Seattle Public Utilities

2004 Commercial and Self-Haul Waste Streams Composition Study

Final Report

prepared by

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in cooperation with

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1 Overview

1.1 Introduction and Background

Seattle Public Utilities (SPU) provides for the collection, transfer, and disposal of municipal solid waste (MSW) from within the City of Seattle. As part of this responsibility, SPU designs and implements programs intended to achieve a 60% recycling goal by 2008. To better understand the types and quantities of MSW disposed, and to assess the city's recycling potential, SPU has conducted waste composition studies since 1988. These studies analyze the residential, commercial, and self-haul waste streams at intervals of about four years. Table 1-1 shows the number of waste samples sorted by these three waste streams from 1988 through the current study in 2004.

Table 1-1 Samples per Study Period, by Substream

	(Number of Samples)			
Year	**Commercial**	**Residential**	**Self-Haul**	**Total**
1988-89	121	212	217	550
1990	0	114	203	317
1992	251	0	197	448
1994-95	0	368	0	368
1996	348	0	199	547
1998-99	0	360	0	360
2000	347	0	200	547
2002	0	309	0	309
2004	270	0	216	486

All of these studies share three common objectives, which include:

- Obtaining information about the City's residential, commercial, and self-haul waste substreams in order to estimate the recycling potential for each;
- Understanding differences between these three substreams so that targeted recycling programs can be designed, implemented, and monitored for each; and,
- Establishing a baseline for continued, long-term measurement of system performance.

This report, which consists of six sections, presents the results of the 2004 commercial and self-haul waste study. Section 1 briefly introduces the project and the methodology, and Section 2 summarizes the findings. In Section 3, the 2004 commercial findings are compared with those from the 1988/89, 1992, 1996, and 2000 study periods. The same is done for the self-haul substream in Section 4.[1] Detailed results of the 2004 commercial and self-haul waste composition study are presented in Section 5 and Section 6, respectively. Appendices follow the main body of the report and provide material definitions, study methodology, comments on sampling events, waste composition calculations, year-to-year comparison calculations, and copies of field forms.

[1] The self-haul substream was sampled in 1990, while the commercial substream was not. Therefore, self-haul results are compared across six studies, and commercial results are compared across five.

1.2 Seattle's Commercial and Self-haul Waste Substreams

For any specific geographic area, the total waste stream is composed of various substreams. A substream is determined by the particular generation, collection, or composition characteristics that make it a unique portion of the total waste stream. This study targets two of three main substreams in Seattle: the commercial and self-haul substreams.[2] These are described in detail below.

1.2.1 Commercial Substream

The **commercial** substream is comprised of wastes that are a) generated at businesses and institutions and b) collected by contracted hauling companies. The commercial substream is composed of twelve subpopulations as shown in Figure 1-1. Subpopulations are defined according to three groupings: service area (north or south), shift (day or night), and vehicle type (front loader, rear loader, or roll-off).

Figure 1-1 Commercial Subpopulations, by Service Area, Shift, and Vehicle Type

		Service Area					
		North			*South*		
		Vehicle Type			***Vehicle Type***		
		Front loader	*Rear loader*	*Roll-off*	*Front loader*	*Rear loader*	*Roll-off*
Shift	*Day*	Day FL North	Day RL North	Day RO North	Day FL South	Day RL South	Day RO South
	Night	Night FL North	Night RL North	Night RO North	Night FL South	Night RL South	Night RO South

The two service areas from which Seattle's commercial waste is collected, *north* and *south*, are divided by Royal Brougham Way and Jackson Street, located south of downtown.

Commercial waste from the north and south service areas is hauled by private hauling companies. During the study period the majority of waste from both service areas – 53% of the total collected – was hauled to Third & Lander (owned by Allied Waste). Some waste from the south service area – 32% of the total collected – was hauled to two stations: Eastmont (owned by Waste Management) through June 2004; and, after the Eastmont station was closed in June, to the South Recycling & Disposal Station (SRDS). Also, 14% of the total waste collected was hauled to the North Recycling & Disposal Station (NRDS). Finally, a negligible amount of waste was hauled to the Rabanco station and was not included in this study. See Appendix B for the locations and dates of the sampling events. Since this study characterized municipal solid

[2] The residential substream was not included in this study. For the most recent analysis of Seattle's residential waste stream, please see the 2002 Residential Waste Composition Study Final Report prepared for the Seattle Public Utilities by Cascadia Consulting Group, Inc. available online at http://www.seattle.gov/util/About_SPU/Garbage_System/Reports/Garbage_Reports/index.asp.

waste (MSW) only, no samples were taken from construction, demolition, and landclearing waste (CDL) loads delivered to these facilities.[3]

1.2.2 Self-haul Substream

The **self-haul** substream is comprised of wastes that are a) generated at residences as well as businesses and institutions and b) hauled by the household or business that generated the waste. The self-haul substream is composed of four subpopulations as shown in Figure 1-2. Subpopulations are defined according to generator type and disposal station. Generator types are defined as follows.

- *Self-haul commercial*: Waste that is hauled to the NRDS or SRDS (North and South Recycling and Disposal Stations, respectively) by a commercial enterprise (landscaper, contractor, etc.), including waste from residential dwellings.

- *Self-haul residential*: Waste that is hauled to the NRDS or SRDS by a resident from his or her home.

All self-haul waste included in the study is disposed at one of two City-owned disposal stations: NRDS or SRDS.

Figure 1-2 Self-haul Subpopulations, by Generator Type and Service Area

		Generator Type	
		Commercial	*Residential*
Disposal	*NRDS*	Commercial NRDS	Residential NRDS
	SRDS	Commercial SRDS	Residential SRDS

1.3 Study Methodology

The following section provides an overview of the 2004 study methodology. As shown, there were four major steps involved in conducting this waste composition study. The steps are presented according to the order in which they occurred during the course of the study. Please see Appendix B for a detailed description of the methodology.

[3] For more detail regarding Seattle's CDL waste stream, please see the *Construction, Demolition and Landclearing (CDL) Report* electronically at http://www.seattle.gov/util/About_SPU/Garbage_System/Reports/CDL_Reports/index.asp.

Step 1: Develop Sampling Plan

- Commercial samples were evenly split between the north and south service areas and allocated to night and day shifts and vehicle types according to tonnage data from 2002.
- A sampling schedule was constructed for the 2004 calendar year so that 30 days of sampling, 18 days of commercial and 12 days of self-haul, were generally scheduled for five consecutive sampling days every other month. Sampling days were randomly selected to assure a representative distribution across the days of the week and weeks of the month.
- A complete list of Seattle's commercial routes was assembled in conjunction with the City's contracted waste haulers.

Step 2: Schedule and Collect Waste Samples

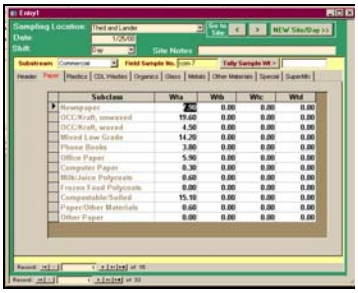
- Prior to each sampling event, vehicle routes were randomly selected from each of the twelve subpopulations.
- The contract haulers were sent a list of the routes chosen for each day of sampling. Waste was collected from the designated routes, and delivered to the appropriate transfer station for sampling.
- Self-haul vehicles were systematically selected for sampling using a pre-determined frequency.

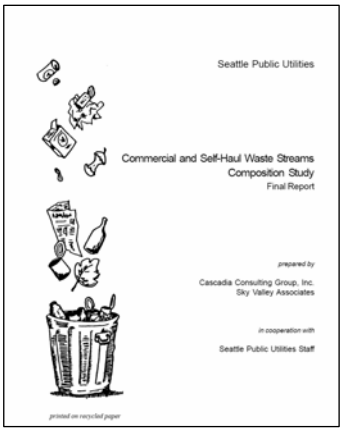
Step 3: Capture and Sort Samples

- As each selected vehicle entered the facility, the sampling crew supervisor verified information with the driver about the waste collected and directed the front loader operator to scoop a portion of the waste being tipped out of the vehicle. About 250 pounds of this waste was placed on a tarpaulin for sorting.
- For this study, a total of 270 commercial and 216 self-haul samples were sorted into 83 distinct component categories, such as office paper or PET plastic bottles. (Since the 2000 study, several materials were split apart or consolidated. See Appendix A for details about how the material types have been changed.)

Step 4: Analyze Data and Prepare Report

- Following each sampling event, all sort data were entered into a customized database and reviewed for data entry errors. At the conclusion of the study, waste composition estimates were calculated by aggregating sampling data using a *weighted average* procedure. 2004 waste tonnage data provided by SPU and hauler estimates were used to perform these calculations. The weighted average procedure is detailed in Appendix D.





- Once the data were analyzed, an accompanying report was prepared.

1.3.1 Changes in Waste Component Categories

Several changes were made to the list of components included in the 2000 study. These changes were made in part to reflect changes in the waste stream, recycling industry, and disposal regulations, such as with electronic waste. An interest in increasing material specificity and worker safety was also taken into account.

A total of 83 components were included in this study, a net reduction of 5 compared to the list of 88 that was used in the 2000 study. As detailed in Table 1-2, some groups of components from the 2000 list were combined into a single component, and other single components were separated into two components.

Table 1-2 Changes to Waste Component Categories Since 2000

2000 Broad Material Category / Component	2004 Broad Material Category / Component
Paper / Office Paper	Paper / High Grade Paper
Paper / Computer Paper	
Paper / Paper/Other Materials	Paper / Mixed/Other Paper
Paper / Other Paper	
Paper / Mixed Low Grade	Paper Mixed Low Grade
Paper / Phone Books	
Paper / Milk/Juice Polycoats	Paper / Polycoated Paper
Paper / Frozen Food Polycoats	

Plastic / Other PET Bottles	Plastic / Other Plastic Bottles *(added to the category)*
Plastic / Other HDPE Bottles	Plastic / Other Plastic Bottles *(added to the category)*
Plastic / HDPE Milk & Juice	Plastic / #2 HDPE Natural Bottles
	Plastic / #2 HDPE Colored Bottles
Plastic / Garbage Bags	Plastic / Other Film *(added to the category)*
Plastic / Other Film	Plastic / Other Film
	Plastic / Other Clean PE Film
Other Materials / Miscellaneous Organics	Fines & Miscellaneous Materials / Miscellaneous Organics
Other Materials / Leather	
Other Materials / Ash	
Other Materials / Televisions and Computer Monitors	Appliances and Electronics / Computer Monitors
	Appliances and Electronics / Television Sets
Household Hazardous / Other Hazardous Chemicals	Household Hazardous / Other Potentially Harmful Wastes
	Household Hazardous / Medical Wastes

In addition to the above changes, 8 components were renamed, a new broad material category was added, and 17 components were reassigned to different broad material categories. For a detailed description of the changes in broad material categories and component categories dating back to the original study in 1988-89 see Appendix A.

2 Summary of Year 2004 Sampling Results

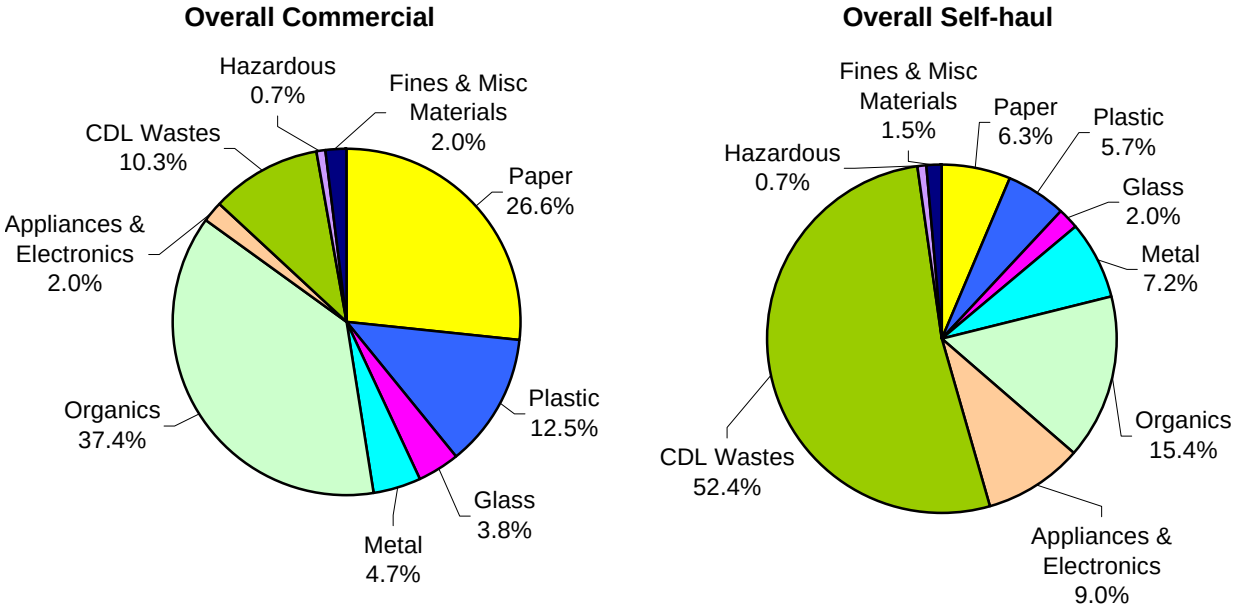
The Year 2004 phase of Seattle's waste study focused on the commercial and self-haul substreams. Commercial samples were evenly split between the two service areas (north and south) and proportionally allocated by vehicle type and by shift (day or night), based upon the estimated tonnage of waste received. Because the amount of self-hauled waste that was received at the NRDS and SRDS was roughly equal, the number of self-haul samples was divided evenly between those two facilities.

The waste samples were sorted into nine broad material categories: *paper, plastic, glass, metal, organics, appliances & electronics, CDL wastes*, *hazardous*, and *fines and miscellaneous materials*. Each broad material category was then sorted into various components such as *newspaper* or *PET plastic bottles*. A total of 83 components were included in this study.

Composition results are presented in the following order in this report. First, a pie chart reflects the composition percentages of the nine broad material categories. A table that lists the top ten components, by weight, follows the pie charts. Lastly, a table depicting the full composition results of all 83 components is presented. Weighted averages were used to calculate composition estimates for the commercial and self-haul substreams. Please see Appendix D for more detail regarding these calculations.

Figure 2-1 summarizes the composition results. As shown, *paper* and *organics*, together, accounted for almost 65% of the commercial tonnage, while *CDL wastes* comprised approximately half of the self-haul waste. *CDL waste* (construction, demolition, and landclearing debris) includes components such as *dimension lumber, sand/soil/dirt,* and *gypsum scrap.*

Figure 2-1 Overview of Composition Estimates: by Substream
(December 2003 – November 2004)



2.1 Overall Commercial Substream

A total of 270 loads were sampled from the commercial substream between December 2003 and November 2004. The commercial substream disposed approximately 216,000 tons of waste during the 2004 calendar year. The composition estimates for this substream were applied to the 216,000 tons to estimate the amount of waste disposed for each component category. The top ten components disposed in the commercial substream are listed in Table 2-1. When summed, they accounted for approximately 65% of the overall commercial tonnage. Accounting for nearly 30%, *food* stood out as the largest single component of the commercial substream. *Compostable/soiled paper*, *unwaxed OCC/Kraft paper,* and *mixed low grade paper* were large components (each more than 5%, by weight) of this substream as well. Table 2-2 lists the composition percentages, by weight, of each component in the overall commercial substream.[4]

Table 2-1 Top Ten Components: Overall Commercial
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Food	29.9%	29.9%	64,581
Compostable/Soiled Paper	6.7%	36.6%	14,473
Unwaxed OCC/Kraft Paper	5.5%	42.1%	11,826
Mixed Low Grade Paper	5.4%	47.5%	11,740
Other Plastic Film	4.7%	52.2%	10,156
Pallets	3.1%	55.4%	6,757
Paper/Other Materials	2.8%	58.2%	6,153
Leaves and Grass	2.3%	60.5%	4,930
Newspaper	2.2%	62.7%	4,701
High Grade Paper	2.1%	64.7%	4,455
Total	**64.7%**		**139,770**

[4] All waste composition results were derived using a 90% confidence level. This means that there is a 90% certainty that the actual composition is within the calculated range. In charts throughout this report, the values graphed represent the mean component percentage, not the range.

Table 2-2 Composition by Weight: Overall Commercial
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**57,401**	**26.6%**		
Newspaper	4,701	2.2%	1.9%	2.5%
OCC/Kraft, unwaxed	11,826	5.5%	4.9%	6.1%
OCC/Kraft, waxed	3,181	1.5%	0.9%	2.0%
High Grade	4,455	2.1%	1.6%	2.5%
Mixed Low Grade	11,740	5.4%	4.7%	6.2%
Polycoated Paper	873	0.4%	0.3%	0.5%
Compostable/Soiled	14,473	6.7%	5.9%	7.5%
Paper/Other Materials	6,153	2.8%	1.8%	3.9%
Plastic	**27,019**	**12.5%**		
#1 PET Bottles	1,302	0.6%	0.5%	0.7%
#2 HDPE Natural Bottles	845	0.4%	0.2%	0.6%
#2 HDPE Colored Bottles	260	0.1%	0.1%	0.1%
Other Plastic Bottles	177	0.1%	0.1%	0.1%
Jars and Tubs	912	0.4%	0.3%	0.5%
Expanded Polystyrene	1,268	0.6%	0.5%	0.7%
Other Rigid Packaging	2,997	1.4%	1.2%	1.5%
Grocery/Bread Bags	362	0.2%	0.1%	0.2%
Other Clean PE Bags	3,418	1.6%	0.9%	2.2%
Other Film	10,156	4.7%	4.3%	5.1%
Plastic Products	2,911	1.3%	1.1%	1.6%
Plastic/Other Materials	2,409	1.1%	0.8%	1.5%
Glass	**8,290**	**3.8%**		
Clear Bottles	2,588	1.2%	0.7%	1.7%
Green Bottles	1,048	0.5%	0.4%	0.6%
Brown Bottles	1,138	0.5%	0.2%	0.8%
Container Glass	200	0.1%	0.1%	0.1%
Fluorescent Tubes	32	0.0%	0.0%	0.0%
Other Glass	3,284	1.5%	0.6%	2.5%
Metal	**10,066**	**4.7%**		
Aluminum Cans	634	0.3%	0.3%	0.3%
Alum. Foil/Containers	237	0.1%	0.1%	0.1%
Other Aluminum	346	0.2%	0.0%	0.3%
Other Nonferrous	51	0.0%	0.0%	0.0%
Tin Food Cans	1,589	0.7%	0.6%	0.9%
Empty Aerosol Cans	174	0.1%	0.1%	0.1%
Other Ferrous	2,662	1.2%	0.9%	1.5%
Oil Filters	95	0.0%	0.0%	0.1%
Mixed Metals/Materials	4,279	2.0%	1.3%	2.7%
Organics	**80,772**	**37.4%**		
Leaves and Grass	4,930	2.3%	1.6%	3.0%
Prunings	1,431	0.7%	0.2%	1.1%
Food	64,581	29.9%	27.2%	32.7%
Textiles/Clothing	2,332	1.1%	0.8%	1.3%
Carpet/Upholstery	3,138	1.5%	0.9%	2.0%
Disposable Diapers	772	0.4%	0.3%	0.5%
Animal By-Products	2,320	1.1%	0.2%	1.9%
Rubber Products	1,084	0.5%	0.3%	0.7%
Tires	185	0.1%	0.0%	0.2%
Appliances & Electronics	**4,252**	**2.0%**		
Furniture	1,704	0.8%	0.4%	1.2%
Mattresses	157	0.1%	0.0%	0.2%
Small Appliances	109	0.1%	0.0%	0.1%
A/V Equipment	1,704	0.8%	0.0%	1.9%
Computer Monitors	46	0.0%	0.0%	0.1%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	532	0.2%	0.1%	0.4%
CDL Wastes	**22,237**	**10.3%**		
Dimension Lumber	3,658	1.7%	1.3%	2.1%
Pallets	6,757	3.1%	2.0%	4.3%
Crates	384	0.2%	0.1%	0.3%
Other Untreated Wood	447	0.2%	0.1%	0.3%
Treated Wood	1,440	0.7%	0.5%	0.9%
Contaminated Wood	1,745	0.8%	0.4%	1.2%
New Gypsum Scrap	276	0.1%	0.0%	0.2%
Demo Gypsum Scrap	957	0.4%	0.2%	0.7%
Fiberglass Insulation	31	0.0%	0.0%	0.0%
Rock/Concrete/Brick	3,702	1.7%	0.5%	3.0%
Asphaltic Roofing	72	0.0%	0.0%	0.1%
Ceramics/Porcelain	1,091	0.5%	0.2%	0.8%
Other Construction Debris	1,679	0.8%	0.4%	1.1%
Hazardous	**1,596**	**0.7%**		
Latex Paints	133	0.1%	0.0%	0.1%
Solvent-based Adhesives/Glues	9	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	88	0.0%	0.0%	0.1%
Oil-based Paints/Solvents	23	0.0%	0.0%	0.0%
Caustic Cleaners	37	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	76	0.0%	0.0%	0.0%
Wet-Cell Batteries	2	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	11	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	1,134	0.5%	0.2%	0.9%
Other Cleaners/Chemicals	68	0.0%	0.0%	0.1%
Other Potentially Harmful Wastes	13	0.0%	0.0%	0.0%
Fines & Misc Materials	**4,288**	**2.0%**		
Sand/Soil/Dirt	2,461	1.1%	0.6%	1.7%
Non-distinct Fines	973	0.5%	0.3%	0.6%
Misc. Organics	534	0.2%	0.2%	0.3%
Misc. Inorganics	320	0.1%	0.1%	0.2%
Total Tons	**215,921**			
Sample Count	**270**			

2.2 Results by Commercial Subpopulation

Commercial waste composition estimates were calculated for the overall commercial substream, each vehicle type, season, and generator type. The largest components for each subpopulation are shown in Table 2-3. The largest components are those that accounted for at least 5% of the subpopulation's total tonnage, by weight. *Food* was a large component disposed by all commercial subpopulations, except CDL. When the data are stratified, (according to generator type, etc.) the sample size for each analysis is smaller, which means that the calculations are subject to a more substantial range of error. Refer to Section 5 for more detail regarding the commercial substream.

Table 2-3 Largest Waste Components: by Commercial Subpopulation
(December 2003 – November 2004)

Subpopulation	Paper							Plastics	Metal		Organics				
	Newspaper	OCC/ Kraft, unwaxed	OCC/ Kraft, waxed	High Grade	Mixed Low Grade	Compostable/ Soiled	Paper/ Other Materials	Other Film	Other Ferrous	Mixed Metals/ Materials	Leaves and Grass	Prunnings	Food	Carpet/ Upholstery	Animal By-products
Vehicle Type															
Front Loader					5.8%	6.7%							32.2%		
Rear Loader					5.9%	8.0%				10.7%		5.2%	21.5%		10.1%
Compactor Roll-off		7.0%			5.9%	7.4%		6.0%					35.0%		
Loose Roll-off		5.3%											10.9%		
Season															
Spring					5.3%	7.4%							30.3%		
Summer		5.5%			5.5%	7.3%		5.2%					32.8%		
Autumn					6.1%	5.9%							25.0%		
Winter		6.0%			5.9%	7.4%							26.1%		
Generator Type															
CDL									5.9%					5.8%	
Education						19.1%		6.4%					32.9%		
Health Care					7.9%	9.3%							22.7%		
Hotel/Motel					24.4%								46.9%		
Manufacturing		6.3%					22.7%	5.7%					14.8%		
Office				7.1%	6.2%	16.6%		5.5%					20.5%	7.7%	
Other Services								5.2%		5.4%			16.7%		
Retail		8.6%	5.7%										35.2%	5.2%	
Transportation	5.5%					9.4%							22.0%		
Wholesale		10.4%					6.7%		5.1%		5.3%		6.7%	20.8%	
Mixed Generator Types					5.8%	7.0%							31.0%		
Overall Commercial		**5.5%**			**5.4%**	**6.7%**							**29.9%**		

Table 2-3 Continued Largest Waste Components: by Commercial Subpopulation
(December 2003 – November 2004)

Subpopulation	Appliances & Electronics		CDL Wastes							Hazardous	Fines & Misc.	
	Furniture	A/V Equipment	Dimension Lumber	Pallets	Treated Wood	Contaminated Wood	Demo Gypsum Scrap	Rock/ Concrete/ Brick	Other Construction Debris	Medical Wastes	Soil/ Sand/ Dirt	**Sum of Largest**
Vehicle Type												
Front Loader												**44.7%**
Rear Loader												**61.5%**
Compactor Roll-off												**61.3%**
Loose Roll-off				10.8%								**27.0%**
Season												
Spring												**42.9%**
Summer												**56.4%**
Autumn		5.2%										**42.2%**
Winter												**45.4%**
Generator Type												
CDL			10.1%		6.1%		8.4%	11.1%	5.2%		16.2%	**68.7%**
Education												**58.3%**
Health Care										13.7%		**53.6%**
Hotel/Motel												**71.3%**
Manufacturing												**49.5%**
Office												**63.6%**
Other Services	7.7%			7.5%								**42.4%**
Retail				6.6%								**61.2%**
Transportation	6.5%		8.8%	11.2%								**63.3%**
Wholesale						8.9%						**63.9%**
Mixed Generator Types												**43.8%**
Overall Commercial												**47.5%**

2.3 Overall Self-haul Substream

A total of 216 self-haul loads were sampled in 2004. The self-haul substream disposed approximately 100,000 tons of waste during the 2004 calendar year. The composition estimates for this substream were applied to the 100,000 tons to estimate the amount of waste disposed for each component category. Table 2-4 lists the top ten components disposed by the self-haul substream. Together, these ten components accounted for approximately 62% of the entire self-haul tonnage. *Dimension lumber, treated wood, new gypsum scrap, carpet/upholstery* and *furniture* are all large components of this substream. The composition percentages, by weight, of each component in the self-haul substream, are listed in Table 2-5.

