable) bags, produce bags, frozen vegetable bags), painting tarps, food wrappers such as candy-bar wrappers, mailing pouches, bank bags, X-ray film, and plastic food wrap.

22 FLEXIBLE PLASTIC POUCHES AND PACKAGING: Flexible film packaging that is muli-layered (laminated) with multiple resins: may contain non-plastic foil layers and "tie-layers" that bond or fuse different layers together. Mostly used for preserving food. Includes film pouches made of multi-layers, sometimes with flat bottoms allowing pouch to stand on its own; coffee bags, Capri Sun pouches; wine pouches; baby food, meals, soap refill and laundry deteregent pouches

23 PALLETS – PLASTIC : Plastic pallets and crating materials commonly used for industrial and commercial packaging and shipping.

24 REMAINDER/COMPOSITE PLASTIC: Plastic that cannot be put in any other type or subtype. Includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, produce trays, foam packing blocks (not including expanded polystyrene blocks), plastic strapping, new plastic laminate (e.g. Formica), vinyl, linoleum, plastic lumber, imitation ceramics, handles and knobs, plastic lids, some kitchen ware, toys, plastic string (as used for hay bales), and plastic rigid bubble/foil packaging (as for medications); durable plastic such as plastic outdoor furniture, plastic toys and sporting goods, CDs, and rigid plastic housewares (such as mop buckets), dishes, cups, and cutlery.

METALS

25 ALUMINUM BEVERAGE CONTAINERS: Beverage containers made from aluminum other than CT deposit containers. Also includes cat food containers.

26 ALUMINUM CT DEPOSIT BEVERAGE CONTAINERS: Metal beverage containers subject to CT's bottle bill and marked with CT deposit label.

27 ALUMINUM PLATES & FOILS: Aluminum pie plates and non-rigid baking pans; and Aluminum Foils.

28 TIN/STEEL CONTAINERS : Rigid containers made mainly of steel, such as food and beverage containers. These items will stick to a magnet and may be tin-coated.

29 OTHER FERROUS: Any other iron or steel that is magnetic. This subtype does not include "tin/steel containers". Examples include empty or dry paint cans, structural steel beams, boilers, metal clothes hangers, metal pipes, some cookware, security bars, and scrap ferrous items and galvanized items such as nails and flashing.

30 OTHER NON-FERROUS: Any metal item that is not magnetic, as well as stainless steel. These items may be made of copper, brass, bronze, lead, zinc, or other metals. Examples include copper wire, shell casings, and brass pipe.

31 APPLIANCES : Major appliances that are primarily encased in metal, such as refrigerators, stoves, water heaters, dryers and microwaves; white goods.

32 COMPRESSED FUEL CONTAINERS/PROPANE TANKS: Includes large compressed fuel containers/propane tanks and small one-pound propane tanks used for lanterns, camp stoves etc. as well as larger tanks such as those used in home gas grills, RVs.

33 REMAINDER/COMPOSITE METAL : 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 metal 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.

GLASS

34 CLEAR/AMBER GLASS PACKAGING CONTAINERS (NON-DEPOSIT) : Includes clear or amber colored wine bottles, nonalcoholic beverage containers, malt beverage containers, mayonnaise jars, and jam jars.

35 GREEN/OTHER COLORED GLASS PACKAGING CONTAINERS (NON-DEPOSIT): Includes green or other colored beer bottles and other nonalcoholic beverage containers.

36 GLASS CT DEPOSIT BEVERAGE CONTAINERS: Glass beverage containers subject to CT's bottle bill and marked with CT deposit label.

37 FLAT GLASS : Uncoated plate glass - includes window and door glass, table-tops, and some auto glass (side windows).

38 REMAINDER/COMPOSITE GLASS : 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, auto windshields, laminated glass, or any curved glass.

ORGANICS

39 FOOD WASTE, LOOSE: Food material, either loose or not in original packaging, resulting from the processing, storage, preparation, cooking, handling, or consumption of food. This type includes material from industrial, commercial, or residential sources. Examples include discarded meat scraps, dairy products, eggshells, fruit or vegetable peels, and other food items from homes, stores and restaurants. May include the bag or other container holding the food if the bag/container weight is insignificant compared to the contained food.

40 FOOD WASTE, EMPTIED FROM PACKAGING: Unconsumed packaged food products still in retail or factory packaging. Food should be emptied out of packaginng into this bin; the packaging should then be sorted in its appropriate category.

41 BRANCHES AND STUMPS : Trees, stumps, branches, or other wood generated from clearing land for commercial or residential development, road construction, agricultural land clearing, storms, or natural disasters.

42 PRUNINGS AND TRIMMINGS: 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 subtype does not include stumps, tree trunks, or branches exceeding 4 inches in diameter. This subtype does not include material from agricultural sources.

43 LEAVES AND GRASS: Plant material, except woody material, from any public or private landscapes. Examples include leaves, grass clippings, and plants.

44 MANURES: Manure and soiled bedding materials from domestic, farm, wild, or ranch animals. Examples include manure and soiled bedding from animal production operations, racetracks, riding stables, animal hospitals, laboratories, zoos, nature centers, and other sources.

45 REMAINDER/COMPOSITE ORGANIC: 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 cork, hemp rope, hair, cigarette butts, full vacuum bags, sawdust, and animal feces. Does NOT include Kitty Litter.

C&D MATERIALS

46 ASPHALT, BRICK, AND CONCRETE: Includes asphalt paving, a black or brown, tar-like material mixed with aggregate used as a paving material. 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.

47 WOOD – TREATED: Wood that contains an adhesive, paint, stain, fire retardant, pesticide or preservative.

48 WOOD – UNTREATED : Refers to any wood which does not contain an adhesive, paint, stain, fire retardant, pesticide or preservative; includes such items as pallets, skids, spools, packaging materials, bulky wood waste or scraps from newly built wood products. (CT) Under this definition, does not including land clearing debris or yard waste prunings and trimmings

49 ASPHALT ROOFING: Composite shingles and other roofing material made with asphalt. Examples include asphalt shingles and attached roofing tar and tar paper.

50 DRYWALL/GYPSUM BOARD: Interior wall covering made of a sheet of gypsum sandwiched between paper layers. Examples include used or unused, broken or whole sheets of sheetrock, drywall, gypsum board, plasterboard, gypsum board, gyproc, and wallboard.

51 CARPET: Flooring applications consisting of various natural or synthetic fibers bonded to some type of backing material.

52 CARPET PADDING : Plastic, foam, felt, or other material used under carpet to provide insulation and padding.

53 REMAINDER/COMPOSITE CONSTRUCTION AND DEMOLITION : Construction and demolition material that cannot be put in any other type or subtype. This type may include items from different types combined, which would be very hard to separate.

HOUSEHOLD HAZARDOUS WASTE

54 BALLASTS, CFLS: Other fluorescents including ballasts, which are devices that electrically control fluorescent light fixtures and that include a capacitor, CFLs, which are compact fluorescent bulbs, and other fluorescent lighting, which includes tubular fluorescent lamps.

55 BATTERIES – LEAD ACID: Lead acid storage batteries most commonly used in vehicles such as cars, trucks, boats, etc.

56 OTHER BATTERIES: Any type of battery other than lead acid (automotive) batteries. Examples include household batteries such as AA, AAA, D, button cell, 9-volt, and rechargeable batteries used for flashlights, small appliances, tools, watches, and hearing aids.

57 PAINT : Includes containers with paint in them. Examples include latex paint, oil based paint, and tubes of pigment or fine art paint. This type does not include dried paint, empty paint cans, or empty aerosol containers.

58 SHARPS : Discarded needles that have been used in animal or human patient care or treatment or in medical, research or industrial laboratories.

59 VEHICLE AND EQUIPMENT FLUIDS : Containers and filters with fluids used in vehicles or engines. Examples include antifreeze, oil, and brake fluid. Does not include empty vehicle and equipment fluid containers. Oil filters include vehicle engine oil filters.

60 EMPTY METAL, GLASS, AND PLASTIC HHW CONTAINERS: Empty containers that originally held toxic materials, hazardous fluids or other materials. Examples include empty antifreeze, oil, or lye containers.

61 PESTICIDES AND FERTILIZERS : Household and commercial products used to destroy or control organisms, pests or enhance plant growth.

62 OTHER HAZARDOUS OR HOUSEHOLD HAZARDOUS WASTE: Al household or commercial products characterized as “toxic”, “corrosive”, “flammable”, “ignitable”, “radioactive”, “poisonous”, and “reactive”.

ELECTRONICS

63 COMPUTER-RELATED ELECTRONICS: Includes personal computers, laptop computers, notebook computers, processors, keyboards, etc. This category does not include automated typewriters or typesetters, portable handheld calculators, portable digital assistants or other similar devices.

64 OTHER SMALL CONSUMER ELECTRONICS : Includes cell phones, iPODs,iPads, PDAs.

65 TELEVISIONS AND COMPUTER MONITORS: Stand-alone display systems containing a CRT or any other type of display primarily intended to receive video programming via broadcast. Examples also include non-CRT units such as plasma and LCD monitors.

66 OTHER LARGER ELECTRONICS: Includes stereos, VCRs, DVD players, etc.

OTHER MATERIALS

67 BULKY ITEMS: Large, hard-to-handle items that are not defined separately. Examples include all sizes and types of furniture, mattresses, box springs, and base components.

68 TEXTILES: Includes clothing, fabrics, curtains, blankets, stuffed animals, and other cloth material. Does not include carpeting.

69 DIAPERS & SANITARY PRODUCTS: Adult and baby diapers, and feminine hygiene products.

70 RESTAURANT FATS, OILS AND GREASE : Any fats, oils and grease generated from the food preparation process.

71 BOTTOM FINES AND DIRT: Small fragments that pass through the 1/2" sort screen, and includes miscellaneous fines (paper, plastic, glass, etc.) and dirt.

72 OTHER MISCELLANEOUS : Any other type of waste material not listed in any other sort category. Includes kitty litter.

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PAPER

1	UNCOATED CORRUGATED CARDBOARD/KRAFT PAPER: Corrugated boxes or paper bags made from Kraft paper. Wavy center layer sandwiched between two outer layers without wax coating on the inside or outside. Examples include cardboard shipping containers and moving boxes, computer packaging cartons, and sheets and pieces of boxes and cartons. Does not include chipboard. Examples of Kraft paper include paper grocery bags, un-soiled fast food bags, department store bags, and heavyweight sheets of Kraft packing paper.
2	HIGH GRADE OFFICE PAPER: Paper that is free of ground wood fibers; usually sulfite or sulphate paper; includes office printing and writing papers such as white ledger, color ledger, envelopes, and computer printout paper, bond, rag, or stationary grade paper. This subtype does not include fluorescent-dyed paper or deep-tone dyed paper such a goldenrod colored paper.
3	MAGAZINES/CATALOGS: Glossy-coated paper products. This paper is usually slick, smooth to the touch, and reflects light. Examples include glossy magazines, catalogs, brochures, and pamphlets.
4	NEWSPRINT: Paper used chiefly for printing newspapers – uncoated ground wood paper.
5	PHONE BOOKS AND DIRECTORIES: Thin paper between coated covers. These items are bound along the spine with glue. Examples include telephone books, "yellow pages," real estate listings, and some non-glossy mail order catalogs.
6	ASEPTIC BOXES & GABLE TOP CARTONS: Aseptic containers (multi-layered packaging that contains shelf-stable food products such as apple juice, soup, soy/rice milk, etc.) and "gable top" cartons (non-refrigerated items such as granola and crackers; refrigerated items such as milk, juice, egg substitutes, etc.). Rigid food and beverage cartons are usually paper-based, may be any shape, and may include a plastic pour spout as part of the carton.
7	OTHER RECYCLABLE PAPER: Recyclable paper other than the paper mentioned above. Examples include manila folders, manila envelopes, index cards, white envelopes, white window envelopes, notebook paper, carbonless forms, junk mail, chipboard and uncoated paperboard, groundwood paper, and deep-toned or fluorescent dyed paper.
8R	NON-RECYCLABLE PAPER: Low-grade, biodegradable paper that cannot be recycled, as well as food contaminated paper. Examples include paper towels, paper plates, waxed papers and waxed cardboard , and tissues. Products made mostly of paper but combined with large amounts of other materials such as plastic, metal, glues, foil, and moisture. Examples include corrugated cardboard coated with plastic, cellulose insulation, blueprints, sepia, onion skin, foiled lined fast food wrappers, frozen juice containers, carbon paper, self-adhesive notes, softcover and hardcover books, and photographs.
9R	NEWSPAPER, BAGGED: Newspapers that have not been removed from the bag or sleeve.

