

2017 Waste Characterization Study Summary of Results

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1 INTRODUCTION

Montgomery County Division of Solid Waste Services conducts periodic waste characterization studies to understand the types and quantities of materials disposed of in the County. Using sampling techniques, this study measured the composition of the waste stream by generating sector and material type. This study provides a valuable snapshot in time of the materials that comprise the waste stream and can contribute to priority setting and evaluation of progress towards goals.

This 2017 waste characterization study gathered and hand-sorted 300 waste samples over the course of four separate seasonal sampling events from five waste generating sectors. This report summarizes the methods for evaluating the data and presents a waste composition for each of five waste generating sectors and the County overall.

2 DATA ANALYSES

Readers should be reminded that these data do not characterize the composition of the County's total, as generated waste stream. Rather, these data represent the results of sampling the as-disposed waste stream, as received at the County's Transfer Station, and do not include recycled materials.

SCS assessed the distribution of data for each disposed material type within each generating sector. The assumption of normality of the underlying population sampled is very important when evaluating the meaning of summary statistics for each particular material type. Typically, the proportion (weight fraction) of each type of material in the waste stream is assumed to be the simple "arithmetic" mean of the sample data (e.g., the sum of the weight fraction values observed for a given type of material divided by the number of waste samples analyzed) with precision described by the associated "confidence interval". However, for some material types the sample results did not exhibit a normal distribution. In these cases, the simple arithmetic means overstate the likely true proportion of that material type in the waste stream. This is often the case when a material type is not found in a large number of samples and/or when there are just a few samples with very high proportions of that material. Tests for normality estimate the probability that the samples observed were drawn from a population that, itself, has an underlying normal distribution with respect to the sampled measure. A high probability indicates that the data are the same or typical of a normal distribution, a low probability indicates the data are not the same or atypical of a normal distribution. As the sample size increases, normality parameters become more restrictive and it becomes harder to declare that the sample data are drawn from a population that is normally distributed.

Different normality tests produce different probabilities that the data are normally distributed. This is due to where in the distribution (central, tails) or what moment (skewness, kurtosis) the test is examining. SCS used several statistical methods to assess normality, specifically:

- **W/S Test** – This is a fairly simple test that requires only the sample standard deviation and the data range to estimate kurtosis (the sharpness of the peak of the frequency distribution curve).
- **Jarque-Bera Test** – A goodness-of-fit test of whether sample data have the skewness and kurtosis matching a normal distribution.
- **D'Agostino Test** – Another goodness-of-fit test of whether sample data have the skewness and kurtosis matching a normal distribution.

- **Shapiro-Wilk Test** – This test looks to see if sample values are similar to expected values of a standard normal curve. It is used for datasets less than 50 which included the single-family municipal sector and the multi-family sector only.

If one or more of the above statistical tests indicated that the data for a material type were normally distributed, SCS calculated the arithmetic mean and associated 90 percent confidence intervals on the basis of untransformed data. Material types that were not normally distributed, were transformed using natural logarithms and the transformed data was then likewise tested for normality (or lognormality). For material types that failed to exhibit normalcy in raw data, but which exhibited lognormal distributions, SCS then calculated the arithmetic mean and associated 90 percent confidence intervals using the log-transformed data and then converted (reverse transformed) the results back to untransformed, original scale. Data that were found to be neither normal nor lognormal were described by their median (center data point when the data are ordered from lowest to highest) and the associated data range (minimum to maximum).

Again, the consideration of normalcy is important with respect to cases where the underlying (e.g., actual) population is not normal, then no statistical inference that relies on the assumption of normality can be considered valid—and that includes the mean as well as the confidence interval calculated on non-normally distributed data.

For example, the arithmetic mean value for samples of commercial cardboard collected in this study was 5.2 percent by weight, however, the sample data did not exhibit an underlying normal distribution. On the other hand, the log-transformed sample data for commercial cardboard did exhibit normalcy, so its mean could be taken as valid and its reverse-transform value of 2.6 percent by weight can be taken as the best estimate of the actual weight fraction of cardboard in the disposed commercial waste stream. To have regarded the arithmetic mean as the true mean would be to overstate the weight fraction of cardboard in the commercial waste stream by a factor of 2.0. Similarly, for the category of newspaper/magazines/catalogues/books, which also failed to exhibit normalcy, but for which the samples' log transform is normal, the arithmetic mean of 1.9 weight percent would overstate the actual mean of 0.3 percent by weight by a factor of about six.

3 SUMMARY OF RESULTS

A total of 300 waste samples were manually sorted into 64 distinct material categories during the four seasonal field activities. The composition of each material category is given as a percentage of the waste stream by weight. Results from the waste characterization are presented in the following tables:

- **Table 1** presents the **Commercial** waste composition based on the 120 samples that were collected and sorted from the commercial waste stream.
- **Table 2** presents the **Single-Family Subdistrict A** composition. This composition is based on the 60 samples that were collected and sorted from the waste stream generated by single-family households located in subdistrict A.
- **Table 3** presents the **Single-Family Subdistrict B** composition. This composition is based on the 60 samples that were collected and sorted from the waste stream generated by single-family households located in subdistrict B.
- **Table 4** presents the **Single-Family Municipal** composition. This composition is based on the 20 samples that were collected and sorted from the single-family municipal haulers.

- **Table 5** presents the **Multi-Family** composition based on the 40 samples that were collected and sorted from the multi-family waste stream.

Solid waste managers seeking to use this report to estimate the amount of a particular type of material in the as-disposed waste stream (e.g., the tonnage opportunity to increase recycling) should be informed by the central tendencies and confidence intervals stated in Tables 1 through 5.

Table 6A presents the overall waste composition based on the 300 samples that were collected and sorted from the five generating sectors. This table uses the most appropriate central tendency presented in Tables 1 through 5. The overall waste composition is a weighted average of the five sectors as follows:

- Commercial (47.5 percent of As-Disposed Waste)
- Single-Family Subdistrict A (14.3 percent of As-Disposed Waste)
- Single-Family Subdistrict B (21.8 percent of As-Disposed Waste)
- Single-Family Municipal (2.2 percent of As-Disposed Waste)
- Multi-Family (13.2 percent of As-Disposed Waste)

Solid waste managers seeking to compare the relative prominence of particular materials (or the relative opportunity for increased recycling) may be better informed by **Table 6B**, which combines the sector-specific results in Tables 1-5 to create an overall result that sums to 100% for each sector. Precision is always desirable, but the nature of sampling generates imprecise numbers. It is the province of statistical science to tease out truth as clearly as possible to assist managers.

Table 6B presents the overall waste composition based on the 300 samples that were collected and sorted from the five generating sectors. Because some material types within each sector did not exhibit normalcy, construction of an overall composition presented a special challenge. Using arithmetic means exclusively would inherently yield a combined summary table for which the combination of all constituent weight fractions sums to 100 percent – a desirable, but not legitimate, feature with respect to material types that did not exhibit a normal distribution. If the arithmetic means were used from each sector to calculate an overall composition for Table 6, then (for the fundamental reasons of statistical validity discussed earlier), the relative prevalence (or relative opportunity for increased recycling), would be overstated with respect to those material types known to be not normally distributed (e.g. commercial paper and cardboard). Therefore, the weight percent values in **Table 6B** were derived by multiplying each the weight percent values in Table 6A by the adjustment factors shown at the bottom of **Table 6B**. This approach yielded overall results which:

- (i) Estimate the relative overall waste composition weighted proportionately to the annual trash receipts for each sector,
- (ii) Sums all material constituents to 100 percent, and
- (iii) Minimizes the overstatement of individual composition values.