Table 2-4 Top Ten Components: Overall Self-haul
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	13.9%	13.9%	13,867
Treated Wood	11.6%	25.5%	11,592
New Gypsum Scrap	6.1%	31.6%	6,093
Carpet/Upholstery	5.8%	37.4%	5,822
Furniture	5.5%	42.9%	5,545
Other Construction Debris	4.4%	47.4%	4,436
Contaminated Wood	4.1%	51.5%	4,126
Rock/Concrete/Brick	3.8%	55.3%	3,771
Mixed Metals/Materials	3.4%	58.7%	3,441
Other Ferrous Metal	3.3%	62.0%	3,315
Total	**62.0%**		**62,007**

Table 2-5 Composition by Weight: Overall Self-haul
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**6,257**	**6.3%**		
Newspaper	185	0.2%	0.1%	0.2%
OCC/Kraft, unwaxed	2,173	2.2%	1.7%	2.6%
OCC/Kraft, waxed	315	0.3%	0.0%	0.8%
High Grade	766	0.8%	0.1%	1.4%
Mixed Low Grade	1,422	1.4%	1.0%	1.8%
Polycoated Paper	8	0.0%	0.0%	0.0%
Compostable/Soiled	368	0.4%	0.2%	0.5%
Paper/Other Materials	1,021	1.0%	0.6%	1.4%
Plastic	**5,652**	**5.7%**		
#1 PET Bottles	53	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	29	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	68	0.1%	0.0%	0.1%
Other Plastic Bottles	33	0.0%	0.0%	0.0%
Jars and Tubs	127	0.1%	0.1%	0.2%
Expanded Polystyrene	228	0.2%	0.2%	0.3%
Other Rigid Packaging	231	0.2%	0.2%	0.3%
Grocery/Bread Bags	21	0.0%	0.0%	0.0%
Other Clean PE Bags	152	0.2%	0.1%	0.2%
Other Film	641	0.6%	0.4%	0.9%
Plastic Products	2,522	2.5%	1.9%	3.2%
Plastic/Other Materials	1,547	1.5%	1.2%	1.9%
Glass	**2,018**	**2.0%**		
Clear Bottles	116	0.1%	0.1%	0.2%
Green Bottles	159	0.2%	0.0%	0.3%
Brown Bottles	119	0.1%	0.0%	0.2%
Container Glass	51	0.1%	0.0%	0.1%
Fluorescent Tubes	9	0.0%	0.0%	0.0%
Other Glass	1,563	1.6%	0.8%	2.4%
Metal	**7,163**	**7.2%**		
Aluminum Cans	51	0.1%	0.0%	0.1%
Alum. Foil/Containers	11	0.0%	0.0%	0.0%
Other Aluminum	133	0.1%	0.1%	0.2%
Other Nonferrous	118	0.1%	0.0%	0.2%
Tin Food Cans	59	0.1%	0.0%	0.1%
Empty Aerosol Cans	16	0.0%	0.0%	0.0%
Other Ferrous	3,315	3.3%	2.6%	4.1%
Oil Filters	18	0.0%	0.0%	0.0%
Mixed Metals/Materials	3,441	3.4%	2.5%	4.3%
Organics	**15,375**	**15.4%**		
Leaves and Grass	1,785	1.8%	0.9%	2.7%
Prunings	1,855	1.9%	1.2%	2.6%
Food	2,614	2.6%	1.4%	3.8%
Textiles/Clothing	1,920	1.9%	1.4%	2.5%
Carpet/Upholstery	5,822	5.8%	3.9%	7.8%
Disposable Diapers	82	0.1%	0.0%	0.2%
Animal By-Products	491	0.5%	0.1%	0.9%
Rubber Products	786	0.8%	0.2%	1.4%
Tires	21	0.0%	0.0%	0.0%
Appliances & Electronics	**9,002**	**9.0%**		
Furniture	5,545	5.5%	4.2%	6.9%
Mattresses	2,092	2.1%	1.1%	3.1%
Small Appliances	574	0.6%	0.3%	0.9%
A/V Equipment	436	0.4%	0.2%	0.7%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	355	0.4%	0.1%	0.6%
CDL Wastes	**52,349**	**52.4%**		
Dimension Lumber	13,867	13.9%	11.6%	16.1%
Pallets	1,625	1.6%	0.7%	2.6%
Crates	82	0.1%	0.0%	0.2%
Other Untreated Wood	1,275	1.3%	0.4%	2.1%
Treated Wood	11,592	11.6%	9.6%	13.5%
Contaminated Wood	4,126	4.1%	3.1%	5.2%
New Gypsum Scrap	6,093	6.1%	4.0%	8.2%
Demo Gypsum Scrap	2,016	2.0%	0.8%	3.3%
Fiberglass Insulation	80	0.1%	0.0%	0.1%
Rock/Concrete/Brick	3,771	3.8%	2.4%	5.1%
Asphaltic Roofing	1,370	1.4%	0.5%	2.2%
Ceramics/Porcelain	2,018	2.0%	1.2%	2.8%
Other Construction Debris	4,436	4.4%	3.4%	5.5%
Hazardous	**704**	**0.7%**		
Latex Paints	353	0.4%	0.1%	0.6%
Solvent-based Adhesives/Glues	42	0.0%	0.0%	0.1%
Water-based Adhesives/Glues	23	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	32	0.0%	0.0%	0.1%
Caustic Cleaners	28	0.0%	0.0%	0.1%
Pesticides/Herbicides	62	0.1%	0.0%	0.1%
Dry-Cell Batteries	12	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	4	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	9	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	98	0.1%	0.0%	0.2%
Other Potentially Harmful Wastes	41	0.0%	0.0%	0.1%
Fines & Misc Materials	**1,461**	**1.5%**		
Sand/Soil/Dirt	1,162	1.2%	0.6%	1.8%
Non-distinct Fines	26	0.0%	0.0%	0.1%
Misc. Organics	115	0.1%	0.1%	0.2%
Misc. Inorganics	157	0.2%	0.0%	0.3%
Total Tons	**99,980**			
Sample Count	**216**			

2.4 Results by Self-haul Subpopulation

Waste composition estimates were calculated for the various subpopulations of the self-haul substream, including:

- Transfer station: NRDS and SRDS
- Vehicle type: Passenger and Trucks
- Season: Spring, Summer, Autumn, and Winter
- Generator type, by Transfer Station: Residential and Non-Residential at the NRDS and SRDS

The largest components (each accounting for more than 5% of the total tonnage) for each subpopulation are shown in Table 2-6. *Treated wood* and *dimension lumber* were large components of all self-haul subpopulations. In addition, *carpet/upholstery* and *furniture* were quite prevalent in most self-haul subpopulations. When the data are stratified, (according to season, etc.) the sample size for each analysis is smaller, which means that the calculations are subject to a more substantial range of error. Please see Section 6 for more detail regarding the self-haul substream.

Table 2-6 Largest Waste Components: by Self-haul Subpopulation
(December 2003 – November 2004)

Subpopulation	Organics	Appliances and Electronics		CDL Wastes								
	Carpet/ Upholstery	Furniture	Mattresses	Dimension Lumber	Treated Wood	Contaminated Wood	New Gypsum Scrap	Demo Gypsum Scrap	Rock/ Concrete/ Brick	Other Construction Debris	Pallets	**Sum of Largest**
Transfer Station												
North	7.0%			15.8%	14.0%		9.0%			5.8%		**51.6%**
South		7.5%		11.6%	8.8%							**27.9%**
Vehicle Type												
Passenger				10.1%	15.9%		21.0%			9.7%		**56.7%**
Trucks	6.0%	5.7%		14.2%	11.2%							**37.1%**
Season												
Spring	8.0%			12.9%	14.7%				5.9%			**41.4%**
Summer		7.0%		16.7%	12.3%	5.0%	6.5%					**47.4%**
Autumn	7.9%			12.9%	9.9%		12.9%			5.8%		**49.3%**
Winter		8.1%	5.2%	12.5%	9.1%							**34.9%**
Generator Type, by Transfer Station												
Residential, NRDS	5.3%	5.2%		17.0%	16.6%		7.4%					**51.6%**
Residential, SRDS		8.3%		10.5%	9.1%							**27.8%**
Non-Residential, NRDS	5.8%			19.1%	7.5%		5.2%	7.2%		7.8%	5.9%	**58.5%**
Non-Residential, SRDS	7.9%	9.4%	7.3%	9.9%	5.1%	6.5%			7.4%			**53.6%**
Overall Self-Haul	**5.8%**	**5.5%**		**13.9%**	**11.6%**		**6.1%**					**43.0%**

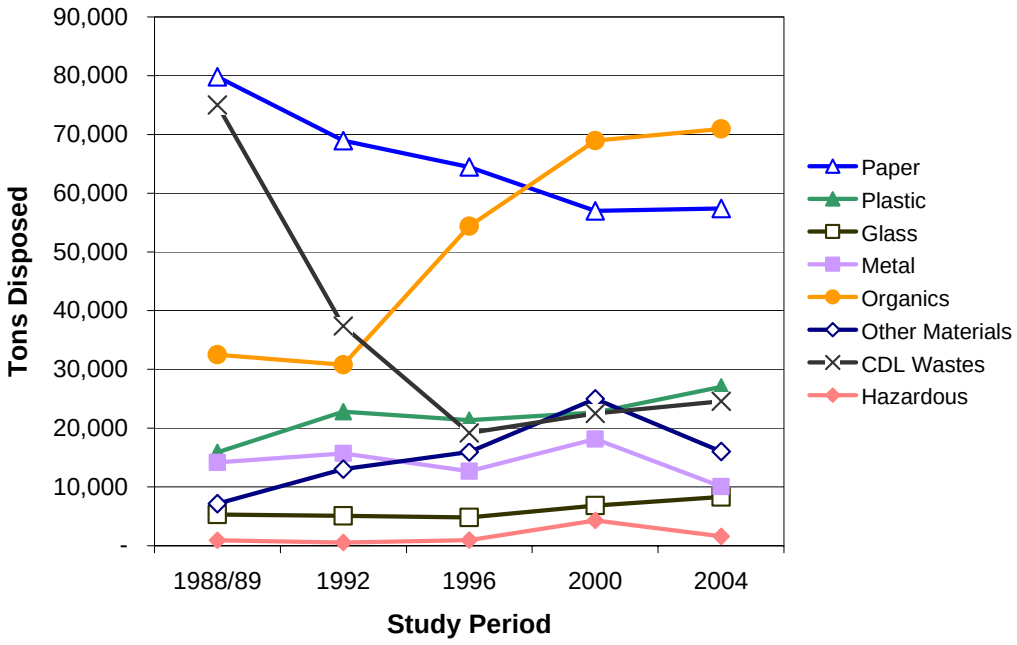
3 Commercial Results Compared to Previous Studies

In this section, the commercial results from the Year 2004 study are compared to the 1988/89, 1992, 1996, and 2000 findings. These studies followed the same basic methodology as the Year 2004 study. Changes in the composition percentages and the total amount of waste disposed of each broad waste category were analyzed to compare findings between study periods.[5] Section 3.1 provides an overview of the changes in the last 16 years. Sections 3.2 and 3.3 provide detailed results of the comparisons.

3.1 Trends in Disposed Commercial Waste

Figure 3-1 illustrates the changes in disposed commercial waste over the last 16 years. Overall, the quantity of disposed commercial waste decreased from about 230,780 tons in 1988/89 to about 194,338 in 1992. Disposal remained relatively steady from 1992 to 1996 (about 194,000 tons). In 2000, approximately 225,435 tons were disposed (an increase of about 31,600 tons). In 2004, approximately 215,920 tons were disposed of, a decrease from the last study. Overall, the *paper, organics,* and *CDL wastes* broad material categories showed the greatest changes since the 1988/89 study year.[6]

Figure 3-1 Changes in Commercial Disposed Tons, 1988/89 to 2004



[5] The composition percentages used to analyze the differences in disposed tonnage, and to perform statistical tests were calculated using unweighted averages. Please Appendix D for more detail.

[6] For the purposes of comparisons with previous studies, material components in this section are organized into eight broad component categories as defined in the 2000 study: *paper*, *plastic*, *glass*, *metal*, *organics*, *other materials*, *CDL wastes*, and *hazardous*. Because of changes in the category definitions since 2000, the numbers reported in this section differ slightly from those in other parts of this report. Appendix A shows the history of how materials have changed throughout the studies and Appendix E lists material components included in the eight broad material categories.

3.2 Changes in Commercial Waste: 1988/89 to 2004

In Table 3-1, broad material categories that are bolded showed significant differences between the 1988/89 and 2004 study periods. *Plastic, organics, other materials* (such as *textiles/clothing, carpet/upholstery* and *furniture*), and *CDL wastes* all experienced a significant change.[7] The proportion of *CDL wastes* decreased from about 32.5% (75,004 tons) in 1988/89 to 11.4% (24,581 tons) in 2004. *Organics* displayed the largest increase in proportion from 14.1% (32,517 tons) in 1988/89 to 32.9% (70,941 tons) in 2004.

Table 3-1 Changes in Commercial Waste: 1988/89 to 2004*

	Percent		Change in	Disposed Tons	
	1988/89	2004	Composition %	1988/89	2004
Paper	34.6%	26.6%	-8.0% ⬇	79,827	57,401
Plastic	**6.9%**	**12.5%**	**5.6%** ⬆	**15,878**	**27,019**
Glass	2.3%	3.8%	1.5% ⬆	5,308	8,290
Metal	6.1%	4.7%	-1.5% ⬇	14,170	10,066
Organics	**14.1%**	**32.9%**	**18.8%** ⬆	**32,517**	**70,941**
Other Materials	**3.1%**	**7.4%**	**4.3%** ⬆	**7,154**	**16,027**
CDL Wastes	**32.5%**	**11.4%**	**-21.1%** ⬇	**75,004**	**24,581**
Hazardous	0.4%	0.7%	0.3% ⬆	923	1,596
Total	**100%**	**100%**		**230,780**	**215,921**

* Bold type indicates statistically significant changes.

3.3 Changes in Commercial Waste: 2000 to 2004

Metal and *organics* categories experienced significant changes between the 2000 and 2004 study periods. As shown in Table 3-2, the proportion of *metal* decreased from 8.0% (18,132 tons) in 2000 to 4.7% (10,066 tons) in 2004. In 2000, *organics* comprised 30.6% (68,964 tons) of the total commercial substream. This proportion increased to 32.9% (70,941 tons) in 2004.

Table 3-2 Changes in Commercial Waste: 2000 to 2004*

	Percent		Change in	Disposed Tons	
	2000	2004	Composition %	2000	2004
Paper	25.3%	26.6%	1.3% ⬆	56,994	57,401
Plastic	10.1%	12.5%	2.4% ⬆	22,686	27,019
Glass	3.0%	3.8%	0.8% ⬆	6,850	8,290
Metal	**8.0%**	**4.7%**	**-3.4%** ⬇	**18,132**	**10,066**
Organics	**30.6%**	**32.9%**	**2.3%** ⬆	**68,964**	**70,941**
Other Materials	11.1%	7.4%	-3.7% ⬇	25,007	16,027
CDL Wastes	10.0%	11.4%	1.4% ⬆	22,506	24,581
Hazardous	1.9%	0.7%	-1.2% ⬇	4,295	1,596
Total	**100%**	**100%**		**225,435**	**215,921**

* Bold type indicates statistically significant changes.

[7] For the purposes of this study, only those calculation results with a p-value of less than 1.25% are considered to be statistically significant. For more detail about these calculations, please see Appendix D.

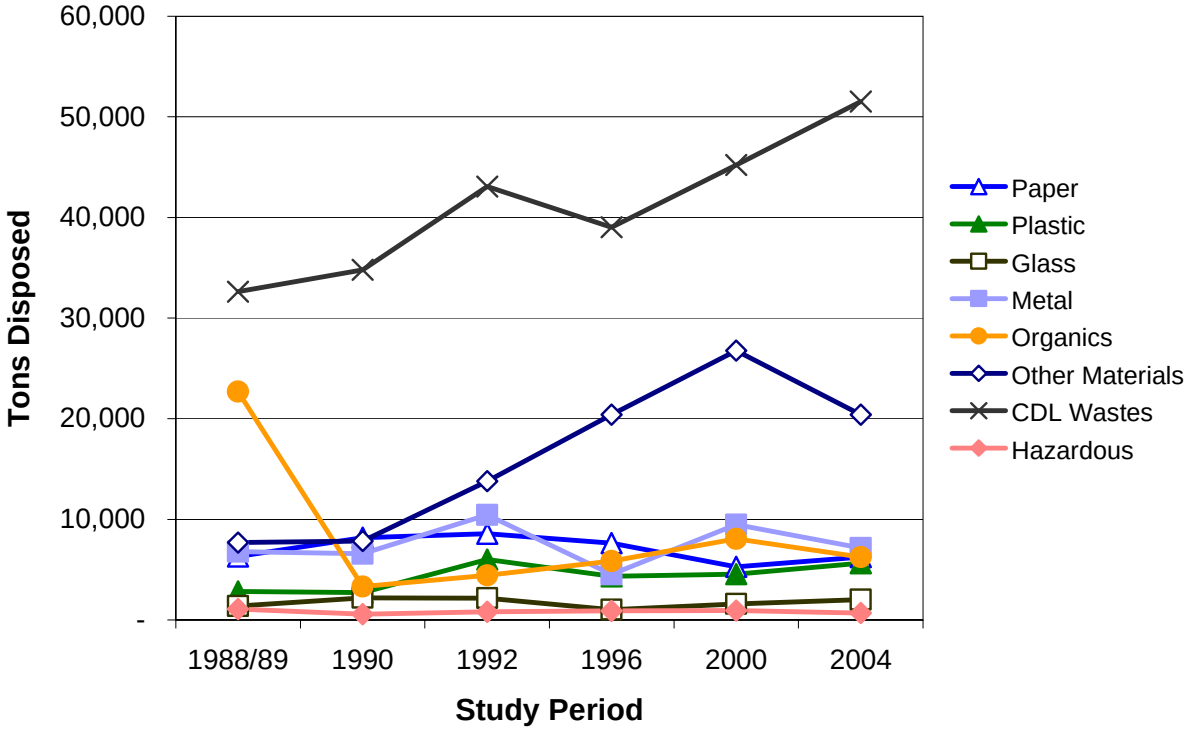
4 Self-haul Results Compared to Previous Studies

Self-haul results from 2004 are compared with the results of the 1988/89, 1990, 1992, 1996, and 2000 studies in this section. As with the commercial substream, both composition percentages and the total amount of waste disposed of each broad material category were analyzed for the self-haul substream.[8] Section 4.1 provides an overview of the changes in the last 16 years. Sections 4.2 and Section 4.3 provide the detailed results of the comparisons.

4.1 Trends in Disposed Self-haul Waste

Changes in the quantity of disposed self-haul waste over the last 16 years are depicted in Figure 4-1. The total amount of self-haul waste decreased from approximately 81,475 tons in 1988/89 to about 66,198 tons in 1990. Disposal then increased to about 89,308 tons in 1992, followed by a slight decrease to about 83,724 tons in 1996, and then an increased to approximately 101,882 tons in 2000. In 2004, the self-haul substream disposed of approximately 99,980 tons. Overall, *organics*, *other materials*, and *CDL wastes* showed the greatest changes over the last 16 years.[9]

Figure 4-1 Changes in Self-haul Disposed Tons, 1988/89 to 2004



[8] As with the commercial substream comparisons in Section 3, the composition percentages used to analyze the differences in disposed tonnage, and to perform statistical tests were calculated using unweighted averages. Please Appendix D for more detail.

[9] For the purposes of comparisons with previous studies, material components in this section are organized into eight broad component categories as defined in the 2000 study: *paper*, *plastic*, *glass*, *metal*, *organics*, *other materials*, *CDL wastes*, and *hazardous*. Because of changes in the category definitions since 2000, the numbers reported in this section differ slightly from those in other parts of this report. Appendix A shows the history of how materials have changed throughout the studies and Appendix E lists material components included in the eight broad material categories.

4.2 Changes in Self-haul Waste: 1988/89 to 2004

In Table 4-1, bolded broad material categories experienced significant differences between the 1988/89 and 2004 study periods. *Plastics*, o*rganics*, *other materials* and *CDL wastes* displayed a significant change. The proportion of *organics* decreased from about 27.9% (22,691 tons) in 1988/89 to 6.3% (6,254 tons) in 2004, while CDL wastes increased in proportion from 40.1% (32,639 tons) in 1988/89 to 51.5% (51,520 tons) in 2004.

Table 4-1 Changes in Self-haul Waste: 1988/89 to 2004*

	Percent		Change in	Disposed Tons	
	1988/89	2004	Composition %	1988/89	2004
Paper	7.8%	6.3%	-1.5% ↓	6,314	6,257
Plastic	**3.5%**	**5.7%**	**2.2%** ↑	**2,852**	**5,652**
Glass	1.7%	2.0%	0.3% ↑	1,401	2,018
Metal	8.3%	7.2%	-1.2% ↓	6,787	7,163
Organics	**27.9%**	**6.3%**	**-21.6%** ↓	**22,691**	**6,254**
Other Materials	**9.5%**	**20.4%**	**11.0%** ↑	**7,708**	**20,414**
CDL Wastes	**40.1%**	**51.5%**	**11.5%** ↑	**32,639**	**51,520**
Hazardous	1.3%	0.7%	-0.6% ↓	1,084	704
Total	**100%**	**100%**		**81,475**	**99,980**

* Bold type indicates statistically significant changes.

4.3 Changes in Self-haul Waste: 2000 to 2004

As shown in Table 4-2, no broad waste category showed a significant change in proportion from the 2000 study period to the 2004 study period.

Table 4-2 Changes in Self-haul Waste: 2000 to 2004*

	Percent		Change in	Disposed Tons	
	2000	2004	Composition %	2000	2004
Paper	5.2%	6.3%	1.1% ↑	5,268	6,257
Plastic	4.5%	5.7%	1.2% ↑	4,567	5,652
Glass	1.6%	2.0%	0.4% ↑	1,614	2,018
Metal	9.3%	7.2%	-2.1% ↓	9,468	7,163
Organics	7.9%	6.3%	-1.6% ↓	8,045	6,254
Other Materials	26.3%	20.4%	-5.9% ↓	26,774	20,414
CDL Wastes	44.4%	51.5%	7.1% ↑	45,219	51,520
Hazardous	0.9%	0.7%	-0.2% ↓	928	704
Total	**100%**	**100%**		**101,882**	**99,980**

* Bold type indicates statistically significant changes.

5 Commercial Composition Results, by Subpopulation

A total of 270 loads from the commercial substream were sampled from December 2003 to November 2004. Table 5-1 summarizes the sample information for each commercial subpopulation. The average sample weight for the 270 commercial samples was approximately 293 pounds. The City's authorized waste haulers provided the total 2004 disposal tonnages presented in this section of the report.

As shown in Table 5-1, many of the generator-specific analyses are based on a very small number of samples and are thus subject to a relatively wide margin of error. Generator-specific results are presented in order to provide rough estimates only.[10]

Table 5-1 Description of Samples for each Commercial Subpopulation
(December 2003 – November 2004)

Subpopulation	Sample Count	*(All Weights in pounds)* Total Sample	Average Sample
Vehicle Type			
Front Loader	146	43,112.7	295.3
Rear Loader	12	3,226.9	268.9
Compactor Roll-off	61	17,750.6	291.0
Loose Roll-off	51	14,977.1	293.7
Season			
Spring	51	15,888.2	311.5
Summer	99	27,872.8	281.5
Autumn	41	11,396.3	278.0
Winter	79	23,909.9	302.7
Generator Type			
CDL	9	2,935.4	326.2
Education	8	2,152.3	269.0
Health Care	5	1,295.8	259.2
Hotel/Motel	2	657.4	328.7
Manufacturing	18	5,212.2	289.6
Office	9	2,655.7	295.1
Other Services	15	4,392.6	292.8
Retail	27	7,939.3	294.1
Transportation	8	2,482.0	310.3
Wholesale	7	1,864.2	266.3
Mixed Generator Types	162	47,480.5	293.1
Overall Commercial	**270**	**79,067.2**	**292.8**

In the following sections, commercial waste composition results are presented by vehicle type, season, and generator type. Results are depicted in three ways: a pie chart reflects composition by the nine broad material categories; then, a table lists the top ten components, by weight; and finally, the full composition results are presented in a detailed table. Following the

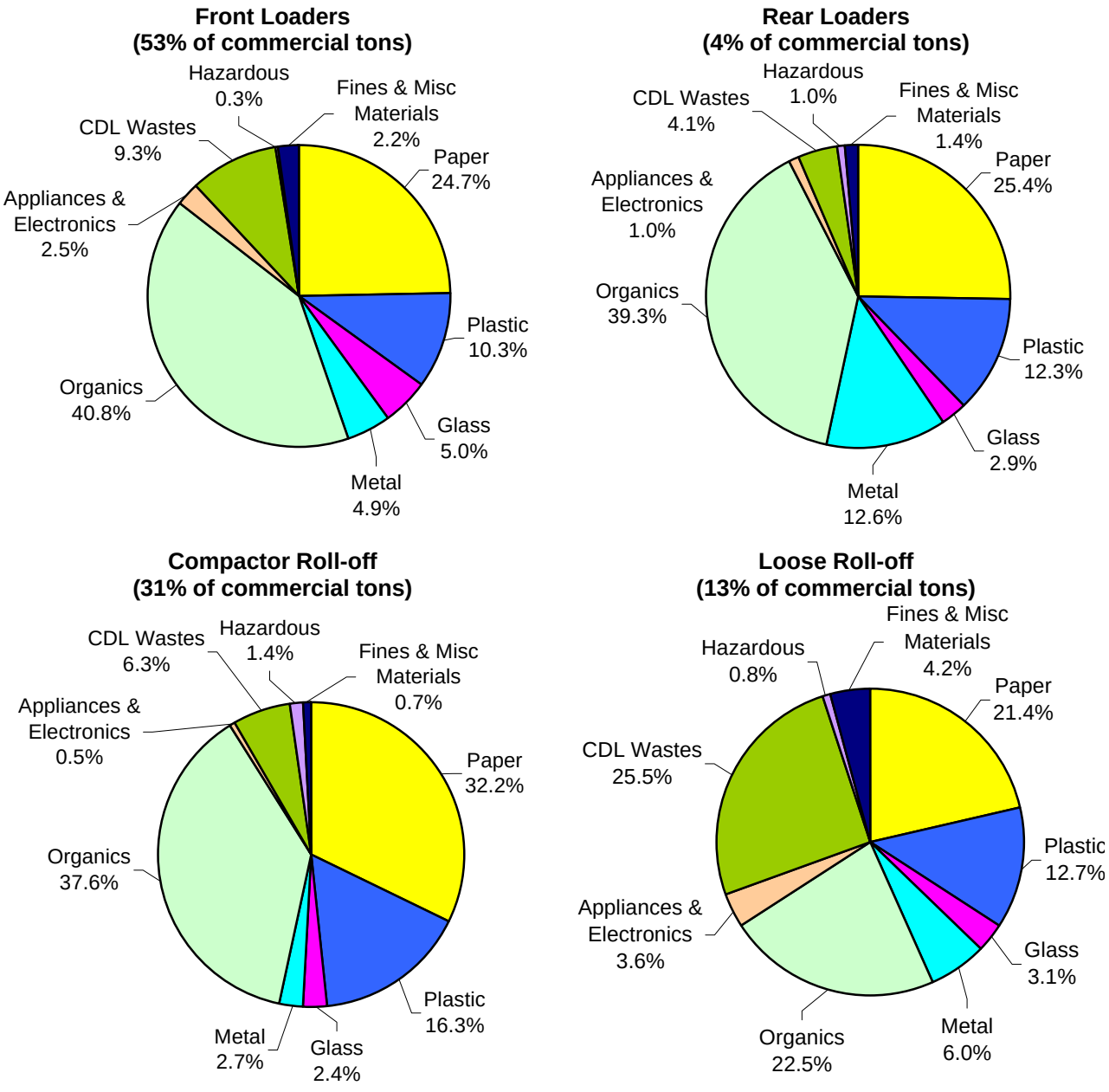
[10] There was no intent to capture a certain number of samples from any particular generator type. (Sample selection was based on vehicle type; please refer to Appendix C for more detail.)

top ten tables in Sections 5.1, 5.2, and 5.3, composition results from relevant subpopulations are compared.

5.1 Composition by Vehicle Type

Figure 5-1 displays the overall composition results, by weight, of the waste disposed by front loaders, rear loaders, compactor roll-offs, and loose roll-offs. Combined, *paper* and *organics* accounted for over 40% of the waste for each vehicle type. The following sections examine each vehicle type's waste in more detail.

Figure 5-1 Commercial Composition Summary: by Vehicle Type
(December 2003 – November 2004)



5.1.1 Front Loaders

A total of 146 front-loading packer truckloads were sampled during this study period. Commercial front loaders disposed approximately 114,000 tons of waste, or nearly 53% of the commercial waste stream, during the study period. The composition estimates for this subpopulation were applied to the 114,000 tons to estimate the amount of waste disposed for each component category. As shown in Table 5-2, *food* was the largest component, accounting for approximately 32% of the total tons disposed by front loaders in 2004. When added together, all of the top ten components summed to approximately 66% of the total, by weight. The full composition results for front loader trucks are presented in Table 5-6.