PLASTICS

10	PET BOTTLES/JARS : Clear or colored PET bottles other than CT deposit containers. When marked for identification, it bears the number "1"in the center of the triangular recycling symbol and may also bear the letters "PETE" or "PET". The color is usually transparent green or clear. A PET container usually has a small dot left from the manufacturing process, not a seam. It does not turn white when bent. This category only includes PET bottles or jars that did not previously contain hazardous materials.
11	PET CONTAINERS OTHER THAN BOTTLES : Types of containers such as PET jars, rectangular PET containers used for produce; etc. - This category only includes PET containers that did not previously contain hazardous materials.

12 PLASTIC CT DEPOSIT BEVERAGE CONTAINERS: Plastic beverage containers subject to CT's bottle bill and marked as deposit containers in Connecticut.

13 HDPE BOTTLES, COLORED AND NATURAL: Natural and colored HDPE containers. This plastic is usually either cloudy white, allowing light to pass through it (natural) or a solid color, preventing light from passing through it (colored). When marked for identification, it bears the number "2" in the triangular recycling symbol and may also bear the letters "HDPE. This category only includes HDPE bottles that did not previously contain hazardous materials.

14 HDPE CONTAINERS OTHER THAN BOTTLES: Colored and natural buckets, pails or paint cans made of HDPE and designed to hold 5 gallons or less of material. This category includes buckets regardless of whether they are attached to metal handles. Examples include large paint buckets and commercial buckets used to contain food for commercial use (restaurants, etc.). These objects are packages containing material for sale, and are not sold as buckets themselves.

15R PLASTIC BOTTLES #3-#7 : Bottles made of types of plastic other than HDPE or PET. Items may be made of PVC, PP, or PS. When marked for identification, these items may bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. This subtype also includes unmarked plastic bottles. This category only includes plastic #3-#7 containers that did not previously contain hazardous materials.

16R PLASTIC NON-BOTTLE CONTAINERS #3-#7: Non-bottle containers made of types of plastic other than HDPE or PET. Items may be made of PVC, PP, or PS. When marked for identification, these items may bear the number 3, 4, 5, 6, or 7 in the triangular recycling symbol. This subtype also includes unmarked plastic containers. This category only includes plastic #3-#7 containers that did not previously contain hazardous materials.

17R EXPANDED POLYSTYRENE: "Styrofoam" products used to contain food such as "clamshells," cups, plates, and bowls. Styrofoam packaging and peanuts. All expanded polystyrene labeled #6.

18R BULKY PLASTIC ITEMS: Bulky rigid plastics such as plastic drums, crates, buckets, baskets,toys, refuse totes, and lawn furniture, flowerpots, laundry baskets, and other large plastic items made predominantly of PE and PP. May include small steel items such as fasteners and bails on buckets and minor amounts of other non-foam plastics.

19R PLASTIC FILM: Plastic shopping bags used to contain merchandise to transport from the place of purchase, given out by the store with the purchase. Includes dry-cleaning plastic bags intended for one-time use. Other plastic films and flexible film packaging.

24 REMAINDER/COMPOSITE PLASTIC: Plastic that cannot be put in any other type or subtype. Includes items made mostly of plastic but combined with other materials. Examples include auto parts made of plastic attached to metal, plastic drinking straws, produce trays, foam packing blocks (not including expanded polystyrene blocks), plastic strapping, new plastic laminate (e.g. Formica), vinyl, linoleum, plastic lumber, imitation ceramics, handles and knobs, plastic lids, some kitchen ware, toys, plastic string (as used for hay bales), and plastic rigid bubble/foil packaging (as for medications); durable plastic such as plastic outdoor furniture, plastic toys and sporting goods, CDs, and rigid plastic housewares (such as mop buckets), dishes, cups, and cutlery.

METALS

25 ALUMINUM BEVERAGE CONTAINERS: Beverage containers made from aluminum other than CT deposit containers. Also includes cat food containers.

26 ALUMINUM CT DEPOSIT BEVERAGE CONTAINERS: Metal beverage containers subject to CT's bottle bill and marked with CT deposit label.

27 ALUMINUM PLATES & FOILS: Aluminum pie plates and non-rigid baking pans; and Aluminum Foils.

28 TIN/STEEL CONTAINERS : Rigid containers made mainly of steel, such as food and beverage containers. These items will stick to a magnet and may be tin-coated.

29 OTHER FERROUS: Any other iron or steel that is magnetic. This subtype does not include "tin/steel containers". Examples include empty or dry paint cans, structural steel beams, boilers, metal clothes hangers, metal pipes, some cookware, security bars, and scrap ferrous items and galvanized items such as nails and flashing.

30 OTHER NON-FERROUS: Any metal item that is not magnetic, as well as stainless steel. These items may be made of copper, brass, bronze, lead, zinc, or other metals. Examples include copper wire, shell casings, and brass pipe.

31 APPLIANCES : Major appliances that are primarily encased in metal, such as refrigerators, stoves, water heaters, dryers and microwaves; white goods.

32 COMPRESSED FUEL CONTAINERS/PROPANE TANKS: Includes large compressed fuel containers/propane tanks and small one-pound propane tanks used for lanterns, camp stoves etc. as well as larger tanks such as those used in home gas grills, RVs.

33 REMAINDER/COMPOSITE METAL : 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 metal 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.

GLASS

34 CLEAR/AMBER GLASS PACKAGING CONTAINERS (NON-DEPOSIT) : Includes clear or amber colored wine bottles, nonalcoholic beverage containers, malt beverage containers, mayonnaise jars, and jam jars.

35 GREEN/OTHER COLORED GLASS PACKAGING CONTAINERS (NON-DEPOSIT): Includes green or other colored beer bottles and other nonalcoholic beverage containers.

36 GLASS CT DEPOSIT BEVERAGE CONTAINERS: Glass beverage containers subject to CT's bottle bill and marked with CT deposit label.

37R OTHER GLASS: Uncoated plate glass - includes window and door glass, table-tops, and some auto glass (side windows). Glass that cannot be put in any other type. Examples include Pyrex, Corningware, crystal and other glass tableware, mirrors, non-fluorescent light bulbs, auto windshields, laminated glass, or any curved glass.

38R BROKEN GLASS/FINES: Broken glass of any type. Includes fines that would be removed via MRF screening system that is primarily removing glass.

ORGANICS

39R FOOD WASTE: Food material resulting from the processing, storage, preparation, cooking, handling, or consumption of food. Examples include discarded meat scraps, dairy products, eggshells, fruit or vegetable peels, and other food items from homes, stores and restaurants. May include the bag or other container holding the food if the bag/container weight is insignificant compared to the contained food.

41R YARD WASTE: Trees, stumps, branches, grass clippings, leaves, trimmings, prunings.

C&D MATERIALS

46R C&D DEBRIS: Products used in construction, renovation and demolition projects. Examples include asphalt roofing, drywall/gypsum, insulation, carpet/padding, caulk containers, and other materials generated on construction projects.

47R WOOD: Clean, painted, stained or treated wood of any type. Dimensional lumber, furniture, household items made of wood.

HOUSEHOLD HAZARDOUS WASTE

54R HHW: Household hazardous wastes including ballasts, CFLs and mercury-containing devices, batteries (dry cell and lead acid), paints, poisons, flammables, corrosives, vehicle fluids, medical wastes, sharps, pesticides, fertilizers, reactives.

60 EMPTY HHW CONTAINERS: Empty containers that originally held toxic materials, hazardous fluids or other materials. Examples include empty antifreeze, oil, or lye containers.

ELECTRONICS

63R ELECTRONICS: All electronic items. Includes personal computers, laptop computers, notebook computers, processors, keyboards, monitors, cell phone, iPads, VCR/DVD players, stereos and other items containing circuit boards.

OTHER MATERIALS

67 BULKY ITEMS: Large, hard-to-handle items that are not defined separately. Examples include all sizes and types of furniture, mattresses, box springs, and base components.

68 TEXTILES: Includes clothing, fabrics, curtains, blankets, stuffed animals, and other cloth material. Does not include carpeting.

69 DIAPERS & SANITARY PRODUCTS: Adult and baby diapers, and feminine hygiene products.

70R OTHER MISCELLANEOUS: Any other type of waste material not listed in any other sort category. Includes manures, kitty litter, other organics materials not elsewhere classified, inert wastes not elsewhere classified.

71R BAGGED WASTES: Bags containing trash or a mix of trash and recyclables that should not have been placed in the recycling bin

Material Category Mapping - Waste Sort vs Recycling Sort

No.	Material Category - Waste Sort	No.	Single Stream Sort	Waste Reference #
1	Uncoated Corrugated Cardboard/Kraft Paper	1	Uncoated Corrugated Cardboard/Kraft Paper	1
2	High Grade Office Paper	2	High Grade Office Paper	2
3	Magazines/Catalogs	3	Magazines/Catalogs	3
4	Newsprint	4	Newsprint	4
		9R	Bagged Newspaper/Wrapped OCC	new
5	Phone Books and Directories	5	Phone Books and Directories	5
6	Aseptic Boxes & Gable Top Cartons	6	Aseptic Boxes & Gable Top Cartons	6
7	Other Recyclable Paper	7	Other Recyclable Paper	7
8	Compostable Paper	8R	Non-Recyclable Paper	8, 9
9	Remainder/Composite Paper			
10	PET Bottles/Jars	10	PET Bottles/Jars	10
11	PET Containers other than Bottles	11	PET Containers other than Bottles	11
12	Plastic CT Deposit beverage containers	12	Plastic CT Deposit beverage containers	12
13	HDPE Bottles, colored and natural	13	HDPE Bottles, colored and natural	13
14	HDPE Containers other than Bottles	14	HDPE Containers other than Bottles	14
15	Plastic Containers #3-#7	15R	Plastic Bottles #3-#7	New (15)
16	Expanded Polystyrene Non-food Grade	16R	Plastic Non-Bottle Containers #3-#7	New (15)
17	Expanded Food-grade Polystyrene	17R	Expanded Polystyrene	16, 17
18	Durable Plastic Items	18R	Bulky Plastic Items	new, 18, 23
19	Film (non-bag)	19R	Plastic Film	19, 20, 21, 22
20	Grocery and other Merchandise Bags			
21	Other Film			
22	Flexible Plastic Pouches and Packaging			
23	Pallets – plastic			
24	Remainder/Composite Plastic	24	Remainder/Composite Plastic	24
25	Aluminum Beverage Containers	25	Aluminum Beverage Containers	25
26	Aluminum CT Deposit beverage containers	26	Aluminum CT Deposit beverage containers	26
27	Aluminum Plates & Foils	27	Aluminum Plates & Foils	27
28	Tin/Steel Containers	28	Tin/Steel Containers	28
29	Other Ferrous	29	Other Ferrous	29
30	Other Non-Ferrous	30	Other Non-Ferrous	30
31	Appliances	31	Appliances	31
32	Compressed Fuel Containers/Propane Tanks	32	Compressed Fuel Containers/Propane Tanks	32
33	Remainder/Composite Metal	33	Remainder/Composite Metal	33
34	Clear/amber glass packaging containers (non-deposit)	34	Clear/amber glass packaging containers (non-deposit)	34
35	Green/other colored glass packaging containers (non-deposit)	35	Green/other colored glass packaging containers (non-deposit)	35
36	Glass CT Deposit beverage containers	36	Glass CT Deposit beverage containers	36
37	Flat glass	37R	Other Glass	37, 38