Users for whom the summing of the weight fractions to 100 percent is not imperative should refer back to Tables 1-5 and Table 6A, which do not sum to 100 percent but which respects the most statistically valid inferences that can be derived from each material's data set.

Table 1. Commercial Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range		
		Mean	Median		Lower	Upper	Minimum	Maximum	
PAPER									
Newspapers/Magazines/Catalogs/Books	Lognormal	0.4%	--	3.5%	0.3%	0.6%	--	--	
Corrugated Cardboard	Lognormal	2.5%	--	6.4%	1.9%	3.1%	--	--	
Paperboard	Normal	1.7%	--	1.4%	1.5%	1.9%	--	--	
Aseptic/Coated Paper Containers	Normal	1.6%	--	1.6%	1.3%	1.8%	--	--	
Office Paper	Normal	1.4%	--	1.7%	1.1%	1.6%	--	--	
Carryout Paper Bags	Normal	0.6%	--	0.9%	0.5%	0.8%	--	--	
Other Recyclable Mixed Paper	Normal	3.6%	--	3.1%	3.2%	4.1%	--	--	
Non-Recyclable Paper	Normal	7.0%	--	5.2%	6.2%	7.8%	--	--	
Total Paper	Normal	23.1%	--	10.1%	21.6%	24.7%	--	--	
PLASTIC									
PET (#1) Bottle Bill Bottles	Normal	1.8%	--	1.5%	1.6%	2.1%	--	--	
Other PET (#1) Bottles	Undefined	--	<0.1%	0.2%	--	--	<0.1%	1.9%	
#1 PET Thermoforms	Normal	0.5%	--	0.5%	0.5%	0.6%	--	--	
HDPE (#2) Narrow Neck Bottles-Natural	Undefined	--	0.2%	1.2%	--	--	<0.1%	11.2%	
HDPE (#2) Narrow Neck Bottles-Colored	Undefined	--	0.1%	0.7%	--	--	<0.1%	5.0%	
#3-#7 Bottles	Lognormal	<0.1%	--	0.2%	<0.1%	<0.1%	--	--	
Banned Polystyrene	Undefined	--	<0.1%	1.4%	--	--	<0.1%	15.5%	
Other Polystyrene	Lognormal	0.2%	--	1.5%	0.2%	0.3%	--	--	
Plastic Flower Pots	Lognormal	<0.1%	--	0.8%	<0.1%	<0.1%	--	--	
Other Plastic Containers/Tubs	Lognormal	1.1%	--	2.1%	0.9%	1.5%	--	--	
Film Plastic - Shopping Bags	Normal	0.6%	--	0.7%	0.5%	0.7%	--	--	
Film Plastic - Other	Normal	6.2%	--	3.9%	5.6%	6.8%	--	--	
Other Rigid Plastic	Normal	3.3%	--	5.0%	2.6%	4.1%	--	--	
Total Plastic	Normal	17.1%	--	7.4%	16.0%	18.2%	--	--	
ORGANIC									
Food Waste - Vegetative	Normal	14.8%	--	12.4%	12.9%	16.6%	--	--	
Food Waste - Non-Vegetative	Normal	3.0%	--	3.4%	2.4%	3.5%	--	--	
Clothing/Linens/Textiles/Leather	Normal	3.5%	--	4.4%	2.9%	4.2%	--	--	
Carpets/Rugs/Carpet Padding	Normal	2.9%	--	7.7%	1.7%	4.0%	--	--	
Automobile Tires	Lognormal	<0.1%	--	2.7%	<0.1%	<0.1%	--	--	
Diapers & Sanitary Products	Normal	1.6%	--	2.3%	1.2%	1.9%	--	--	
Fines	Normal	2.2%	--	1.4%	2.0%	2.4%	--	--	
Miscellaneous Organics	Normal	6.9%	--	2.9%	6.4%	7.3%	--	--	
Total Organics	Normal	35.3%	--	14.7%	33.1%	37.5%	--	--	
YARD WASTE									
Grass/Leaves	Normal	1.8%	--	3.8%	1.3%	2.4%	--	--	
Brush/Pruning	Undefined	--	<0.1%	7.3%	--	--	<0.1%	71.7%	
Total Yard Waste	Undefined	--	<0.1%	8.3%	--	--	<0.1%	71.7%	

Table 1 (continued). Commercial Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range		
		Mean	Median		Lower	Upper	Minimum	Maximum	
WOOD									
Lumber	Normal	2.1%	--	5.5%	1.3%	2.9%	--	--	
Pallets	Normal	1.4%	--	4.9%	0.7%	2.1%	--	--	
Other Wood	Normal	4.9%	--	7.4%	3.8%	6.0%	--	--	
Total Wood	Normal	8.4%	--	10.3%	6.8%	9.9%	--	--	
FERROUS METAL									
Ferrous/Bi-metal Cans	Lognormal	<0.1%	--	0.8%	<0.1%	0.1%	--	--	
Other Ferrous	Normal	1.9%	--	4.0%	1.3%	2.5%	--	--	
Total Ferrous Metals	Normal	2.5%	--	4.0%	1.9%	3.1%	--	--	
NON-FERROUS METAL									
Aluminum Cans	Lognormal	0.2%	--	0.8%	0.2%	0.3%	--	--	
Aluminum Tins/Foil	Normal	0.3%	--	0.6%	0.2%	0.4%	--	--	
Other Non-Ferrous	Lognormal	<0.1%	--	2.2%	<0.1%	<0.1%	--	--	
Total Non-Ferrous Metals	Lognormal	0.5%	--	2.4%	0.4%	0.6%	--	--	
GLASS									
Clear	Normal	1.1%	--	1.4%	0.9%	1.3%	--	--	
Brown	Undefined	--	<0.1%	1.7%	--	--	<0.1%	16.5%	
Green	Undefined	--	<0.1%	1.2%	--	--	<0.1%	10.1%	
Non-container Glass	Lognormal	<0.1%	--	0.6%	<0.1%	<0.1%	--	--	
Total Glass	Undefined	--	1.7%	2.7%	--	--	<0.1%	0.179	
INORGANIC									
Concrete/Brick/Rock	Undefined	--	<0.1%	3.7%	--	--	<0.1%	31.1%	
Sheet Rock	Lognormal	<0.1%	--	3.7%	<0.1%	<0.1%	--	--	
Latex Paints	Undefined	--	<0.1%	0.3%	--	--	<0.1%	3.3%	
Fluorescent Lamps	Lognormal	<0.1%	--	0.1%	<0.1%	<0.1%	--	--	
Electronics	Undefined	--	<0.1%	5.4%	--	--	<0.1%	36.4%	
Miscellaneous Inorganic	Normal	2.7%	--	5.9%	1.8%	3.6%	--	--	
Total Inorganics	Normal	6.5%	--	9.6%	5.1%	8.0%	--	--	
HHW									
Lead-Acid Batteries	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Rechargeable Batteries	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	0.1%	
Other Batteries	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	0.5%	
HW Containers	Lognormal	<0.1%	--	0.3%	<0.1%	<0.1%	--	--	
Other Hazardous	Undefined	--	<0.1%	0.6%	--	--	<0.1%	6.6%	
Total Household Hazardous Wastes	Lognormal	<0.1%	--	0.7%	<0.1%	<0.1%	--	--	

Note: Composition based on 120 samples

Confidence Limits for materials without a normal distribution are based on the minimum and maximum found in fieldwork.