Table 5-2 Top Ten Components: Commercial Front Loaders
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Food	32.2%	32.2%	36,664
Compostable/Soiled Paper	6.7%	39.0%	7,674
Mixed Low Grade Paper	5.8%	44.7%	6,570
Unwaxed OCC/Kraft Paper	4.7%	49.4%	5,341
Other Plastic Film	4.3%	53.7%	4,887
Leaves and Grass	3.6%	57.3%	4,120
Newspaper	2.6%	59.9%	2,951
Other Glass	2.2%	62.1%	2,484
Dimension Lumber	2.1%	64.3%	2,441
Mixed Metals/Materials	2.1%	66.4%	2,399
Total	**66.4%**		**75,531**

5.1.2 Rear Loaders

From the commercial substream, 12 rear loaders were sampled. Commercial rear loaders disposed approximately 8,000 tons of waste, or almost 4% of the commercial waste stream, during the study period. The composition estimates for this subpopulation were applied to the 8,000 tons to estimate the amount of waste disposed for each component category. Table 5-3 lists the top ten components disposed by rear loader trucks. *Food* alone accounted for almost 22%, by weight. *Mixed metals/materials* and *animal by-products* each made up slightly more than 10% of the total. The top ten components listed in Table 5-3 summed to approximately 76% of the total waste disposed by rear loaders. The full composition results for rear loaders are listed in Table 5-7.

Table 5-3 Top Ten Components: Commercial Rear Loaders
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Food	21.5%	21.5%	1,754
Mixed Metals/Materials	10.7%	32.3%	874
Animal By-Products	10.1%	42.3%	820
Compostable/Soiled Paper	8.0%	50.3%	651
Mixed Low Grade Paper	5.9%	56.2%	480
Prunings	5.2%	61.5%	427
Unwaxed OCC/Kraft Paper	4.8%	66.3%	392
Other Plastic Film	4.0%	70.3%	328
High Grade Paper	3.3%	73.6%	267
Other Clean Polyethylene Bags	2.6%	76.2%	214
Total	**76.2%**		**6,207**

5.1.3 Compactor Roll-offs

There were a total of 61 samples taken from compactor roll-off boxes during this study period. Commercial compactor roll-offs disposed approximately 66,000 tons of waste (about 31% of the commercial waste stream) from December 2003 to November 2004. The composition estimates for this subpopulation were applied to the 66,000 tons to estimate the amount of waste disposed for each component category. As shown in Table 5-4, f*ood* was the largest component of waste hauled in compactors. It accounted for about 35% of the total compactor tonnage, by weight. *Compostable/soiled paper*, *unwaxed OCC/Kraft paper, other plastic film,* and *mixed low grade paper* were large components also. Together, the top ten components made up approximately 76% of the total, by weight. Table 5-8 contains detailed composition results for compactor roll-offs.

Table 5-4 Top Ten Components: Commercial Compactor Roll-offs
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Food	35.0%	35.0%	23,129
Compostable/Soiled Paper	7.4%	42.4%	4,919
Unwaxed OCC/Kraft Paper	7.0%	49.4%	4,627
Other Plastic Film	6.0%	55.4%	3,969
Mixed Low Grade Paper	5.9%	61.3%	3,899
Paper/Other Materials	4.8%	66.1%	3,171
Other Clean Polyethylene Bags	3.1%	69.2%	2,060
Waxed OCC/Kraft Paper	2.4%	71.7%	1,599
High Grade Paper	2.3%	74.0%	1,516
Pallets	2.1%	76.1%	1,407
Total	**76.1%**		**50,295**

5.1.4 Loose Roll-offs

A total of 51 commercial samples were captured from loose roll-off dropboxes from December 2003 to November 2004. Commercial loose roll-offs disposed approximately 28,000 tons of waste during this period, making up approximately 13% of the commercial waste stream. The composition estimates for this subpopulation were applied to the 28,000 tons to estimate the amount of waste disposed for each component category. Table 5-5 lists the top ten components of waste hauled in loose roll-offs. *Food* and *pallets* were the largest components (each at almost 11% of loose roll-off tonnage, by weight). When summed, the top ten components made up about 54% of all loose roll-off waste, by weight. See Table 5-9 for the complete composition results for loose roll-offs.

Table 5-5 Top Ten Components Commercial Loose Roll-offs
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Food	10.9%	10.9%	3,033
Pallets	10.8%	21.7%	3,020
Unwaxed OCC/Kraft Paper	5.3%	27.0%	1,467
Carpet/Upholstery	4.7%	31.7%	1,317
Paper/Other Materials	4.6%	36.3%	1,289
Compostable/Soiled Paper	4.4%	40.7%	1,229
Other Plastic Film	3.5%	44.2%	972
Sand/Soil/Dirt	3.3%	47.5%	911
Furniture	3.1%	50.6%	853
Dimension Lumber	3.1%	53.6%	851
Total	**53.6%**		**14,944**

5.1.5 Comparisons between Vehicle Types

The wastes disposed by front and rear-loaders, and compactor and loose roll-offs contain many of the same top ten components. *Food* was the largest component for waste hauled by all vehicle types (32.2%, 21.5%, 35%, and 10.9%, respectively). *Compostable/soiled paper*, *unwaxed OCC/Kraft paper*, and *other plastic film* were top ten components for all vehicle types. *Mixed low grade paper* was a top ten component for all vehicle types except loose roll-offs.

There were also differences between the waste hauled by these vehicles. For example, *prunings* and *animal by-products* were top ten components for rear loaders only while *sand/soil/dirt*, *furniture*, and *dimension lumber* were top ten components for loose roll-offs only.

Table 5-6 Composition by Weight: Commercial Front Loaders
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**28,086**	**24.7%**		
Newspaper	2,951	2.6%	2.2%	3.0%
OCC/Kraft, unwaxed	5,341	4.7%	4.0%	5.4%
OCC/Kraft, waxed	1,246	1.1%	0.6%	1.5%
High Grade	2,346	2.1%	1.7%	2.5%
Mixed Low Grade	6,570	5.8%	4.6%	7.0%
Polycoated Paper	421	0.4%	0.3%	0.5%
Compostable/Soiled	7,674	6.7%	5.8%	7.6%
Paper/Other Materials	1,538	1.4%	1.1%	1.6%
Plastic	**11,732**	**10.3%**		
#1 PET Bottles	646	0.6%	0.5%	0.6%
#2 HDPE Natural Bottles	386	0.3%	0.3%	0.4%
#2 HDPE Colored Bottles	176	0.2%	0.1%	0.2%
Other Plastic Bottles	123	0.1%	0.1%	0.1%
Jars and Tubs	443	0.4%	0.3%	0.5%
Expanded Polystyrene	692	0.6%	0.5%	0.8%
Other Rigid Packaging	1,539	1.4%	1.2%	1.5%
Grocery/Bread Bags	152	0.1%	0.1%	0.2%
Other Clean PE Bags	613	0.5%	0.3%	0.7%
Other Film	4,887	4.3%	3.8%	4.7%
Plastic Products	1,135	1.0%	0.7%	1.3%
Plastic/Other Materials	940	0.8%	0.6%	1.0%
Glass	**5,634**	**5.0%**		
Clear Bottles	1,302	1.1%	0.7%	1.6%
Green Bottles	744	0.7%	0.4%	0.9%
Brown Bottles	946	0.8%	0.3%	1.4%
Container Glass	136	0.1%	0.1%	0.2%
Fluorescent Tubes	22	0.0%	0.0%	0.0%
Other Glass	2,484	2.2%	0.5%	3.8%
Metal	**5,596**	**4.9%**		
Aluminum Cans	362	0.3%	0.3%	0.4%
Alum. Foil/Containers	154	0.1%	0.1%	0.2%
Other Aluminum	193	0.2%	0.0%	0.3%
Other Nonferrous	11	0.0%	0.0%	0.0%
Tin Food Cans	849	0.7%	0.6%	0.9%
Empty Aerosol Cans	122	0.1%	0.1%	0.1%
Other Ferrous	1,421	1.2%	0.9%	1.6%
Oil Filters	85	0.1%	0.0%	0.2%
Mixed Metals/Materials	2,399	2.1%	1.5%	2.8%
Organics	**46,418**	**40.8%**		
Leaves and Grass	4,120	3.6%	2.3%	4.9%
Prunings	527	0.5%	0.2%	0.7%
Food	36,664	32.2%	28.2%	36.2%
Textiles/Clothing	1,615	1.4%	1.0%	1.8%
Carpet/Upholstery	1,180	1.0%	0.6%	1.5%
Disposable Diapers	604	0.5%	0.4%	0.7%
Animal By-Products	892	0.8%	0.0%	1.6%
Rubber Products	667	0.6%	0.2%	1.0%
Tires	148	0.1%	0.0%	0.3%

	Tons	Mean	Low	High
Appliances & Electronics	**2,838**	**2.5%**		
Furniture	720	0.6%	0.2%	1.1%
Mattresses	0	0.0%	0.0%	0.0%
Small Appliances	46	0.0%	0.0%	0.1%
A/V Equipment	1,687	1.5%	0.0%	3.7%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	385	0.3%	0.1%	0.6%
CDL Wastes	**10,624**	**9.3%**		
Dimension Lumber	2,441	2.1%	1.4%	2.9%
Pallets	2,202	1.9%	0.6%	3.2%
Crates	201	0.2%	0.1%	0.3%
Other Untreated Wood	155	0.1%	0.0%	0.3%
Treated Wood	787	0.7%	0.4%	1.0%
Contaminated Wood	1,068	0.9%	0.4%	1.4%
New Gypsum Scrap	178	0.2%	0.0%	0.3%
Demo Gypsum Scrap	307	0.3%	0.1%	0.5%
Fiberglass Insulation	28	0.0%	0.0%	0.1%
Rock/Concrete/Brick	2,036	1.8%	0.0%	3.6%
Asphaltic Roofing	50	0.0%	0.0%	0.1%
Ceramics/Porcelain	373	0.3%	0.1%	0.6%
Other Construction Debris	797	0.7%	0.3%	1.1%
Hazardous	**350**	**0.3%**		
Latex Paints	15	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	9	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	5	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	20	0.0%	0.0%	0.0%
Caustic Cleaners	16	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	48	0.0%	0.0%	0.1%
Wet-Cell Batteries	2	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	8	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	195	0.2%	0.0%	0.3%
Other Cleaners/Chemicals	19	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	13	0.0%	0.0%	0.0%
Fines & Misc Materials	**2,529**	**2.2%**		
Sand/Soil/Dirt	1,514	1.3%	0.6%	2.1%
Non-distinct Fines	602	0.5%	0.3%	0.8%
Misc. Organics	293	0.3%	0.1%	0.4%
Misc. Inorganics	121	0.1%	0.0%	0.2%
Total Tons	**113,807**			
Sample Count	**146**			

Table 5-7 Composition by Weight: Commercial Rear Loaders
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**2,070**	**25.4%**		
Newspaper	104	1.3%	0.5%	2.0%
OCC/Kraft, unwaxed	392	4.8%	2.9%	6.7%
OCC/Kraft, waxed	4	0.1%	0.0%	0.1%
High Grade	267	3.3%	0.0%	7.2%
Mixed Low Grade	480	5.9%	4.5%	7.3%
Polycoated Paper	17	0.2%	0.0%	0.4%
Compostable/Soiled	651	8.0%	2.4%	13.6%
Paper/Other Materials	154	1.9%	0.4%	3.4%
Plastic	**1,001**	**12.3%**		
#1 PET Bottles	51	0.6%	0.4%	0.9%
#2 HDPE Natural Bottles	24	0.3%	0.0%	0.5%
#2 HDPE Colored Bottles	8	0.1%	0.0%	0.2%
Other Plastic Bottles	13	0.2%	0.0%	0.4%
Jars and Tubs	35	0.4%	0.2%	0.7%
Expanded Polystyrene	36	0.4%	0.2%	0.7%
Other Rigid Packaging	100	1.2%	0.6%	1.8%
Grocery/Bread Bags	10	0.1%	0.1%	0.2%
Other Clean PE Bags	214	2.6%	0.0%	6.0%
Other Film	328	4.0%	1.6%	6.5%
Plastic Products	148	1.8%	0.0%	3.9%
Plastic/Other Materials	34	0.4%	0.2%	0.7%
Glass	**237**	**2.9%**		
Clear Bottles	68	0.8%	0.4%	1.3%
Green Bottles	47	0.6%	0.3%	0.9%
Brown Bottles	31	0.4%	0.0%	0.7%
Container Glass	11	0.1%	0.0%	0.2%
Fluorescent Tubes	0	0.0%	0.0%	0.0%
Other Glass	80	1.0%	0.0%	2.1%
Metal	**1,026**	**12.6%**		
Aluminum Cans	26	0.3%	0.1%	0.5%
Alum. Foil/Containers	18	0.2%	0.0%	0.5%
Other Aluminum	0	0.0%	0.0%	0.0%
Other Nonferrous	0	0.0%	0.0%	0.0%
Tin Food Cans	28	0.3%	0.1%	0.6%
Empty Aerosol Cans	4	0.1%	0.0%	0.1%
Other Ferrous	73	0.9%	0.0%	1.8%
Oil Filters	2	0.0%	0.0%	0.1%
Mixed Metals/Materials	874	10.7%	0.0%	25.8%
Organics	**3,204**	**39.3%**		
Leaves and Grass	69	0.8%	0.1%	1.6%
Prunings	427	5.2%	0.0%	13.0%
Food	1,754	21.5%	18.9%	24.2%
Textiles/Clothing	58	0.7%	0.0%	1.4%
Carpet/Upholstery	11	0.1%	0.0%	0.3%
Disposable Diapers	7	0.1%	0.0%	0.1%
Animal By-Products	820	10.1%	0.0%	25.3%
Rubber Products	59	0.7%	0.0%	1.6%
Tires	0	0.0%	0.0%	0.0%

	Tons	Mean	Low	High
Appliances & Electronics	**83**	**1.0%**		
Furniture	32	0.4%	0.0%	1.1%
Mattresses	0	0.0%	0.0%	0.0%
Small Appliances	0	0.0%	0.0%	0.0%
A/V Equipment	4	0.1%	0.0%	0.1%
Computer Monitors	46	0.6%	0.0%	1.5%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	1	0.0%	0.0%	0.0%
CDL Wastes	**335**	**4.1%**		
Dimension Lumber	6	0.1%	0.0%	0.2%
Pallets	128	1.6%	0.0%	4.4%
Crates	0	0.0%	0.0%	0.0%
Other Untreated Wood	0	0.0%	0.0%	0.0%
Treated Wood	104	1.3%	0.0%	2.6%
Contaminated Wood	2	0.0%	0.0%	0.1%
New Gypsum Scrap	0	0.0%	0.0%	0.0%
Demo Gypsum Scrap	9	0.1%	0.0%	0.2%
Fiberglass Insulation	0	0.0%	0.0%	0.0%
Rock/Concrete/Brick	15	0.2%	0.0%	0.5%
Asphaltic Roofing	0	0.0%	0.0%	0.0%
Ceramics/Porcelain	6	0.1%	0.0%	0.2%
Other Construction Debris	65	0.8%	0.0%	2.1%
Hazardous	**78**	**1.0%**		
Latex Paints	0	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0	0.0%	0.0%	0.0%
Caustic Cleaners	0	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	3	0.0%	0.0%	0.1%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	31	0.4%	0.0%	0.9%
Other Cleaners/Chemicals	44	0.5%	0.0%	1.5%
Other Potentially Harmful Wastes	0	0.0%	0.0%	0.0%
Fines & Misc Materials	**112**	**1.4%**		
Sand/Soil/Dirt	1	0.0%	0.0%	0.0%
Non-distinct Fines	29	0.4%	0.0%	0.7%
Misc. Organics	20	0.2%	0.0%	0.5%
Misc. Inorganics	62	0.8%	0.0%	1.9%
Total Tons	**8,145**			
Sample Count	**12**			

Table 5-8 Composition by Weight: Commercial Compactor Roll-offs
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**21,273**	**32.2%**		
Newspaper	1,163	1.8%	1.2%	2.3%
OCC/Kraft, unwaxed	4,627	7.0%	5.5%	8.5%
OCC/Kraft, waxed	1,599	2.4%	0.9%	3.9%
High Grade	1,516	2.3%	1.1%	3.5%
Mixed Low Grade	3,899	5.9%	4.6%	7.2%
Polycoated Paper	379	0.6%	0.2%	0.9%
Compostable/Soiled	4,919	7.4%	5.7%	9.2%
Paper/Other Materials	3,171	4.8%	1.8%	7.8%
Plastic	**10,751**	**16.3%**		
#1 PET Bottles	488	0.7%	0.5%	0.9%
#2 HDPE Natural Bottles	374	0.6%	0.0%	1.1%
#2 HDPE Colored Bottles	54	0.1%	0.0%	0.1%
Other Plastic Bottles	36	0.1%	0.0%	0.1%
Jars and Tubs	294	0.4%	0.3%	0.6%
Expanded Polystyrene	380	0.6%	0.4%	0.8%
Other Rigid Packaging	1,090	1.6%	1.3%	2.0%
Grocery/Bread Bags	149	0.2%	0.1%	0.3%
Other Clean PE Bags	2,060	3.1%	1.2%	5.1%
Other Film	3,969	6.0%	5.0%	7.0%
Plastic Products	945	1.4%	0.8%	2.1%
Plastic/Other Materials	911	1.4%	0.4%	2.4%
Glass	**1,555**	**2.4%**		
Clear Bottles	1,073	1.6%	0.1%	3.2%
Green Bottles	211	0.3%	0.2%	0.5%
Brown Bottles	143	0.2%	0.1%	0.3%
Container Glass	40	0.1%	0.0%	0.1%
Fluorescent Tubes	4	0.0%	0.0%	0.0%
Other Glass	84	0.1%	0.0%	0.2%
Metal	**1,759**	**2.7%**		
Aluminum Cans	175	0.3%	0.2%	0.3%
Alum. Foil/Containers	49	0.1%	0.0%	0.1%
Other Aluminum	143	0.2%	0.0%	0.5%
Other Nonferrous	32	0.0%	0.0%	0.1%
Tin Food Cans	542	0.8%	0.4%	1.2%
Empty Aerosol Cans	37	0.1%	0.0%	0.1%
Other Ferrous	421	0.6%	0.2%	1.1%
Oil Filters	0	0.0%	0.0%	0.0%
Mixed Metals/Materials	360	0.5%	0.1%	1.0%
Organics	**24,872**	**37.6%**		
Leaves and Grass	305	0.5%	0.1%	0.8%
Prunings	5	0.0%	0.0%	0.0%
Food	23,129	35.0%	29.7%	40.3%
Textiles/Clothing	306	0.5%	0.2%	0.7%
Carpet/Upholstery	630	1.0%	0.0%	2.0%
Disposable Diapers	132	0.2%	0.1%	0.3%
Animal By-Products	72	0.1%	0.0%	0.2%
Rubber Products	273	0.4%	0.2%	0.7%
Tires	20	0.0%	0.0%	0.1%
Appliances & Electronics	**316**	**0.5%**		
Furniture	99	0.1%	0.0%	0.3%
Mattresses	0	0.0%	0.0%	0.0%
Small Appliances	61	0.1%	0.0%	0.2%
A/V Equipment	13	0.0%	0.0%	0.0%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	144	0.2%	0.0%	0.5%
CDL Wastes	**4,161**	**6.3%**		
Dimension Lumber	359	0.5%	0.3%	0.8%
Pallets	1,407	2.1%	0.2%	4.0%
Crates	160	0.2%	0.1%	0.4%
Other Untreated Wood	31	0.0%	0.0%	0.1%
Treated Wood	63	0.1%	0.0%	0.2%
Contaminated Wood	203	0.3%	0.0%	0.7%
New Gypsum Scrap	0	0.0%	0.0%	0.0%
Demo Gypsum Scrap	19	0.0%	0.0%	0.1%
Fiberglass Insulation	0	0.0%	0.0%	0.0%
Rock/Concrete/Brick	1,131	1.7%	0.0%	4.3%
Asphaltic Roofing	0	0.0%	0.0%	0.0%
Ceramics/Porcelain	626	0.9%	0.0%	2.0%
Other Construction Debris	161	0.2%	0.0%	0.6%
Hazardous	**949**	**1.4%**		
Latex Paints	3	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	2	0.0%	0.0%	0.0%
Caustic Cleaners	21	0.0%	0.0%	0.1%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	11	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	909	1.4%	0.2%	2.5%
Other Cleaners/Chemicals	4	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0	0.0%	0.0%	0.0%
Fines & Misc Materials	**464**	**0.7%**		
Sand/Soil/Dirt	35	0.1%	0.0%	0.1%
Non-distinct Fines	256	0.4%	0.1%	0.7%
Misc. Organics	102	0.2%	0.1%	0.2%
Misc. Inorganics	70	0.1%	0.0%	0.2%
Total Tons	**66,101**			
Sample Count	**61**			

Table 5-9 Composition by Weight: Commercial Loose Roll-offs
(December 2003 – November 2004)

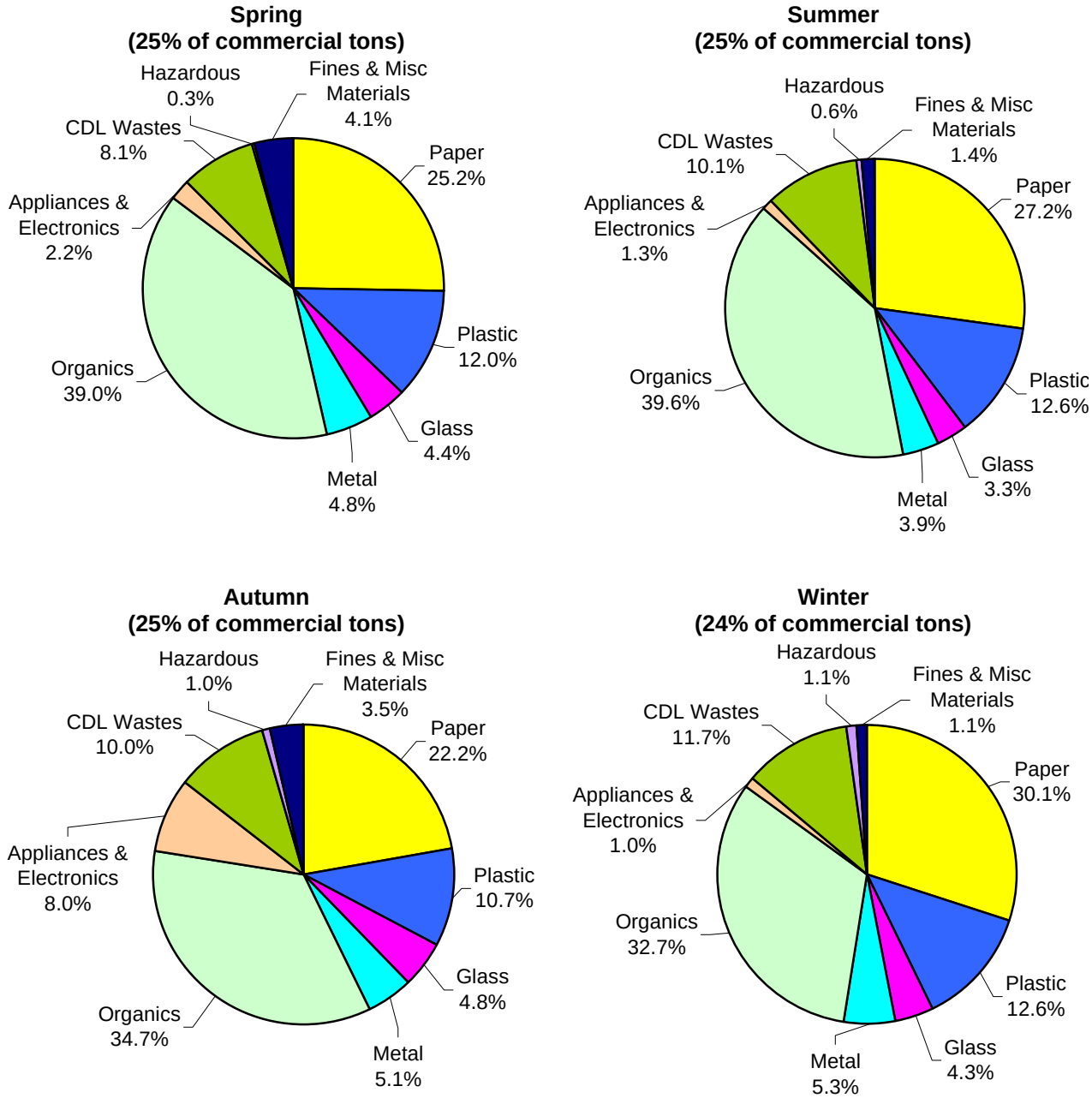
Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**5,972**	**21.4%**		
Newspaper	482	1.7%	0.7%	2.7%
OCC/Kraft, unwaxed	1,467	5.3%	3.9%	6.7%
OCC/Kraft, waxed	333	1.2%	0.0%	2.4%
High Grade	325	1.2%	0.8%	1.5%
Mixed Low Grade	791	2.8%	2.0%	3.7%
Polycoated Paper	56	0.2%	0.1%	0.3%
Compostable/Soiled	1,229	4.4%	2.8%	6.0%
Paper/Other Materials	1,289	4.6%	1.7%	7.5%
Plastic	**3,534**	**12.7%**		
#1 PET Bottles	117	0.4%	0.3%	0.6%
#2 HDPE Natural Bottles	61	0.2%	0.0%	0.4%
#2 HDPE Colored Bottles	21	0.1%	0.0%	0.1%
Other Plastic Bottles	5	0.0%	0.0%	0.0%
Jars and Tubs	140	0.5%	0.1%	0.9%
Expanded Polystyrene	160	0.6%	0.3%	0.8%
Other Rigid Packaging	268	1.0%	0.4%	1.5%
Grocery/Bread Bags	51	0.2%	0.1%	0.3%
Other Clean PE Bags	531	1.9%	0.8%	3.0%
Other Film	972	3.5%	2.5%	4.5%
Plastic Products	683	2.5%	1.4%	3.5%
Plastic/Other Materials	524	1.9%	0.9%	2.8%
Glass	**864**	**3.1%**		
Clear Bottles	144	0.5%	0.3%	0.7%
Green Bottles	46	0.2%	0.0%	0.3%
Brown Bottles	18	0.1%	0.0%	0.1%
Container Glass	13	0.0%	0.0%	0.1%
Fluorescent Tubes	6	0.0%	0.0%	0.0%
Other Glass	637	2.3%	0.0%	5.2%
Metal	**1,686**	**6.0%**		
Aluminum Cans	70	0.3%	0.1%	0.4%
Alum. Foil/Containers	16	0.1%	0.0%	0.1%
Other Aluminum	10	0.0%	0.0%	0.1%
Other Nonferrous	7	0.0%	0.0%	0.1%
Tin Food Cans	170	0.6%	0.0%	1.2%
Empty Aerosol Cans	10	0.0%	0.0%	0.1%
Other Ferrous	747	2.7%	1.3%	4.1%
Oil Filters	9	0.0%	0.0%	0.1%
Mixed Metals/Materials	646	2.3%	0.6%	4.1%
Organics	**6,279**	**22.5%**		
Leaves and Grass	435	1.6%	0.3%	2.8%
Prunings	472	1.7%	0.0%	3.8%
Food	3,033	10.9%	5.4%	16.3%
Textiles/Clothing	354	1.3%	0.5%	2.1%
Carpet/Upholstery	1,317	4.7%	1.5%	7.9%
Disposable Diapers	30	0.1%	0.0%	0.2%
Animal By-Products	535	1.9%	0.0%	5.0%
Rubber Products	86	0.3%	0.0%	0.6%
Tires	16	0.1%	0.0%	0.1%
Appliances & Electronics	**1,015**	**3.6%**		
Furniture	853	3.1%	0.6%	5.5%
Mattresses	157	0.6%	0.0%	1.2%
Small Appliances	3	0.0%	0.0%	0.0%
A/V Equipment	0	0.0%	0.0%	0.0%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	2	0.0%	0.0%	0.0%
CDL Wastes	**7,118**	**25.5%**		
Dimension Lumber	851	3.1%	1.8%	4.3%
Pallets	3,020	10.8%	5.0%	16.7%
Crates	23	0.1%	0.0%	0.2%
Other Untreated Wood	261	0.9%	0.0%	1.8%
Treated Wood	486	1.7%	0.7%	2.8%
Contaminated Wood	471	1.7%	0.1%	3.3%
New Gypsum Scrap	98	0.4%	0.0%	0.8%
Demo Gypsum Scrap	621	2.2%	0.3%	4.2%
Fiberglass Insulation	3	0.0%	0.0%	0.0%
Rock/Concrete/Brick	521	1.9%	0.0%	3.7%
Asphaltic Roofing	22	0.1%	0.0%	0.2%
Ceramics/Porcelain	86	0.3%	0.0%	0.7%
Other Construction Debris	656	2.4%	0.2%	4.5%
Hazardous	**218**	**0.8%**		
Latex Paints	115	0.4%	0.0%	0.8%
Solvent-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	83	0.3%	0.0%	0.8%
Oil-based Paints/Solvents	2	0.0%	0.0%	0.0%
Caustic Cleaners	0	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	14	0.0%	0.0%	0.1%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	3	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	1	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	1	0.0%	0.0%	0.0%
Fines & Misc Materials	**1,183**	**4.2%**		
Sand/Soil/Dirt	911	3.3%	0.1%	6.4%
Non-distinct Fines	85	0.3%	0.0%	0.7%
Misc. Organics	119	0.4%	0.1%	0.7%
Misc. Inorganics	68	0.2%	0.0%	0.5%
Total Tons	**27,868**			
Sample Count	**51**			

5.2 Composition by Season

Waste composition results were examined for seasonal variations. Samples were classified into four seasons according to the month in which they were captured: March, April, and May are spring months; June, July, and August are summer; September, October, and November are autumn; and December, January, and February are winter. Figure 5-2 summarizes the results of the broad material categories by season. When summed together, *paper* and *organics* accounted for at least 55% of the total tonnage for each of the four seasons.