Material Category Mapping - Waste Sort vs Recycling Sort

No.	Material Category - Waste Sort	No.	Single Stream Sort	Waste Reference #
38	Remainder/Composite Glass	38R	Broken Glass/Fines 2" minus	new, 71
39	Food Waste, Loose	39R	Food Waste	39, 40
40	Food Waste, Emptied from Packaging			
41	Branches and Stumps	41R	Yard Waste	41, 42, 43
42	Prunings and Trimmings			
43	Leaves and Grass			
44	Manures			
45	Remainder/Composite Organic			
46	Asphalt, Brick, and Concrete	46R	C&D Debris	46, 49, 50, 51, 52, 53
47	Wood – Treated	47R	Wood	47, 48
48	Wood – Untreated			
49	Asphalt Roofing			
50	Drywall/Gypsum Board			
51	Carpet			
52	Carpet Padding			
53	Remainder/Composite Construction and Demolition			
54	Ballasts, CFLs	54R	HHW	54-62
55	Batteries – Lead Acid			
56	Other Batteries			
57	Paint			
58	Sharps			
59	Vehicle and equipment fluids			
60	Empty Metal, Glass, and Plastic containers	60	Empty Metal, Glass, and Plastic containers	60
61	Pesticides and Fertilizers			
62	Other Hazardous or Household Hazardous Waste			
63	Computer-related Electronics	63R	Electronics	63-66
64	Other Small Consumer Electronics			
65	Televisions and Computer Monitors			
66	Other Larger Electronics			
67	Bulky Items	67	Bulky Items	67
68	Textiles	68	Textiles	68
69	Diapers & Sanitary Products	69	Diapers & Sanitary Products	69
70	Restaurant Fats, Oils and Grease			
71	Bottom Fines and Dirt			
72	Other Miscellaneous	70R	Other Miscellaneous	44, 45, 70, 72
		71R	Bagged Wastes & Recyclables	new

APPENDIX C

FIELD FORMS

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Sample ID:_____ Crew Chief:

Date: _____ Time: _____

	Material Group	Weight (Circle if net weight)	Pre-Wt
1	Uncoated Corrugated Cardboard/Kraft Paper		
2	High Grade Office Paper		
3	Magazines/Catalogs		
4	Newsprint		
5	Phone Books and Directories		
6	Aseptic Boxes & Gable Top Cartons		
7	Other Recyclable Paper		
8	Compostable Paper		
9	Remainder/Composite Paper		
10	PET Bottles/Jars		
11	PET Containers other than Bottles		
12	Plastic CT Deposit beverage containers		
13	HDPE Bottles, colored and natural		
14	HDPE Containers other than Bottles		
15	Plastic Containers #3-#7		
16	Expanded Polystyrene Non-food Grade		
17	Expanded Food-grade Polystyrene		
18	Durable Plastic Items		
19	Film (non-bag)		
20	Grocery and other Merchandise Bags		
21	Other Film		
22	Flexible Plastic Pouches and Packaging		
23	Pallets – plastic		
24	Remainder/Composite Plastic		
25	Aluminum Beverage Containers		
26	Aluminum CT Deposit beverage containers		
27	Aluminum Plates & Foils		
28	Tin/Steel Containers		
29	Other Ferrous		
30	Other Non-Ferrous		
31	Appliances		
32	Compressed Fuel Containers/Propane Tanks		
33	Remainder/Composite Metal		
34	Clear/Amber glass packaging containers (non-deposit)		
35	Green/Other colored glass packaging containers (non-deposit)		
36	Glass CT Deposit beverage containers		
37	Flat glass		
38	Remainder/Composite Glass		
39	Food Waste, Loose		
40	Food Waste, Emptied from Packaging		
41	Branches and Stumps		
42	Prunings and Trimmings		
43	Leaves and Grass		
44	Manures		
45	Remainder/Composite Organic		

46	Asphalt, Brick, and Concrete	
47	Wood – Treated	
48	Wood – Untreated	
49	Asphalt Roofing	
50	Drywall/Gypsum Board	
51	Carpet	
52	Carpet Padding	
53	Remainder/Composite Construction and Demolition	
54	Ballasts, CFLs	
55	Batteries – Lead Acid	
56	Other Batteries	
57	Paint	
58	Sharps	
59	Vehicle and equipment fluids	
60	Empty Metal, Glass, and Plastic HHW Containers	
61	Pesticides and Fertilizers	
62	Other Hazardous or Household Hazardous Waste	
63	Computer-related Electronics	
64	Other Small Consumer Electronics	
65	Televisions and Computer Monitors	
66	Other Larger Electronics	
67	Bulky Items	
68	Textiles	
69	Diapers & Sanitary Products	
70	Restaurant Fats, Oils and Grease	
71	Bottom Fines and Dirt	
72	Other Miscellaneous	

Sample ID:_____ Crew Chief:

Date: _____ Time: _____

	Material Group	Weight (Circle if net weight)	Pre-Wt
1	Uncoated Corrugated Cardboard/Kraft Paper		
2	High Grade Office Paper		
3	Magazines/Catalogs		
4	Newsprint		
5	Phone Books and Directories		
6	Aseptic Boxes & Gable Top Cartons		
7	Other Recyclable Paper		
8R	Non-Recyclable Paper		
9R	Newspaper, Bagged		
10	PET Bottles/Jars		
11	PET Containers other than Bottles		
12	Plastic CT Deposit beverage containers		
13	HDPE Bottles, colored and natural		
14	HDPE Containers other than Bottles		
15	Plastic Bottles #3-#7		
15R	Plastic Non-Bottle Containers #3-#7		
16R	Expanded Polystyrene		
17R	Bulky Plastic Items		
18R	Plastic Film		
24	19R Remainder/Composite Plastic		
25	Aluminum Beverage Containers		
26	Aluminum CT Deposit beverage containers		
27	Aluminum Plates & Foils		
28	Tin/Steel Containers		
29	Other Ferrous		
30	Other Non-Ferrous		
31	Appliances		
32	Compressed Fuel Containers/Propane Tanks		
33	Remainder/Composite Metal		
34	Clear/Amber glass packaging containers (non-deposit)		
35	Green/Other colored glass packaging containers (non-deposit)		
36	Glass CT Deposit beverage containers		
37R	Other Glass		
38R	Broken Glass/Fines		
39R	Food Waste		
41R	Yard Waste		
46R	C&D Debris		
47R	Wood		
54R	HHW		
60	Empty HHW Containers		
63R	Electronics		
67	Bulky Items		
68	Textiles		
69	Diapers & Sanitary Products		
70R	Other Miscellaneous		
71R	Bagged Wastes		

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Physical Sort Field Supervisor Daily Targeted Samples

Day _____ **Date** _____ **Location** _____

Sample Type	Generator Sector	Total Needed	Total Sampled
RES	Residential		
ICI	Commercial		
SS	Single Stream		
GEN	Special Generator		
	Total		

Supervisor Initials _____

Sample #	Gen Sector	Date	Time	Truck Type	Hauler	Load Weight	Ticket Number	Truck #	Special Generator

Notes _____

Special Generator: REST=Restaurant; GROC=Grocery; RET-L=Retail Large; RET-S=Retail Small; HOT=Hotel; OFF=Office

Connecticut Statewide Waste Composition Study 2015
Vehicle Selection Form

Site: _____

Date: _____ **Goal:** _____ **Samples Taken**

Each number represents an expected vehicle based on the available data.

Cross off one number for each category of vehicle entering the landfill.

When you reach the number circled, ask this vehicle to go to the sorting area.

Residential Packer Trucks **NEED** **TOTAL**

** Must be at least 80% single-family residential waste.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51

Residential Dropbox **NEED** **TOTAL**

** Must be at least 80% commercial waste.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51

ICI Packer Trucks **NEED** **TOTAL**

** Must be at least 80% commercial waste.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51

ICI Roll-off **NEED** **TOTAL**

** Must be at least 80% commercial waste.*

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51

APPENDIX D

DISPOSED WASTE COMPOSITION BY HOST FACILITY

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Bristol RRF
Overall Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**22.7%**		**Food Waste**	**18.7%**	
Corrugated Cardboard/Kraft Paper	2.5%	0.8%	Food Waste, Loose	17.0%	3.2%
High Grade Office Paper	1.4%	0.7%	Food Waste, Emptied from Packaging	1.8%	0.8%
Magazines/Catalogs	0.7%	0.3%	**Other Organics**	**14.7%**	
Newsprint	1.2%	0.5%	Branches and Stumps	1.2%	1.0%
Phone Books and Directories	0.1%	0.1%	Prunings and Trimmings	1.8%	1.1%
Aseptic Boxes & Gable Top Cartons	0.3%	0.3%	Leaves and Grass	5.7%	2.0%
Other Recyclable Paper	4.1%	0.9%	Manures	0.0%	0.0%
Compostable Paper	11.6%	2.4%	Diapers & Sanitary Products	4.8%	2.3%
Remainder/Composite Paper	0.8%	0.4%	Remainder/Composite Organic	1.2%	0.8%
Plastic	**10.6%**		**C&D Debris**	**11.3%**	
PET Bottles/Jars	0.7%	0.2%	Asphalt, Brick, and Concrete	0.6%	0.7%
PET Containers Other than Bottles	0.3%	0.1%	Wood – Treated	3.8%	1.7%
Plastic CT Deposit Beverage Containers	0.2%	0.1%	Wood – Untreated	2.5%	1.1%
HDPE Bottles, Colored and Natural	0.6%	0.1%	Asphalt Roofing	0.2%	0.3%
HDPE Containers other than Bottles	0.0%	0.0%	Drywall/Gypsum Board	0.5%	0.4%
Plastic Containers #3-#7	0.6%	0.1%	Carpet	1.7%	1.0%
Expanded Polystyrene Non-food Grade	0.1%	0.0%	Carpet Padding	0.2%	0.2%
Expanded Food-grade Polystyrene	0.4%	0.2%	Remainder/Composite C&D	1.9%	1.2%
Durable Plastic Items	1.1%	0.3%	**Household Hazardous Waste**	**0.8%**	
Film (non-bag)	1.0%	0.3%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.6%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.3%	0.6%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.1%	Paint	0.0%	0.1%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.6%	0.5%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**3.7%**		Empty Metal/Glass/Plastic HHW Containers	0.4%	0.3%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.3%	0.2%
Aluminum Plates & Foils	0.4%	0.2%	**Electronics**	**0.3%**	
Tin/Steel Containers	0.5%	0.3%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.5%	0.3%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.3%	0.2%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.3%	0.3%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**15.0%**	
Remainder/Composite Metal	1.7%	0.8%	Bulky Items	2.7%	2.5%
Glass	**2.1%**		Textiles	5.2%	1.3%
Non-deposit Clear/Amber Glass	0.7%	0.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	4.0%	1.7%
Deposit Glass	0.2%	0.1%	Other Miscellaneous	3.1%	1.5%
Flat Glass	0.1%	0.1%	**Grand Total**	**100%**	
Remainder/Composite Glass	1.0%	0.8%	***No. of Samples***	***48***	

Bristol RRF
Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**20.5%**		**Food Waste**	**16.6%**	
Corrugated Cardboard/Kraft Paper	1.5%	0.5%	Food Waste, Loose	14.7%	3.2%
High Grade Office Paper	1.0%	0.4%	Food Waste, Emptied from Packaging	1.9%	1.0%
Magazines/Catalogs	0.9%	0.3%	**Other Organics**	**15.3%**	
Newsprint	1.4%	0.7%	Branches and Stumps	1.6%	1.3%
Phone Books and Directories	0.1%	0.2%	Prunings and Trimmings	2.3%	1.5%
Aseptic Boxes & Gable Top Cartons	0.3%	0.3%	Leaves and Grass	7.2%	2.6%
Other Recyclable Paper	4.6%	1.2%	Manures	0.0%	0.0%
Compostable Paper	9.7%	1.5%	Diapers & Sanitary Products	3.1%	0.7%
Remainder/Composite Paper	1.0%	0.5%	Remainder/Composite Organic	1.2%	0.8%
Plastic	**9.7%**		**C&D Debris**	**13.4%**	
PET Bottles/Jars	0.5%	0.1%	Asphalt, Brick, and Concrete	0.7%	0.9%
PET Containers Other than Bottles	0.3%	0.1%	Wood – Treated	4.9%	2.2%
Plastic CT Deposit Beverage Containers	0.2%	0.1%	Wood – Untreated	2.2%	1.3%
HDPE Bottles, Colored and Natural	0.6%	0.2%	Asphalt Roofing	0.2%	0.3%
HDPE Containers other than Bottles	0.0%	0.0%	Drywall/Gypsum Board	0.6%	0.5%
Plastic Containers #3-#7	0.5%	0.1%	Carpet	2.2%	1.3%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.3%	0.3%
Expanded Food-grade Polystyrene	0.4%	0.2%	Remainder/Composite C&D	2.3%	1.5%
Durable Plastic Items	1.1%	0.4%	**Household Hazardous Waste**	**0.9%**	
Film (non-bag)	0.8%	0.2%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.7%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	2.6%	0.7%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.1%	Paint	0.1%	0.1%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.5%	0.4%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**3.1%**		Empty Metal/Glass/Plastic HHW Containers	0.4%	0.3%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.4%	0.2%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**0.3%**	
Tin/Steel Containers	0.4%	0.1%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.6%	0.4%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.2%	0.1%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.3%	0.4%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**17.8%**	
Remainder/Composite Metal	1.3%	0.5%	Bulky Items	3.2%	3.3%
Glass	**2.5%**		Textiles	6.1%	1.5%
Non-deposit Clear/Amber Glass	0.8%	0.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	4.8%	2.2%
Deposit Glass	0.2%	0.1%	Other Miscellaneous	3.7%	2.0%
Flat Glass	0.1%	0.1%	**Grand Total**	**100%**	
Remainder/Composite Glass	1.3%	1.1%	***No. of Samples***	***36***	