Confidence Limits for materials with a normal distribution are calculated at the 90% confidence level.

Table 2. Single-Family Subdistrict A Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range		
		Mean	Median		Lower	Upper	Minimum	Maximum	
PAPER									
Newspapers/Magazines/Catalogs/Books	Normal	2.8%	--	3.3%	2.1%	3.5%	--	--	
Corrugated Cardboard	Undefined	--	1.5%	3.3%	--	--	<0.1%	21.2%	
Paperboard	Normal	1.8%	--	1.4%	1.5%	2.1%	--	--	
Aseptic/Coated Paper Containers	Normal	1.8%	--	1.5%	1.5%	2.2%	--	--	
Office Paper	Normal	0.8%	--	1.2%	0.6%	1.1%	--	--	
Carryout Paper Bags	Normal	0.5%	--	0.7%	0.4%	0.6%	--	--	
Other Recyclable Mixed Paper	Normal	3.6%	--	3.2%	2.9%	4.3%	--	--	
Non-Recyclable Paper	Normal	7.4%	--	4.1%	6.5%	8.2%	--	--	
Total Paper	Undefined	--	20.2%	8.3%	--	--	0.03	0.532	
PLASTIC									
PET (#1) Bottle Bill Bottles	Normal	1.2%	--	1.2%	1.0%	1.5%	--	--	
Other PET (#1) Bottles	Normal	0.1%	--	0.3%	<0.1%	0.2%	--	--	
#1 PET Thermoforms	Lognormal	0.2%	--	0.8%	0.2%	0.4%	--	--	
HDPE (#2) Narrow Neck Bottles-Natural	Normal	0.2%	--	0.4%	0.1%	0.3%	--	--	
HDPE (#2) Narrow Neck Bottles-Colored	Normal	0.5%	--	0.6%	0.3%	0.6%	--	--	
#3-#7 Bottles	Lognormal	<0.1%	--	<0.1%	<0.1%	<0.1%	--	--	
Banned Polystyrene	Lognormal	<0.1%	--	0.3%	<0.1%	<0.1%	--	--	
Other Polystyrene	Lognormal	0.4%	--	1.5%	0.2%	0.5%	--	--	
Plastic Flower Pots	Normal	<0.1%	--	0.1%	<0.1%	<0.1%	--	--	
Other Plastic Containers/Tubs	Normal	1.7%	--	1.1%	1.4%	1.9%	--	--	
Film Plastic - Shopping Bags	Normal	0.8%	--	0.8%	0.7%	1.0%	--	--	
Film Plastic - Other	Normal	5.5%	--	2.9%	4.9%	6.2%	--	--	
Other Rigid Plastic	Normal	3.3%	--	4.5%	2.4%	4.3%	--	--	
Total Plastic	Normal	15.3%	--	6.0%	14.0%	16.5%	--	--	
ORGANIC									
Food Waste - Vegetative	Normal	15.4%	--	7.1%	13.8%	16.9%	--	--	
Food Waste - Non-Vegetative	Normal	4.3%	--	4.3%	3.4%	5.2%	--	--	
Clothing/Linens/Textiles/Leather	Normal	5.3%	--	4.0%	4.4%	6.1%	--	--	
Carpets/Rugs/Carpet Padding	Undefined	--	<0.1%	3.7%	--	--	<0.1%	23.9%	
Automobile Tires	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Diapers & Sanitary Products	Normal	3.3%	--	2.8%	2.7%	3.8%	--	--	
Fines	Normal	2.5%	--	1.3%	2.3%	2.8%	--	--	
Miscellaneous Organics	Normal	8.6%	--	3.3%	7.9%	9.3%	--	--	
Total Organics	Normal	40.4%	--	9.9%	38.3%	42.5%	--	--	
YARD WASTE									
Grass/Leaves	Normal	1.9%	--	3.9%	1.1%	2.7%	--	--	
Brush/Pruning	Normal	1.2%	--	2.3%	0.7%	1.7%	--	--	
Total Yard Waste	Normal	3.1%	--	4.5%	2.1%	4.1%	--	--	

Table 2 (continued). Single-Family Subdistrict A Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range		
		Mean	Median		Lower	Upper	Minimum	Maximum	
WOOD									
Lumber	Normal	1.4%	--	3.8%	0.6%	2.2%	--	--	
Pallets	Undefined	--	<0.1%	1.2%	--	--	<0.1%	9.7%	
Other Wood	Normal	4.3%	--	7.6%	2.6%	5.9%	--	--	
Total Wood	Normal	5.8%	--	8.8%	4.0%	7.7%	--	--	
FERROUS METAL									
Ferrous/Bi-metal Cans	Normal	0.5%	--	0.5%	0.4%	0.6%	--	--	
Other Ferrous	Lognormal	0.1%	--	3.4%	<0.1%	0.3%	--	--	
Total Ferrous Metals	Lognormal	0.7%	--	3.5%	0.5%	1.1%	--	--	
NON-FERROUS METAL									
Aluminum Cans	Normal	0.4%	--	0.6%	0.3%	0.5%	--	--	
Aluminum Tins/Foil	Normal	0.3%	--	0.3%	0.2%	0.3%	--	--	
Other Non-Ferrous	Normal	1.1%	--	4.4%	0.2%	2.1%	--	--	
Total Non-Ferrous Metals	Lognormal	0.5%	--	4.3%	0.3%	0.7%	--	--	
GLASS									
Clear	Lognormal	0.2%	--	2.1%	0.1%	0.4%	--	--	
Brown	Lognormal	<0.1%	--	1.1%	<0.1%	<0.1%	--	--	
Green	Normal	0.4%	--	1.0%	0.2%	0.7%	--	--	
Non-container Glass	Normal	0.2%	--	0.6%	<0.1%	0.3%	--	--	
Total Glass	Normal	2.4%	--	3.1%	1.7%	3.0%	--	--	
INORGANIC									
Concrete/Brick/Rock	Undefined	--	<0.1%	1.6%	--	--	<0.1%	10.6%	
Sheet Rock	Normal	2.1%	--	5.6%	0.9%	3.3%	--	--	
Latex Paints	Lognormal	<0.1%	--	0.5%	<0.1%	<0.1%	--	--	
Fluorescent Lamps	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	0.5%	
Electronics	Normal	2.2%	--	3.2%	1.5%	2.8%	--	--	
Miscellaneous Inorganic	Normal	3.1%	--	7.5%	1.5%	4.7%	--	--	
Total Inorganics	Normal	8.1%	--	9.2%	6.1%	10.0%	--	--	
HHW									
Lead-Acid Batteries	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Rechargeable Batteries	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Batteries	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
HW Containers	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Hazardous	Lognormal	<0.1%	--	0.3%	<0.1%	<0.1%	--	--	
Total Household Hazardous Wastes	Lognormal	<0.1%	--	0.3%	<0.1%	<0.1%	--	--	

Note: Composition based on 60 samples

Confidence Limits for materials without a normal distribution are based on the minimum and maximum found in fieldwork.