Figure 5-2 Commercial Composition Summary: by Season



5.2.1 Spring

A total of 51 samples were captured from commercial loads between the months of March and May 2004. Approximately 55,000 tons of commercial waste, or about 25% of the commercial waste disposed during the entire study period, was disposed during the spring of 2004. The composition estimates for this subpopulation were applied to the 55,000 tons to estimate the amount of waste disposed for each component category. *Food* accounted for nearly one-third of the total tons disposed in the spring. *Compostable/soiled paper,* and *mixed low grade paper* were also large components (each more than 5%, by weight). The top ten components, which are listed in Table 5-10, sum to approximately 65% of the total, by weight. Table 5-14 lists the full composition results for commercial waste during this season.

Table 5-10 Top Ten Components: Commercial in Spring
(March – May 2004)

Component	Mean	Cum. %	Tons
Food	30.3%	30.3%	16,642
Compostable/Soiled Paper	7.4%	37.7%	4,056
Mixed Low Grade Paper	5.3%	42.9%	2,908
Other Plastic Film	4.5%	47.4%	2,448
Unwaxed OCC/Kraft Paper	4.0%	51.4%	2,178
High Grade Paper	3.0%	54.3%	1,623
Sand/Soil/Dirt	2.9%	57.2%	1,598
Paper/Other Materials	2.5%	59.7%	1,361
Mixed Metals/Materials	2.5%	62.2%	1,356
Rock/Concrete/Brick	2.4%	64.6%	1,345
Total	**64.6%**		**35,517**

5.2.2 Summer

In the summer of 2004, 99 samples were taken from the commercial substream. Approximately 55,000 tons of commercial waste (about 25% of the commercial waste disposed during the entire study period) was disposed during the summer of 2004. The composition estimates for this subpopulation were applied to the 55,000 tons to estimate the amount of waste disposed for each component category. As shown in Table 5-11, *food, compostable/soiled paper, mixed low grade paper, unwaxed OCC/Kraft,* and *other film* were all large components, accounting for approximately 32.8%, 7.3%, 5.5%, 5.5%, and 5.2% of commercial waste disposed between June and August 2004. See Table 5-15 for a complete list of the composition results for commercial waste disposed in the summer.

Table 5-11 Top Ten Components: Commercial in Summer
(June – August 2004)

Component	Mean	Cum. %	Tons
Food	32.8%	32.8%	17,920
Compostable/Soiled Paper	7.3%	40.2%	4,003
Mixed Low Grade Paper	5.5%	45.7%	3,026
Unwaxed OCC/Kraft Paper	5.5%	51.2%	2,976
Other Plastic Film	5.2%	56.4%	2,835
Pallets	3.9%	60.3%	2,126
Newspaper	2.5%	62.8%	1,357
High Grade Paper	2.2%	65.0%	1,198
Paper/Other Materials	2.0%	66.9%	1,071
Waxed OCC/Kraft Paper	1.8%	68.8%	1,007
Total	**68.8%**		**37,519**

5.2.3 Autumn

Between September and November of 2004, a total of 41 samples were captured from commercial loads. Approximately 25% of the commercial waste disposed during the study period, about 54,000 tons, was disposed during the autumn of 2004. Table 5-12 lists the top ten components of waste disposed in the autumn. *Food* composed about one quarter of the total, while *compostable/soiled paper* and *mixed low grade* each accounted for another 6%, by weight. When summed together, the top ten components made up about 65% of the total waste disposed in the autumn of 2004. Table 5-16 lists the composition results for this season in detail.

Table 5-12 Top Ten Components: Commercial in Autumn
(September – November 2004)

Component	Mean	Cum. %	Tons
Food	25.0%	25.0%	13,544
Mixed Low Grade Paper	6.1%	31.1%	3,320
Compostable/Soiled Paper	5.9%	37.0%	3,184
A/V Equipment	5.2%	42.2%	2,846
Other Plastic Film	4.0%	46.2%	2,163
Unwaxed OCC/Kraft Paper	4.0%	50.2%	2,153
Pallets	3.9%	54.1%	2,132
Leaves and Grass	3.8%	57.9%	2,086
Other Glass	3.4%	61.3%	1,820
Dimension Lumber	3.3%	64.6%	1,784
Total	**64.6%**		**35,032**

5.2.4 Winter

A total of 79 samples were sorted from commercial waste disposed during the winter of 2004. Commercial waste disposed during this season, about 54,000 tons, made up roughly 24% of the commercial waste disposed during the yearlong study period. The top ten components are listed in Table 5-13, and sum to approximately 64% of the total, by weight. *Food* was the largest component, at more than one-fourth of the total, followed by *compostable/soiled paper*, *unwaxed OCC/Kraft*, and *mixed low grade paper* (each more than 5%, by weight). Table 5-17 details the full composition results of commercial waste for winter 2004.

Table 5-13 Top Ten Components: Commercial in Winter
(December 2003 – February 2004)

Component	Mean	Cum. %	Tons
Food	26.1%	26.1%	13,613
Compostable/Soiled Paper	7.4%	33.5%	3,864
Unwaxed OCC/Kraft Paper	6.0%	39.5%	3,118
Mixed Low Grade Paper	5.9%	45.4%	3,068
Other Plastic Film	4.5%	49.8%	2,325
Paper/Other Materials	3.6%	53.4%	1,883
Newspaper	3.1%	56.5%	1,610
Pallets	3.1%	59.6%	1,593
High Grade Paper	2.4%	62.0%	1,277
Leaves and Grass	2.4%	64.4%	1,229
Total	**64.4%**		**33,581**

5.2.5 Comparisons between Seasons

Food was the largest component of commercial waste disposed in each of the four seasons. *Compostable/soiled paper* was either the second or third largest component of all four seasons. There were many common components making up the top ten components among the four seasons, *food, compostable/soiled paper, mixed low grade paper, unwaxed OCC/Kraft paper,* and *other plastic film.* There were components specific to the top ten components for individual seasons: *A/V equipment* and *other glass* in the autumn and *sand/soil/dirt* and *rock/concrete/brick* in the spring.

Table 5-14 Composition by Weight: Commercial in Spring (March – May 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**13,842**	**25.2%**		
Newspaper	1,201	2.2%	1.7%	2.7%
OCC/Kraft, unwaxed	2,178	4.0%	3.0%	4.9%
OCC/Kraft, waxed	377	0.7%	0.3%	1.0%
High Grade	1,623	3.0%	2.0%	3.9%
Mixed Low Grade	2,908	5.3%	3.7%	6.9%
Polycoated Paper	137	0.2%	0.2%	0.3%
Compostable/Soiled	4,056	7.4%	5.8%	9.0%
Paper/Other Materials	1,361	2.5%	0.1%	4.8%
Plastic	**6,582**	**12.0%**		
#1 PET Bottles	376	0.7%	0.5%	0.9%
#2 HDPE Natural Bottles	123	0.2%	0.2%	0.3%
#2 HDPE Colored Bottles	83	0.2%	0.1%	0.2%
Other Plastic Bottles	53	0.1%	0.1%	0.1%
Jars and Tubs	148	0.3%	0.2%	0.3%
Expanded Polystyrene	307	0.6%	0.3%	0.8%
Other Rigid Packaging	781	1.4%	1.2%	1.7%
Grocery/Bread Bags	123	0.2%	0.1%	0.3%
Other Clean PE Bags	874	1.6%	0.2%	2.9%
Other Film	2,448	4.5%	3.7%	5.3%
Plastic Products	743	1.4%	0.6%	2.1%
Plastic/Other Materials	524	1.0%	0.5%	1.4%
Glass	**2,396**	**4.4%**		
Clear Bottles	782	1.4%	0.7%	2.2%
Green Bottles	290	0.5%	0.4%	0.7%
Brown Bottles	510	0.9%	0.1%	1.8%
Container Glass	88	0.2%	0.1%	0.3%
Fluorescent Tubes	6	0.0%	0.0%	0.0%
Other Glass	720	1.3%	0.0%	2.9%
Metal	**2,652**	**4.8%**		
Aluminum Cans	152	0.3%	0.2%	0.3%
Alum. Foil/Containers	46	0.1%	0.1%	0.1%
Other Aluminum	90	0.2%	0.0%	0.4%
Other Nonferrous	36	0.1%	0.0%	0.1%
Tin Food Cans	340	0.6%	0.4%	0.8%
Empty Aerosol Cans	38	0.1%	0.0%	0.1%
Other Ferrous	568	1.0%	0.6%	1.5%
Oil Filters	26	0.0%	0.0%	0.1%
Mixed Metals/Materials	1,356	2.5%	0.9%	4.1%
Organics	**21,439**	**39.0%**		
Leaves and Grass	1,277	2.3%	0.7%	3.9%
Prunings	260	0.5%	0.2%	0.8%
Food	16,642	30.3%	25.0%	35.6%
Textiles/Clothing	1,001	1.8%	0.8%	2.8%
Carpet/Upholstery	1,265	2.3%	0.2%	4.4%
Disposable Diapers	125	0.2%	0.1%	0.3%
Animal By-Products	601	1.1%	0.0%	2.4%
Rubber Products	217	0.4%	0.2%	0.6%
Tires	51	0.1%	0.0%	0.2%

	Tons	Mean	Low	High
Appliances & Electronics	**1,220**	**2.2%**		
Furniture	710	1.3%	0.0%	2.7%
Mattresses	184	0.3%	0.0%	0.9%
Small Appliances	14	0.0%	0.0%	0.1%
A/V Equipment	44	0.1%	0.0%	0.2%
Computer Monitors	195	0.4%	0.0%	0.9%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	75	0.1%	0.0%	0.3%
CDL Wastes	**4,463**	**8.1%**		
Dimension Lumber	740	1.3%	0.5%	2.2%
Pallets	850	1.5%	0.1%	3.0%
Crates	89	0.2%	0.0%	0.3%
Other Untreated Wood	231	0.4%	0.0%	1.0%
Treated Wood	559	1.0%	0.0%	2.2%
Contaminated Wood	244	0.4%	0.0%	0.9%
New Gypsum Scrap	0	0.0%	0.0%	0.0%
Demo Gypsum Scrap	28	0.1%	0.0%	0.1%
Fiberglass Insulation	19	0.0%	0.0%	0.1%
Rock/Concrete/Brick	1,345	2.4%	0.0%	5.1%
Asphaltic Roofing	34	0.1%	0.0%	0.1%
Ceramics/Porcelain	262	0.5%	0.0%	1.2%
Other Construction Debris	63	0.1%	0.0%	0.2%
Hazardous	**150**	**0.3%**		
Latex Paints	2	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	12	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	12	0.0%	0.0%	0.1%
Oil-based Paints/Solvents	2	0.0%	0.0%	0.0%
Caustic Cleaners	29	0.1%	0.0%	0.1%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	20	0.0%	0.0%	0.1%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	9	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	61	0.1%	0.0%	0.2%
Other Cleaners/Chemicals	1	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	1	0.0%	0.0%	0.0%
Fines & Misc Materials	**2,229**	**4.1%**		
Sand/Soil/Dirt	1,598	2.9%	0.6%	5.2%
Non-distinct Fines	445	0.8%	0.5%	1.2%
Misc. Organics	131	0.2%	0.1%	0.3%
Misc. Inorganics	54	0.1%	0.0%	0.2%
Total Tons	**54,973**			
Sample Count	**51**			

Table 5-15 Composition by Weight: Commercial in Summer (June – August 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**14,845**	**27.2%**		
Newspaper	1,357	2.5%	1.9%	3.0%
OCC/Kraft, unwaxed	2,976	5.5%	4.3%	6.6%
OCC/Kraft, waxed	1,007	1.8%	0.8%	2.9%
High Grade	1,198	2.2%	1.5%	2.9%
Mixed Low Grade	3,026	5.5%	3.9%	7.2%
Polycoated Paper	207	0.4%	0.3%	0.5%
Compostable/Soiled	4,003	7.3%	5.8%	8.8%
Paper/Other Materials	1,071	2.0%	1.4%	2.6%
Plastic	**6,855**	**12.6%**		
#1 PET Bottles	407	0.7%	0.6%	0.9%
#2 HDPE Natural Bottles	169	0.3%	0.2%	0.4%
#2 HDPE Colored Bottles	52	0.1%	0.1%	0.1%
Other Plastic Bottles	47	0.1%	0.1%	0.1%
Jars and Tubs	228	0.4%	0.3%	0.5%
Expanded Polystyrene	366	0.7%	0.5%	0.8%
Other Rigid Packaging	824	1.5%	1.3%	1.8%
Grocery/Bread Bags	65	0.1%	0.1%	0.2%
Other Clean PE Bags	728	1.3%	0.7%	2.0%
Other Film	2,835	5.2%	4.5%	5.9%
Plastic Products	495	0.9%	0.6%	1.2%
Plastic/Other Materials	640	1.2%	0.6%	1.8%
Glass	**1,800**	**3.3%**		
Clear Bottles	953	1.7%	0.6%	2.9%
Green Bottles	265	0.5%	0.3%	0.7%
Brown Bottles	279	0.5%	0.3%	0.7%
Container Glass	36	0.1%	0.0%	0.1%
Fluorescent Tubes	8	0.0%	0.0%	0.0%
Other Glass	258	0.5%	0.1%	0.9%
Metal	**2,144**	**3.9%**		
Aluminum Cans	214	0.4%	0.3%	0.5%
Alum. Foil/Containers	51	0.1%	0.1%	0.1%
Other Aluminum	26	0.0%	0.0%	0.1%
Other Nonferrous	5	0.0%	0.0%	0.0%
Tin Food Cans	371	0.7%	0.5%	0.9%
Empty Aerosol Cans	52	0.1%	0.1%	0.1%
Other Ferrous	721	1.3%	0.7%	1.9%
Oil Filters	12	0.0%	0.0%	0.0%
Mixed Metals/Materials	692	1.3%	0.7%	1.8%
Organics	**21,586**	**39.6%**		
Leaves and Grass	957	1.8%	1.1%	2.4%
Prunings	188	0.3%	0.1%	0.6%
Food	17,920	32.8%	28.1%	37.6%
Textiles/Clothing	583	1.1%	0.7%	1.5%
Carpet/Upholstery	729	1.3%	0.4%	2.2%
Disposable Diapers	261	0.5%	0.3%	0.7%
Animal By-Products	655	1.2%	0.0%	2.4%
Rubber Products	206	0.4%	0.2%	0.5%
Tires	88	0.2%	0.0%	0.4%

	Tons	Mean	Low	High
Appliances & Electronics	**689**	**1.3%**		
Furniture	516	0.9%	0.2%	1.7%
Mattresses	0	0.0%	0.0%	0.0%
Small Appliances	1	0.0%	0.0%	0.0%
A/V Equipment	46	0.1%	0.0%	0.1%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	126	0.2%	0.0%	0.5%
CDL Wastes	**5,531**	**10.1%**		
Dimension Lumber	939	1.7%	1.0%	2.5%
Pallets	2,126	3.9%	1.5%	6.3%
Crates	60	0.1%	0.0%	0.2%
Other Untreated Wood	92	0.2%	0.0%	0.4%
Treated Wood	344	0.6%	0.3%	0.9%
Contaminated Wood	321	0.6%	0.1%	1.1%
New Gypsum Scrap	148	0.3%	0.0%	0.6%
Demo Gypsum Scrap	44	0.1%	0.0%	0.2%
Fiberglass Insulation	8	0.0%	0.0%	0.0%
Rock/Concrete/Brick	873	1.6%	0.0%	3.6%
Asphaltic Roofing	18	0.0%	0.0%	0.1%
Ceramics/Porcelain	309	0.6%	0.2%	1.0%
Other Construction Debris	248	0.5%	0.1%	0.8%
Hazardous	**324**	**0.6%**		
Latex Paints	49	0.1%	0.0%	0.2%
Solvent-based Adhesives/Glues	1	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	18	0.0%	0.0%	0.1%
Caustic Cleaners	0	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	21	0.0%	0.0%	0.1%
Wet-Cell Batteries	11	0.0%	0.0%	0.1%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	1	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	193	0.4%	0.0%	0.7%
Other Cleaners/Chemicals	19	0.0%	0.0%	0.1%
Other Potentially Harmful Wastes	10	0.0%	0.0%	0.0%
Fines & Misc Materials	**782**	**1.4%**		
Sand/Soil/Dirt	290	0.5%	0.1%	1.0%
Non-distinct Fines	292	0.5%	0.1%	0.9%
Misc. Organics	78	0.1%	0.1%	0.2%
Misc. Inorganics	122	0.2%	0.1%	0.4%
Total Tons	**54,558**			
Sample Count	**99**			

Table 5-16 Composition by Weight: Commercial in Autumn (September – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**12,025**	**22.2%**		
Newspaper	1,024	1.9%	0.9%	2.9%
OCC/Kraft, unwaxed	2,153	4.0%	2.7%	5.2%
OCC/Kraft, waxed	388	0.7%	0.0%	1.5%
High Grade	423	0.8%	0.5%	1.1%
Mixed Low Grade	3,320	6.1%	4.3%	7.9%
Polycoated Paper	152	0.3%	0.1%	0.4%
Compostable/Soiled	3,184	5.9%	3.8%	8.0%
Paper/Other Materials	1,381	2.5%	0.9%	4.2%
Plastic	**5,779**	**10.7%**		
#1 PET Bottles	190	0.4%	0.2%	0.5%
#2 HDPE Natural Bottles	108	0.2%	0.1%	0.3%
#2 HDPE Colored Bottles	53	0.1%	0.0%	0.1%
Other Plastic Bottles	58	0.1%	0.1%	0.2%
Jars and Tubs	234	0.4%	0.2%	0.7%
Expanded Polystyrene	213	0.4%	0.2%	0.6%
Other Rigid Packaging	759	1.4%	0.9%	1.9%
Grocery/Bread Bags	60	0.1%	0.1%	0.2%
Other Clean PE Bags	471	0.9%	0.2%	1.5%
Other Film	2,163	4.0%	2.9%	5.1%
Plastic Products	871	1.6%	0.8%	2.4%
Plastic/Other Materials	600	1.1%	0.5%	1.7%
Glass	**2,623**	**4.8%**		
Clear Bottles	212	0.4%	0.2%	0.6%
Green Bottles	334	0.6%	0.1%	1.1%
Brown Bottles	226	0.4%	0.1%	0.8%
Container Glass	32	0.1%	0.0%	0.1%
Fluorescent Tubes	0	0.0%	0.0%	0.0%
Other Glass	1,820	3.4%	0.0%	7.5%
Metal	**2,769**	**5.1%**		
Aluminum Cans	88	0.2%	0.1%	0.2%
Alum. Foil/Containers	40	0.1%	0.0%	0.1%
Other Aluminum	210	0.4%	0.0%	1.0%
Other Nonferrous	6	0.0%	0.0%	0.0%
Tin Food Cans	176	0.3%	0.1%	0.6%
Empty Aerosol Cans	9	0.0%	0.0%	0.0%
Other Ferrous	811	1.5%	0.6%	2.4%
Oil Filters	67	0.1%	0.0%	0.3%
Mixed Metals/Materials	1,361	2.5%	0.1%	4.9%
Organics	**18,825**	**34.7%**		
Leaves and Grass	2,086	3.8%	0.0%	7.7%
Prunings	1,091	2.0%	0.2%	3.8%
Food	13,544	25.0%	17.7%	32.3%
Textiles/Clothing	344	0.6%	0.3%	1.0%
Carpet/Upholstery	305	0.6%	0.1%	1.0%
Disposable Diapers	379	0.7%	0.1%	1.3%
Animal By-Products	229	0.4%	0.0%	0.9%
Rubber Products	826	1.5%	0.0%	3.5%
Tires	22	0.0%	0.0%	0.1%

	Tons	Mean	Low	High
Appliances & Electronics	**4,326**	**8.0%**		
Furniture	1,178	2.2%	0.0%	4.5%
Mattresses	161	0.3%	0.0%	0.8%
Small Appliances	53	0.1%	0.0%	0.2%
A/V Equipment	2,846	5.2%	0.0%	13.4%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	87	0.2%	0.0%	0.3%
CDL Wastes	**5,417**	**10.0%**		
Dimension Lumber	1,784	3.3%	1.3%	5.3%
Pallets	2,132	3.9%	0.4%	7.4%
Crates	316	0.6%	0.1%	1.1%
Other Untreated Wood	12	0.0%	0.0%	0.0%
Treated Wood	621	1.1%	0.4%	1.9%
Contaminated Wood	232	0.4%	0.0%	0.9%
New Gypsum Scrap	14	0.0%	0.0%	0.1%
Demo Gypsum Scrap	65	0.1%	0.0%	0.3%
Fiberglass Insulation	0	0.0%	0.0%	0.0%
Rock/Concrete/Brick	133	0.2%	0.0%	0.5%
Asphaltic Roofing	0	0.0%	0.0%	0.0%
Ceramics/Porcelain	58	0.1%	0.0%	0.3%
Other Construction Debris	50	0.1%	0.0%	0.2%
Hazardous	**562**	**1.0%**		
Latex Paints	16	0.0%	0.0%	0.1%
Solvent-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	6	0.0%	0.0%	0.0%
Caustic Cleaners	0	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	28	0.1%	0.0%	0.1%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	511	0.9%	0.0%	2.4%
Other Cleaners/Chemicals	0	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0	0.0%	0.0%	0.0%
Fines & Misc Materials	**1,915**	**3.5%**		
Sand/Soil/Dirt	1,631	3.0%	0.2%	5.8%
Non-distinct Fines	120	0.2%	0.0%	0.4%
Misc. Organics	97	0.2%	0.0%	0.3%
Misc. Inorganics	66	0.1%	0.0%	0.3%
Total Tons	**54,240**			
Sample Count	**41**			

Table 5-17 Composition by Weight: Commercial in Winter
(December 2003 – February 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**15,713**	**30.1%**		
Newspaper	1,610	3.1%	2.3%	3.8%
OCC/Kraft, unwaxed	3,118	6.0%	5.2%	6.8%
OCC/Kraft, waxed	631	1.2%	0.3%	2.2%
High Grade	1,277	2.4%	1.8%	3.1%
Mixed Low Grade	3,068	5.9%	4.9%	6.9%
Polycoated Paper	262	0.5%	0.3%	0.7%
Compostable/Soiled	3,864	7.4%	6.0%	8.9%
Paper/Other Materials	1,883	3.6%	1.7%	5.5%
Plastic	**6,588**	**12.6%**		
#1 PET Bottles	325	0.6%	0.5%	0.7%
#2 HDPE Natural Bottles	334	0.6%	0.3%	1.0%
#2 HDPE Colored Bottles	72	0.1%	0.1%	0.2%
Other Plastic Bottles	40	0.1%	0.0%	0.1%
Jars and Tubs	268	0.5%	0.3%	0.7%
Expanded Polystyrene	314	0.6%	0.4%	0.8%
Other Rigid Packaging	661	1.3%	1.0%	1.5%
Grocery/Bread Bags	113	0.2%	0.2%	0.3%
Other Clean PE Bags	701	1.3%	0.8%	1.9%
Other Film	2,325	4.5%	3.8%	5.1%
Plastic Products	770	1.5%	1.0%	1.9%
Plastic/Other Materials	665	1.3%	0.7%	1.9%
Glass	**2,245**	**4.3%**		
Clear Bottles	394	0.8%	0.6%	0.9%
Green Bottles	463	0.9%	0.2%	1.6%
Brown Bottles	299	0.6%	0.2%	1.0%
Container Glass	53	0.1%	0.1%	0.1%
Fluorescent Tubes	17	0.0%	0.0%	0.1%
Other Glass	1,021	2.0%	0.1%	3.8%
Metal	**2,769**	**5.3%**		
Aluminum Cans	169	0.3%	0.3%	0.4%
Alum. Foil/Containers	73	0.1%	0.1%	0.2%
Other Aluminum	67	0.1%	0.1%	0.2%
Other Nonferrous	15	0.0%	0.0%	0.1%
Tin Food Cans	438	0.8%	0.6%	1.1%
Empty Aerosol Cans	54	0.1%	0.1%	0.1%
Other Ferrous	791	1.5%	0.8%	2.2%
Oil Filters	3	0.0%	0.0%	0.0%
Mixed Metals/Materials	1,160	2.2%	1.3%	3.2%
Organics	**17,077**	**32.7%**		
Leaves and Grass	1,229	2.4%	1.4%	3.3%
Prunings	29	0.1%	0.0%	0.1%
Food	13,613	26.1%	21.8%	30.4%
Textiles/Clothing	576	1.1%	0.8%	1.4%
Carpet/Upholstery	1,110	2.1%	0.7%	3.5%
Disposable Diapers	146	0.3%	0.2%	0.4%
Animal By-Products	133	0.3%	0.0%	0.5%
Rubber Products	233	0.4%	0.2%	0.6%
Tires	9	0.0%	0.0%	0.0%
Appliances & Electronics	**522**	**1.0%**		
Furniture	266	0.5%	0.0%	1.1%
Mattresses	0	0.0%	0.0%	0.0%
Small Appliances	34	0.1%	0.0%	0.1%
A/V Equipment	12	0.0%	0.0%	0.1%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	210	0.4%	0.1%	0.7%
CDL Wastes	**6,095**	**11.7%**		
Dimension Lumber	819	1.6%	1.1%	2.1%
Pallets	1,593	3.1%	1.1%	5.1%
Crates	0	0.0%	0.0%	0.0%
Other Untreated Wood	129	0.2%	0.1%	0.4%
Treated Wood	260	0.5%	0.2%	0.8%
Contaminated Wood	669	1.3%	0.5%	2.1%
New Gypsum Scrap	144	0.3%	0.0%	0.6%
Demo Gypsum Scrap	739	1.4%	0.4%	2.4%
Fiberglass Insulation	2	0.0%	0.0%	0.0%
Rock/Concrete/Brick	500	1.0%	0.0%	1.9%
Asphaltic Roofing	9	0.0%	0.0%	0.0%
Ceramics/Porcelain	192	0.4%	0.1%	0.6%
Other Construction Debris	1,038	2.0%	1.0%	3.0%
Hazardous	**570**	**1.1%**		
Latex Paints	35	0.1%	0.0%	0.1%
Solvent-based Adhesives/Glues	1	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	41	0.1%	0.0%	0.2%
Oil-based Paints/Solvents	1	0.0%	0.0%	0.0%
Caustic Cleaners	11	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	24	0.0%	0.0%	0.1%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	6	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	423	0.8%	0.0%	1.6%
Other Cleaners/Chemicals	15	0.0%	0.0%	0.1%
Other Potentially Harmful Wastes	12	0.0%	0.0%	0.1%
Fines & Misc Materials	**571**	**1.1%**		
Sand/Soil/Dirt	145	0.3%	0.0%	0.6%
Non-distinct Fines	113	0.2%	0.0%	0.4%
Misc. Organics	219	0.4%	0.2%	0.6%
Misc. Inorganics	94	0.2%	0.0%	0.5%
Total Tons	**52,150**			
Sample Count	**79**			

5.3 Composition by Generator Type

As discussed at the beginning of this section, drivers were asked to identify from which type of business they had collected the sample load.[11] Since commercial garbage trucks often haul waste from a variety of different business types, most samples are of the *mixed generator type*. The remaining generator-specific analyses are based on a very small number of samples and are thus subject to a relatively wide margin of error. These results provide rough estimates only.