Bristol RRF
ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**29.8%**		**Food Waste**	**25.4%**	
Corrugated Cardboard/Kraft Paper	5.9%	3.0%	Food Waste, Loose	24.0%	8.2%
High Grade Office Paper	2.6%	2.5%	Food Waste, Emptied from Packaging	1.4%	0.8%
Magazines/Catalogs	0.1%	0.1%	**Other Organics**	**12.9%**	
Newsprint	0.6%	0.9%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.2%	0.4%
Aseptic Boxes & Gable Top Cartons	0.2%	0.2%	Leaves and Grass	1.2%	1.7%
Other Recyclable Paper	2.4%	1.1%	Manures	0.0%	0.0%
Compostable Paper	17.6%	8.7%	Diapers & Sanitary Products	10.2%	9.1%
Remainder/Composite Paper	0.4%	0.4%	Remainder/Composite Organic	1.3%	1.9%
Plastic	**13.4%**		**C&D Debris**	**4.7%**	
PET Bottles/Jars	1.2%	0.8%	Asphalt, Brick, and Concrete	0.0%	0.1%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	0.5%	0.5%
Plastic CT Deposit Beverage Containers	0.4%	0.3%	Wood – Untreated	3.4%	2.1%
HDPE Bottles, Colored and Natural	0.3%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.9%	0.3%	Carpet	0.1%	0.2%
Expanded Polystyrene Non-food Grade	0.0%	0.0%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.5%	0.3%	Remainder/Composite C&D	0.7%	0.5%
Durable Plastic Items	1.0%	0.5%	**Household Hazardous Waste**	**0.5%**	
Film (non-bag)	1.4%	0.9%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.3%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	5.2%	1.3%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.8%	1.4%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**5.4%**		Empty Metal/Glass/Plastic HHW Containers	0.5%	0.3%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	Other Hazardous Waste	0.0%	0.1%
Aluminum Plates & Foils	0.9%	0.8%	**Electronics**	**0.3%**	
Tin/Steel Containers	0.8%	1.0%	Computer-related Electronics	0.1%	0.2%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.2%	0.3%
Other Non-Ferrous	0.5%	0.9%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**6.6%**	
Remainder/Composite Metal	2.8%	2.8%	Bulky Items	1.4%	1.6%
Glass	**1.0%**		Textiles	2.6%	2.4%
Non-deposit Clear/Amber Glass	0.4%	0.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.0%	0.0%	Bottom Fines and Dirt	1.6%	0.5%
Deposit Glass	0.2%	0.2%	Other Miscellaneous	1.0%	0.8%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.4%	0.6%	***No. of Samples***	***12***	

MIRA Hartford RRF
Overall Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**21.2%**		**Food Waste**	**22.9%**	
Corrugated Cardboard/Kraft Paper	4.3%	0.9%	Food Waste, Loose	21.2%	3.7%
High Grade Office Paper	0.7%	0.3%	Food Waste, Emptied from Packaging	1.7%	0.4%
Magazines/Catalogs	0.9%	0.4%	**Other Organics**	**10.7%**	
Newsprint	1.4%	0.9%	Branches and Stumps	0.4%	0.4%
Phone Books and Directories	0.1%	0.1%	Prunings and Trimmings	2.8%	1.6%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	4.2%	1.8%
Other Recyclable Paper	2.5%	0.6%	Manures	0.2%	0.3%
Compostable Paper	10.1%	1.4%	Diapers & Sanitary Products	2.8%	1.1%
Remainder/Composite Paper	1.0%	0.3%	Remainder/Composite Organic	0.2%	0.1%
Plastic	**12.6%**		**C&D Debris**	**13.1%**	
PET Bottles/Jars	0.5%	0.1%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	6.2%	1.8%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	2.0%	1.2%
HDPE Bottles, Colored and Natural	0.5%	0.1%	Asphalt Roofing	0.4%	0.4%
HDPE Containers other than Bottles	0.5%	0.3%	Drywall/Gypsum Board	1.0%	0.9%
Plastic Containers #3-#7	0.8%	0.1%	Carpet	1.1%	1.0%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.5%	0.6%
Expanded Food-grade Polystyrene	0.4%	0.1%	Remainder/Composite C&D	1.9%	1.3%
Durable Plastic Items	0.9%	0.5%	**Household Hazardous Waste**	**0.8%**	
Film (non-bag)	0.4%	0.3%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.6%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.9%	0.5%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.0%	Paint	0.1%	0.1%
Pallets – Plastic	0.2%	0.3%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	3.3%	1.0%	Vehicle and Equipment Fluids	0.1%	0.2%
Metal	**3.4%**		Empty Metal/Glass/Plastic HHW Containers	0.4%	0.2%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.2%	0.1%
Aluminum Plates & Foils	0.3%	0.1%	**Electronics**	**0.5%**	
Tin/Steel Containers	0.4%	0.1%	Computer-related Electronics	0.2%	0.3%
Other Ferrous	0.3%	0.3%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.4%	0.5%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.2%	0.2%	**Other Wastes**	**11.9%**	
Remainder/Composite Metal	1.7%	0.6%	Bulky Items	0.9%	0.8%
Glass	**2.9%**		Textiles	6.4%	1.4%
Non-deposit Clear/Amber Glass	1.3%	0.4%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.3%	0.2%	Bottom Fines and Dirt	2.7%	0.4%
Deposit Glass	0.3%	0.1%	Other Miscellaneous	2.0%	0.8%
Flat Glass	0.2%	0.2%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.9%	0.7%	***No. of Samples***	***51***	

MIRA Hartford RRF
Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**18.2%**		**Food Waste**	**20.9%**	
Corrugated Cardboard/Kraft Paper	2.4%	1.1%	Food Waste, Loose	19.5%	4.8%
High Grade Office Paper	0.6%	0.3%	Food Waste, Emptied from Packaging	1.4%	0.5%
Magazines/Catalogs	0.8%	0.4%	**Other Organics**	**16.3%**	
Newsprint	2.0%	1.7%	Branches and Stumps	0.8%	0.9%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	4.5%	2.7%
Aseptic Boxes & Gable Top Cartons	0.1%	0.1%	Leaves and Grass	6.0%	2.9%
Other Recyclable Paper	2.4%	0.6%	Manures	0.3%	0.5%
Compostable Paper	9.0%	1.7%	Diapers & Sanitary Products	4.3%	2.1%
Remainder/Composite Paper	0.7%	0.2%	Remainder/Composite Organic	0.3%	0.2%
Plastic	**10.0%**		**C&D Debris**	**13.1%**	
PET Bottles/Jars	0.6%	0.1%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	7.3%	2.4%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	1.6%	1.6%
HDPE Bottles, Colored and Natural	0.4%	0.1%	Asphalt Roofing	0.4%	0.6%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.7%	0.6%
Plastic Containers #3-#7	0.7%	0.1%	Carpet	1.4%	1.7%
Expanded Polystyrene Non-food Grade	0.1%	0.0%	Carpet Padding	1.0%	1.2%
Expanded Food-grade Polystyrene	0.4%	0.1%	Remainder/Composite C&D	0.8%	0.7%
Durable Plastic Items	0.3%	0.2%	**Household Hazardous Waste**	**1.0%**	
Film (non-bag)	0.1%	0.0%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.7%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.1%	0.5%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.0%	Paint	0.1%	0.2%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	3.1%	1.4%	Vehicle and Equipment Fluids	0.3%	0.4%
Metal	**2.9%**		Empty Metal/Glass/Plastic HHW Containers	0.4%	0.3%
Aluminum Beverage Containers	0.2%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	Other Hazardous Waste	0.2%	0.1%
Aluminum Plates & Foils	0.3%	0.1%	**Electronics**	**0.3%**	
Tin/Steel Containers	0.5%	0.2%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.7%	1.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**13.5%**	
Remainder/Composite Metal	1.1%	0.6%	Bulky Items	0.4%	0.7%
Glass	**3.8%**		Textiles	8.7%	2.2%
Non-deposit Clear/Amber Glass	1.6%	0.7%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.4%	0.4%	Bottom Fines and Dirt	2.7%	0.6%
Deposit Glass	0.2%	0.1%	Other Miscellaneous	1.7%	0.7%
Flat Glass	0.3%	0.3%	**Grand Total**	**100%**	
Remainder/Composite Glass	1.4%	1.4%	***No. of Samples***	***22***	

MIRA Hartford RRF
ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**24.4%**		**Food Waste**	**25.2%**	
Corrugated Cardboard/Kraft Paper	6.4%	1.5%	Food Waste, Loose	23.0%	5.6%
High Grade Office Paper	0.8%	0.4%	Food Waste, Emptied from Packaging	2.1%	0.7%
Magazines/Catalogs	1.0%	0.6%	**Other Organics**	**4.6%**	
Newsprint	0.6%	0.4%	Branches and Stumps	0.1%	0.1%
Phone Books and Directories	0.2%	0.1%	Prunings and Trimmings	1.0%	1.5%
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	Leaves and Grass	2.3%	2.1%
Other Recyclable Paper	2.6%	1.0%	Manures	0.0%	0.0%
Compostable Paper	11.4%	2.4%	Diapers & Sanitary Products	1.2%	0.7%
Remainder/Composite Paper	1.2%	0.5%	Remainder/Composite Organic	0.1%	0.0%
Plastic	**15.3%**		**C&D Debris**	**13.1%**	
PET Bottles/Jars	0.5%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.1%	0.1%	Wood – Treated	5.1%	2.6%
Plastic CT Deposit Beverage Containers	0.4%	0.1%	Wood – Untreated	2.4%	1.8%
HDPE Bottles, Colored and Natural	0.5%	0.2%	Asphalt Roofing	0.4%	0.6%
HDPE Containers other than Bottles	0.8%	0.7%	Drywall/Gypsum Board	1.3%	1.6%
Plastic Containers #3-#7	0.9%	0.2%	Carpet	0.8%	0.7%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.4%	0.1%	Remainder/Composite C&D	3.1%	2.6%
Durable Plastic Items	1.6%	1.1%	**Household Hazardous Waste**	**0.6%**	
Film (non-bag)	0.8%	0.6%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.7%	0.8%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.0%	Paint	0.1%	0.1%
Pallets – Plastic	0.4%	0.6%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	3.5%	1.5%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**4.0%**		Empty Metal/Glass/Plastic HHW Containers	0.3%	0.3%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.2%	0.1%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**0.6%**	
Tin/Steel Containers	0.3%	0.1%	Computer-related Electronics	0.4%	0.6%
Other Ferrous	0.5%	0.5%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.3%	0.5%	**Other Wastes**	**10.2%**	
Remainder/Composite Metal	2.5%	1.2%	Bulky Items	1.4%	1.4%
Glass	**1.9%**		Textiles	4.0%	1.8%
Non-deposit Clear/Amber Glass	0.9%	0.4%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.2%	0.2%	Bottom Fines and Dirt	2.7%	0.4%
Deposit Glass	0.5%	0.3%	Other Miscellaneous	2.2%	1.4%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.3%	0.2%	***No. of Samples***	***29***	