Confidence Limits for materials with a normal distribution are calculated at the 90% confidence level.

Table 3. Single-Family Subdistrict B Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range	
		Mean	Median		Lower	Upper	Minimum	Maximum
PAPER								
Newspapers/Magazines/Catalogs/Books	Normal	2.7%	--	3.2%	2.1%	3.4%	--	--
Corrugated Cardboard	Normal	1.6%	--	1.3%	1.4%	1.9%	--	--
Paperboard	Normal	2.0%	--	1.5%	1.7%	2.3%	--	--
Aseptic/Coated Paper Containers	Normal	1.5%	--	1.4%	1.2%	1.8%	--	--
Office Paper	Lognormal	0.2%	--	2.4%	<0.1%	0.3%	--	--
Carryout Paper Bags	Lognormal	0.1%	--	1.3%	<0.1%	0.2%	--	--
Other Recyclable Mixed Paper	Lognormal	2.8%	--	3.8%	2.1%	3.8%	--	--
Non-Recyclable Paper	Normal	7.9%	--	3.5%	7.2%	8.7%	--	--
Total Paper	Normal	22.3%	--	6.8%	20.8%	23.7%	--	--
PLASTIC								
PET (#1) Bottle Bill Bottles	Lognormal	1.1%	--	1.6%	0.8%	1.3%	--	--
Other PET (#1) Bottles	Normal	0.1%	--	0.2%	<0.1%	0.1%	--	--
#1 PET Thermoforms	Lognormal	0.1%	--	0.6%	<0.1%	0.2%	--	--
HDPE (#2) Narrow Neck Bottles-Natural	Normal	0.3%	--	0.5%	0.2%	0.4%	--	--
HDPE (#2) Narrow Neck Bottles-Colored	Normal	0.3%	--	0.3%	0.2%	0.4%	--	--
#3-#7 Bottles	Normal	<0.1%	--	0.1%	<0.1%	<0.1%	--	--
Banned Polystyrene	Lognormal	<0.1%	--	0.4%	<0.1%	<0.1%	--	--
Other Polysytrene	Normal	0.7%	--	0.7%	0.6%	0.9%	--	--
Plastic Flower Pots	Normal	0.3%	--	0.7%	0.1%	0.4%	--	--
Other Plastic Containers/Tubs	Normal	1.7%	--	1.3%	1.4%	1.9%	--	--
Film Plastic - Shopping Bags	Normal	0.7%	--	0.7%	0.5%	0.8%	--	--
Film Plastic - Other	Normal	5.4%	--	2.3%	5.0%	5.9%	--	--
Other Rigid Plastic	Normal	2.7%	--	2.7%	2.1%	3.3%	--	--
Total Plastic	Normal	14.5%	--	4.1%	13.6%	15.3%	--	--
ORGANIC								
Food Waste - Vegetative	Normal	15.0%	--	7.0%	13.5%	16.5%	--	--
Food Waste - Non-Vegetative	Lognormal	0.4%	--	3.6%	0.2%	0.8%	--	--
Clothing/Linens/Textiles/Leather	Normal	4.5%	--	4.1%	3.6%	5.3%	--	--
Carpets/Rugs/Carpet Padding	Undefined	--	<0.1%	5.4%	--	--	<0.1%	38.0%
Automobile Tires	Lognormal	<0.1%	--	6.6%	<0.1%	<0.1%	--	--
Diapers & Sanitary Products	Normal	3.9%	--	3.0%	3.3%	4.6%	--	--
Fines	Normal	2.6%	--	1.5%	2.3%	3.0%	--	--
Miscellaneous Organics	Undefined	--	8.0%	3.1%	--	--	<0.1%	22.4%
Total Organics	Normal	40.6%	--	10.9%	38.3%	42.9%	--	--
YARD WASTE								
Grass/Leaves	Normal	1.8%	--	3.1%	1.2%	2.5%	--	--
Brush/Pruning	Normal	1.2%	--	2.4%	0.7%	1.7%	--	--
Total Yard Waste	Normal	3.1%	--	3.5%	2.3%	3.8%	--	--

Table 3 (continued). Single-Family Subdistrict B Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range	
		Mean	Median		Lower	Upper	Minimum	Maximum
WOOD								
Lumber	Normal	1.3%	--	3.2%	0.6%	2.0%	--	--
Pallets	Normal	1.1%	--	4.5%	0.2%	2.1%	--	--
Other Wood	Normal	1.2%	--	1.9%	0.8%	1.6%	--	--
Total Wood	Normal	3.6%	--	5.3%	2.5%	4.8%	--	--
FERROUS METAL								
Ferrous/Bi-metal Cans	Normal	0.6%	--	0.6%	0.4%	0.7%	--	--
Other Ferrous	Lognormal	0.2%	--	5.9%	<0.1%	0.3%	--	--
Total Ferrous Metals	Lognormal	0.7%	--	5.8%	0.5%	1.2%	--	--
NON-FERROUS METAL								
Aluminum Cans	Normal	0.4%	--	0.5%	0.3%	0.5%	--	--
Aluminum Tins/Foil	Lognormal	<0.1%	--	0.6%	<0.1%	0.1%	--	--
Other Non-Ferrous	Lognormal	<0.1%	--	1.6%	<0.1%	<0.1%	--	--
Total Non-Ferrous Metals	Lognormal	0.5%	--	1.7%	0.3%	0.6%	--	--
GLASS								
Clear	Normal	1.5%	--	1.5%	1.2%	1.8%	--	--
Brown	Normal	0.5%	--	1.2%	0.3%	0.8%	--	--
Green	Normal	0.5%	--	0.8%	0.3%	0.6%	--	--
Non-container Glass	Normal	0.5%	--	1.2%	0.2%	0.7%	--	--
Total Glass	Normal	2.9%	--	2.5%	2.4%	3.5%	--	--
INORGANIC								
Concrete/Brick/Rock	Undefined	--	<0.1%	5.0%	--	--	<0.1%	33.9%
Sheet Rock	Normal	1.0%	--	3.5%	0.3%	1.7%	--	--
Latex Paints	Undefined	--	<0.1%	0.4%	--	--	<0.1%	2.7%
Fluorescent Lamps	Lognormal	<0.1%	--	<0.1%	<0.1%	<0.1%	--	--
Electronics	Normal	2.6%	--	4.0%	1.7%	3.4%	--	--
Miscellaneous Inorganic	Normal	3.7%	--	5.5%	2.5%	4.9%	--	--
Total Inorganics	Normal	8.9%	--	8.8%	7.1%	10.8%	--	--
HHW								
Lead-Acid Batteries	Undefined	--	<0.1%	0.1%	--	--	<0.1%	0.8%
Other Rechargeable Batteries	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%
Other Batteries	Lognormal	<0.1%	--	<0.1%	<0.1%	<0.1%	--	--
HW Containers	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	0.4%
Other Hazardous	Lognormal	<0.1%	--	0.6%	<0.1%	<0.1%	--	--
Total Household Hazardous Wastes	Normal	0.2%	--	0.6%	<0.1%	0.3%	--	--

Note: Composition based on 60 samples

Confidence Limits for materials without a normal distribution are based on the minimum and maximum found in fieldwork.