This section first presents the top ten components for each of the 11 commercial generator types.[12] Following the top ten tables are the detailed composition tables for each commercial generator group.

5.3.1 Construction, Demolition, & Landclearing

A total of 9 *CDL* loads were sampled. As shown in Table 5-18, the top ten components accounted for an estimated 76% of the tonnage. Table 5-29 shows the detailed composition results for the samples taken from *CDL* generators.

Table 5-18 Top Ten Components: Construction, Demolition, & Landclearing
(December 2003 – November 2004)

Component	Mean	Cum. %
Sand/Soil/Dirt	16.2%	16.2%
Rock/Concrete/Brick	11.1%	27.3%
Dimension Lumber	10.1%	37.3%
Demo Gypsum Scrap	8.4%	45.7%
Treated Wood	6.1%	51.8%
Other Ferrous Metal	5.9%	57.7%
Carpet/Upholstery	5.8%	63.5%
Other Construction Debris	5.2%	68.7%
Food	4.2%	72.9%
Mixed Metals/Materials	3.2%	76.1%
Total	**76.1%**	

[11] These generator types are defined by Standard Industry Codes (SIC) in Appendix B.
[12] *Restaurant* and o*ther non-residential*, in this study, were combined with *mixed generator types* because of their small sample size. Results for *mixed generator types* are presented in Table 5-28 and Table 5-39.

5.3.2 Education

A total of 8 loads from *educational* institutions were sampled. As shown in Table 5-19, the top ten components accounted over 80% of the tonnage. Table 5-30 shows the detailed composition results for the samples taken from educational institutions.

Table 5-19 Top Ten Components: Education
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	32.9%	32.9%
Compostable/Soiled Paper	19.1%	52.0%
Other Plastic Film	6.4%	58.3%
Mixed Low Grade Paper	4.4%	62.7%
Unwaxed OCC/Kraft Paper	4.2%	67.0%
Newspaper	3.8%	70.7%
High Grade Paper	3.5%	74.2%
Leaves and Grass	3.2%	77.4%
Clear Glass Bottles	2.7%	80.2%
#1 PET Bottles	2.6%	82.8%
Total	**82.8%**	

5.3.3 Health Care

A total of 5 loads from *health care* facilities were sampled. As shown in Table 5-20, the top ten components accounted for a combined total of 74% of the tonnage. Table 5-31 shows the detailed composition results for the samples taken from health care facilities.

Table 5-20 Top Ten Components: Health Care
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	22.7%	22.7%
Medical Wastes	13.7%	36.4%
Compostable/Soiled Paper	9.3%	45.7%
Mixed Low Grade	7.9%	53.6%
Unwaxed OCC/Kraft Paper	4.9%	58.4%
Other Plastic Film	4.8%	63.2%
Other Ferrous Metal	2.9%	66.1%
Other Glass	2.8%	68.9%
Misc. Inorganics	2.6%	71.6%
Expanded Polystyrene	2.4%	73.9%
Total	**73.9%**	

5.3.4 Hotel/Motel

A total of 2 loads were sampled from *hotel/motel* generators. As shown in Table 5-21, the top ten components accounted for a combined total of about 94% of the tonnage. Table 5-32 shows the detailed composition results for the samples taken from *hotel/motel* generators.

Table 5-21 Top Ten Components: Hotel/Motel
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	46.9%	46.9%
Mixed Low Grade Paper	24.4%	71.3%
High Grade Paper	4.5%	75.8%
Other Plastic Film	4.2%	79.9%
Newspaper	3.8%	83.7%
Carpet/Upholstery	3.0%	86.7%
Compostable/Soiled Paper	2.8%	89.5%
Unwaxed OCC/Kraft Paper	2.5%	91.9%
Rock/Concrete/Brick	1.3%	93.3%
Green Glass Bottles	0.9%	94.2%
Total	**94.2%**	

5.3.5 Manufacturing

A total of 18 loads from *manufacturing* businesses were sampled. As shown in Table 5-22, the top ten components accounted for a combined total of 72% of the tonnage. Table 5-33 shows the detailed composition results for the samples taken from manufacturing businesses.

Table 5-22 Top Ten Components: Manufacturing
(December 2003 – November 2004)

Component	Mean	Cum. %
Paper/Other Materials	22.7%	22.7%
Food	14.8%	37.5%
Unwaxed OCC/Kraft Paper	6.3%	43.8%
Other Plastic Film	5.7%	49.5%
Other Clean Polyethylene Bags	4.1%	53.5%
Rock/Concrete/Brick	3.8%	57.4%
High Grade Paper	3.8%	61.2%
Mixed Low Grade Paper	3.6%	64.7%
Demo Gypsum Scrap	3.4%	68.1%
Compostable/Soiled Paper	3.3%	71.5%
Total	**71.5%**	

5.3.6 Office

A total of 9 samples were taken from *office* waste loads. As shown in Table 5-23, the top ten components accounted for a combined total of 76% of the tonnage. Table 5-34 shows the detailed composition results for the samples taken from *office* waste loads.

Table 5-23 Top Ten Components: Office
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	20.5%	20.5%
Compostable/Soiled Paper	16.6%	37.1%
Carpet/Upholstery	7.7%	44.8%
High Grade Paper	7.1%	51.9%
Mixed Low Grade Paper	6.2%	58.1%
Other Plastic Film	5.5%	63.6%
Unwaxed OCC/Kraft Paper	4.6%	68.2%
Pallets	3.1%	71.4%
Other Rigid Plastic Packaging	2.5%	73.9%
Plastic/Other Materials	2.5%	76.4%
Total	**76.4%**	

5.3.7 Other Services

A total of 15 samples were taken from *other services* loads. As shown in Table 5-24, the top ten components accounted for a combined total of 63% of the tonnage. Table 5-35 shows the detailed composition results for the samples taken from *other services* loads.

Table 5-24 Top Ten Components: Other Services
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	16.7%	16.7%
Furniture	7.7%	24.4%
Pallets	7.5%	31.8%
Mixed Metals/Materials	5.4%	37.2%
Other Plastic Film	5.2%	42.4%
Compostable/Soiled Paper	4.8%	47.2%
Unwaxed OCC/Kraft Paper	4.4%	51.7%
Paper/Other Materials	4.1%	55.7%
Mixed Low Grade Paper	4.0%	59.7%
Other Clean Polyethylene Bags	3.7%	63.5%
Total	**63.5%**	

5.3.8 Retail

A total of 27 samples were taken from *retail* business loads. As shown in Table 5-25, the top ten components accounted for a combined total of nearly 80% of the tonnage. Table 5-36 shows the detailed composition results for the samples taken from retail business loads.

Table 5-25 Top Ten Components: Retail
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	35.2%	35.2%
Unwaxed OCC/Kraft Paper	8.6%	43.8%
Pallets	6.6%	50.3%
Waxed OCC/Kraft Paper	5.7%	56.1%
Carpet/Upholstery	5.2%	61.2%
Other Plastic Film	4.3%	65.5%
Other Glass	4.1%	69.6%
Mixed Low Grade Paper	3.8%	73.4%
Compostable/Soiled Paper	3.1%	76.6%
Other Clean Polyethylene Bags	2.2%	78.8%
Total	**78.8%**	

5.3.9 Transportation

A total of 8 samples were taken from the *transportation* industry. As shown in Table 5-26, the top ten components accounted for a combined total of nearly 80% of the tonnage. Table 5-37 shows the detailed composition results for the samples taken from the transportation industry.

Table 5-26 Top Ten Components: Transportation
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	22.0%	22.0%
Pallets	11.2%	33.2%
Compostable/Soiled Paper	9.4%	42.6%
Dimension Lumber	8.8%	51.3%
Furniture	6.5%	57.8%
Newspaper	5.5%	63.3%
Other Plastic Film	4.4%	67.7%
Mixed Low Grade Paper	3.9%	71.6%
Other Clean Polyethylene Bags	3.9%	75.5%
Unwaxed OCC/Kraft Paper	3.5%	78.9%
Total	**78.9%**	

5.3.10 Wholesale

A total of 7 samples were taken from *wholesale* establishments. As shown in Table 5-27, the top ten components accounted for approximately 75% of the tonnage. Table 5-38 shows the detailed composition results for the samples taken from wholesale establishments.

Table 5-27 Top Ten Components: Wholesale
(December 2003 – November 2004)

Component	Mean	Cum. %
Carpet/Upholstery	20.8%	20.8%
Unwaxed OCC/Kraft Paper	10.4%	31.2%
Contaminated Wood	8.9%	40.1%
Paper/Other Materials	6.7%	46.8%
Food	6.7%	53.6%
Leaves and Grass	5.3%	58.9%
Other Ferrous Metal	5.1%	63.9%
Mixed Low Grade Paper	4.6%	68.5%
Plastic/Other Materials	3.7%	72.2%
Tin Food Cans	3.3%	75.5%
Total	**75.5%**	

5.3.11 Mixed Commercial Generators

A total of 162 samples were taken from *mixed commercial generator* loads. Also included in this generator type is one *other non-residential* and one *restaurant* sample. As shown in Table 5-28, the top ten components accounted for a combined total of 66% of the tonnage. Table 5-39 shows the detailed composition results for the samples taken from *mixed commercial generator* loads.

Table 5-28 Top Ten Components: Mixed Commercial Generators
(December 2003 – November 2004)

Component	Mean	Cum. %
Food	31.0%	31.0%
Compostable/Soiled Paper	7.0%	37.9%
Mixed Low Grade Paper	5.8%	43.8%
Other Plastic Film	4.7%	48.5%
Unwaxed OCC/Kraft Paper	4.5%	53.0%
Leaves and Grass	3.0%	56.0%
Dimension Lumber	2.6%	58.7%
Mixed Metals/Materials	2.6%	61.3%
Newspaper	2.6%	63.9%
High Grade Paper	2.3%	66.2%
Total	**66.2%**	

5.3.12 Comparisons between Generator Types

Food was a large waste component disposed by all 11 generator types. *Unwaxed OCC/Kraft paper* was a large component of waste from ten generator types. On the other hand, *#1 PET bottles* from *education* generators, and *tin food cans* from *wholesale* generators were among the top ten components only from these generator groups.

Table 5-29 Composition by Weight: Construction, Demolition & Landclearing
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**8.1%**		
Newspaper	1.2%	0.0%	2.5%
OCC/Kraft, unwaxed	2.6%	0.5%	4.7%
OCC/Kraft, waxed	0.0%	0.0%	0.0%
High Grade	0.3%	0.0%	0.9%
Mixed Low Grade	2.3%	0.0%	5.0%
Polycoated Paper	0.2%	0.0%	0.4%
Compostable/Soiled	0.7%	0.0%	1.9%
Paper/Other Materials	0.7%	0.0%	1.7%
Plastic	**3.3%**		
#1 PET Bottles	0.1%	0.0%	0.2%
#2 HDPE Natural Bottles	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	0.0%	0.0%	0.1%
Other Plastic Bottles	0.0%	0.0%	0.0%
Jars and Tubs	0.1%	0.0%	0.2%
Expanded Polystyrene	0.1%	0.0%	0.2%
Other Rigid Packaging	0.1%	0.0%	0.3%
Grocery/Bread Bags	0.0%	0.0%	0.0%
Other Clean PE Bags	0.6%	0.0%	1.6%
Other Film	0.8%	0.0%	1.8%
Plastic Products	0.9%	0.0%	1.8%
Plastic/Other Materials	0.4%	0.0%	0.9%
Glass	**1.0%**		
Clear Bottles	0.0%	0.0%	0.0%
Green Bottles	0.0%	0.0%	0.0%
Brown Bottles	0.0%	0.0%	0.0%
Container Glass	0.1%	0.0%	0.3%
Fluorescent Tubes	0.0%	0.0%	0.1%
Other Glass	0.8%	0.0%	2.2%
Metal	**9.9%**		
Aluminum Cans	0.1%	0.0%	0.1%
Alum. Foil/Containers	0.1%	0.0%	0.2%
Other Aluminum	0.1%	0.0%	0.2%
Other Nonferrous	0.1%	0.0%	0.3%
Tin Food Cans	0.5%	0.0%	1.2%
Empty Aerosol Cans	0.0%	0.0%	0.1%
Other Ferrous	5.9%	0.0%	12.4%
Oil Filters	0.0%	0.0%	0.0%
Mixed Metals/Materials	3.2%	1.3%	5.0%
Organics	**12.3%**		
Leaves and Grass	0.9%	0.0%	2.0%
Prunings	0.3%	0.0%	0.8%
Food	4.2%	0.0%	11.1%
Textiles/Clothing	0.6%	0.1%	1.0%
Carpet/Upholstery	5.8%	0.0%	13.8%
Disposable Diapers	0.2%	0.0%	0.4%
Animal By-Products	0.0%	0.0%	0.0%
Rubber Products	0.2%	0.0%	0.4%
Tires	0.3%	0.0%	0.7%

	Mean	Low	High
Appliances & Electronics	**4.5%**		
Furniture	3.1%	0.0%	8.2%
Mattresses	1.4%	0.0%	3.6%
Small Appliances	0.0%	0.0%	0.0%
A/V Equipment	0.0%	0.0%	0.0%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.0%	0.0%	0.0%
CDL Wastes	**44.6%**		
Dimension Lumber	10.1%	6.2%	14.0%
Pallets	0.7%	0.0%	1.8%
Crates	0.0%	0.0%	0.0%
Other Untreated Wood	0.4%	0.0%	1.1%
Treated Wood	6.1%	0.9%	11.3%
Contaminated Wood	0.7%	0.0%	1.4%
New Gypsum Scrap	1.7%	0.0%	4.5%
Demo Gypsum Scrap	8.4%	1.2%	15.7%
Fiberglass Insulation	0.1%	0.0%	0.2%
Rock/Concrete/Brick	11.1%	0.7%	21.5%
Asphaltic Roofing	0.2%	0.0%	0.6%
Ceramics/Porcelain	0.0%	0.0%	0.0%
Other Construction Debris	5.2%	0.0%	11.8%
Hazardous	**0.1%**		
Latex Paints	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Caustic Cleaners	0.0%	0.0%	0.0%
Pesticides/Herbicides	0.0%	0.0%	0.0%
Dry-Cell Batteries	0.0%	0.0%	0.0%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.1%	0.0%	0.2%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Fines & Misc Materials	**16.3%**		
Sand/Soil/Dirt	16.2%	0.0%	34.0%
Non-distinct Fines	0.0%	0.0%	0.0%
Misc. Organics	0.1%	0.0%	0.1%
Misc. Inorganics	0.0%	0.0%	0.0%
Sample Count	**9**		

Table 5-30 Composition by Weight: Education
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**37.6%**		
Newspaper	3.8%	2.1%	5.5%
OCC/Kraft, unwaxed	4.2%	2.0%	6.4%
OCC/Kraft, waxed	0.1%	0.0%	0.3%
High Grade	3.5%	1.8%	5.1%
Mixed Low Grade	4.4%	3.2%	5.6%
Polycoated Paper	0.8%	0.4%	1.1%
Compostable/Soiled	19.1%	15.2%	23.1%
Paper/Other Materials	1.7%	0.9%	2.6%
Plastic	**15.4%**		
#1 PET Bottles	2.6%	1.9%	3.3%
#2 HDPE Natural Bottles	0.8%	0.6%	1.0%
#2 HDPE Colored Bottles	0.2%	0.1%	0.3%
Other Plastic Bottles	0.1%	0.0%	0.1%
Jars and Tubs	0.9%	0.6%	1.1%
Expanded Polystyrene	0.3%	0.2%	0.5%
Other Rigid Packaging	1.8%	1.3%	2.4%
Grocery/Bread Bags	0.5%	0.2%	0.7%
Other Clean PE Bags	0.5%	0.0%	1.2%
Other Film	6.4%	4.8%	7.9%
Plastic Products	1.1%	0.7%	1.5%
Plastic/Other Materials	0.3%	0.1%	0.5%
Glass	**4.0%**		
Clear Bottles	2.7%	1.3%	4.2%
Green Bottles	0.1%	0.0%	0.3%
Brown Bottles	0.6%	0.2%	1.0%
Container Glass	0.4%	0.1%	0.8%
Fluorescent Tubes	0.0%	0.0%	0.0%
Other Glass	0.1%	0.0%	0.1%
Metal	**2.8%**		
Aluminum Cans	0.6%	0.4%	0.9%
Alum. Foil/Containers	0.1%	0.0%	0.1%
Other Aluminum	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%
Tin Food Cans	0.8%	0.5%	1.1%
Empty Aerosol Cans	0.2%	0.1%	0.3%
Other Ferrous	1.0%	0.0%	2.5%
Oil Filters	0.0%	0.0%	0.0%
Mixed Metals/Materials	0.0%	0.0%	0.1%
Organics	**38.2%**		
Leaves and Grass	3.2%	0.0%	8.2%
Prunings	1.0%	0.0%	2.5%
Food	32.9%	23.3%	42.4%
Textiles/Clothing	0.3%	0.1%	0.5%
Carpet/Upholstery	0.4%	0.0%	0.8%
Disposable Diapers	0.3%	0.1%	0.5%
Animal By-Products	0.0%	0.0%	0.0%
Rubber Products	0.1%	0.0%	0.2%
Tires	0.0%	0.0%	0.0%

	Mean	Low	High
Appliances & Electronics	**0.0%**		
Furniture	0.0%	0.0%	0.0%
Mattresses	0.0%	0.0%	0.0%
Small Appliances	0.0%	0.0%	0.0%
A/V Equipment	0.0%	0.0%	0.0%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.0%	0.0%	0.0%
CDL Wastes	**0.6%**		
Dimension Lumber	0.3%	0.0%	0.7%
Pallets	0.0%	0.0%	0.0%
Crates	0.0%	0.0%	0.0%
Other Untreated Wood	0.0%	0.0%	0.1%
Treated Wood	0.0%	0.0%	0.0%
Contaminated Wood	0.0%	0.0%	0.0%
New Gypsum Scrap	0.0%	0.0%	0.0%
Demo Gypsum Scrap	0.0%	0.0%	0.0%
Fiberglass Insulation	0.0%	0.0%	0.0%
Rock/Concrete/Brick	0.0%	0.0%	0.0%
Asphaltic Roofing	0.0%	0.0%	0.1%
Ceramics/Porcelain	0.3%	0.0%	0.6%
Other Construction Debris	0.0%	0.0%	0.0%
Hazardous	**0.5%**		
Latex Paints	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Caustic Cleaners	0.4%	0.0%	1.0%
Pesticides/Herbicides	0.0%	0.0%	0.0%
Dry-Cell Batteries	0.1%	0.0%	0.1%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Fines & Misc Materials	**0.8%**		
Sand/Soil/Dirt	0.0%	0.0%	0.0%
Non-distinct Fines	0.4%	0.0%	1.2%
Misc. Organics	0.3%	0.1%	0.5%
Misc. Inorganics	0.0%	0.0%	0.0%
Sample Count	**8**		

Table 5-31 Composition by Weight: Health Care
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**28.1%**			***Appliances & Electronics***	**0.0%**		
Newspaper	2.2%	1.6%	2.8%	Furniture	0.0%	0.0%	0.0%
OCC/Kraft, unwaxed	4.9%	0.7%	9.0%	Mattresses	0.0%	0.0%	0.0%
OCC/Kraft, waxed	0.0%	0.0%	0.0%	Small Appliances	0.0%	0.0%	0.0%
High Grade	1.6%	0.3%	2.9%	A/V Equipment	0.0%	0.0%	0.0%
Mixed Low Grade	7.9%	0.8%	14.9%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.2%	0.1%	0.3%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	9.3%	2.3%	16.2%	Other Computer Components	0.0%	0.0%	0.0%
Paper/Other Materials	2.1%	0.2%	3.9%	***CDL Wastes***	**4.9%**		
Plastic	**14.6%**			Dimension Lumber	1.9%	0.0%	3.9%
#1 PET Bottles	0.6%	0.3%	0.9%	Pallets	0.3%	0.0%	0.7%
#2 HDPE Natural Bottles	0.1%	0.0%	0.1%	Crates	0.5%	0.0%	1.3%
#2 HDPE Colored Bottles	0.1%	0.0%	0.3%	Other Untreated Wood	0.1%	0.0%	0.2%
Other Plastic Bottles	0.0%	0.0%	0.0%	Treated Wood	0.4%	0.0%	1.1%
Jars and Tubs	0.3%	0.1%	0.5%	Contaminated Wood	0.0%	0.0%	0.0%
Expanded Polystyrene	2.4%	0.9%	3.9%	New Gypsum Scrap	0.0%	0.0%	0.0%
Other Rigid Packaging	1.9%	0.6%	3.1%	Demo Gypsum Scrap	0.2%	0.0%	0.5%
Grocery/Bread Bags	0.2%	0.0%	0.5%	Fiberglass Insulation	0.0%	0.0%	0.0%
Other Clean PE Bags	2.1%	0.2%	4.0%	Rock/Concrete/Brick	0.0%	0.0%	0.0%
Other Film	4.8%	2.6%	6.9%	Asphaltic Roofing	0.0%	0.0%	0.0%
Plastic Products	1.9%	0.5%	3.4%	Ceramics/Porcelain	0.0%	0.0%	0.1%
Plastic/Other Materials	0.3%	0.1%	0.4%	Other Construction Debris	1.4%	0.0%	3.6%
Glass	**4.1%**			***Hazardous***	**13.9%**		
Clear Bottles	1.1%	0.2%	2.0%	Latex Paints	0.0%	0.0%	0.1%
Green Bottles	0.0%	0.0%	0.0%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Brown Bottles	0.1%	0.0%	0.2%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.0%	0.0%	0.1%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.1%	0.0%	0.3%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	2.8%	0.0%	7.2%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**5.5%**			Dry-Cell Batteries	0.2%	0.0%	0.4%
Aluminum Cans	0.4%	0.2%	0.6%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.1%	0.0%	0.1%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.0%	0.0%	0.0%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.3%	0.2%	0.5%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.0%	0.0%	0.0%	Medical Wastes	13.7%	3.4%	24.0%
Other Ferrous	2.9%	0.0%	7.0%	Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Oil Filters	0.0%	0.0%	0.0%	Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Mixed Metals/Materials	1.8%	0.0%	4.0%	***Fines & Misc Materials***	**4.0%**		
Organics	**24.9%**			Sand/Soil/Dirt	0.0%	0.0%	0.1%
Leaves and Grass	0.0%	0.0%	0.1%	Non-distinct Fines	0.0%	0.0%	0.0%
Prunings	0.0%	0.0%	0.0%	Misc. Organics	1.4%	0.0%	2.7%
Food	22.7%	3.8%	41.7%	Misc. Inorganics	2.6%	0.0%	6.4%
Textiles/Clothing	0.6%	0.2%	0.9%				
Carpet/Upholstery	0.0%	0.0%	0.0%				
Disposable Diapers	0.6%	0.2%	1.0%				
Animal By-Products	0.0%	0.0%	0.0%				
Rubber Products	0.9%	0.0%	1.8%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**5**		

Table 5-32 Composition by Weight: Hotel/Motel
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**38.8%**			***Appliances & Electronics***	**0.0%**		
Newspaper	3.8%	2.4%	5.1%	Furniture	0.0%	0.0%	0.0%
OCC/Kraft, unwaxed	2.5%	0.0%	5.8%	Mattresses	0.0%	0.0%	0.0%
OCC/Kraft, waxed	0.0%	0.0%	0.0%	Small Appliances	0.0%	0.0%	0.0%
High Grade	4.5%	0.0%	11.6%	A/V Equipment	0.0%	0.0%	0.0%
Mixed Low Grade	24.4%	0.0%	60.7%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.6%	0.2%	1.1%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	2.8%	0.5%	5.0%	Other Computer Components	0.0%	0.0%	0.0%
Paper/Other Materials	0.3%	0.0%	0.6%	***CDL Wastes***	**1.7%**		
Plastic	**5.9%**			Dimension Lumber	0.0%	0.0%	0.0%
#1 PET Bottles	0.4%	0.3%	0.5%	Pallets	0.0%	0.0%	0.0%
#2 HDPE Natural Bottles	0.2%	0.1%	0.2%	Crates	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	0.3%	0.2%	0.3%	Other Untreated Wood	0.0%	0.0%	0.0%
Other Plastic Bottles	0.0%	0.0%	0.0%	Treated Wood	0.0%	0.0%	0.0%
Jars and Tubs	0.1%	0.0%	0.3%	Contaminated Wood	0.0%	0.0%	0.0%
Expanded Polystyrene	0.2%	0.0%	0.6%	New Gypsum Scrap	0.0%	0.0%	0.0%
Other Rigid Packaging	0.6%	0.5%	0.7%	Demo Gypsum Scrap	0.0%	0.0%	0.0%
Grocery/Bread Bags	0.0%	0.0%	0.1%	Fiberglass Insulation	0.0%	0.0%	0.0%
Other Clean PE Bags	0.0%	0.0%	0.0%	Rock/Concrete/Brick	1.3%	0.0%	3.5%
Other Film	4.2%	2.1%	6.2%	Asphaltic Roofing	0.0%	0.0%	0.0%
Plastic Products	0.0%	0.0%	0.0%	Ceramics/Porcelain	0.4%	0.0%	1.0%
Plastic/Other Materials	0.0%	0.0%	0.0%	Other Construction Debris	0.0%	0.0%	0.0%
Glass	**1.9%**			***Hazardous***	**0.0%**		
Clear Bottles	0.7%	0.2%	1.2%	Latex Paints	0.0%	0.0%	0.0%
Green Bottles	0.9%	0.5%	1.3%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Brown Bottles	0.1%	0.0%	0.2%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.0%	0.0%	0.0%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	0.2%	0.0%	0.3%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**1.2%**			Dry-Cell Batteries	0.0%	0.0%	0.0%
Aluminum Cans	0.2%	0.1%	0.2%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.0%	0.0%	0.1%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.0%	0.0%	0.1%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.2%	0.0%	0.5%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.2%	0.2%	0.3%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.1%	0.0%	0.2%	Medical Wastes	0.0%	0.0%	0.0%
Other Ferrous	0.2%	0.0%	0.6%	Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Oil Filters	0.0%	0.0%	0.0%	Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Mixed Metals/Materials	0.2%	0.0%	0.4%	***Fines & Misc Materials***	**0.2%**		
Organics	**50.3%**			Sand/Soil/Dirt	0.0%	0.0%	0.0%
Leaves and Grass	0.0%	0.0%	0.0%	Non-distinct Fines	0.0%	0.0%	0.0%
Prunings	0.0%	0.0%	0.0%	Misc. Organics	0.2%	0.2%	0.2%
Food	46.9%	13.4%	80.4%	Misc. Inorganics	0.0%	0.0%	0.0%
Textiles/Clothing	0.3%	0.0%	0.8%				
Carpet/Upholstery	3.0%	0.0%	7.4%				
Disposable Diapers	0.0%	0.0%	0.0%				
Animal By-Products	0.0%	0.0%	0.0%				
Rubber Products	0.1%	0.0%	0.3%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**2**		