New Haven Municipal Transfer Station
Overall Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**21.6%**		**Food Waste**	**25.9%**	
Corrugated Cardboard/Kraft Paper	6.1%	2.1%	Food Waste, Loose	22.2%	3.2%
High Grade Office Paper	1.2%	0.6%	Food Waste, Emptied from Packaging	3.7%	1.3%
Magazines/Catalogs	0.5%	0.2%	**Other Organics**	**16.6%**	
Newsprint	1.3%	0.8%	Branches and Stumps	0.2%	0.3%
Phone Books and Directories	0.1%	0.1%	Prunings and Trimmings	0.9%	0.7%
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	Leaves and Grass	7.6%	2.8%
Other Recyclable Paper	2.2%	0.5%	Manures	1.8%	2.2%
Compostable Paper	9.0%	1.3%	Diapers & Sanitary Products	4.2%	1.2%
Remainder/Composite Paper	0.8%	0.3%	Remainder/Composite Organic	1.9%	1.6%
Plastic	**11.1%**		**C&D Debris**	**5.5%**	
PET Bottles/Jars	0.6%	0.2%	Asphalt, Brick, and Concrete	0.1%	0.0%
PET Containers Other than Bottles	0.4%	0.1%	Wood – Treated	2.1%	0.9%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	0.5%	0.4%
HDPE Bottles, Colored and Natural	0.6%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.1%	0.0%	Drywall/Gypsum Board	0.1%	0.2%
Plastic Containers #3-#7	0.6%	0.1%	Carpet	1.7%	1.2%
Expanded Polystyrene Non-food Grade	0.0%	0.0%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.7%	0.1%	Remainder/Composite C&D	1.0%	1.0%
Durable Plastic Items	0.5%	0.2%	**Household Hazardous Waste**	**0.5%**	
Film (non-bag)	1.1%	0.2%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.9%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.0%	0.5%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.1%	0.8%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**2.1%**		Empty Metal/Glass/Plastic HHW Containers	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	Other Hazardous Waste	0.3%	0.2%
Aluminum Plates & Foils	0.4%	0.1%	**Electronics**	**1.1%**	
Tin/Steel Containers	0.6%	0.2%	Computer-related Electronics	0.4%	0.6%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.2%	0.1%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.1%	0.2%
Appliances	0.0%	0.0%	Other Larger Electronics	0.5%	0.6%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**13.6%**	
Remainder/Composite Metal	0.7%	0.3%	Bulky Items	1.6%	1.9%
Glass	**1.9%**		Textiles	6.4%	1.4%
Non-deposit Clear/Amber Glass	0.9%	0.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	3.8%	0.9%
Deposit Glass	0.3%	0.2%	Other Miscellaneous	1.8%	0.9%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.6%	0.2%	***No. of Samples***	***48***	

New Haven Municipal Transfer Station
Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**17.1%**		**Food Waste**	**27.6%**	
Corrugated Cardboard/Kraft Paper	2.4%	1.1%	Food Waste, Loose	24.6%	3.9%
High Grade Office Paper	0.4%	0.2%	Food Waste, Emptied from Packaging	3.0%	1.1%
Magazines/Catalogs	0.5%	0.3%	**Other Organics**	**18.3%**	
Newsprint	1.7%	1.3%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.3%	0.2%	Prunings and Trimmings	0.7%	0.5%
Aseptic Boxes & Gable Top Cartons	0.1%	0.1%	Leaves and Grass	11.1%	4.5%
Other Recyclable Paper	2.6%	0.7%	Manures	0.0%	0.0%
Compostable Paper	8.4%	1.5%	Diapers & Sanitary Products	5.4%	1.3%
Remainder/Composite Paper	0.6%	0.3%	Remainder/Composite Organic	1.1%	0.8%
Plastic	**11.6%**		**C&D Debris**	**3.4%**	
PET Bottles/Jars	0.9%	0.3%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.3%	0.1%	Wood – Treated	1.0%	0.7%
Plastic CT Deposit Beverage Containers	0.4%	0.1%	Wood – Untreated	0.2%	0.2%
HDPE Bottles, Colored and Natural	0.9%	0.3%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.0%	0.0%	Drywall/Gypsum Board	0.0%	0.0%
Plastic Containers #3-#7	0.5%	0.1%	Carpet	0.8%	1.3%
Expanded Polystyrene Non-food Grade	0.0%	0.0%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.9%	0.2%	Remainder/Composite C&D	1.4%	1.6%
Durable Plastic Items	0.3%	0.2%	**Household Hazardous Waste**	**0.3%**	
Film (non-bag)	1.0%	0.2%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	1.4%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.1%	0.5%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.7%	0.4%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**2.3%**		Empty Metal/Glass/Plastic HHW Containers	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	Other Hazardous Waste	0.1%	0.0%
Aluminum Plates & Foils	0.6%	0.2%	**Electronics**	**0.5%**	
Tin/Steel Containers	0.7%	0.2%	Computer-related Electronics	0.1%	0.1%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.2%	0.2%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.2%	0.3%
Appliances	0.0%	0.0%	Other Larger Electronics	0.0%	0.0%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**16.7%**	
Remainder/Composite Metal	0.5%	0.2%	Bulky Items	2.5%	3.3%
Glass	**2.2%**		Textiles	8.1%	1.7%
Non-deposit Clear/Amber Glass	1.1%	0.5%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	4.4%	1.0%
Deposit Glass	0.4%	0.2%	Other Miscellaneous	1.7%	0.6%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.6%	0.3%	***No. of Samples***	***21***	

New Haven Municipal Transfer Station
ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**28.1%**		**Food Waste**	**23.5%**	
Corrugated Cardboard/Kraft Paper	11.5%	4.7%	Food Waste, Loose	18.8%	5.3%
High Grade Office Paper	2.3%	1.4%	Food Waste, Emptied from Packaging	4.7%	2.7%
Magazines/Catalogs	0.5%	0.3%	**Other Organics**	**14.3%**	
Newsprint	0.7%	0.3%	Branches and Stumps	0.4%	0.6%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	1.3%	1.4%
Aseptic Boxes & Gable Top Cartons	0.6%	0.3%	Leaves and Grass	2.7%	2.6%
Other Recyclable Paper	1.6%	0.6%	Manures	4.3%	5.4%
Compostable Paper	9.9%	2.4%	Diapers & Sanitary Products	2.5%	2.3%
Remainder/Composite Paper	1.0%	0.6%	Remainder/Composite Organic	3.2%	3.7%
Plastic	**10.3%**		**C&D Debris**	**8.5%**	
PET Bottles/Jars	0.3%	0.1%	Asphalt, Brick, and Concrete	0.1%	0.1%
PET Containers Other than Bottles	0.4%	0.2%	Wood – Treated	3.7%	1.9%
Plastic CT Deposit Beverage Containers	0.1%	0.0%	Wood – Untreated	0.9%	0.9%
HDPE Bottles, Colored and Natural	0.3%	0.1%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.3%	0.4%
Plastic Containers #3-#7	0.6%	0.2%	Carpet	2.9%	2.4%
Expanded Polystyrene Non-food Grade	0.1%	0.0%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.4%	0.2%	Remainder/Composite C&D	0.5%	0.8%
Durable Plastic Items	0.7%	0.4%	**Household Hazardous Waste**	**0.9%**	
Film (non-bag)	1.3%	0.4%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.3%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	2.9%	0.8%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.7%	1.9%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**1.9%**		Empty Metal/Glass/Plastic HHW Containers	0.2%	0.2%
Aluminum Beverage Containers	0.0%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.6%	0.6%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**2.0%**	
Tin/Steel Containers	0.5%	0.3%	Computer-related Electronics	0.9%	1.3%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.0%	0.0%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	1.1%	1.4%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**9.2%**	
Remainder/Composite Metal	1.0%	0.7%	Bulky Items	0.3%	0.4%
Glass	**1.5%**		Textiles	4.0%	2.4%
Non-deposit Clear/Amber Glass	0.6%	0.2%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	2.9%	1.7%
Deposit Glass	0.2%	0.2%	Other Miscellaneous	1.9%	1.9%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.5%	0.3%	***No. of Samples***	***27***	

Covanta-Preston RRF
Overall Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**24.8%**		**Food Waste**	**18.3%**	
Corrugated Cardboard/Kraft Paper	6.3%	2.1%	Food Waste, Loose	16.4%	3.0%
High Grade Office Paper	1.4%	0.7%	Food Waste, Emptied from Packaging	2.0%	0.7%
Magazines/Catalogs	0.7%	0.2%	**Other Organics**	**9.4%**	
Newsprint	1.8%	0.9%	Branches and Stumps	0.1%	0.2%
Phone Books and Directories	0.1%	0.1%	Prunings and Trimmings	1.8%	1.0%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	3.7%	1.8%
Other Recyclable Paper	2.9%	1.0%	Manures	0.1%	0.1%
Compostable Paper	10.4%	1.9%	Diapers & Sanitary Products	2.9%	0.8%
Remainder/Composite Paper	0.9%	0.4%	Remainder/Composite Organic	0.7%	0.5%
Plastic	**10.9%**		**C&D Debris**	**17.0%**	
PET Bottles/Jars	0.5%	0.1%	Asphalt, Brick, and Concrete	0.5%	0.9%
PET Containers Other than Bottles	0.2%	0.0%	Wood – Treated	10.3%	4.0%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	1.3%	0.9%
HDPE Bottles, Colored and Natural	0.4%	0.1%	Asphalt Roofing	0.5%	0.6%
HDPE Containers other than Bottles	0.1%	0.0%	Drywall/Gypsum Board	0.5%	0.5%
Plastic Containers #3-#7	0.7%	0.1%	Carpet	1.6%	1.1%
Expanded Polystyrene Non-food Grade	0.2%	0.2%	Carpet Padding	0.3%	0.2%
Expanded Food-grade Polystyrene	0.5%	0.1%	Remainder/Composite C&D	2.0%	1.2%
Durable Plastic Items	0.7%	0.5%	**Household Hazardous Waste**	**0.5%**	
Film (non-bag)	0.8%	0.2%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.7%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.7%	0.6%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.3%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.9%	0.4%	Vehicle and Equipment Fluids	0.0%	0.1%
Metal	**4.1%**		Empty Metal/Glass/Plastic HHW Containers	0.3%	0.2%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.1%	0.1%
Aluminum Plates & Foils	0.3%	0.1%	**Electronics**	**0.4%**	
Tin/Steel Containers	0.4%	0.1%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	1.1%	1.5%	Other Larger Electronics	0.1%	0.1%
Compressed Fuel Containers/Propane Tanks	0.5%	0.8%	**Other Wastes**	**12.0%**	
Remainder/Composite Metal	1.5%	0.8%	Bulky Items	2.6%	1.4%
Glass	**2.5%**		Textiles	4.5%	1.2%
Non-deposit Clear/Amber Glass	1.0%	0.5%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	2.7%	0.4%
Deposit Glass	0.4%	0.2%	Other Miscellaneous	2.3%	0.9%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	1.0%	0.7%	***No. of Samples***	***52***	

Covanta-Preston RRF
Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**19.3%**		**Food Waste**	**16.1%**	
Corrugated Cardboard/Kraft Paper	1.8%	0.6%	Food Waste, Loose	14.8%	3.2%
High Grade Office Paper	0.9%	0.6%	Food Waste, Emptied from Packaging	1.4%	0.5%
Magazines/Catalogs	1.0%	0.4%	**Other Organics**	**12.3%**	
Newsprint	2.9%	1.7%	Branches and Stumps	0.3%	0.4%
Phone Books and Directories	0.1%	0.1%	Prunings and Trimmings	3.3%	1.8%
Aseptic Boxes & Gable Top Cartons	0.2%	0.1%	Leaves and Grass	4.0%	1.8%
Other Recyclable Paper	3.3%	1.4%	Manures	0.1%	0.2%
Compostable Paper	8.2%	1.7%	Diapers & Sanitary Products	4.2%	1.4%
Remainder/Composite Paper	0.9%	0.3%	Remainder/Composite Organic	0.4%	0.2%
Plastic	**9.8%**		**C&D Debris**	**20.0%**	
PET Bottles/Jars	0.5%	0.1%	Asphalt, Brick, and Concrete	1.0%	1.6%
PET Containers Other than Bottles	0.2%	0.0%	Wood – Treated	12.5%	6.0%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	1.1%	1.2%
HDPE Bottles, Colored and Natural	0.4%	0.1%	Asphalt Roofing	0.4%	0.6%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.6%	0.8%
Plastic Containers #3-#7	0.7%	0.2%	Carpet	2.5%	1.9%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.4%	0.3%
Expanded Food-grade Polystyrene	0.5%	0.1%	Remainder/Composite C&D	1.6%	1.5%
Durable Plastic Items	0.5%	0.5%	**Household Hazardous Waste**	**0.6%**	
Film (non-bag)	0.5%	0.2%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.9%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.3%	0.9%	Other Batteries	0.1%	0.0%
Flexible Plastic Pouches and Packaging	0.1%	0.0%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.9%	0.6%	Vehicle and Equipment Fluids	0.0%	0.1%
Metal	**2.7%**		Empty Metal/Glass/Plastic HHW Containers	0.4%	0.3%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.1%
Aluminum CT Deposit Beverage Containers	0.1%	0.0%	Other Hazardous Waste	0.1%	0.1%
Aluminum Plates & Foils	0.2%	0.1%	**Electronics**	**0.5%**	
Tin/Steel Containers	0.5%	0.2%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.1%	0.1%	Other Small Consumer Electronics	0.4%	0.3%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.1%	0.1%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**16.6%**	
Remainder/Composite Metal	1.7%	1.2%	Bulky Items	4.8%	2.6%
Glass	**2.0%**		Textiles	6.2%	1.9%
Non-deposit Clear/Amber Glass	0.7%	0.3%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	3.0%	0.6%
Deposit Glass	0.4%	0.2%	Other Miscellaneous	2.5%	1.0%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.8%	0.7%	***No. of Samples***	***26***	