Confidence Limits for materials with a normal distribution are calculated at the 90% confidence level.

Table 4. Single-Family Municipal Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range	
		Mean	Median		Lower	Upper	Minimum	Maximum
PAPER								
Newspapers/Magazines/Catalogs/Books	Normal	4.4%	--	6.4%	2.0%	6.7%	--	--
Corrugated Cardboard	Normal	4.7%	--	6.6%	2.3%	7.2%	--	--
Paperboard	Normal	1.8%	--	1.4%	1.3%	2.3%	--	--
Aseptic/Coated Paper Containers	Normal	1.6%	--	1.2%	1.1%	2.0%	--	--
Office Paper	Normal	2.2%	--	2.9%	1.1%	3.3%	--	--
Carryout Paper Bags	Normal	0.5%	--	0.7%	0.2%	0.7%	--	--
Other Recyclable Mixed Paper	Normal	2.5%	--	2.1%	1.8%	3.3%	--	--
Non-Recyclable Paper	Normal	8.0%	--	5.4%	6.0%	10.0%	--	--
Total Paper	Normal	25.6%	--	10.6%	21.7%	29.5%	--	--
PLASTIC								
PET (#1) Bottle Bill Bottles	Normal	2.7%	--	3.1%	1.6%	3.8%	--	--
Other PET (#1) Bottles	Normal	0.2%	--	0.5%	<0.1%	0.4%	--	--
#1 PET Thermoforms	Normal	0.9%	--	1.0%	0.6%	1.3%	--	--
HDPE (#2) Narrow Neck Bottles-Natural	Normal	0.6%	--	1.2%	0.2%	1.1%	--	--
HDPE (#2) Narrow Neck Bottles-Colored	Normal	0.4%	--	0.5%	0.2%	0.6%	--	--
#3-#7 Bottles	Normal	<0.1%	--	<0.1%	<0.1%	<0.1%	--	--
Banned Polystyrene	Normal	0.2%	--	0.3%	<0.1%	0.3%	--	--
Other Polystyrene	Normal	0.7%	--	0.5%	0.5%	0.9%	--	--
Plastic Flower Pots	Normal	<0.1%	--	0.2%	<0.1%	0.2%	--	--
Other Plastic Containers/Tubs	Normal	2.3%	--	2.1%	1.6%	3.1%	--	--
Film Plastic - Shopping Bags	Normal	1.0%	--	2.3%	0.2%	1.9%	--	--
Film Plastic - Other	Normal	5.4%	--	3.0%	4.3%	6.5%	--	--
Other Rigid Plastic	Normal	2.0%	--	2.4%	1.1%	2.9%	--	--
Total Plastic	Normal	16.6%	--	7.8%	13.7%	19.5%	--	--
ORGANIC								
Food Waste - Vegetative	Normal	15.1%	--	9.3%	11.6%	18.5%	--	--
Food Waste - Non-Vegetative	Normal	4.0%	--	4.2%	2.4%	5.5%	--	--
Clothing/Linens/Textiles/Leather	Normal	4.2%	--	2.8%	3.1%	5.2%	--	--
Carpets/Rugs/Carpet Padding	Normal	1.0%	--	2.3%	0.1%	1.8%	--	--
Automobile Tires	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%
Diapers & Sanitary Products	Normal	3.2%	--	2.7%	2.2%	4.2%	--	--
Fines	Normal	2.4%	--	1.3%	1.9%	2.9%	--	--
Miscellaneous Organics	Undefined	--	8.2%	5.4%	--	--	<0.1%	28.8%
Total Organics	Normal	38.3%	--	14.3%	33.0%	43.6%	--	--
YARD WASTE								
Grass/Leaves	Normal	1.9%	--	3.9%	0.4%	3.3%	--	--
Brush/Pruning	Normal	0.4%	--	1.0%	<0.1%	0.8%	--	--
Total Yard Waste	Normal	2.2%	--	3.9%	0.8%	3.7%	--	--

Table 4 (continued). Single-Family Municipal Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range		
		Mean	Median		Lower	Upper	Minimum	Maximum	
WOOD									
Lumber	Normal	1.0%	--	3.0%	<0.1%	2.2%	--	--	
Pallets	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Wood	Normal	1.5%	--	3.8%	0.1%	2.9%	--	--	
Total Wood	Normal	2.6%	--	4.5%	0.9%	4.2%	--	--	
FERROUS METAL									
Ferrous/Bi-metal Cans	Normal	1.1%	--	1.8%	0.5%	1.8%	--	--	
Other Ferrous	Normal	1.8%	--	4.5%	0.1%	3.4%	--	--	
Total Ferrous Metals	Normal	2.9%	--	4.7%	1.2%	4.6%	--	--	
NON-FERROUS METAL									
Aluminum Cans	Normal	0.9%	--	0.9%	0.5%	1.2%	--	--	
Aluminum Tins/Foil	Normal	0.3%	--	0.5%	0.1%	0.5%	--	--	
Other Non-Ferrous	Normal	0.2%	--	0.6%	<0.1%	0.4%	--	--	
Total Non-Ferrous Metals	Normal	1.4%	--	1.2%	0.9%	1.8%	--	--	
GLASS									
Clear	Normal	2.0%	--	3.7%	0.7%	3.4%	--	--	
Brown	Normal	1.1%	--	1.8%	0.5%	1.8%	--	--	
Green	Normal	1.1%	--	2.1%	0.3%	1.9%	--	--	
Non-container Glass	Normal	<0.1%	--	0.3%	<0.1%	0.2%	--	--	
Total Glass	Normal	4.3%	--	6.9%	1.8%	6.9%	--	--	
INORGANIC									
Concrete/Brick/Rock	Normal	0.6%	--	1.6%	<0.1%	1.2%	--	--	
Sheet Rock	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Latex Paints	Normal	0.3%	--	0.9%	<0.1%	0.6%	--	--	
Fluorescent Lamps	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Electronics	Normal	1.7%	--	3.4%	0.5%	3.0%	--	--	
Miscellaneous Inorganic	Normal	3.4%	--	4.5%	1.7%	5.0%	--	--	
Total Inorganics	Normal	6.0%	--	6.4%	3.6%	8.4%	--	--	
HHW									
Lead-Acid Batteries	Normal	<0.1%	--	0.3%	<0.1%	0.2%	--	--	
Other Rechargeable Batteries	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Batteries	Normal	<0.1%	--	0.1%	<0.1%	<0.1%	--	--	
HW Containers	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Other Hazardous	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%	
Total Household Hazardous Wastes	Normal	<0.1%	--	0.3%	<0.1%	0.2%	--	--	

Note: Composition based on 20 samples

Confidence Limits for materials without a normal distribution are based on the minimum and maximum found in fieldwork.