Table 5-33 Composition by Weight: Manufacturing
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**41.5%**		
Newspaper	0.9%	0.0%	1.8%
OCC/Kraft, unwaxed	6.3%	3.2%	9.4%
OCC/Kraft, waxed	0.0%	0.0%	0.1%
High Grade	3.8%	0.0%	8.9%
Mixed Low Grade	3.6%	1.8%	5.3%
Polycoated Paper	1.0%	0.0%	2.4%
Compostable/Soiled	3.3%	1.3%	5.3%
Paper/Other Materials	22.7%	8.9%	36.5%
Plastic	**17.7%**		
#1 PET Bottles	0.2%	0.1%	0.3%
#2 HDPE Natural Bottles	2.2%	0.0%	4.6%
#2 HDPE Colored Bottles	0.1%	0.0%	0.1%
Other Plastic Bottles	0.0%	0.0%	0.1%
Jars and Tubs	0.3%	0.0%	0.5%
Expanded Polystyrene	0.9%	0.0%	1.8%
Other Rigid Packaging	0.8%	0.2%	1.3%
Grocery/Bread Bags	0.1%	0.0%	0.2%
Other Clean PE Bags	4.1%	0.0%	8.2%
Other Film	5.7%	2.9%	8.4%
Plastic Products	1.9%	0.8%	3.0%
Plastic/Other Materials	1.5%	0.4%	2.7%
Glass	**0.8%**		
Clear Bottles	0.2%	0.0%	0.3%
Green Bottles	0.3%	0.0%	0.6%
Brown Bottles	0.0%	0.0%	0.0%
Container Glass	0.0%	0.0%	0.1%
Fluorescent Tubes	0.0%	0.0%	0.0%
Other Glass	0.4%	0.0%	0.8%
Metal	**4.4%**		
Aluminum Cans	0.2%	0.1%	0.3%
Alum. Foil/Containers	0.0%	0.0%	0.1%
Other Aluminum	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%
Tin Food Cans	1.0%	0.0%	2.4%
Empty Aerosol Cans	0.1%	0.0%	0.1%
Other Ferrous	1.7%	0.0%	3.7%
Oil Filters	0.1%	0.0%	0.3%
Mixed Metals/Materials	1.2%	0.0%	2.6%
Organics	**18.6%**		
Leaves and Grass	0.0%	0.0%	0.0%
Prunings	0.6%	0.0%	1.6%
Food	14.8%	6.1%	23.6%
Textiles/Clothing	1.7%	0.0%	4.1%
Carpet/Upholstery	0.1%	0.0%	0.3%
Disposable Diapers	0.1%	0.0%	0.2%
Animal By-Products	0.0%	0.0%	0.0%
Rubber Products	1.0%	0.0%	2.0%
Tires	0.1%	0.0%	0.3%

	Mean	Low	High
Appliances & Electronics	**0.8%**		
Furniture	0.8%	0.0%	2.1%
Mattresses	0.0%	0.0%	0.0%
Small Appliances	0.0%	0.0%	0.0%
A/V Equipment	0.0%	0.0%	0.1%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.0%	0.0%	0.0%
CDL Wastes	**14.5%**		
Dimension Lumber	0.8%	0.3%	1.4%
Pallets	3.2%	0.0%	6.4%
Crates	0.0%	0.0%	0.0%
Other Untreated Wood	0.0%	0.0%	0.0%
Treated Wood	0.1%	0.0%	0.2%
Contaminated Wood	0.1%	0.0%	0.3%
New Gypsum Scrap	0.7%	0.0%	1.9%
Demo Gypsum Scrap	3.4%	0.0%	9.0%
Fiberglass Insulation	0.0%	0.0%	0.0%
Rock/Concrete/Brick	3.8%	0.0%	9.9%
Asphaltic Roofing	0.0%	0.0%	0.0%
Ceramics/Porcelain	0.4%	0.0%	1.2%
Other Construction Debris	1.9%	0.0%	4.0%
Hazardous	**1.3%**		
Latex Paints	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0.0%	0.0%	0.1%
Caustic Cleaners	0.0%	0.0%	0.0%
Pesticides/Herbicides	0.0%	0.0%	0.0%
Dry-Cell Batteries	0.0%	0.0%	0.1%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	1.2%	0.0%	3.3%
Other Cleaners/Chemicals	0.0%	0.0%	0.1%
Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Fines & Misc Materials	**0.4%**		
Sand/Soil/Dirt	0.2%	0.0%	0.4%
Non-distinct Fines	0.2%	0.0%	0.4%
Misc. Organics	0.0%	0.0%	0.0%
Misc. Inorganics	0.0%	0.0%	0.0%
Sample Count	**18**		

Table 5-34 Composition by Weight: Office
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**39.3%**			***Appliances & Electronics***	**3.4%**		
Newspaper	2.3%	1.5%	3.1%	Furniture	1.9%	0.0%	4.4%
OCC/Kraft, unwaxed	4.6%	2.1%	7.1%	Mattresses	0.0%	0.0%	0.0%
OCC/Kraft, waxed	0.0%	0.0%	0.0%	Small Appliances	0.0%	0.0%	0.0%
High Grade	7.1%	3.5%	10.6%	A/V Equipment	0.0%	0.0%	0.0%
Mixed Low Grade	6.2%	4.9%	7.6%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.5%	0.3%	0.6%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	16.6%	10.4%	22.8%	Other Computer Components	1.4%	0.0%	2.9%
Paper/Other Materials	2.0%	1.3%	2.8%	***CDL Wastes***	**4.0%**		
Plastic	**16.4%**			Dimension Lumber	0.2%	0.0%	0.4%
#1 PET Bottles	1.3%	1.0%	1.6%	Pallets	3.1%	0.0%	6.8%
#2 HDPE Natural Bottles	0.3%	0.1%	0.4%	Crates	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	0.0%	0.0%	0.1%	Other Untreated Wood	0.1%	0.0%	0.1%
Other Plastic Bottles	0.0%	0.0%	0.0%	Treated Wood	0.0%	0.0%	0.1%
Jars and Tubs	0.4%	0.2%	0.5%	Contaminated Wood	0.1%	0.0%	0.2%
Expanded Polystyrene	0.9%	0.4%	1.4%	New Gypsum Scrap	0.0%	0.0%	0.0%
Other Rigid Packaging	2.5%	1.5%	3.5%	Demo Gypsum Scrap	0.0%	0.0%	0.0%
Grocery/Bread Bags	0.5%	0.0%	1.1%	Fiberglass Insulation	0.0%	0.0%	0.0%
Other Clean PE Bags	0.6%	0.0%	1.4%	Rock/Concrete/Brick	0.0%	0.0%	0.0%
Other Film	5.5%	4.5%	6.5%	Asphaltic Roofing	0.0%	0.0%	0.0%
Plastic Products	1.8%	0.2%	3.4%	Ceramics/Porcelain	0.3%	0.0%	0.8%
Plastic/Other Materials	2.5%	0.0%	5.7%	Other Construction Debris	0.1%	0.0%	0.3%
Glass	**1.7%**			***Hazardous***	**1.1%**		
Clear Bottles	1.1%	0.6%	1.6%	Latex Paints	0.0%	0.0%	0.0%
Green Bottles	0.2%	0.0%	0.5%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Brown Bottles	0.2%	0.0%	0.5%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.1%	0.0%	0.2%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	0.0%	0.0%	0.0%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**3.2%**			Dry-Cell Batteries	0.0%	0.0%	0.1%
Aluminum Cans	0.5%	0.4%	0.6%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.1%	0.0%	0.1%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.0%	0.0%	0.0%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.8%	0.4%	1.3%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.0%	0.0%	0.1%	Medical Wastes	1.0%	0.0%	2.2%
Other Ferrous	0.7%	0.0%	1.7%	Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Oil Filters	0.0%	0.0%	0.0%	Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Mixed Metals/Materials	1.0%	0.0%	2.0%	***Fines & Misc Materials***	**1.0%**		
Organics	**30.0%**			Sand/Soil/Dirt	0.3%	0.0%	0.7%
Leaves and Grass	0.8%	0.0%	1.9%	Non-distinct Fines	0.1%	0.0%	0.4%
Prunings	0.1%	0.0%	0.2%	Misc. Organics	0.6%	0.0%	1.2%
Food	20.5%	12.2%	28.8%	Misc. Inorganics	0.1%	0.0%	0.2%
Textiles/Clothing	0.3%	0.1%	0.6%				
Carpet/Upholstery	7.7%	0.0%	20.5%				
Disposable Diapers	0.1%	0.0%	0.2%				
Animal By-Products	0.0%	0.0%	0.0%				
Rubber Products	0.5%	0.0%	1.0%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**9**		

Table 5-35 Composition by Weight: Other Services
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**23.9%**		
Newspaper	1.8%	0.4%	3.1%
OCC/Kraft, unwaxed	4.4%	2.7%	6.2%
OCC/Kraft, waxed	3.7%	0.0%	9.7%
High Grade	1.0%	0.5%	1.5%
Mixed Low Grade	4.0%	2.3%	5.7%
Polycoated Paper	0.2%	0.1%	0.3%
Compostable/Soiled	4.8%	2.6%	6.9%
Paper/Other Materials	4.1%	0.0%	9.7%
Plastic	**16.2%**		
#1 PET Bottles	0.8%	0.4%	1.2%
#2 HDPE Natural Bottles	0.1%	0.1%	0.2%
#2 HDPE Colored Bottles	0.0%	0.0%	0.0%
Other Plastic Bottles	0.0%	0.0%	0.0%
Jars and Tubs	0.9%	0.0%	2.0%
Expanded Polystyrene	0.2%	0.1%	0.3%
Other Rigid Packaging	0.8%	0.4%	1.2%
Grocery/Bread Bags	0.1%	0.0%	0.2%
Other Clean PE Bags	3.7%	0.6%	6.9%
Other Film	5.2%	3.0%	7.4%
Plastic Products	2.9%	1.1%	4.7%
Plastic/Other Materials	1.3%	0.0%	2.7%
Glass	**4.1%**		
Clear Bottles	3.4%	0.0%	7.8%
Green Bottles	0.3%	0.0%	0.6%
Brown Bottles	0.1%	0.0%	0.3%
Container Glass	0.1%	0.0%	0.1%
Fluorescent Tubes	0.0%	0.0%	0.0%
Other Glass	0.1%	0.0%	0.3%
Metal	**9.8%**		
Aluminum Cans	0.6%	0.0%	1.4%
Alum. Foil/Containers	0.0%	0.0%	0.1%
Other Aluminum	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%
Tin Food Cans	0.2%	0.1%	0.3%
Empty Aerosol Cans	0.0%	0.0%	0.1%
Other Ferrous	3.6%	1.2%	5.9%
Oil Filters	0.0%	0.0%	0.0%
Mixed Metals/Materials	5.4%	0.0%	12.0%
Organics	**22.0%**		
Leaves and Grass	1.7%	0.0%	3.5%
Prunings	1.4%	0.0%	3.6%
Food	16.7%	6.8%	26.6%
Textiles/Clothing	0.7%	0.4%	1.0%
Carpet/Upholstery	0.2%	0.0%	0.5%
Disposable Diapers	0.1%	0.0%	0.2%
Animal By-Products	0.1%	0.0%	0.3%
Rubber Products	0.9%	0.0%	2.1%
Tires	0.1%	0.0%	0.3%

	Mean	Low	High
Appliances & Electronics	**9.0%**		
Furniture	7.7%	0.0%	16.5%
Mattresses	1.4%	0.0%	3.6%
Small Appliances	0.0%	0.0%	0.0%
A/V Equipment	0.0%	0.0%	0.0%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.0%	0.0%	0.0%
CDL Wastes	**13.4%**		
Dimension Lumber	1.3%	0.2%	2.3%
Pallets	7.5%	0.9%	14.0%
Crates	0.1%	0.0%	0.3%
Other Untreated Wood	0.9%	0.0%	2.2%
Treated Wood	1.3%	0.1%	2.5%
Contaminated Wood	1.1%	0.0%	2.3%
New Gypsum Scrap	0.0%	0.0%	0.0%
Demo Gypsum Scrap	0.0%	0.0%	0.0%
Fiberglass Insulation	0.0%	0.0%	0.0%
Rock/Concrete/Brick	0.0%	0.0%	0.1%
Asphaltic Roofing	0.0%	0.0%	0.1%
Ceramics/Porcelain	0.0%	0.0%	0.1%
Other Construction Debris	1.2%	0.0%	3.1%
Hazardous	**0.5%**		
Latex Paints	0.2%	0.0%	0.5%
Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0.3%	0.0%	0.8%
Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Caustic Cleaners	0.0%	0.0%	0.0%
Pesticides/Herbicides	0.0%	0.0%	0.0%
Dry-Cell Batteries	0.0%	0.0%	0.0%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Fines & Misc Materials	**1.1%**		
Sand/Soil/Dirt	0.0%	0.0%	0.1%
Non-distinct Fines	0.1%	0.0%	0.3%
Misc. Organics	0.2%	0.1%	0.4%
Misc. Inorganics	0.7%	0.0%	1.7%
Sample Count	**15**		

Table 5-36 Composition by Weight: Retail
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**25.5%**		
Newspaper	1.6%	0.4%	2.8%
OCC/Kraft, unwaxed	8.6%	6.4%	10.7%
OCC/Kraft, waxed	5.7%	3.0%	8.5%
High Grade	0.8%	0.5%	1.1%
Mixed Low Grade	3.8%	2.4%	5.3%
Polycoated Paper	0.3%	0.1%	0.5%
Compostable/Soiled	3.1%	2.1%	4.1%
Paper/Other Materials	1.6%	0.9%	2.3%
Plastic	**13.1%**		
#1 PET Bottles	0.3%	0.2%	0.4%
#2 HDPE Natural Bottles	0.1%	0.1%	0.2%
#2 HDPE Colored Bottles	0.0%	0.0%	0.1%
Other Plastic Bottles	0.0%	0.0%	0.0%
Jars and Tubs	0.3%	0.1%	0.4%
Expanded Polystyrene	0.6%	0.3%	1.0%
Other Rigid Packaging	1.3%	0.8%	1.9%
Grocery/Bread Bags	0.2%	0.1%	0.3%
Other Clean PE Bags	2.2%	0.9%	3.6%
Other Film	4.3%	3.1%	5.5%
Plastic Products	2.1%	0.7%	3.5%
Plastic/Other Materials	1.5%	0.0%	3.0%
Glass	**4.6%**		
Clear Bottles	0.4%	0.2%	0.5%
Green Bottles	0.1%	0.0%	0.1%
Brown Bottles	0.1%	0.0%	0.2%
Container Glass	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%
Other Glass	4.1%	0.0%	10.6%
Metal	**1.7%**		
Aluminum Cans	0.1%	0.1%	0.2%
Alum. Foil/Containers	0.1%	0.0%	0.2%
Other Aluminum	0.3%	0.0%	0.8%
Other Nonferrous	0.1%	0.0%	0.2%
Tin Food Cans	0.4%	0.1%	0.7%
Empty Aerosol Cans	0.0%	0.0%	0.1%
Other Ferrous	0.3%	0.0%	0.5%
Oil Filters	0.0%	0.0%	0.0%
Mixed Metals/Materials	0.4%	0.1%	0.8%
Organics	**42.2%**		
Leaves and Grass	0.2%	0.0%	0.4%
Prunings	0.0%	0.0%	0.0%
Food	35.2%	26.6%	43.8%
Textiles/Clothing	0.4%	0.0%	0.8%
Carpet/Upholstery	5.2%	0.0%	10.8%
Disposable Diapers	0.0%	0.0%	0.1%
Animal By-Products	1.1%	0.0%	2.9%
Rubber Products	0.1%	0.0%	0.2%
Tires	0.0%	0.0%	0.0%

	Mean	Low	High
Appliances & Electronics	**0.2%**		
Furniture	0.0%	0.0%	0.0%
Mattresses	0.0%	0.0%	0.0%
Small Appliances	0.1%	0.0%	0.4%
A/V Equipment	0.0%	0.0%	0.0%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.0%	0.0%	0.1%
CDL Wastes	**11.4%**		
Dimension Lumber	1.1%	0.3%	1.9%
Pallets	6.6%	1.6%	11.6%
Crates	0.7%	0.0%	1.4%
Other Untreated Wood	0.4%	0.0%	0.9%
Treated Wood	0.3%	0.0%	0.6%
Contaminated Wood	0.7%	0.0%	1.7%
New Gypsum Scrap	0.0%	0.0%	0.0%
Demo Gypsum Scrap	0.1%	0.0%	0.3%
Fiberglass Insulation	0.0%	0.0%	0.0%
Rock/Concrete/Brick	0.1%	0.0%	0.4%
Asphaltic Roofing	0.0%	0.0%	0.0%
Ceramics/Porcelain	1.4%	0.0%	3.1%
Other Construction Debris	0.0%	0.0%	0.0%
Hazardous	**0.1%**		
Latex Paints	0.1%	0.0%	0.3%
Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Caustic Cleaners	0.0%	0.0%	0.0%
Pesticides/Herbicides	0.0%	0.0%	0.0%
Dry-Cell Batteries	0.0%	0.0%	0.0%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Fines & Misc Materials	**1.1%**		
Sand/Soil/Dirt	0.3%	0.0%	0.9%
Non-distinct Fines	0.6%	0.1%	1.2%
Misc. Organics	0.1%	0.0%	0.3%
Misc. Inorganics	0.0%	0.0%	0.0%
Sample Count	**27**		

Table 5-37 Composition by Weight: Transportation
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**24.6%**			***Appliances & Electronics***	**6.5%**		
Newspaper	5.5%	1.5%	9.4%	Furniture	6.5%	0.0%	17.1%
OCC/Kraft, unwaxed	3.5%	1.7%	5.3%	Mattresses	0.0%	0.0%	0.0%
OCC/Kraft, waxed	0.0%	0.0%	0.0%	Small Appliances	0.0%	0.0%	0.0%
High Grade	1.6%	0.7%	2.5%	A/V Equipment	0.0%	0.0%	0.0%
Mixed Low Grade	3.9%	1.1%	6.6%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.3%	0.1%	0.5%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	9.4%	2.8%	15.9%	Other Computer Components	0.0%	0.0%	0.0%
Paper/Other Materials	0.5%	0.1%	1.0%	***CDL Wastes***	**20.6%**		
Plastic	**14.1%**			Dimension Lumber	8.8%	0.0%	19.8%
#1 PET Bottles	1.4%	0.6%	2.2%	Pallets	11.2%	0.0%	22.4%
#2 HDPE Natural Bottles	0.1%	0.0%	0.2%	Crates	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	0.0%	0.0%	0.1%	Other Untreated Wood	0.0%	0.0%	0.0%
Other Plastic Bottles	0.1%	0.0%	0.1%	Treated Wood	0.5%	0.0%	1.4%
Jars and Tubs	0.3%	0.0%	0.5%	Contaminated Wood	0.0%	0.0%	0.0%
Expanded Polystyrene	0.3%	0.1%	0.6%	New Gypsum Scrap	0.0%	0.0%	0.0%
Other Rigid Packaging	1.4%	0.4%	2.4%	Demo Gypsum Scrap	0.0%	0.0%	0.0%
Grocery/Bread Bags	0.1%	0.1%	0.2%	Fiberglass Insulation	0.0%	0.0%	0.0%
Other Clean PE Bags	3.9%	0.0%	8.4%	Rock/Concrete/Brick	0.0%	0.0%	0.0%
Other Film	4.4%	1.9%	6.9%	Asphaltic Roofing	0.0%	0.0%	0.0%
Plastic Products	0.4%	0.1%	0.6%	Ceramics/Porcelain	0.0%	0.0%	0.1%
Plastic/Other Materials	1.7%	0.1%	3.3%	Other Construction Debris	0.0%	0.0%	0.0%
Glass	**4.4%**			***Hazardous***	**0.3%**		
Clear Bottles	1.8%	0.3%	3.3%	Latex Paints	0.0%	0.0%	0.0%
Green Bottles	0.4%	0.1%	0.8%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Brown Bottles	0.4%	0.0%	0.9%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.2%	0.0%	0.6%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	1.6%	0.0%	4.1%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**2.3%**			Dry-Cell Batteries	0.2%	0.0%	0.6%
Aluminum Cans	0.5%	0.2%	0.8%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.1%	0.0%	0.2%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.0%	0.0%	0.0%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.2%	0.1%	0.3%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.0%	0.0%	0.1%	Medical Wastes	0.0%	0.0%	0.0%
Other Ferrous	0.8%	0.1%	1.6%	Other Cleaners/Chemicals	0.1%	0.0%	0.1%
Oil Filters	0.0%	0.0%	0.0%	Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Mixed Metals/Materials	0.6%	0.0%	1.1%	***Fines & Misc Materials***	**0.1%**		
Organics	**27.1%**			Sand/Soil/Dirt	0.0%	0.0%	0.0%
Leaves and Grass	1.1%	0.0%	2.8%	Non-distinct Fines	0.0%	0.0%	0.0%
Prunings	0.0%	0.0%	0.0%	Misc. Organics	0.1%	0.0%	0.3%
Food	22.0%	2.6%	41.4%	Misc. Inorganics	0.0%	0.0%	0.0%
Textiles/Clothing	2.1%	0.6%	3.7%				
Carpet/Upholstery	1.2%	0.3%	2.2%				
Disposable Diapers	0.2%	0.0%	0.5%				
Animal By-Products	0.3%	0.0%	0.9%				
Rubber Products	0.0%	0.0%	0.0%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**8**		

Table 5-38 Composition by Weight: Wholesale
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**24.4%**		
Newspaper	0.2%	0.0%	0.4%
OCC/Kraft, unwaxed	10.4%	3.0%	17.8%
OCC/Kraft, waxed	0.0%	0.0%	0.0%
High Grade	1.0%	0.1%	1.9%
Mixed Low Grade	4.6%	0.0%	9.4%
Polycoated Paper	0.0%	0.0%	0.0%
Compostable/Soiled	1.5%	0.0%	3.2%
Paper/Other Materials	6.7%	0.0%	17.3%
Plastic	**12.6%**		
#1 PET Bottles	0.1%	0.0%	0.2%
#2 HDPE Natural Bottles	0.1%	0.0%	0.2%
#2 HDPE Colored Bottles	0.0%	0.0%	0.1%
Other Plastic Bottles	0.0%	0.0%	0.0%
Jars and Tubs	0.0%	0.0%	0.0%
Expanded Polystyrene	0.1%	0.0%	0.2%
Other Rigid Packaging	0.4%	0.0%	0.8%
Grocery/Bread Bags	0.0%	0.0%	0.0%
Other Clean PE Bags	1.5%	0.0%	3.2%
Other Film	3.3%	0.0%	8.4%
Plastic Products	3.3%	0.5%	6.1%
Plastic/Other Materials	3.7%	0.0%	7.7%
Glass	**0.1%**		
Clear Bottles	0.0%	0.0%	0.1%
Green Bottles	0.0%	0.0%	0.0%
Brown Bottles	0.1%	0.0%	0.1%
Container Glass	0.0%	0.0%	0.0%
Fluorescent Tubes	0.1%	0.0%	0.2%
Other Glass	0.0%	0.0%	0.0%
Metal	**9.0%**		
Aluminum Cans	0.1%	0.0%	0.1%
Alum. Foil/Containers	0.0%	0.0%	0.0%
Other Aluminum	0.4%	0.0%	0.9%
Other Nonferrous	0.0%	0.0%	0.0%
Tin Food Cans	3.3%	0.0%	6.8%
Empty Aerosol Cans	0.0%	0.0%	0.0%
Other Ferrous	5.1%	0.0%	12.9%
Oil Filters	0.0%	0.0%	0.0%
Mixed Metals/Materials	0.2%	0.0%	0.4%
Organics	**35.9%**		
Leaves and Grass	5.3%	0.0%	13.9%
Prunings	0.7%	0.0%	1.9%
Food	6.7%	0.0%	16.1%
Textiles/Clothing	1.9%	0.0%	3.8%
Carpet/Upholstery	20.8%	0.0%	41.6%
Disposable Diapers	0.0%	0.0%	0.0%
Animal By-Products	0.0%	0.0%	0.0%
Rubber Products	0.5%	0.0%	1.1%
Tires	0.0%	0.0%	0.0%

	Mean	Low	High
Appliances & Electronics	**0.1%**		
Furniture	0.0%	0.0%	0.0%
Mattresses	0.0%	0.0%	0.0%
Small Appliances	0.1%	0.0%	0.2%
A/V Equipment	0.0%	0.0%	0.0%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.0%	0.0%	0.0%
CDL Wastes	**16.8%**		
Dimension Lumber	1.4%	0.7%	2.1%
Pallets	2.0%	0.0%	5.3%
Crates	0.0%	0.0%	0.0%
Other Untreated Wood	1.1%	0.0%	2.7%
Treated Wood	0.6%	0.0%	1.5%
Contaminated Wood	8.9%	0.0%	19.7%
New Gypsum Scrap	0.1%	0.0%	0.2%
Demo Gypsum Scrap	0.0%	0.0%	0.0%
Fiberglass Insulation	0.0%	0.0%	0.0%
Rock/Concrete/Brick	0.3%	0.0%	0.9%
Asphaltic Roofing	0.1%	0.0%	0.3%
Ceramics/Porcelain	2.3%	0.0%	6.0%
Other Construction Debris	0.0%	0.0%	0.1%
Hazardous	**1.1%**		
Latex Paints	1.1%	0.0%	2.8%
Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Caustic Cleaners	0.0%	0.0%	0.0%
Pesticides/Herbicides	0.0%	0.0%	0.0%
Dry-Cell Batteries	0.0%	0.0%	0.1%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Fines & Misc Materials	**0.0%**		
Sand/Soil/Dirt	0.0%	0.0%	0.0%
Non-distinct Fines	0.0%	0.0%	0.0%
Misc. Organics	0.0%	0.0%	0.0%
Misc. Inorganics	0.0%	0.0%	0.0%
Sample Count	**7**		

Table 5-39 Composition by Weight: Mixed Commercial Generators
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**25.1%**			***Appliances & Electronics***	**2.1%**		
Newspaper	2.6%	2.2%	3.0%	Furniture	0.6%	0.2%	1.0%
OCC/Kraft, unwaxed	4.5%	4.0%	5.1%	Mattresses	0.0%	0.0%	0.0%
OCC/Kraft, waxed	1.1%	0.6%	1.5%	Small Appliances	0.1%	0.0%	0.1%
High Grade	2.3%	1.9%	2.7%	A/V Equipment	0.9%	0.0%	2.1%
Mixed Low Grade	5.8%	5.0%	6.6%	Computer Monitors	0.1%	0.0%	0.2%
Polycoated Paper	0.4%	0.3%	0.4%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	7.0%	6.1%	7.8%	Other Computer Components	0.5%	0.2%	0.8%
Paper/Other Materials	1.5%	1.2%	1.8%	***CDL Wastes***	**9.7%**		
Plastic	**11.2%**			Dimension Lumber	2.6%	1.6%	3.7%
#1 PET Bottles	0.6%	0.5%	0.7%	Pallets	2.0%	0.9%	3.0%
#2 HDPE Natural Bottles	0.3%	0.2%	0.4%	Crates	0.3%	0.0%	0.5%
#2 HDPE Colored Bottles	0.2%	0.1%	0.2%	Other Untreated Wood	0.1%	0.0%	0.3%
Other Plastic Bottles	0.1%	0.1%	0.1%	Treated Wood	0.8%	0.5%	1.1%
Jars and Tubs	0.4%	0.3%	0.6%	Contaminated Wood	0.7%	0.4%	1.0%
Expanded Polystyrene	0.6%	0.5%	0.7%	New Gypsum Scrap	0.3%	0.0%	0.7%
Other Rigid Packaging	1.4%	1.3%	1.6%	Demo Gypsum Scrap	0.2%	0.1%	0.4%
Grocery/Bread Bags	0.1%	0.1%	0.2%	Fiberglass Insulation	0.0%	0.0%	0.1%
Other Clean PE Bags	0.8%	0.6%	1.1%	Rock/Concrete/Brick	1.3%	0.2%	2.4%
Other Film	4.7%	4.3%	5.2%	Asphaltic Roofing	0.0%	0.0%	0.1%
Plastic Products	0.9%	0.7%	1.2%	Ceramics/Porcelain	0.3%	0.1%	0.5%
Plastic/Other Materials	1.0%	0.8%	1.2%	Other Construction Debris	0.9%	0.5%	1.4%
Glass	**4.4%**			***Hazardous***	**0.4%**		
Clear Bottles	1.1%	0.8%	1.4%	Latex Paints	0.0%	0.0%	0.0%
Green Bottles	0.8%	0.5%	1.1%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Brown Bottles	0.9%	0.5%	1.3%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.1%	0.1%	0.2%	Oil-based Paints/Solvents	0.0%	0.0%	0.1%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	1.6%	0.6%	2.5%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**5.3%**			Dry-Cell Batteries	0.1%	0.0%	0.1%
Aluminum Cans	0.3%	0.3%	0.4%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.1%	0.1%	0.1%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.1%	0.0%	0.2%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.7%	0.6%	0.8%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.1%	0.1%	0.1%	Medical Wastes	0.2%	0.1%	0.2%
Other Ferrous	1.3%	0.9%	1.6%	Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Oil Filters	0.1%	0.0%	0.2%	Other Potentially Harmful Wastes	0.0%	0.0%	0.1%
Mixed Metals/Materials	2.6%	1.7%	3.5%	***Fines & Misc Materials***	**2.1%**		
Organics	**39.6%**			Sand/Soil/Dirt	1.1%	0.5%	1.8%
Leaves and Grass	3.0%	2.1%	3.9%	Non-distinct Fines	0.6%	0.3%	0.8%
Prunings	0.6%	0.3%	0.9%	Misc. Organics	0.3%	0.1%	0.4%
Food	31.0%	28.0%	34.0%	Misc. Inorganics	0.2%	0.1%	0.3%
Textiles/Clothing	1.6%	1.2%	2.1%				
Carpet/Upholstery	0.9%	0.5%	1.2%				
Disposable Diapers	0.5%	0.4%	0.7%				
Animal By-Products	0.9%	0.3%	1.5%				
Rubber Products	0.9%	0.0%	1.8%				
Tires	0.2%	0.0%	0.5%	**Sample Count**	**162**		

6 Self-haul Composition Results, by Subpopulation

A total of 216 self-haul loads were sampled from December 2003 to November 2004. Descriptive data about samples from each subpopulation are summarized in Table 6-1. As shown, many of the analyses are based on a very small number of samples. Consequently, these calculations are subject to a relatively wide margin of error. For example, a 90% confidence level for components in the Spring sampling period (based on only 36 samples) results in an error range of up to plus or minus six percentage points. See Table 6-15 for details. The sampling plan was designed to provide statistically valid results for the overall self-haul substream. The more detailed composition results are provided as rough estimates only.