Covanta-Preston RRF
ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**31.3%**		**Food Waste**	**21.0%**	
Corrugated Cardboard/Kraft Paper	11.7%	4.4%	Food Waste, Loose	18.2%	5.2%
High Grade Office Paper	2.0%	1.4%	Food Waste, Emptied from Packaging	2.7%	1.4%
Magazines/Catalogs	0.4%	0.2%	**Other Organics**	**6.0%**	
Newsprint	0.5%	0.2%	Branches and Stumps	0.0%	0.0%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.1%	0.1%
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	Leaves and Grass	3.3%	3.2%
Other Recyclable Paper	2.4%	1.4%	Manures	0.1%	0.2%
Compostable Paper	13.1%	3.6%	Diapers & Sanitary Products	1.4%	0.9%
Remainder/Composite Paper	0.9%	0.7%	Remainder/Composite Organic	1.1%	1.0%
Plastic	**12.3%**		**C&D Debris**	**13.4%**	
PET Bottles/Jars	0.5%	0.2%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.2%	0.1%	Wood – Treated	7.7%	4.9%
Plastic CT Deposit Beverage Containers	0.4%	0.1%	Wood – Untreated	1.6%	1.4%
HDPE Bottles, Colored and Natural	0.3%	0.1%	Asphalt Roofing	0.7%	1.2%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.4%	0.7%
Plastic Containers #3-#7	0.7%	0.2%	Carpet	0.4%	0.5%
Expanded Polystyrene Non-food Grade	0.4%	0.4%	Carpet Padding	0.2%	0.3%
Expanded Food-grade Polystyrene	0.6%	0.3%	Remainder/Composite C&D	2.5%	2.0%
Durable Plastic Items	0.9%	0.9%	**Household Hazardous Waste**	**0.4%**	
Film (non-bag)	1.1%	0.5%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.2%	0.9%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.5%	0.7%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.9%	0.5%	Vehicle and Equipment Fluids	0.1%	0.1%
Metal	**5.8%**		Empty Metal/Glass/Plastic HHW Containers	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.1%	0.1%	Other Hazardous Waste	0.1%	0.0%
Aluminum Plates & Foils	0.4%	0.2%	**Electronics**	**0.2%**	
Tin/Steel Containers	0.2%	0.2%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.2%	0.1%	Other Small Consumer Electronics	0.2%	0.1%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	2.5%	3.2%	Other Larger Electronics	0.0%	0.1%
Compressed Fuel Containers/Propane Tanks	1.1%	1.7%	**Other Wastes**	**6.5%**	
Remainder/Composite Metal	1.2%	1.0%	Bulky Items	0.0%	0.0%
Glass	**3.2%**		Textiles	2.4%	1.2%
Non-deposit Clear/Amber Glass	1.4%	1.1%	Restaurant Fats, Oils and Grease	0.0%	0.0%
Non-deposit Green/Other Colored Glass	0.1%	0.1%	Bottom Fines and Dirt	2.2%	0.7%
Deposit Glass	0.4%	0.2%	Other Miscellaneous	1.9%	1.6%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	1.2%	1.2%	***No. of Samples***	***26***	

Wheelabrator-Bridgeport RRF
Overall Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**26.5%**		**Food Waste**	**29.1%**	
Corrugated Cardboard/Kraft Paper	5.2%	1.4%	Food Waste, Loose	22.0%	3.3%
High Grade Office Paper	1.5%	0.7%	Food Waste, Emptied from Packaging	7.1%	4.7%
Magazines/Catalogs	1.0%	0.3%	**Other Organics**	**7.5%**	
Newsprint	1.1%	0.3%	Branches and Stumps	0.5%	0.6%
Phone Books and Directories	0.2%	0.1%	Prunings and Trimmings	0.6%	0.3%
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	Leaves and Grass	2.1%	1.2%
Other Recyclable Paper	4.0%	0.5%	Manures	0.0%	0.0%
Compostable Paper	12.2%	1.6%	Diapers & Sanitary Products	3.7%	0.6%
Remainder/Composite Paper	1.2%	0.7%	Remainder/Composite Organic	0.6%	0.2%
Plastic	**13.2%**		**C&D Debris**	**5.2%**	
PET Bottles/Jars	0.6%	0.1%	Asphalt, Brick, and Concrete	0.7%	0.8%
PET Containers Other than Bottles	0.4%	0.1%	Wood – Treated	1.6%	0.9%
Plastic CT Deposit Beverage Containers	0.4%	0.1%	Wood – Untreated	1.3%	1.4%
HDPE Bottles, Colored and Natural	0.8%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.2%	0.2%
Plastic Containers #3-#7	1.1%	0.2%	Carpet	0.4%	0.4%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.7%	0.2%	Remainder/Composite C&D	1.0%	0.5%
Durable Plastic Items	0.9%	0.3%	**Household Hazardous Waste**	**0.9%**	
Film (non-bag)	1.2%	0.3%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	1.1%	0.1%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.0%	0.5%	Other Batteries	0.1%	0.0%
Flexible Plastic Pouches and Packaging	0.3%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.1%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	1.6%	0.4%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**3.4%**		Empty Metal/Glass/Plastic HHW Containers	0.4%	0.1%
Aluminum Beverage Containers	0.1%	0.0%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	Other Hazardous Waste	0.5%	0.6%
Aluminum Plates & Foils	0.7%	0.3%	**Electronics**	**0.8%**	
Tin/Steel Containers	0.8%	0.2%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.6%	0.4%	Other Small Consumer Electronics	0.3%	0.2%
Other Non-Ferrous	0.1%	0.1%	Televisions and Computer Monitors	0.2%	0.3%
Appliances	0.0%	0.0%	Other Larger Electronics	0.2%	0.3%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**11.0%**	
Remainder/Composite Metal	0.8%	0.4%	Bulky Items	0.7%	0.6%
Glass	**2.4%**		Textiles	5.7%	1.2%
Non-deposit Clear/Amber Glass	1.3%	0.3%	Restaurant Fats, Oils and Grease	0.1%	0.2%
Non-deposit Green/Other Colored Glass	0.3%	0.1%	Bottom Fines and Dirt	2.8%	0.4%
Deposit Glass	0.2%	0.1%	Other Miscellaneous	1.6%	0.5%
Flat Glass	0.1%	0.1%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.5%	0.1%	***No. of Samples***	***48***	

Wheelabrator-Bridgeport RRF
Residential Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**25.7%**		**Food Waste**	**25.3%**	
Corrugated Cardboard/Kraft Paper	2.7%	1.0%	Food Waste, Loose	20.1%	2.1%
High Grade Office Paper	0.9%	0.5%	Food Waste, Emptied from Packaging	5.2%	1.2%
Magazines/Catalogs	1.0%	0.3%	**Other Organics**	**10.6%**	
Newsprint	1.3%	0.4%	Branches and Stumps	0.4%	0.5%
Phone Books and Directories	0.3%	0.2%	Prunings and Trimmings	0.7%	0.4%
Aseptic Boxes & Gable Top Cartons	0.3%	0.1%	Leaves and Grass	3.2%	1.9%
Other Recyclable Paper	5.2%	0.6%	Manures	0.0%	0.0%
Compostable Paper	13.2%	1.5%	Diapers & Sanitary Products	5.6%	1.0%
Remainder/Composite Paper	0.8%	0.2%	Remainder/Composite Organic	0.8%	0.3%
Plastic	**14.7%**		**C&D Debris**	**2.5%**	
PET Bottles/Jars	0.7%	0.1%	Asphalt, Brick, and Concrete	0.0%	0.0%
PET Containers Other than Bottles	0.3%	0.2%	Wood – Treated	0.9%	0.6%
Plastic CT Deposit Beverage Containers	0.4%	0.1%	Wood – Untreated	0.3%	0.3%
HDPE Bottles, Colored and Natural	1.0%	0.2%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.2%	0.1%	Drywall/Gypsum Board	0.2%	0.4%
Plastic Containers #3-#7	1.2%	0.1%	Carpet	0.6%	0.7%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.9%	0.2%	Remainder/Composite C&D	0.5%	0.5%
Durable Plastic Items	0.9%	0.4%	**Household Hazardous Waste**	**0.6%**	
Film (non-bag)	1.0%	0.4%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	1.5%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	4.2%	0.5%	Other Batteries	0.1%	0.1%
Flexible Plastic Pouches and Packaging	0.3%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.1%	0.1%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	2.0%	0.6%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**3.3%**		Empty Metal/Glass/Plastic HHW Containers	0.2%	0.1%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.0%	Other Hazardous Waste	0.2%	0.1%
Aluminum Plates & Foils	1.0%	0.5%	**Electronics**	**0.5%**	
Tin/Steel Containers	0.9%	0.2%	Computer-related Electronics	0.0%	0.0%
Other Ferrous	0.4%	0.2%	Other Small Consumer Electronics	0.2%	0.1%
Other Non-Ferrous	0.2%	0.1%	Televisions and Computer Monitors	0.0%	0.0%
Appliances	0.0%	0.0%	Other Larger Electronics	0.3%	0.5%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**14.1%**	
Remainder/Composite Metal	0.5%	0.2%	Bulky Items	0.5%	0.8%
Glass	**2.8%**		Textiles	8.4%	1.9%
Non-deposit Clear/Amber Glass	1.6%	0.4%	Restaurant Fats, Oils and Grease	0.1%	0.1%
Non-deposit Green/Other Colored Glass	0.2%	0.1%	Bottom Fines and Dirt	3.1%	0.4%
Deposit Glass	0.3%	0.1%	Other Miscellaneous	2.0%	0.7%
Flat Glass	0.1%	0.2%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.5%	0.2%	***No. of Samples***	***31***	