Confidence Limits for materials with a normal distribution are calculated at the 90% confidence level.

Table 5. Multi-Family Municipal Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range		
		Mean	Median		Lower	Upper	Minimum	Maximum	
PAPER									
Newspapers/Magazines/Catalogs/Books	Normal	2.2%	--	3.1%	1.4%	3.0%	--	--	
Corrugated Cardboard	Normal	4.7%	--	6.0%	3.1%	6.2%	--	--	
Paperboard	Normal	2.3%	--	1.6%	1.9%	2.7%	--	--	
Aseptic/Coated Paper Containers	Normal	1.2%	--	1.1%	0.9%	1.5%	--	--	
Office Paper	Lognormal	0.2%	--	1.6%	<0.1%	0.3%	--	--	
Carryout Paper Bags	Normal	0.5%	--	0.7%	0.3%	0.7%	--	--	
Other Recyclable Mixed Paper	Normal	3.3%	--	2.4%	2.7%	3.9%	--	--	
Non-Recyclable Paper	Normal	7.7%	--	4.5%	6.5%	8.9%	--	--	
Total Paper	Normal	23.1%	--	7.8%	21.1%	25.1%	--	--	
PLASTIC									
PET (#1) Bottle Bill Bottles	Normal	2.0%	--	1.4%	1.7%	2.4%	--	--	
Other PET (#1) Bottles	Normal	<0.1%	--	0.3%	<0.1%	0.2%	--	--	
#1 PET Thermoforms	Normal	0.7%	--	1.2%	0.4%	1.0%	--	--	
HDPE (#2) Narrow Neck Bottles-Natural	Lognormal	0.1%	--	0.6%	<0.1%	0.2%	--	--	
HDPE (#2) Narrow Neck Bottles-Colored	Normal	0.5%	--	0.6%	0.4%	0.7%	--	--	
#3-#7 Bottles	Normal	<0.1%	--	<0.1%	<0.1%	<0.1%	--	--	
Banned Polystyrene	Normal	0.1%	--	0.3%	<0.1%	0.2%	--	--	
Other Polysytrene	Lognormal	0.4%	--	1.0%	0.3%	0.6%	--	--	
Plastic Flower Pots	Normal	0.1%	--	0.3%	<0.1%	0.2%	--	--	
Other Plastic Containers/Tubs	Normal	1.7%	--	1.4%	1.4%	2.1%	--	--	
Film Plastic - Shopping Bags	Normal	0.7%	--	0.8%	0.5%	0.9%	--	--	
Film Plastic - Other	Normal	5.7%	--	3.2%	4.9%	6.6%	--	--	
Other Rigid Plastic	Normal	2.8%	--	3.3%	1.9%	3.6%	--	--	
Total Plastic	Normal	15.9%	--	6.0%	14.3%	17.4%	--	--	
ORGANIC									
Food Waste - Vegetative	Normal	14.2%	--	7.5%	12.3%	16.1%	--	--	
Food Waste - Non-Vegetative	Normal	3.6%	--	4.0%	2.6%	4.6%	--	--	
Clothing/Linens/Textiles/Leather	Normal	4.9%	--	3.9%	3.9%	5.9%	--	--	
Carpets/Rugs/Carpet Padding	Normal	1.0%	--	4.4%	<0.1%	2.2%	--	--	
Automobile Tires	Normal	0.6%	--	2.3%	<0.1%	1.2%	--	--	
Diapers & Sanitary Products	Normal	2.8%	--	2.8%	2.1%	3.6%	--	--	
Fines	Normal	2.1%	--	1.5%	1.7%	2.5%	--	--	
Miscellaneous Organics	Normal	6.9%	--	3.2%	6.1%	7.7%	--	--	
Total Organics	Normal	36.2%	--	12.2%	33.0%	39.3%	--	--	
YARD WASTE									
Grass/Leaves	Normal	1.0%	--	2.4%	0.4%	1.6%	--	--	
Brush/Pruning	Normal	1.6%	--	5.1%	0.3%	2.9%	--	--	
Total Yard Waste	Normal	2.6%	--	5.8%	1.1%	4.1%	--	--	

Table 5 (continued). Multi-Family Waste Composition

Material Components	Distribution	Central Tendency		Standard Deviation	Confidence Limits		Sample Range	
		Mean	Median		Lower	Upper	Minimum	Maximum
WOOD								
Lumber	Normal	1.6%	--	4.4%	0.4%	2.7%	--	--
Pallets	Normal	0.9%	--	3.4%	<0.1%	1.8%	--	--
Other Wood	Lognormal	0.2%	--	6.3%	<0.1%	0.5%	--	--
Total Wood	Normal	6.8%	--	10.0%	4.2%	9.4%	--	--
FERROUS METAL								
Ferrous/Bi-metal Cans	Normal	0.7%	--	0.7%	0.5%	0.9%	--	--
Other Ferrous	Normal	2.0%	--	3.6%	1.1%	3.0%	--	--
Total Ferrous Metals	Normal	2.7%	--	3.6%	1.8%	3.6%	--	--
NON-FERROUS METAL								
Aluminum Cans	Normal	0.5%	--	0.6%	0.4%	0.7%	--	--
Aluminum Tins/Foil	Normal	0.2%	--	0.2%	0.2%	0.3%	--	--
Other Non-Ferrous	Normal	0.6%	--	2.4%	<0.1%	1.2%	--	--
Total Non-Ferrous Metals	Normal	1.4%	--	2.3%	0.7%	2.0%	--	--
GLASS								
Clear	Normal	1.6%	--	1.5%	1.2%	2.0%	--	--
Brown	Normal	0.4%	--	1.1%	0.1%	0.7%	--	--
Green	Lognormal	<0.1%	--	0.6%	<0.1%	<0.1%	--	--
Non-container Glass	Normal	0.5%	--	1.7%	<0.1%	0.9%	--	--
Total Glass	Normal	2.9%	--	2.3%	2.3%	3.5%	--	--
INORGANIC								
Concrete/Brick/Rock	Normal	1.1%	--	2.8%	0.4%	1.9%	--	--
Sheet Rock	Normal	1.4%	--	4.7%	0.2%	2.6%	--	--
Latex Paints	Normal	0.2%	--	0.6%	<0.1%	0.3%	--	--
Fluorescent Lamps	Undefined	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%
Electronics	Normal	2.8%	--	8.1%	0.7%	4.9%	--	--
Miscellaneous Inorganic	Normal	2.9%	--	6.7%	1.2%	4.7%	--	--
Total Inorganics	Normal	8.5%	--	12.5%	5.2%	11.7%	--	--
HHW								
Lead-Acid Batteries	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%
Other Rechargeable Batteries	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%
Other Batteries	Normal	<0.1%	--	<0.1%	<0.1%	<0.1%	--	--
HW Containers	Not Found	--	<0.1%	<0.1%	--	--	<0.1%	<0.1%
Other Hazardous	Normal	<0.1%	--	0.4%	<0.1%	0.2%	--	--
Total Household Hazardous Wastes	Normal	<0.1%	--	0.4%	<0.1%	0.2%	--	--

Note: Composition based on 40 samples

Confidence Limits for materials without a normal distribution are based on the minimum and maximum found in fieldwork.