Table 6-1 Description of Samples for each Self-haul Subpopulation[13]
(December 2003 – November 2004)

Subpopulation		*(All Weights in pounds)*		
	Sample Count	Total Sample	Average Sample	Average Net Load Weight
Transfer Station				
NRDS	108	34,880.6	323.0	520.2
SRDS	108	34,477.7	319.2	662.0
Vehicle Type				
Passenger	18	5,878.3	326.6	484.6
Trucks	198	63,480.0	320.6	599.7
Season				
Spring	36	11,729.4	325.8	631.9
Summer	72	22,947.7	318.7	634.7
Autumn	36	11,535.7	320.4	335.8
Winter	72	23,145.6	321.5	651.2
Generator Type, by Site				
Residential, NRDS	77	24,832.6	322.5	472.9
Residential, SRDS	80	25,036.5	313.0	589.7
Non-Residential, NRDS	31	10,048.0	324.1	631.6
Non-Residential, SRDS	27	9,173.5	339.8	865.5
Overall Self-Haul	**216**	**69,358**	**321.1**	**590.8**

[13] One self-haul survey form was not completely filled out. The driver omitted whether the load was from a residential or a non-residential generator. Thus while 216 self-haul samples were sorted the generator type is only known for 215 self haul samples.

Seattle Public Utilities provided total disposal quantities for the study period for the following waste populations: 1) total self-haul, 2) self-haul by vehicle type, and 3) self-haul by season. One of the purposes of this study was to determine the ratio of residential to non-residential self-haul waste. The 2004 disposal quantities were calculated from the sampling results: 1) residential and non-residential self-haul waste, 2) residential and non-residential passenger vehicle self-haul waste, and 3) residential and non-residential truck self-haul waste.

Approximately 65% of 2004 self-haul waste was residential, while the remaining 36% was from non-residential sources. For self-haul passenger vehicles, about 94% was residential and 6% was non-residential. About 63% of the self-haul truck waste was from residential sources; non-residential generators disposed of the remaining 37%. As illustrated in the following equations, self-haul tonnage for total self-haul and by vehicle type can be allocated to residential and non-residential sources. This data is summarized in Table 6-2.

Total Self-haul:

Estimated 2004 Self-hauled Residential Tonnage = 99,980 x .6491 = 64,897 tons
Estimated 2004 Self-hauled Non-Residential Tonnage = 99,980 x .3509 = 35,083

Self-haul Passenger Vehicles:

Estimated 2004 Self-hauled Residential Tonnage = 7,728 x .9370 = 7,241 tons
Estimated 2004 Self-hauled Non-Residential Tonnage = 7,728 x .0630 = 487 tons

Self-haul Trucks:

Estimated 2004 Self-hauled Residential Tonnage = 92,253 x .6327 = 58,364 tons
Estimated 2004 Self-hauled Non-Residential Tonnage = 92,253 x .3673 = 33,889 tons

Table 6-2 Self-haul Waste Trips and Tons by Residential and Non-residential

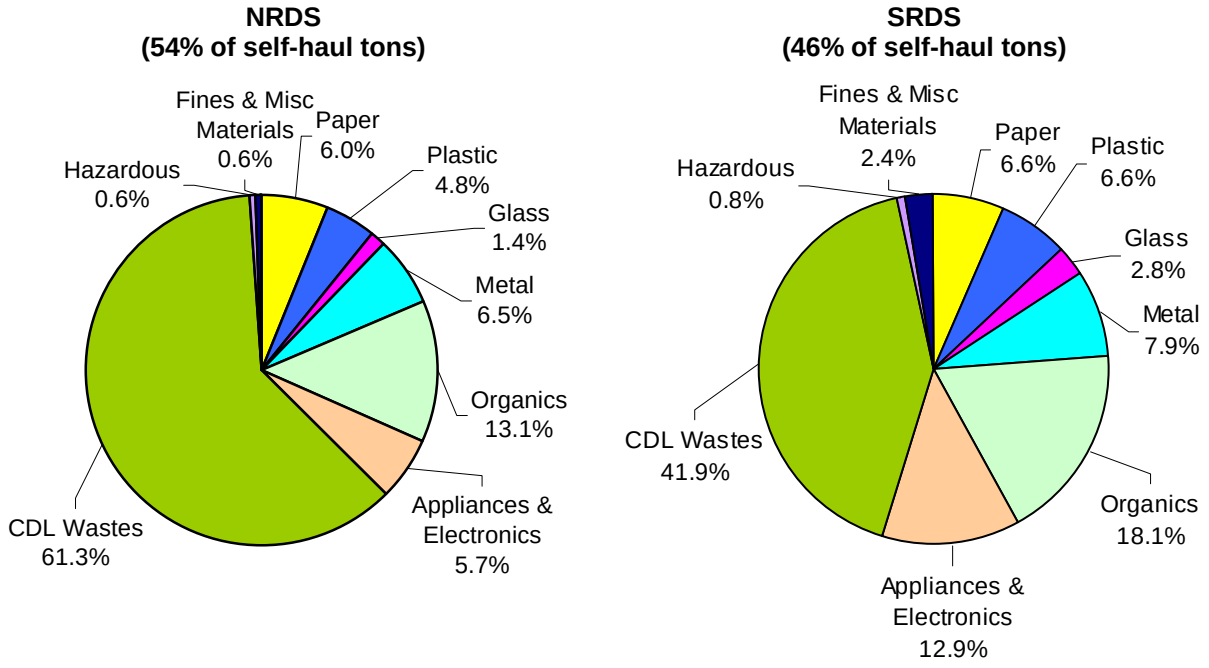
	Residential Amount	Residential Percentage	Commercial Amount	Commercial Percentage	Total Amount
Tons					
Passenger Vehicles	7,240	93.7%	487	6.3%	7,727
Self-haul Trucks	58,364	63.3%	33,889	36.7%	92,253
Total Tons	**65,609**		**34,371**		**99,980**
Trips					
Passenger Vehicles	38,227	93.7%	2,570	6.3%	40,797
Self-haul Trucks	128,651	63.3%	74,685	36.7%	203,336
Total Trips	**166,877**		**77,256**		**244,133**

In the following sections, self-haul waste composition results are presented by transfer station, vehicle type, season, and generator type, by site. Results are depicted in three ways: a pie chart reflects composition by the nine broad material categories; then, a table lists the top ten components, by weight; and finally, the full composition results are presented in a detailed table. Following the top ten tables in Sections 6.1, 6.2, and 6.3 composition results from the relevant subpopulations are compared.

6.1 Composition by Transfer Station

This section examines the composition of wastes self-hauled to the North and South Recycling and Disposal Stations (NRDS and SRDS). Figure 6-1 summarizes the results on a broad material category level. *Organics* comprised a relatively large percentage of the waste hauled to both of the transfer stations. When combined, *CDL wastes* and *organics* accounted for a large percentage of waste hauled to both transfer stations (approximately 74% at the NRDS and 60% at the SRDS). *CDL wastes* (construction, demolition, and landclearing) includes components such as *dimension lumber, treated lumber,* and *rock/concrete/brick*, while *organics* includes components such as *carpet/upholstery, food*, and *leaves and grass*. The following sections examine self-hauled waste from each transfer station in more detail.

Figure 6-1 Self-haul Composition Summary: by Transfer Station
(December 2003 – November 2004)



6.1.1 North Recycling and Disposal Station (NRDS)

A total of 108 samples were taken from loads that were delivered to the NRDS during the year 2004. Approximately 54,000 tons of self-haul waste was disposed at the NRDS during the 2004 calendar year. The composition estimates for this subpopulation were applied to the 54,000 tons to estimate the amount of waste disposed for each component category. Of the top ten components listed in Table 6-3, *dimension lumber*, *treated wood*, *new gypsum scrap*, *carpet/upholstery*, and *other construction debris* composed more than 5% of the total tonnage. Please see Table 6-5 for a detailed listing of the full composition results for waste sampled at the NRDS.

Table 6-3 Top Ten Components: North Recycling and Disposal Station
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	15.8%	15.8%	8,498
Treated Wood	14.0%	29.8%	7,515
New Gypsum Scrap	9.0%	38.8%	4,831
Carpet/Upholstery	7.0%	45.8%	3,749
Other Construction Debris	5.8%	51.6%	3,115
Furniture	3.8%	55.4%	2,061
Contaminated Wood	3.7%	59.2%	1,987
Rock/Concrete/Brick	3.4%	62.6%	1,833
Other Ferrous Metal	3.4%	65.9%	1,805
Demo Gypsum Scrap	3.0%	68.9%	1,592
Total	**68.9%**		**36,986**

6.1.2 South Recycling and Disposal Station (SRDS)

A total of 108 samples from the SRDS were examined during this study period. In 2004, approximately 46,000 tons of self-haul waste was disposed at the SRDS. The composition estimates for this subpopulation were applied to the 46,000 tons to estimate the amount of waste disposed for each component category. Table 6-4 illustrates that *dimension lumber, treated wood,* and *furniture* accounted for greater than 5%, by weight of the self-haul waste disposed at the SRDS. The top ten components accounted for almost 56% of the total, by weight. Please see Table 6-6 for a full list of the composition results for the SRDS.

Table 6-4 Top Ten Components: South Recycling and Disposal Station
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	11.6%	11.6%	5,369
Treated Wood	8.8%	20.4%	4,078
Furniture	7.5%	27.9%	3,484
Contaminated Wood	4.6%	32.5%	2,138
Carpet/Upholstery	4.5%	37.0%	2,073
Rock/Concrete/Brick	4.2%	41.2%	1,938
Mixed Metals/Materials	4.1%	45.3%	1,911
Food	3.7%	49.1%	1,722
Mattresses	3.6%	52.7%	1,673
Other Ferrous Metal	3.3%	55.9%	1,510
Total	**55.9%**		**25,896**

6.1.3 Comparisons between Transfer Stations

Several of the top ten components for both the NRDS and the SRDS were types of *CDL wastes* (construction, demolition, and landclearing). These included *dimension lumber, contaminated wood*, *rock/concrete/brick,* and *treated wood*. Other top ten components shared between the two transfer stations were *furniture, carpet/upholstery,* and *other ferrous metal*.

On the other hand, *new gypsum scrap* and *other construction debris* were among the top ten components of the NRDS waste, but not among the top ten components of the SRDS waste. *Food* and *mattresses* were top ten components of the SRDS waste stream, but not of the NRDS.

Table 6-5 Composition by Weight: Self-haul at the NRDS
(December 2003 –November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**3,220**	**6.0%**		
Newspaper	86	0.2%	0.1%	0.3%
OCC/Kraft, unwaxed	1,146	2.1%	1.5%	2.8%
OCC/Kraft, waxed	21	0.0%	0.0%	0.1%
High Grade	677	1.3%	0.0%	2.5%
Mixed Low Grade	473	0.9%	0.5%	1.3%
Polycoated Paper	4	0.0%	0.0%	0.0%
Compostable/Soiled	168	0.3%	0.1%	0.6%
Paper/Other Materials	646	1.2%	0.5%	1.9%
Plastic	**2,586**	**4.8%**		
#1 PET Bottles	27	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	14	0.0%	0.0%	0.1%
#2 HDPE Colored Bottles	24	0.0%	0.0%	0.1%
Other Plastic Bottles	16	0.0%	0.0%	0.1%
Jars and Tubs	28	0.1%	0.0%	0.1%
Expanded Polystyrene	102	0.2%	0.1%	0.3%
Other Rigid Packaging	122	0.2%	0.1%	0.3%
Grocery/Bread Bags	7	0.0%	0.0%	0.0%
Other Clean PE Bags	116	0.2%	0.1%	0.4%
Other Film	412	0.8%	0.3%	1.3%
Plastic Products	1,099	2.0%	1.2%	2.9%
Plastic/Other Materials	621	1.2%	0.8%	1.5%
Glass	**735**	**1.4%**		
Clear Bottles	63	0.1%	0.0%	0.2%
Green Bottles	137	0.3%	0.0%	0.6%
Brown Bottles	73	0.1%	0.0%	0.3%
Container Glass	16	0.0%	0.0%	0.0%
Fluorescent Tubes	3	0.0%	0.0%	0.0%
Other Glass	443	0.8%	0.3%	1.3%
Metal	**3,506**	**6.5%**		
Aluminum Cans	24	0.0%	0.0%	0.1%
Alum. Foil/Containers	6	0.0%	0.0%	0.0%
Other Aluminum	71	0.1%	0.0%	0.2%
Other Nonferrous	28	0.1%	0.0%	0.1%
Tin Food Cans	17	0.0%	0.0%	0.1%
Empty Aerosol Cans	8	0.0%	0.0%	0.0%
Other Ferrous	1,805	3.4%	2.3%	4.5%
Oil Filters	16	0.0%	0.0%	0.1%
Mixed Metals/Materials	1,530	2.8%	1.9%	3.8%
Organics	**7,009**	**13.1%**		
Leaves and Grass	399	0.7%	0.3%	1.2%
Prunings	881	1.6%	0.7%	2.6%
Food	892	1.7%	0.3%	3.0%
Textiles/Clothing	451	0.8%	0.4%	1.3%
Carpet/Upholstery	3,749	7.0%	3.7%	10.3%
Disposable Diapers	8	0.0%	0.0%	0.0%
Animal By-Products	195	0.4%	0.0%	1.0%
Rubber Products	429	0.8%	0.0%	1.8%
Tires	4	0.0%	0.0%	0.0%

	Tons	Mean	Low	High
Appliances & Electronics	**3,041**	**5.7%**		
Furniture	2,061	3.8%	2.4%	5.3%
Mattresses	419	0.8%	0.0%	1.5%
Small Appliances	160	0.3%	0.1%	0.5%
A/V Equipment	202	0.4%	0.0%	0.7%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	200	0.4%	0.0%	0.7%
CDL Wastes	**32,936**	**61.3%**		
Dimension Lumber	8,498	15.8%	12.7%	18.9%
Pallets	866	1.6%	0.3%	2.9%
Crates	4	0.0%	0.0%	0.0%
Other Untreated Wood	495	0.9%	0.2%	1.6%
Treated Wood	7,515	14.0%	11.1%	16.9%
Contaminated Wood	1,987	3.7%	2.3%	5.1%
New Gypsum Scrap	4,831	9.0%	5.6%	12.3%
Demo Gypsum Scrap	1,592	3.0%	0.8%	5.1%
Fiberglass Insulation	42	0.1%	0.0%	0.2%
Rock/Concrete/Brick	1,833	3.4%	1.4%	5.4%
Asphaltic Roofing	767	1.4%	0.2%	2.6%
Ceramics/Porcelain	1,391	2.6%	1.4%	3.8%
Other Construction Debris	3,115	5.8%	4.2%	7.4%
Hazardous	**324**	**0.6%**		
Latex Paints	166	0.3%	0.0%	0.7%
Solvent-based Adhesives/Glues	11	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	5	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	4	0.0%	0.0%	0.0%
Caustic Cleaners	28	0.1%	0.0%	0.1%
Pesticides/Herbicides	40	0.1%	0.0%	0.1%
Dry-Cell Batteries	8	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	2	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	35	0.1%	0.0%	0.1%
Other Potentially Harmful Wastes	25	0.0%	0.0%	0.1%
Fines & Misc Materials	**329**	**0.6%**		
Sand/Soil/Dirt	225	0.4%	0.1%	0.8%
Non-distinct Fines	23	0.0%	0.0%	0.1%
Misc. Organics	47	0.1%	0.0%	0.2%
Misc. Inorganics	34	0.1%	0.0%	0.1%
Total Tons	**53,686**			
Sample Count	**108**			

Table 6-6 Composition by Weight: Self-haul at the SRDS
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**3,037**	**6.6%**		
Newspaper	99	0.2%	0.1%	0.3%
OCC/Kraft, unwaxed	1,027	2.2%	1.7%	2.8%
OCC/Kraft, waxed	294	0.6%	0.0%	1.7%
High Grade	89	0.2%	0.1%	0.3%
Mixed Low Grade	948	2.0%	1.3%	2.8%
Polycoated Paper	4	0.0%	0.0%	0.0%
Compostable/Soiled	200	0.4%	0.2%	0.7%
Paper/Other Materials	375	0.8%	0.4%	1.2%
Plastic	**3,065**	**6.6%**		
#1 PET Bottles	26	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	15	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	44	0.1%	0.0%	0.2%
Other Plastic Bottles	17	0.0%	0.0%	0.1%
Jars and Tubs	100	0.2%	0.1%	0.4%
Expanded Polystyrene	126	0.3%	0.2%	0.4%
Other Rigid Packaging	109	0.2%	0.2%	0.3%
Grocery/Bread Bags	14	0.0%	0.0%	0.0%
Other Clean PE Bags	36	0.1%	0.0%	0.1%
Other Film	230	0.5%	0.4%	0.6%
Plastic Products	1,423	3.1%	2.1%	4.0%
Plastic/Other Materials	927	2.0%	1.4%	2.6%
Glass	**1,283**	**2.8%**		
Clear Bottles	54	0.1%	0.1%	0.2%
Green Bottles	22	0.0%	0.0%	0.1%
Brown Bottles	47	0.1%	0.0%	0.2%
Container Glass	35	0.1%	0.0%	0.1%
Fluorescent Tubes	6	0.0%	0.0%	0.0%
Other Glass	1,120	2.4%	0.8%	4.0%
Metal	**3,657**	**7.9%**		
Aluminum Cans	27	0.1%	0.0%	0.1%
Alum. Foil/Containers	5	0.0%	0.0%	0.0%
Other Aluminum	62	0.1%	0.0%	0.2%
Other Nonferrous	90	0.2%	0.0%	0.3%
Tin Food Cans	41	0.1%	0.0%	0.1%
Empty Aerosol Cans	8	0.0%	0.0%	0.0%
Other Ferrous	1,510	3.3%	2.3%	4.2%
Oil Filters	2	0.0%	0.0%	0.0%
Mixed Metals/Materials	1,911	4.1%	2.5%	5.7%
Organics	**8,366**	**18.1%**		
Leaves and Grass	1,386	3.0%	1.1%	4.9%
Prunings	974	2.1%	1.1%	3.1%
Food	1,722	3.7%	1.6%	5.8%
Textiles/Clothing	1,469	3.2%	2.1%	4.3%
Carpet/Upholstery	2,073	4.5%	2.6%	6.4%
Disposable Diapers	74	0.2%	0.0%	0.3%
Animal By-Products	295	0.6%	0.1%	1.1%
Rubber Products	357	0.8%	0.3%	1.3%
Tires	16	0.0%	0.0%	0.1%

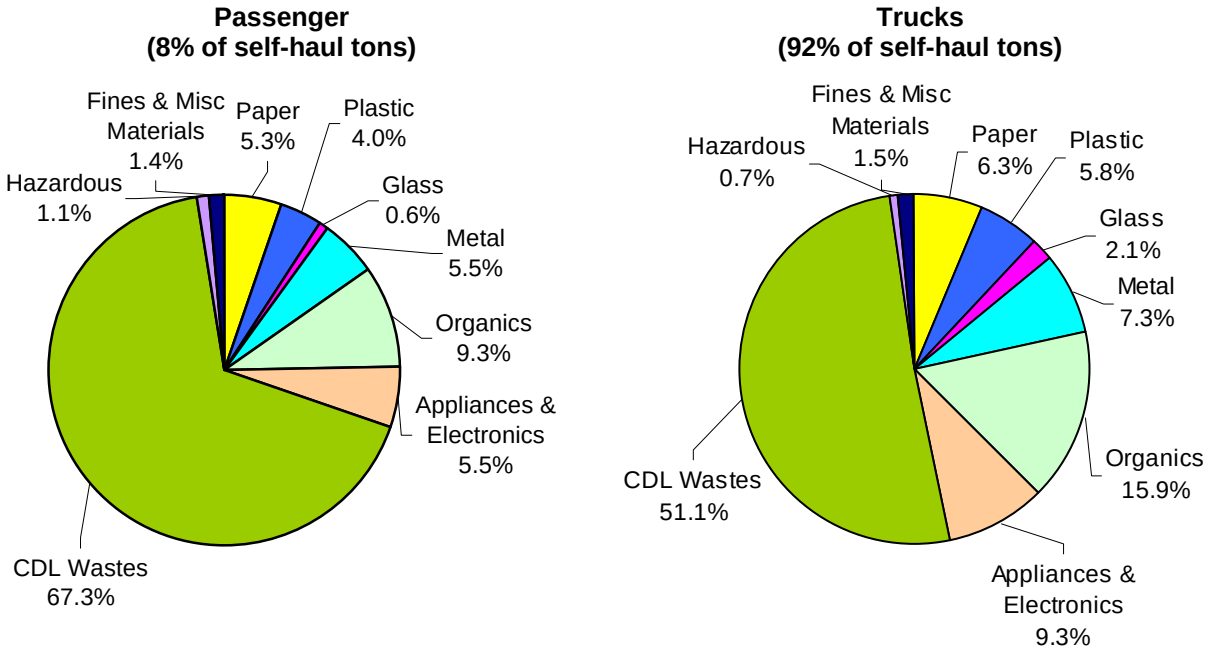
	Tons	Mean	Low	High
Appliances & Electronics	**5,961**	**12.9%**		
Furniture	3,484	7.5%	5.2%	9.9%
Mattresses	1,673	3.6%	1.7%	5.5%
Small Appliances	415	0.9%	0.3%	1.5%
A/V Equipment	235	0.5%	0.2%	0.8%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	155	0.3%	0.1%	0.6%
CDL Wastes	**19,413**	**41.9%**		
Dimension Lumber	5,369	11.6%	8.4%	14.8%
Pallets	759	1.6%	0.3%	3.0%
Crates	78	0.2%	0.0%	0.4%
Other Untreated Wood	780	1.7%	0.0%	3.4%
Treated Wood	4,078	8.8%	6.2%	11.4%
Contaminated Wood	2,138	4.6%	3.1%	6.1%
New Gypsum Scrap	1,261	2.7%	0.6%	4.9%
Demo Gypsum Scrap	424	0.9%	0.1%	1.8%
Fiberglass Insulation	37	0.1%	0.0%	0.1%
Rock/Concrete/Brick	1,938	4.2%	2.5%	5.9%
Asphaltic Roofing	602	1.3%	0.1%	2.5%
Ceramics/Porcelain	627	1.4%	0.4%	2.3%
Other Construction Debris	1,321	2.9%	1.5%	4.2%
Hazardous	**380**	**0.8%**		
Latex Paints	187	0.4%	0.0%	0.8%
Solvent-based Adhesives/Glues	31	0.1%	0.0%	0.2%
Water-based Adhesives/Glues	18	0.0%	0.0%	0.1%
Oil-based Paints/Solvents	29	0.1%	0.0%	0.1%
Caustic Cleaners	1	0.0%	0.0%	0.0%
Pesticides/Herbicides	21	0.0%	0.0%	0.1%
Dry-Cell Batteries	4	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	4	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	7	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	64	0.1%	0.0%	0.2%
Other Potentially Harmful Wastes	16	0.0%	0.0%	0.1%
Fines & Misc Materials	**1,132**	**2.4%**		
Sand/Soil/Dirt	937	2.0%	0.8%	3.3%
Non-distinct Fines	3	0.0%	0.0%	0.0%
Misc. Organics	68	0.1%	0.1%	0.2%
Misc. Inorganics	124	0.3%	0.0%	0.5%
Total Tons	**46,294**			
Sample Count	**108**			

6.2 Composition by Vehicle Type

Wastes are self-hauled to Seattle's transfer stations in a variety of vehicles that can be categorized into two subpopulations: passenger vehicles and trucks. Passenger vehicles include cars, station wagons, and sport utility vehicles (all without trailers); all others (mostly pick-up trucks, vans, and vehicles with trailers) are classified as trucks.

Figure 6-2 provides an overview of waste disposed by both vehicle types. This figure illustrates that *CDL wastes* (construction, demolition, and landclearing debris) accounted for a relatively large percentage of the total tonnage both for passenger vehicles and trucks, about 67% and 51%, respectively. *CDL waste* includes such components as *dimension lumber, rock/concrete/brick,* and *gypsum scrap*. *Organics* were largely prevalent both in passenger vehicles and truck waste, composing approximately 9% and 16% of the total tonnage respectively. *Organics* includes components such as *textiles/clothing, carpet/upholstery,* and *food*.