Wheelabrator-Bridgeport RRF
ICI Waste Composition

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**27.8%**		**Food Waste**	**34.6%**	
Corrugated Cardboard/Kraft Paper	8.8%	2.9%	Food Waste, Loose	24.8%	7.4%
High Grade Office Paper	2.3%	1.7%	Food Waste, Emptied from Packaging	9.8%	11.2%
Magazines/Catalogs	0.9%	0.5%	**Other Organics**	**3.0%**	
Newsprint	0.9%	0.5%	Branches and Stumps	0.8%	1.2%
Phone Books and Directories	0.0%	0.0%	Prunings and Trimmings	0.4%	0.4%
Aseptic Boxes & Gable Top Cartons	0.3%	0.3%	Leaves and Grass	0.6%	0.6%
Other Recyclable Paper	2.3%	0.6%	Manures	0.0%	0.0%
Compostable Paper	10.7%	3.3%	Diapers & Sanitary Products	1.0%	0.5%
Remainder/Composite Paper	1.7%	1.7%	Remainder/Composite Organic	0.3%	0.3%
Plastic	**11.2%**		**C&D Debris**	**9.0%**	
PET Bottles/Jars	0.4%	0.2%	Asphalt, Brick, and Concrete	1.8%	2.0%
PET Containers Other than Bottles	0.5%	0.2%	Wood – Treated	2.6%	1.9%
Plastic CT Deposit Beverage Containers	0.3%	0.1%	Wood – Untreated	2.7%	3.4%
HDPE Bottles, Colored and Natural	0.5%	0.3%	Asphalt Roofing	0.0%	0.0%
HDPE Containers other than Bottles	0.1%	0.1%	Drywall/Gypsum Board	0.1%	0.1%
Plastic Containers #3-#7	0.9%	0.4%	Carpet	0.1%	0.2%
Expanded Polystyrene Non-food Grade	0.1%	0.1%	Carpet Padding	0.0%	0.0%
Expanded Food-grade Polystyrene	0.5%	0.3%	Remainder/Composite C&D	1.7%	1.1%
Durable Plastic Items	0.8%	0.5%	**Household Hazardous Waste**	**1.4%**	
Film (non-bag)	1.6%	0.6%	Ballasts, CFLs	0.0%	0.0%
Grocery and other Merchandise Bags	0.5%	0.2%	Batteries – Lead Acid	0.0%	0.0%
Other Film	3.7%	1.1%	Other Batteries	0.0%	0.0%
Flexible Plastic Pouches and Packaging	0.2%	0.1%	Paint	0.0%	0.0%
Pallets – Plastic	0.0%	0.0%	Sharps	0.0%	0.0%
Remainder/Composite Plastic	0.9%	0.3%	Vehicle and Equipment Fluids	0.0%	0.0%
Metal	**3.5%**		Empty Metal/Glass/Plastic HHW Containers	0.5%	0.3%
Aluminum Beverage Containers	0.1%	0.1%	Pesticides and Fertilizers	0.0%	0.0%
Aluminum CT Deposit Beverage Containers	0.2%	0.1%	Other Hazardous Waste	0.9%	1.4%
Aluminum Plates & Foils	0.4%	0.2%	**Electronics**	**1.1%**	
Tin/Steel Containers	0.8%	0.4%	Computer-related Electronics	0.0%	0.1%
Other Ferrous	0.9%	0.8%	Other Small Consumer Electronics	0.5%	0.5%
Other Non-Ferrous	0.0%	0.0%	Televisions and Computer Monitors	0.5%	0.8%
Appliances	0.0%	0.0%	Other Larger Electronics	0.1%	0.2%
Compressed Fuel Containers/Propane Tanks	0.0%	0.0%	**Other Wastes**	**6.6%**	
Remainder/Composite Metal	1.2%	0.8%	Bulky Items	0.9%	1.0%
Glass	**1.7%**		Textiles	2.0%	0.9%
Non-deposit Clear/Amber Glass	0.9%	0.4%	Restaurant Fats, Oils and Grease	0.3%	0.4%
Non-deposit Green/Other Colored Glass	0.3%	0.2%	Bottom Fines and Dirt	2.4%	0.7%
Deposit Glass	0.2%	0.1%	Other Miscellaneous	1.1%	0.6%
Flat Glass	0.0%	0.0%	**Grand Total**	**100%**	
Remainder/Composite Glass	0.4%	0.2%	***No. of Samples***	***17***	

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APPENDIX E

SINGLE STREAM RECYCLING COMPOSITION DETAIL BY MRF

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MIRA Hartford Recycling Center
Residential Single Stream Composition (by Material Group)

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**56.7%**		**Metal**	**4.4%**	
Corrugated Cardboard/Kraft Paper	19.0%	3.9%	Aluminum Beverage Containers	0.2%	0.0%
High Grade Office Paper	2.3%	0.9%	Aluminum CT Deposit Beverage Containers	0.3%	0.1%
Magazines/Catalogs	7.4%	1.7%	Aluminum Plates & Foils	0.1%	0.0%
Newsprint	11.9%	2.1%	Tin/Steel Containers	1.3%	0.2%
Phone Books and Directories	0.6%	0.7%	Other Ferrous	1.0%	0.7%
Aseptic Boxes & Gable Top Cartons	0.5%	0.1%	Other Non-Ferrous	0.1%	0.1%
Other Recyclable Paper	11.4%	1.3%	Appliances	0.1%	0.1%
Non-Recyclable Paper	2.7%	1.0%	Compressed Fuel Containers/Propane Tanks	0.0%	0.0%
Newspaper, Bagged	0.9%	0.5%	Remainder/Composite Metal	1.3%	0.8%
Plastic	**9.5%**		**Organics**	**2.3%**	
PET Bottles/Jars	1.9%	0.3%	Food Waste	1.0%	0.5%
PET Containers other than Bottles	0.5%	0.1%	Yard Waste	1.3%	1.3%
Plastic CT Deposit Beverage Containers	0.8%	0.1%	**Construction & Demolition Materials**	**1.7%**	
HDPE Bottles, Colored and Natural	1.6%	0.3%	C&D Debris	0.7%	0.7%
HDPE Containers other than Bottles	0.3%	0.1%	Wood	1.0%	1.2%
Plastic Bottles #3-#7	0.2%	0.1%	**Household Hazardous Waste (HHW)**	**0.5%**	
Plastic Non-Bottle Containers #3-#7	0.6%	0.1%	HHW	0.1%	0.1%
Expanded Polystyrene	0.2%	0.0%	Empty HHW Containers	0.4%	0.2%
Bulky Plastic Items	0.4%	0.3%	**Electronics**	**0.2%**	
Plastic Films	1.4%	0.4%	Electronics	0.2%	0.2%
Remainder/Composite Plastic	1.6%	0.4%	**Other Wastes**	**5.6%**	
Glass	**19.1%**		Bulky Items	0.0%	0.1%
Non-deposit Clear/Amber Glass	4.6%	1.3%	Textiles	1.5%	1.1%
Non-deposit Green/Other Colored Glass	1.6%	0.8%	Diapers & Sanitary Products	0.1%	0.1%
CT Deposit Glass Beverage Containers	1.4%	0.5%	Other Miscellaneous	0.2%	0.1%
Flat Glass	0.2%	0.1%	Bagged Wastes	3.8%	1.5%
Broken Glass	11.3%	2.8%	**Grand Total**	**100%**	
			No. of Samples	***38***	

MIRA Hartford Recycling Center
Single Stream Recycling Composition (Recyclable and Non-recyclable)

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Recyclable Paper	**52.7%**		**Non-Recyclable Glass**	**0.2%**	
Corrugated Cardboard/Kraft Paper	19.0%	3.9%	Flat Glass	0.2%	0.1%
High Grade Office Paper	2.3%	0.9%	**Metal - Aluminum Cans**	**0.5%**	
Magazines/Catalogs	7.4%	1.7%	Aluminum Beverage Containers	0.2%	0.0%
Newsprint	11.9%	2.1%	Aluminum CT Deposit Beverage Containers	0.3%	0.1%
Phone Books and Directories	0.6%	0.7%	**Metal - Steel Cans**	**1.3%**	
Other Recyclable Paper	11.4%	1.3%	Tin/Steel Containers	1.3%	0.2%
Aseptic Boxes & Cartons	**0.5%**		**Metal - Other**	**2.6%**	
Aseptic Boxes & Gable Top Cartons	0.5%	0.1%	Aluminum Plates & Foils	0.1%	0.0%
Non-Recyclable Paper	**3.6%**		Other Ferrous	1.0%	0.7%
Non-Recyclable Paper	2.7%	1.0%	Other Non-Ferrous	0.1%	0.1%
Newspaper, Bagged	0.9%	0.5%	Appliances	0.1%	0.1%
Plastic Bottles	**4.5%**		Compressed Fuel Containers/Propane Tanks	0.0%	0.0%
PET Bottles/Jars	1.9%	0.3%	Remainder/Composite Metal	1.3%	0.8%
Plastic CT Deposit Beverage Containers	0.8%	0.1%	**Contaminants - Compostable Organics**	**2.3%**	
HDPE Bottles, Colored and Natural	1.6%	0.3%	Food Waste	1.0%	0.5%
Plastic Bottles #3-#7	0.2%	0.1%	Yard Waste	1.3%	1.3%
Rigid Plastic - Recyclable	**1.8%**		**Contaminants - Other**	**8.1%**	
PET Containers other than Bottles	0.5%	0.1%	C&D Debris	0.7%	0.7%
HDPE Containers other than Bottles	0.3%	0.1%	Wood	1.0%	1.2%
Plastic Non-Bottle Containers #3-#7	0.6%	0.1%	HHW	0.1%	0.1%
Bulky Plastic Items	0.4%	0.3%	Empty HHW Containers	0.4%	0.2%
Non-Recyclable Plastic	**3.1%**		Electronics	0.2%	0.2%
Expanded Polystyrene	0.2%	0.0%	Bulky Items	0.0%	0.1%
Plastic Films	1.4%	0.4%	Textiles	1.5%	1.1%
Remainder/Composite Plastic	1.6%	0.4%	Diapers & Sanitary Products	0.1%	0.1%
Glass Bottles	**18.9%**		Other Miscellaneous	0.2%	0.1%
Non-deposit Clear/Amber Glass	4.6%	1.3%	Bagged Wastes	3.8%	1.5%
Non-deposit Green/Other Colored Glass	1.6%	0.8%	**Grand Total**	**100%**	
CT Deposit Glass Beverage Containers	1.4%	0.5%	***No. of Samples***	***38***	
Broken Glass	11.3%	2.8%			

MIRA Hartford Recycling Center

Single Stream Recycling Composition, Bagged Wastes Distributed (by Material Group)

Material Category	Est. Percent	Material Category	Est. Percent
Paper	**58.4%**	**Metal**	**4.5%**
Corrugated Cardboard/Kraft Paper	19.1%	Aluminum Beverage Containers	0.2%
High Grade Office Paper	2.4%	Aluminum CT Deposit Beverage Containers	0.3%
Magazines/Catalogs	7.4%	Aluminum Plates & Foils	0.1%
Newsprint	12.4%	Tin/Steel Containers	1.4%
Phone Books and Directories	0.6%	Other Ferrous	1.0%
Aseptic Boxes & Gable Top Cartons	0.5%	Other Non-Ferrous	0.1%
Other Recyclable Paper	12.1%	Appliances	0.1%
Non-Recyclable Paper	2.9%	Compressed Fuel Containers/Propane Tanks	0.0%
Newspaper, Bagged	0.9%	Remainder/Composite Metal	1.3%
Plastic	**10.1%**	**Organics**	**2.6%**
PET Bottles/Jars	2.0%	Food Waste	1.3%
PET Containers other than Bottles	0.6%	Yard Waste	1.3%
Plastic CT Deposit Beverage Containers	0.8%	**Construction & Demolition Materials**	**1.8%**
HDPE Bottles, Colored and Natural	1.7%	C&D Debris	0.7%
HDPE Containers other than Bottles	0.3%	Wood	1.1%
Plastic Bottles #3-#7	0.2%	**Household Hazardous Waste (HHW)**	**0.5%**
Plastic Non-Bottle Containers #3-#7	0.6%	HHW	0.1%
Expanded Polystyrene	0.2%	Empty HHW Containers	0.4%
Bulky Plastic Items	0.4%	**Electronics**	**0.2%**
Plastic Films	1.6%	Electronics	0.2%
Remainder/Composite Plastic	1.8%	**Other Wastes**	**2.4%**
Glass	**19.5%**	Bulky Items	0.2%
Non-deposit Clear/Amber Glass	4.8%	Textiles	1.6%
Non-deposit Green/Other Colored Glass	1.6%	Diapers & Sanitary Products	0.3%
CT Deposit Glass Beverage Containers	1.4%	Other Miscellaneous	0.3%
Flat Glass	0.2%	**Grand Total**	**100%**
Broken Glass	11.5%	***No. of Samples***	***38***

MIRA Hartford Recycling Center

Single Stream Recycling Composition, Bagged Waste Distributed (Recyclable and Non-recyclable)

Material Category	Est. Percent	Material Category	Est. Percent
Recyclable Paper	**54.1%**	**Non-Recyclable Glass**	**0.2%**
Corrugated Cardboard/Kraft Paper	19.1%	Flat Glass	0.2%
High Grade Office Paper	2.4%	**Metal - Aluminum Cans**	**0.5%**
Magazines/Catalogs	7.4%	Aluminum Beverage Containers	0.2%
Newsprint	12.4%	Aluminum CT Deposit Beverage Containers	0.3%
Phone Books and Directories	0.6%	**Metal - Steel Cans**	**1.4%**
Other Recyclable Paper	12.1%	Tin/Steel Containers	1.4%
Aseptic Boxes & Cartons	**0.5%**	**Metal - Other**	**2.6%**
Aseptic Boxes & Gable Top Cartons	0.5%	Aluminum Plates & Foils	0.1%
Non-Recyclable Paper	**3.8%**	Other Ferrous	1.0%
Non-Recyclable Paper	2.9%	Other Non-Ferrous	0.1%
Newspaper, Bagged	0.9%	Appliances	0.1%
Plastic Bottles	**4.7%**	Compressed Fuel Containers/Propane Tanks	0.0%
PET Bottles/Jars	2.0%	Remainder/Composite Metal	1.3%
Plastic CT Deposit Beverage Containers	0.8%	**Contaminants - Compostable Organics**	**2.6%**
HDPE Bottles, Colored and Natural	1.7%	Food Waste	1.3%
Plastic Bottles #3-#7	0.2%	Yard Waste	1.3%
Rigid Plastic - Recyclable	**1.9%**	**Contaminants - Other**	**4.9%**
PET Containers other than Bottles	0.6%	C&D Debris	0.7%
HDPE Containers other than Bottles	0.3%	Wood	1.1%
Plastic Non-Bottle Containers #3-#7	0.6%	HHW	0.1%
Bulky Plastic Items	0.4%	Empty HHW Containers	0.4%
Non-Recyclable Plastic	**3.5%**	Electronics	0.2%
Expanded Polystyrene	0.2%	Bulky Items	0.2%
Plastic Films	1.6%	Textiles	1.6%
Remainder/Composite Plastic	1.8%	Diapers & Sanitary Products	0.3%
Glass Bottles	**19.3%**	Other Miscellaneous	0.3%
Non-deposit Clear/Amber Glass	4.8%	**Grand Total**	**100%**
Non-deposit Green/Other Colored Glass	1.6%	***No. of Samples***	***38***
CT Deposit Glass Beverage Containers	1.4%		
Broken Glass	11.5%		