Confidence Limits for materials with a normal distribution are calculated at the 90% confidence level.

Table 6A. Summary of Waste Composition by Sector and Overall - Distribution Specific

Material Components	Commercial	Single Family		Municipal	Multi-Family	Overall
		Subdistrict A	Subdistrict B			
PAPER						
Newspapers/Magazines/Catalogs/Books	0.4%	2.8%	2.7%	4.4%	2.2%	1.6%
Corrugated Cardboard	2.5%	1.5%	1.6%	4.7%	4.7%	2.5%
Paperboard	1.7%	1.8%	2.0%	1.8%	2.3%	1.9%
Aseptic/Coated Paper Containers	1.6%	1.8%	1.5%	1.6%	1.2%	1.6%
Office Paper	1.4%	0.8%	0.2%	2.2%	0.2%	0.9%
Carryout Paper Bags	0.6%	0.5%	0.1%	0.5%	0.5%	0.5%
Other Recyclable Mixed Paper	3.6%	3.6%	2.8%	2.5%	3.3%	3.4%
Non-Recyclable Paper	7.0%	7.4%	7.9%	8.0%	7.7%	7.4%
Total Paper	18.7%	20.3%	19.0%	25.6%	22.2%	19.6%
PLASTIC						
PET (#1) Bottle Bill Bottles	1.8%	1.2%	1.1%	2.7%	2.0%	1.6%
Other PET (#1) Bottles	<0.1%	0.1%	0.1%	0.2%	<0.1%	<0.1%
#1 PET Thermoforms	0.5%	0.2%	0.1%	0.9%	0.7%	0.4%
HDPE (#2) Narrow Neck Bottles-Natural	0.2%	0.2%	0.3%	0.6%	0.1%	0.2%
HDPE (#2) Narrow Neck Bottles-Colored	0.1%	0.5%	0.3%	0.4%	0.5%	0.3%
#3-#7 Bottles	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Banned Polystyrene	<0.1%	<0.1%	<0.1%	0.2%	0.1%	<0.1%
Other Polystyrene	0.2%	0.4%	0.7%	0.7%	0.4%	0.4%
Plastic Flower Pots	<0.1%	<0.1%	0.3%	<0.1%	0.1%	<0.1%
Other Plastic Containers/Tubs	1.1%	1.7%	1.7%	2.3%	1.7%	1.4%
Film Plastic - Shopping Bags	0.6%	0.8%	0.7%	1.0%	0.7%	0.7%
Film Plastic - Other	6.2%	5.5%	5.4%	5.4%	5.7%	5.9%
Other Rigid Plastic	3.3%	3.3%	2.7%	2.0%	2.8%	3.1%
Total Plastic	14.2%	14.0%	13.3%	16.5%	15.0%	14.0%
ORGANIC						
Food Waste - Vegetative	14.8%	15.4%	15.0%	15.1%	14.2%	14.8%
Food Waste - Non-Vegetative	3.0%	4.3%	0.4%	4.0%	3.6%	2.7%
Clothing/Linens/Textiles/Leather	3.5%	5.3%	4.5%	4.2%	4.9%	4.2%
Carpets/Rugs/Carpet Padding	2.9%	<0.1%	<0.1%	1.0%	1.0%	1.5%
Automobile Tires	<0.1%	<0.1%	<0.1%	<0.1%	0.6%	<0.1%
Diapers & Sanitary Products	1.6%	3.3%	3.9%	3.2%	2.8%	2.5%
Fines	2.2%	2.5%	2.6%	2.4%	2.1%	2.4%
Miscellaneous Organics	6.9%	8.6%	8.0%	8.2%	6.9%	7.4%
Total Organics	34.9%	39.3%	34.5%	37.9%	36.2%	35.6%
YARD WASTE						
Grass/Leaves	1.8%	1.9%	1.8%	1.9%	1.0%	1.7%
Brush/Pruning	<0.1%	1.2%	1.2%	0.4%	1.6%	0.7%
Total Yard Waste	1.8%	3.1%	3.1%	2.2%	2.6%	2.4%

Table 6A (continued). Summary of Waste Composition by Sector and Overall - Distribution Specific

Material Components	Commercial	Single Family			Multi-Family	Overall
		Subdistrict A	Subdistrict B	Municipal		
WOOD						
Lumber	2.1%	1.4%	1.3%	1.0%	1.6%	1.7%
Pallets	1.4%	<0.1%	1.1%	<0.1%	0.9%	1.0%
Other Wood	4.9%	4.3%	1.2%	1.5%	0.2%	3.3%
Total Wood	8.4%	5.7%	3.6%	2.6%	2.7%	6.0%
FERROUS METAL						
Ferrous/Bi-metal Cans	<0.1%	0.5%	0.6%	1.1%	0.7%	0.3%
Other Ferrous	1.9%	0.1%	0.2%	1.8%	2.0%	1.3%
Total Ferrous Metals	1.9%	0.6%	0.7%	2.9%	2.7%	1.6%
NON-FERROUS METAL						
Aluminum Cans	0.2%	0.4%	0.4%	0.9%	0.5%	0.3%
Aluminum Tins/Foil	0.3%	0.3%	<0.1%	0.3%	0.2%	0.2%
Other Non-Ferrous	<0.1%	1.1%	<0.1%	0.2%	0.6%	0.3%
Total Non-Ferrous Metals	0.6%	1.8%	0.4%	1.4%	1.4%	0.8%
GLASS						
Clear	1.1%	0.2%	1.5%	2.0%	1.6%	1.2%
Brown	<0.1%	<0.1%	0.5%	1.1%	0.4%	0.2%
Green	<0.1%	0.4%	0.5%	1.1%	<0.1%	0.2%
Non-container Glass	<0.1%	0.2%	0.5%	<0.1%	0.5%	0.2%
Total Glass	1.1%	0.9%	2.9%	4.3%	2.5%	1.8%
INORGANIC						
Concrete/Brick/Rock	<0.1%	<0.1%	<0.1%	0.6%	1.1%	0.2%
Sheet Rock	<0.1%	2.1%	1.0%	<0.1%	1.4%	0.7%
Latex Paints	<0.1%	<0.1%	<0.1%	0.3%	0.2%	<0.1%
Fluorescent Lamps	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Electronics	<0.1%	2.2%	2.6%	1.7%	2.8%	1.3%
Miscellaneous Inorganic	2.7%	3.1%	3.7%	3.4%	2.9%	3.0%
Total Inorganics	2.7%	7.4%	7.3%	6.0%	8.5%	5.2%
HHW						
Lead-Acid Batteries	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Other Rechargeable Batteries	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Other Batteries	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
HW Containers	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Other Hazardous	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Total Household Hazardous Wastes	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
TOTALS	84.5%	93.2%	85.0%	99.6%	93.8%	87.4%

Note: Composition based on 300 samples

Overall Composition based on 47.5% Commercial, 14.30% SFA, 21.81% SFB, 2.22% SiFM, and 13.17% Multi-Family.