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Single Stream Recycling Composition (by Material Group)

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Paper	**62.4%**		**Metal**	**4.6%**	
Corrugated Cardboard/Kraft Paper	17.6%	3.0%	Aluminum Beverage Containers	0.3%	0.1%
High Grade Office Paper	1.3%	0.4%	Aluminum CT Deposit Beverage Containers	0.4%	0.1%
Magazines/Catalogs	6.8%	1.2%	Aluminum Plates & Foils	0.1%	0.1%
Newsprint	17.2%	2.4%	Tin/Steel Containers	2.1%	0.3%
Phone Books and Directories	0.7%	0.5%	Other Ferrous	1.0%	0.5%
Aseptic Boxes & Gable Top Cartons	0.4%	0.1%	Other Non-Ferrous	0.1%	0.2%
Other Recyclable Paper	12.7%	1.2%	Appliances	0.0%	0.0%
Non-Recyclable Paper	3.6%	0.8%	Compressed Fuel Containers/Propane Tanks	0.1%	0.2%
Newspaper, Bagged	2.1%	1.0%	Remainder/Composite Metal	0.4%	0.3%
Plastic	**10.8%**		**Organics**	**0.8%**	
PET Bottles/Jars	2.1%	0.2%	Food Waste	0.7%	0.3%
PET Containers other than Bottles	0.5%	0.1%	Yard Waste	0.1%	0.1%
Plastic CT Deposit Beverage Containers	0.7%	0.1%	**Construction & Demolition Materials**	**0.6%**	
HDPE Bottles, Colored and Natural	2.1%	0.2%	C&D Debris	0.3%	0.3%
HDPE Containers other than Bottles	0.2%	0.1%	Wood	0.4%	0.2%
Plastic Bottles #3-#7	0.2%	0.1%	**Household Hazardous Waste (HHW)**	**0.7%**	
Plastic Non-Bottle Containers #3-#7	0.6%	0.1%	HHW	0.0%	0.0%
Expanded Polystyrene	0.1%	0.0%	Empty HHW Containers	0.6%	0.2%
Bulky Plastic Items	1.4%	0.7%	**Electronics**	**0.7%**	
Plastic Films	1.4%	0.9%	Electronics	0.7%	0.4%
Remainder/Composite Plastic	1.3%	0.2%	**Other Wastes**	**3.4%**	
Glass	**16.0%**		Bulky Items	0.0%	0.0%
Non-deposit Clear/Amber Glass	5.7%	1.2%	Textiles	0.6%	0.3%
Non-deposit Green/Other Colored Glass	2.6%	0.8%	Diapers & Sanitary Products	0.1%	0.0%
CT Deposit Glass Beverage Containers	2.5%	0.6%	Other Miscellaneous	0.7%	0.4%
Flat Glass	0.2%	0.1%	Bagged Wastes	2.1%	1.2%
Broken Glass	4.9%	1.1%	**Grand Total**	**100%**	
			No. of Samples	***43***	

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Single Stream Recycling Composition (by Recyclable and Non-Recyclable)

Material Category	Est. Percent	Conf. Int (+/-)	Material Category	Est. Percent	Conf. Int (+/-)
Recyclable Paper	**56.3%**		**Non-Recyclable Glass**	**0.2%**	
Corrugated Cardboard/Kraft Paper	17.6%	3.0%	Flat Glass	0.2%	0.1%
High Grade Office Paper	1.3%	0.4%	**Metal - Aluminum Cans**	**0.7%**	
Magazines/Catalogs	6.8%	1.2%	Aluminum Beverage Containers	0.3%	0.1%
Newsprint	17.2%	2.4%	Aluminum CT Deposit Beverage Containers	0.4%	0.1%
Phone Books and Directories	0.7%	0.5%	**Metal - Steel Cans**	**2.1%**	
Other Recyclable Paper	12.7%	1.2%	Tin/Steel Containers	2.1%	0.3%
Aseptic Boxes & Cartons	**0.4%**		**Metal - Other**	**1.8%**	
Aseptic Boxes & Gable Top Cartons	0.4%	0.1%	Aluminum Plates & Foils	0.1%	0.1%
Non-Recyclable Paper	**5.7%**		Other Ferrous	1.0%	0.5%
Non-Recyclable Paper	3.6%	0.8%	Other Non-Ferrous	0.1%	0.2%
Newspaper, Bagged	2.1%	1.0%	Appliances	0.0%	0.0%
Plastic Bottles	**5.2%**		Compressed Fuel Containers/Propane Tanks	0.1%	0.2%
PET Bottles/Jars	2.1%	0.2%	Remainder/Composite Metal	0.4%	0.3%
Plastic CT Deposit Beverage Containers	0.7%	0.1%	**Contaminants - Compostable Organics**	**0.8%**	
HDPE Bottles, Colored and Natural	2.1%	0.2%	Food Waste	0.7%	0.3%
Plastic Bottles #3-#7	0.2%	0.1%	Yard Waste	0.1%	0.1%
Rigid Plastic - Recyclable	**2.7%**		**Contaminants - Other**	**5.4%**	
PET Containers other than Bottles	0.5%	0.1%	C&D Debris	0.3%	0.3%
HDPE Containers other than Bottles	0.2%	0.1%	Wood	0.4%	0.2%
Plastic Non-Bottle Containers #3-#7	0.6%	0.1%	HHW	0.0%	0.0%
Bulky Plastic Items	1.4%	0.7%	Empty HHW Containers	0.6%	0.2%
Non-Recyclable Plastic	**2.9%**		Electronics	0.7%	0.4%
Expanded Polystyrene	0.1%	0.0%	Bulky Items	0.0%	0.0%
Plastic Films	1.4%	0.9%	Textiles	0.6%	0.3%
Remainder/Composite Plastic	1.3%	0.2%	Diapers & Sanitary Products	0.1%	0.0%
Glass Bottles	**15.7%**		Other Miscellaneous	0.7%	0.4%
Non-deposit Clear/Amber Glass	5.7%	1.2%	Bagged Wastes	2.1%	1.2%
Non-deposit Green/Other Colored Glass	2.6%	0.8%	**Grand Total**	**100%**	
CT Deposit Glass Beverage Containers	2.5%	0.6%	***No. of Samples***	***43***	
Broken Glass	4.9%	1.1%			

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Single Stream Recycling Composition, Bagged Waste Distributed (by Material Group)

Material Category	Est. Percent	Material Category	Est. Percent
Paper	**63.4%**	**Metal**	**4.6%**
Corrugated Cardboard/Kraft Paper	17.6%	Aluminum Beverage Containers	0.3%
High Grade Office Paper	1.4%	Aluminum CT Deposit Beverage Containers	0.4%
Magazines/Catalogs	6.9%	Aluminum Plates & Foils	0.1%
Newsprint	17.4%	Tin/Steel Containers	2.1%
Phone Books and Directories	0.7%	Other Ferrous	1.0%
Aseptic Boxes & Gable Top Cartons	0.4%	Other Non-Ferrous	0.1%
Other Recyclable Paper	13.2%	Appliances	0.0%
Non-Recyclable Paper	3.8%	Compressed Fuel Containers/Propane Tanks	0.1%
Newspaper, Bagged	2.1%	Remainder/Composite Metal	0.4%
Plastic	**11.1%**	**Organics**	**1.0%**
PET Bottles/Jars	2.2%	Food Waste	0.9%
PET Containers other than Bottles	0.5%	Yard Waste	0.1%
Plastic CT Deposit Beverage Containers	0.7%	**Construction & Demolition Materials**	**0.7%**
HDPE Bottles, Colored and Natural	2.2%	C&D Debris	0.3%
HDPE Containers other than Bottles	0.2%	Wood	0.4%
Plastic Bottles #3-#7	0.3%	**Household Hazardous Waste (HHW)**	**0.7%**
Plastic Non-Bottle Containers #3-#7	0.6%	HHW	0.0%
Expanded Polystyrene	0.2%	Empty HHW Containers	0.6%
Bulky Plastic Items	1.4%	**Electronics**	**0.7%**
Plastic Films	1.5%	Electronics	0.7%
Remainder/Composite Plastic	1.4%	**Other Wastes**	**1.6%**
Glass	**16.2%**	Bulky Items	0.1%
Non-deposit Clear/Amber Glass	5.8%	Textiles	0.6%
Non-deposit Green/Other Colored Glass	2.6%	Diapers & Sanitary Products	0.2%
CT Deposit Glass Beverage Containers	2.5%	Other Miscellaneous	0.7%
Flat Glass	0.2%	**Grand Total**	**100%**
Broken Glass	5.0%	***No. of Samples***	***43***

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Single Stream Recycling Composition, Bagged Waste Distributed (Recyclable vs Non-recyclable)

Material Category	Est. Percent	Material Category	Est. Percent
Recyclable Paper	**57.1%**	**Non-Recyclable Glass**	**0.2%**
Corrugated Cardboard/Kraft Paper	17.6%	Flat Glass	0.2%
High Grade Office Paper	1.4%	**Metal - Aluminum Cans**	**0.7%**
Magazines/Catalogs	6.9%	Aluminum Beverage Containers	0.3%
Newsprint	17.4%	Aluminum CT Deposit Beverage Containers	0.4%
Phone Books and Directories	0.7%	**Metal - Steel Cans**	**2.1%**
Other Recyclable Paper	13.2%	Tin/Steel Containers	2.1%
Aseptic Boxes & Cartons	**0.4%**	**Metal - Other**	**1.8%**
Aseptic Boxes & Gable Top Cartons	0.4%	Aluminum Plates & Foils	0.1%
Non-Recyclable Paper	**5.9%**	Other Ferrous	1.0%
Non-Recyclable Paper	3.8%	Other Non-Ferrous	0.1%
Newspaper, Bagged	2.1%	Appliances	0.0%
Plastic Bottles	**5.3%**	Compressed Fuel Containers/Propane Tanks	0.1%
PET Bottles/Jars	2.2%	Remainder/Composite Metal	0.4%
Plastic CT Deposit Beverage Containers	0.7%	**Contaminants - Compostable Organics**	**1.0%**
HDPE Bottles, Colored and Natural	2.2%	Food Waste	0.9%
Plastic Bottles #3-#7	0.3%	Yard Waste	0.1%
Rigid Plastic - Recyclable	**2.7%**	**Contaminants - Other**	**3.7%**
PET Containers other than Bottles	0.5%	C&D Debris	0.3%
HDPE Containers other than Bottles	0.2%	Wood	0.4%
Plastic Non-Bottle Containers #3-#7	0.6%	HHW	0.0%
Bulky Plastic Items	1.4%	Empty HHW Containers	0.6%
Non-Recyclable Plastic	**3.1%**	Electronics	0.7%
Expanded Polystyrene	0.2%	Bulky Items	0.1%
Plastic Films	1.5%	Textiles	0.6%
Remainder/Composite Plastic	1.4%	Diapers & Sanitary Products	0.2%
Glass Bottles	**15.9%**	Other Miscellaneous	0.7%
Non-deposit Clear/Amber Glass	5.8%	**Grand Total**	**100%**
Non-deposit Green/Other Colored Glass	2.6%	***No. of Samples***	***43***
CT Deposit Glass Beverage Containers	2.5%		
Broken Glass	5.0%		