Arithmetic mean is used for normal data, geometric mean for lognormal data, and median for undefined distributions.

Table 6B. Summary of Waste Composition by Sector and Overall – Standardized

Material Components	Commercial	Single Family			Multi-Family	Overall
		Subdistrict A	Subdistrict B	Municipal		
PAPER						
Newspapers/Magazines/Catalogs/Books	0.4%	3.0%	3.2%	4.4%	2.4%	1.8%
Corrugated Cardboard	2.9%	1.6%	1.9%	4.7%	5.0%	2.8%
Paperboard	2.0%	2.0%	2.4%	1.8%	2.4%	2.1%
Aseptic/Coated Paper Containers	1.9%	2.0%	1.8%	1.6%	1.3%	1.8%
Office Paper	1.6%	0.9%	0.2%	2.2%	0.2%	1.0%
Carryout Paper Bags	0.8%	0.5%	0.2%	0.5%	0.6%	0.6%
Other Recyclable Mixed Paper	4.3%	3.8%	3.3%	2.5%	3.5%	3.9%
Non-Recyclable Paper	8.3%	7.9%	9.3%	8.0%	8.2%	8.5%
Total Paper	22.2%	21.8%	22.3%	25.7%	23.6%	22.4%
PLASTIC						
PET (#1) Bottle Bill Bottles	2.2%	1.3%	1.2%	2.7%	2.2%	1.8%
Other PET (#1) Bottles	<0.1%	0.1%	0.1%	0.2%	<0.1%	<0.1%
#1 PET Thermoforms	0.6%	0.3%	0.1%	0.9%	0.7%	0.5%
HDPE (#2) Narrow Neck Bottles-Natural	0.2%	0.3%	0.4%	0.6%	0.1%	0.3%
HDPE (#2) Narrow Neck Bottles-Colored	0.2%	0.5%	0.3%	0.4%	0.5%	0.3%
#3-#7 Bottles	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Banned Polystyrene	<0.1%	<0.1%	<0.1%	0.2%	0.2%	<0.1%
Other Polystyrene	0.3%	0.4%	0.8%	0.7%	0.4%	0.4%
Plastic Flower Pots	<0.1%	<0.1%	0.3%	<0.1%	0.1%	0.1%
Other Plastic Containers/Tubs	1.4%	1.8%	2.0%	2.4%	1.9%	1.6%
Film Plastic - Shopping Bags	0.7%	0.9%	0.8%	1.0%	0.8%	0.8%
Film Plastic - Other	7.4%	5.9%	6.4%	5.4%	6.1%	6.7%
Other Rigid Plastic	4.0%	3.6%	3.2%	2.0%	3.0%	3.6%
Total Plastic	16.8%	15.0%	15.7%	16.6%	16.0%	16.1%
ORGANIC						
Food Waste - Vegetative	17.5%	16.5%	17.7%	15.1%	15.1%	17.0%
Food Waste - Non-Vegetative	3.5%	4.6%	0.5%	4.0%	3.8%	3.0%
Clothing/Linens/Textiles/Leather	4.2%	5.7%	5.2%	4.2%	5.2%	4.8%
Carpets/Rugs/Carpet Padding	3.4%	<0.1%	<0.1%	1.0%	1.1%	1.8%
Automobile Tires	<0.1%	<0.1%	<0.1%	<0.1%	0.6%	<0.1%
Diapers & Sanitary Products	1.9%	3.5%	4.6%	3.2%	3.0%	2.9%
Fines	2.6%	2.7%	3.1%	2.4%	2.3%	2.7%
Miscellaneous Organics	8.1%	9.2%	9.5%	8.2%	7.4%	8.5%
Total Organics	41.3%	42.2%	40.6%	38.0%	38.5%	40.7%
YARD WASTE						
Grass/Leaves	2.2%	2.1%	2.2%	1.9%	1.0%	2.0%
Brush/Pruning	<0.1%	1.3%	1.5%	0.4%	1.7%	0.7%
Total Yard Waste	2.2%	3.3%	3.6%	2.2%	2.8%	2.7%

Table 6B (continued). Summary of Waste Composition by Sector and Overall – Standardized

Material Components	Commercial	Single Family			Multi-Family	Overall
		Subdistrict A	Subdistrict B	Municipal		
WOOD						
Lumber	2.5%	1.5%	1.5%	1.0%	1.7%	2.0%
Pallets	1.7%	<0.1%	1.3%	<0.1%	1.0%	1.2%
Other Wood	5.8%	4.6%	1.4%	1.5%	0.2%	3.8%
Total Wood	9.9%	6.1%	4.3%	2.6%	2.8%	7.0%
FERROUS METAL						
Ferous/Bi-metal Cans	<0.1%	0.5%	0.7%	1.1%	0.7%	0.4%
Other Ferrous	2.3%	0.2%	0.2%	1.8%	2.2%	1.5%
Total Ferrous Metals	2.3%	0.7%	0.9%	2.9%	2.9%	1.9%
NON-FERROUS METAL						
Aluminum Cans	0.3%	0.4%	0.4%	0.9%	0.6%	0.4%
Aluminum Tins/Foil	0.4%	0.3%	<0.1%	0.3%	0.2%	0.3%
Other Non-Ferrous	<0.1%	1.2%	<0.1%	0.2%	0.7%	0.3%
Total Non-Ferrous Metals	0.7%	1.9%	0.4%	1.4%	1.4%	0.9%
GLASS						
Clear	1.3%	0.2%	1.7%	2.0%	1.7%	1.3%
Brown	<0.1%	<0.1%	0.6%	1.1%	0.4%	0.2%
Green	<0.1%	0.5%	0.5%	1.1%	<0.1%	0.2%
Non-container Glass	<0.1%	0.2%	0.5%	<0.1%	0.5%	0.2%
Total Glass	1.3%	0.9%	3.5%	4.3%	2.7%	2.0%
INORGANIC						
Concrete/Brick/Rock	<0.1%	<0.1%	<0.1%	0.6%	1.2%	0.2%
Sheet Rock	<0.1%	2.3%	1.2%	<0.1%	1.5%	0.8%
Latex Paints	<0.1%	<0.1%	<0.1%	0.3%	0.2%	<0.1%
Fluorescent Lamps	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Electronics	<0.1%	2.3%	3.0%	1.7%	3.0%	1.5%
Miscellaneous Inorganic	3.2%	3.4%	4.4%	3.4%	3.1%	3.5%
Total Inorganics	3.2%	8.0%	8.6%	6.0%	9.0%	5.9%
HHW						
Lead-Acid Batteries	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Other Rechargeable Batteries	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Other Batteries	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
HW Containers	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Other Hazardous	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
Total Household Hazardous Wastes	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%	<0.1%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Adjustment Factor:	1.18	1.07	1.18	1.00	1.07	

Note: Composition based on 300 samples

Composition of all sectors based on actual distribution for all material types.

Overall Composition based on 47.5% Commercial, 14.30% SFA, 21.81% SFB, 2.22% SiFM, and 13.17% Multi-Family.