Figure 6-2 Self-haul Composition Summary: by Vehicle Type
(December 2003 – November 2004)



6.2.1 Passenger Vehicles

There were 18 passenger vehicle samples taken between December 2003 and November 2004. Passenger vehicles disposed approximately 7,700 tons of self-haul waste during this time. The composition estimates for this subpopulation were applied to the 7,700 tons to estimate the amount of waste disposed for each component category. *New gypsum scrap* was the largest component, accounting for approximately 21% of total. *Treated wood, dimension lumber*, and *other construction debris* were other large components of waste disposed by passenger vehicles (each accounting for more than 5%, by weight). As shown in Table 6-7, summed together, the top ten components equal approximately 76% of the total tonnage. The full composition results for passenger vehicles are listed in Table 6-9.

Table 6-7 Top Ten Components: Self-haul Passenger Vehicles
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
New Gypsum Scrap	21.0%	21.0%	1,623
Treated Wood	15.9%	36.9%	1,230
Dimension Lumber	10.1%	47.0%	782
Other Construction Debris	9.7%	56.7%	750
Furniture	4.3%	61.0%	330
Carpet/Upholstery	3.9%	64.9%	300
Pallets	3.1%	68.0%	240
Textiles/Clothing	2.9%	71.0%	227
Mixed Metals/Materials	2.7%	73.7%	211
Other Ferrous Metal	2.5%	76.2%	192
Total	**76.2%**		**5,886**

6.2.2 Trucks

A total of 198 self-haul truckloads were sampled during this study period. Trucks disposed approximately 92,000 tons of self-haul waste during the 2004 calendar year. The composition estimates for this subpopulation were applied to the 92,000 tons to estimate the amount of waste disposed for each component category. As shown in Table 6-8, four of the top ten components accounted for greater than 5% of the total, by weight. These large components accounted for approximately 61% of the total waste disposed by self-haul trucks in 2004. Please see Table 6-10 to view the full composition results for self-haul trucks.

Table 6-8 Top Ten Components: Self-haul Trucks
(December 2003 – November 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	14.2%	14.2%	13,085
Treated Wood	11.2%	25.4%	10,362
Carpet/Upholstery	6.0%	31.4%	5,521
Furniture	5.7%	37.1%	5,215
New Gypsum Scrap	4.8%	41.9%	4,470
Contaminated Wood	4.3%	46.2%	3,991
Other Construction Debris	4.0%	50.2%	3,686
Rock/Concrete/Brick	3.9%	54.1%	3,589
Mixed Metals/Materials	3.5%	57.6%	3,230
Other Ferrous Metal	3.4%	61.0%	3,123
Total	**61.0%**		**56,272**

6.2.3 Comparisons between Vehicle Types

Carpet/upholstery, furniture, dimension lumber, new gypsum scrap, treated wood, other construction debris, and *mixed metals/materials* were top ten components shared between passenger vehicles and trucks. *Pallets* and *textiles/clothing* were among the top ten components for passenger vehicles, but not for trucks. On the other hand, *contaminated wood* and *rock/concrete/brick* were top ten components for trucks, but not for passenger vehicles.

Table 6-9 Composition by Weight: Self-haul Passenger Vehicles
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**409**	**5.3%**		
Newspaper	2	0.0%	0.0%	0.1%
OCC/Kraft, unwaxed	148	1.9%	0.7%	3.2%
OCC/Kraft, waxed	0	0.0%	0.0%	0.0%
High Grade	157	2.0%	0.0%	5.3%
Mixed Low Grade	24	0.3%	0.1%	0.5%
Polycoated Paper	0	0.0%	0.0%	0.0%
Compostable/Soiled	10	0.1%	0.0%	0.2%
Paper/Other Materials	67	0.9%	0.1%	1.6%
Plastic	**309**	**4.0%**		
#1 PET Bottles	0	0.0%	0.0%	0.0%
#2 HDPE Natural Bottles	1	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	2	0.0%	0.0%	0.1%
Other Plastic Bottles	0	0.0%	0.0%	0.0%
Jars and Tubs	2	0.0%	0.0%	0.0%
Expanded Polystyrene	24	0.3%	0.0%	0.6%
Other Rigid Packaging	13	0.2%	0.0%	0.4%
Grocery/Bread Bags	1	0.0%	0.0%	0.0%
Other Clean PE Bags	6	0.1%	0.0%	0.1%
Other Film	40	0.5%	0.4%	0.6%
Plastic Products	152	2.0%	0.4%	3.6%
Plastic/Other Materials	69	0.9%	0.7%	1.1%
Glass	**50**	**0.6%**		
Clear Bottles	2	0.0%	0.0%	0.1%
Green Bottles	3	0.0%	0.0%	0.1%
Brown Bottles	5	0.1%	0.0%	0.1%
Container Glass	1	0.0%	0.0%	0.0%
Fluorescent Tubes	2	0.0%	0.0%	0.1%
Other Glass	37	0.5%	0.1%	0.8%
Metal	**423**	**5.5%**		
Aluminum Cans	1	0.0%	0.0%	0.0%
Alum. Foil/Containers	1	0.0%	0.0%	0.0%
Other Aluminum	1	0.0%	0.0%	0.0%
Other Nonferrous	12	0.2%	0.0%	0.3%
Tin Food Cans	4	0.0%	0.0%	0.1%
Empty Aerosol Cans	1	0.0%	0.0%	0.0%
Other Ferrous	192	2.5%	1.5%	3.5%
Oil Filters	0	0.0%	0.0%	0.0%
Mixed Metals/Materials	211	2.7%	1.3%	4.2%
Organics	**721**	**9.3%**		
Leaves and Grass	12	0.2%	0.0%	0.3%
Prunings	98	1.3%	0.9%	1.6%
Food	61	0.8%	0.3%	1.3%
Textiles/Clothing	227	2.9%	0.2%	5.7%
Carpet/Upholstery	300	3.9%	1.5%	6.3%
Disposable Diapers	1	0.0%	0.0%	0.0%
Animal By-Products	0	0.0%	0.0%	0.0%
Rubber Products	20	0.3%	0.1%	0.4%
Tires	0	0.0%	0.0%	0.0%
Appliances & Electronics	**424**	**5.5%**		
Furniture	330	4.3%	0.9%	7.6%
Mattresses	64	0.8%	0.0%	1.8%
Small Appliances	10	0.1%	0.0%	0.3%
A/V Equipment	19	0.3%	0.0%	0.5%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	0	0.0%	0.0%	0.0%
CDL Wastes	**5,199**	**67.3%**		
Dimension Lumber	782	10.1%	7.3%	12.9%
Pallets	240	3.1%	0.4%	5.8%
Crates	0	0.0%	0.0%	0.0%
Other Untreated Wood	38	0.5%	0.1%	0.9%
Treated Wood	1,230	15.9%	11.4%	20.5%
Contaminated Wood	134	1.7%	1.1%	2.4%
New Gypsum Scrap	1,623	21.0%	20.0%	22.0%
Demo Gypsum Scrap	135	1.8%	0.4%	3.1%
Fiberglass Insulation	4	0.1%	0.0%	0.1%
Rock/Concrete/Brick	182	2.4%	0.0%	4.7%
Asphaltic Roofing	13	0.2%	0.0%	0.4%
Ceramics/Porcelain	68	0.9%	0.1%	1.7%
Other Construction Debris	750	9.7%	7.5%	11.9%
Hazardous	**88**	**1.1%**		
Latex Paints	36	0.5%	0.0%	1.1%
Solvent-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	0	0.0%	0.0%	0.0%
Caustic Cleaners	0	0.0%	0.0%	0.0%
Pesticides/Herbicides	6	0.1%	0.0%	0.2%
Dry-Cell Batteries	0	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	37	0.5%	0.0%	1.1%
Other Potentially Harmful Wastes	9	0.1%	0.0%	0.3%
Fines & Misc Materials	**106**	**1.4%**		
Sand/Soil/Dirt	68	0.9%	0.2%	1.5%
Non-distinct Fines	3	0.0%	0.0%	0.1%
Misc. Organics	13	0.2%	0.0%	0.3%
Misc. Inorganics	21	0.3%	0.0%	0.7%
Total Tons	**7,728**			
Sample Count	**18**			

Table 6-10 Composition by Weight: Self-haul Trucks
(December 2003 – November 2004)

Calculated at a 90% confidence level

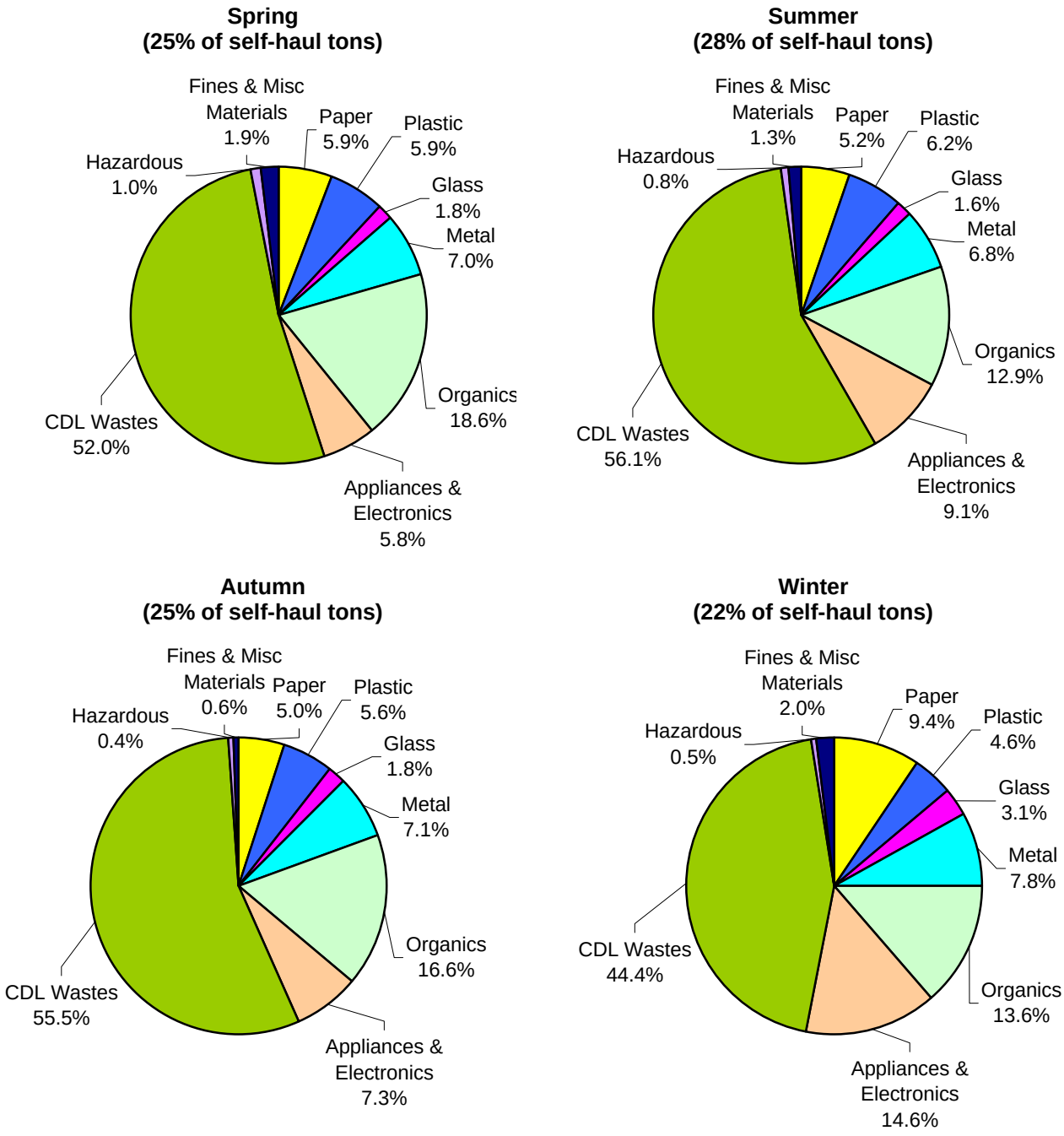
	Tons	Mean	Low	High
Paper	**5,848**	**6.3%**		
Newspaper	183	0.2%	0.1%	0.3%
OCC/Kraft, unwaxed	2,024	2.2%	1.7%	2.7%
OCC/Kraft, waxed	315	0.3%	0.0%	0.9%
High Grade	609	0.7%	0.0%	1.3%
Mixed Low Grade	1,398	1.5%	1.1%	2.0%
Polycoated Paper	8	0.0%	0.0%	0.0%
Compostable/Soiled	357	0.4%	0.2%	0.6%
Paper/Other Materials	954	1.0%	0.6%	1.5%
Plastic	**5,342**	**5.8%**		
#1 PET Bottles	53	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	28	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	66	0.1%	0.0%	0.1%
Other Plastic Bottles	32	0.0%	0.0%	0.1%
Jars and Tubs	125	0.1%	0.1%	0.2%
Expanded Polystyrene	204	0.2%	0.2%	0.3%
Other Rigid Packaging	218	0.2%	0.2%	0.3%
Grocery/Bread Bags	19	0.0%	0.0%	0.0%
Other Clean PE Bags	147	0.2%	0.1%	0.3%
Other Film	602	0.7%	0.3%	1.0%
Plastic Products	2,370	2.6%	1.9%	3.3%
Plastic/Other Materials	1,479	1.6%	1.2%	2.0%
Glass	**1,968**	**2.1%**		
Clear Bottles	114	0.1%	0.1%	0.2%
Green Bottles	156	0.2%	0.0%	0.4%
Brown Bottles	114	0.1%	0.0%	0.2%
Container Glass	51	0.1%	0.0%	0.1%
Fluorescent Tubes	7	0.0%	0.0%	0.0%
Other Glass	1,526	1.7%	0.8%	2.5%
Metal	**6,740**	**7.3%**		
Aluminum Cans	50	0.1%	0.0%	0.1%
Alum. Foil/Containers	11	0.0%	0.0%	0.0%
Other Aluminum	132	0.1%	0.1%	0.2%
Other Nonferrous	106	0.1%	0.0%	0.2%
Tin Food Cans	55	0.1%	0.0%	0.1%
Empty Aerosol Cans	15	0.0%	0.0%	0.0%
Other Ferrous	3,123	3.4%	2.6%	4.2%
Oil Filters	18	0.0%	0.0%	0.0%
Mixed Metals/Materials	3,230	3.5%	2.5%	4.5%
Organics	**14,654**	**15.9%**		
Leaves and Grass	1,772	1.9%	0.9%	2.9%
Prunings	1,756	1.9%	1.1%	2.7%
Food	2,553	2.8%	1.5%	4.1%
Textiles/Clothing	1,693	1.8%	1.3%	2.4%
Carpet/Upholstery	5,521	6.0%	3.9%	8.1%
Disposable Diapers	81	0.1%	0.0%	0.2%
Animal By-Products	491	0.5%	0.1%	1.0%
Rubber Products	766	0.8%	0.2%	1.5%
Tires	21	0.0%	0.0%	0.0%

	Tons	Mean	Low	High
Appliances & Electronics	**8,578**	**9.3%**		
Furniture	5,215	5.7%	4.2%	7.1%
Mattresses	2,027	2.2%	1.2%	3.2%
Small Appliances	564	0.6%	0.3%	0.9%
A/V Equipment	417	0.5%	0.2%	0.7%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	355	0.4%	0.1%	0.6%
CDL Wastes	**47,150**	**51.1%**		
Dimension Lumber	13,085	14.2%	11.8%	16.6%
Pallets	1,385	1.5%	0.5%	2.5%
Crates	82	0.1%	0.0%	0.2%
Other Untreated Wood	1,237	1.3%	0.4%	2.3%
Treated Wood	10,362	11.2%	9.2%	13.3%
Contaminated Wood	3,991	4.3%	3.2%	5.4%
New Gypsum Scrap	4,470	4.8%	2.6%	7.1%
Demo Gypsum Scrap	1,881	2.0%	0.7%	3.4%
Fiberglass Insulation	76	0.1%	0.0%	0.1%
Rock/Concrete/Brick	3,589	3.9%	2.5%	5.3%
Asphaltic Roofing	1,357	1.5%	0.5%	2.4%
Ceramics/Porcelain	1,949	2.1%	1.3%	3.0%
Other Construction Debris	3,686	4.0%	2.8%	5.1%
Hazardous	**616**	**0.7%**		
Latex Paints	317	0.3%	0.0%	0.6%
Solvent-based Adhesives/Glues	42	0.0%	0.0%	0.1%
Water-based Adhesives/Glues	23	0.0%	0.0%	0.1%
Oil-based Paints/Solvents	32	0.0%	0.0%	0.1%
Caustic Cleaners	28	0.0%	0.0%	0.1%
Pesticides/Herbicides	56	0.1%	0.0%	0.1%
Dry-Cell Batteries	11	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	4	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	9	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	62	0.1%	0.0%	0.1%
Other Potentially Harmful Wastes	32	0.0%	0.0%	0.1%
Fines & Misc Materials	**1,355**	**1.5%**		
Sand/Soil/Dirt	1,094	1.2%	0.5%	1.8%
Non-distinct Fines	24	0.0%	0.0%	0.1%
Misc. Organics	102	0.1%	0.1%	0.2%
Misc. Inorganics	136	0.1%	0.0%	0.3%
Total Tons	**92,253**			
Sample Count	**198**			

6.3 Composition by Season

As shown in Figure 6-3, *CDL wastes* accounted for a substantial portion of the self-haul substream during the year 2004. CDL disposal appeared to reach a peak of approximately 56% in the summer. In addition, *organics* comprised a relatively large percentage of self-haul waste across seasons: 18% in the spring, 13% in the summer, 17% in the autumn, and 14% in the winter. *CDL wastes* includes such components as *dimension lumber, rock/concrete/brick,* and *gypsum scrap*. *Organics* includes components such as *textiles/clothing, carpet/upholstery, food,* and *leaves and grass*.

Figure 6-3 Self-haul Composition Summary: by Season



6.3.1 Spring

A total of 36 self-haul samples were taken during the spring months of 2004 (March – May). Approximately 25,000 tons of self-haul waste was disposed during the spring of 2004. The composition estimates for this subpopulation were applied to the 25,000 tons to estimate the amount of waste disposed for each component category. As shown in Table 6-11, the top ten components summed to approximately 65% of the total spring tonnage. *Treated wood* was the largest single component, accounting for about 15% of the total, by weight. *Dimension lumber*, *carpet/upholstery*, and *rock/concrete/brick* were also large components of waste sampled in the spring. Table 6-15 lists the full composition results for self-haul waste disposed in the spring.

Table 6-11 Top Ten Components: Self-haul in Spring
(March – May 2004)

Component	Mean	Cum. %	Tons
Treated Wood	14.7%	14.7%	3,694
Dimension Lumber	12.9%	27.5%	3,246
Carpet/Upholstery	8.0%	35.5%	2,011
Rock/Concrete/Brick	5.9%	41.4%	1,495
Contaminated Wood	4.4%	45.8%	1,111
Furniture	4.4%	50.2%	1,097
Food	4.2%	54.4%	1,067
Other Construction Debris	3.8%	58.2%	959
Other Ferrous Metal	3.7%	62.0%	941
Textiles/Clothing	3.3%	65.2%	823
Total	**65.2%**		**16,444**

6.3.2 Summer

During the summer (June – August, 2004), 72 self-haul loads were sampled. Approximately 28,000 tons of self-haul waste was disposed during the summer of 2004. The composition estimates for this subpopulation were applied to the 28,000 tons to estimate the amount of waste disposed for each component category. *Dimension lumber, treated wood, furniture, new gypsum scrap,* and *contaminated wood* were all large components of waste disposed in the summer (each greater than 5%, by weight). Table 6-12 contains a list of the top ten components, which summed to about 64% of the total summer tonnage. Refer to Table 6-16 for the complete composition results of self-haul waste disposed during the summer of 2004.

Table 6-12 Top Ten Components: Self-haul in Summer
(June – August 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	16.7%	16.7%	4,738
Treated Wood	12.3%	29.0%	3,487
Furniture	7.0%	35.9%	1,981
New Gypsum Scrap	6.5%	42.4%	1,848
Contaminated Wood	5.0%	47.4%	1,408
Other Construction Debris	4.3%	51.7%	1,227
Carpet/Upholstery	3.7%	55.4%	1,042
Other Ferrous Metal	3.7%	59.0%	1,037
Demo Gypsum Scrap	2.9%	61.9%	817
Mixed Metals/Materials	2.5%	64.4%	714
Total	**64.4%**		**18,300**

6.3.3 Autumn

A total of 36 self-haul loads were sampled during the autumn (September – November, 2004). Approximately 25,000 tons of self-haul waste was disposed during the autumn of 2004. The composition estimates for this subpopulation were applied to the 25,000 tons to estimate the amount of waste disposed for each component category. As shown in Table 6-13, *dimension lumber, new gypsum scrap, treated wood, carpet/upholstery,* and *other construction debris* were all large components of self-haul waste disposed during the autumn months. When combined, the top ten components accounted for almost 68% of the total, by weight. Table 6-17 lists the detailed composition results for samples taken from September to November 2000.

Table 6-13 Top Ten Components: Self-haul in Autumn
(September – November 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	12.9%	12.9%	3,163
New Gypsum Scrap	12.9%	25.7%	3,156
Treated Wood	9.9%	35.6%	2,421
Carpet/Upholstery	7.9%	43.5%	1,930
Other Construction Debris	5.8%	49.3%	1,421
Mixed Metals/Materials	4.7%	53.9%	1,143
Plastic Products	4.0%	57.9%	983
Rock/Concrete/Brick	3.9%	61.8%	957
Contaminated Wood	3.2%	65.0%	776
Furniture	2.8%	67.8%	697
Total	**67.8%**		**16,646**

6.3.4 Winter

From December through February 2004, a total of 72 samples were taken from self-haul loads. Approximately 22,000 tons of self-haul waste was disposed during the winter of 2004. The composition estimates for this subpopulation were applied to the 22,000 tons to estimate the amount of waste disposed for each component category. Table 6-14 lists the top ten components of waste disposed during the winter. *Dimension lumber, treated wood, furniture,* and *mattresses* were all large components of this waste, summing to approximately 57% of the total, by weight. Please see Table 6-18 for a list of the detailed composition results.

Table 6-14 Top Ten Components: Self-haul in Winter
(December 2003 – February 2004)

Component	Mean	Cum. %	Tons
Dimension Lumber	12.5%	12.5%	2,721
Treated Wood	9.1%	21.6%	1,990
Furniture	8.1%	29.7%	1,770
Mattresses	5.2%	34.9%	1,125
Carpet/Upholstery	3.8%	38.7%	839
Contaminated Wood	3.8%	42.5%	831
Other Construction Debris	3.8%	46.3%	829
Mixed Metals/Materials	3.8%	50.1%	821
Rock/Concrete/Brick	3.7%	53.8%	803
Other Ferrous Metal	3.6%	57.4%	786
Total	**57.4%**		**12,515**

6.3.5 Comparisons between Seasons

Treated wood, dimension lumber, carpet/upholstery, *contaminated wood,* and *furniture* were top ten components across all four seasons. *Food* and *textiles/clothing* were top ten components only during the spring, while *demo gypsum scrap* was a top ten component specific to the summer. *Plastic products* only made it to the top ten components during autumn. *Mattresses* was a top ten component in the winter only.

Table 6-15 Composition by Weight: Self-haul in Spring
(March – May 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**1,497**	**5.9%**		
Newspaper	17	0.1%	0.0%	0.1%
OCC/Kraft, unwaxed	485	1.9%	1.1%	2.8%
OCC/Kraft, waxed	1	0.0%	0.0%	0.0%
High Grade	118	0.5%	0.0%	0.9%
Mixed Low Grade	454	1.8%	0.6%	3.0%
Polycoated Paper	4	0.0%	0.0%	0.0%
Compostable/Soiled	116	0.5%	0.0%	1.0%
Paper/Other Materials	302	1.2%	0.0%	2.4%
Plastic	**1,495**	**5.9%**		
#1 PET Bottles	6	0.0%	0.0%	0.0%
#2 HDPE Natural Bottles	9	0.0%	0.0%	0.1%
#2 HDPE Colored Bottles	48	0.2%	0.1%	0.3%
Other Plastic Bottles	8	0.0%	0.0%	0.1%
Jars and Tubs	2	0.0%	0.0%	0.0%
Expanded Polystyrene	63	0.3%	0.1%	0.4%
Other Rigid Packaging	8	0.0%	0.0%	0.1%
Grocery/Bread Bags	8	0.0%	0.0%	0.1%
Other Clean PE Bags	59	0.2%	0.0%	0.5%
Other Film	273	1.1%	0.0%	2.1%
Plastic Products	606	2.4%	1.4%	3.5%
Plastic/Other Materials	406	1.6%	0.9%	2.4%
Glass	**464**	**1.8%**		
Clear Bottles	55	0.2%	0.0%	0.4%
Green Bottles	11	0.0%	0.0%	0.1%
Brown Bottles	16	0.1%	0.0%	0.1%
Container Glass	1	0.0%	0.0%	0.0%
Fluorescent Tubes	4	0.0%	0.0%	0.0%
Other Glass	378	1.5%	0.4%	2.6%
Metal	**1,759**	**7.0%**		
Aluminum Cans	7	0.0%	0.0%	0.0%
Alum. Foil/Containers	1	0.0%	0.0%	0.0%
Other Aluminum	5	0.0%	0.0%	0.0%
Other Nonferrous	13	0.1%	0.0%	0.1%
Tin Food Cans	14	0.1%	0.0%	0.1%
Empty Aerosol Cans	3	0.0%	0.0%	0.0%
Other Ferrous	941	3.7%	2.4%	5.0%
Oil Filters	11	0.0%	0.0%	0.1%
Mixed Metals/Materials	763	3.0%	1.6%	4.5%
Organics	**4,677**	**18.6%**		
Leaves and Grass	337	1.3%	0.4%	2.3%
Prunings	122	0.5%	0.1%	0.8%
Food	1,067	4.2%	0.0%	8.6%
Textiles/Clothing	823	3.3%	1.5%	5.0%
Carpet/Upholstery	2,011	8.0%	3.0%	13.0%
Disposable Diapers	1	0.0%	0.0%	0.0%
Animal By-Products	195	0.8%	0.0%	2.1%
Rubber Products	116	0.5%	0.0%	1.0%
Tires	4	0.0%	0.0%	0.0%
Appliances & Electronics	**1,458**	**5.8%**		
Furniture	1,097	4.4%	2.6%	6.1%
Mattresses	150	0.6%	0.0%	1.4%
Small Appliances	49	0.2%	0.0%	0.4%
A/V Equipment	16	0.1%	0.0%	0.1%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	146	0.6%	0.0%	1.2%
CDL Wastes	**13,113**	**52.0%**		
Dimension Lumber	3,246	12.9%	8.0%	17.7%
Pallets	408	1.6%	0.0%	3.7%
Crates	10	0.0%	0.0%	0.1%
Other Untreated Wood	164	0.7%	0.0%	1.4%
Treated Wood	3,694	14.7%	9.1%	20.2%
Contaminated Wood	1,111	4.4%	1.9%	6.9%
New Gypsum Scrap	697	2.8%	0.1%	5.4%
Demo Gypsum Scrap	406	1.6%	0.0%	3.4%
Fiberglass Insulation	9	0.0%	0.0%	0.1%
Rock/Concrete/Brick	1,495	5.9%	2.4%	9.4%
Asphaltic Roofing	106	0.4%	0.0%	1.0%
Ceramics/Porcelain	809	3.2%	1.0%	5.5%
Other Construction Debris	959	3.8%	1.2%	6.4%
Hazardous	**260**	**1.0%**		
Latex Paints	176	0.7%	0.0%	1.6%
Solvent-based Adhesives/Glues	25	0.1%	0.0%	0.3%
Water-based Adhesives/Glues	2	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	13	0.1%	0.0%	0.1%
Caustic Cleaners	3	0.0%	0.0%	0.0%
Pesticides/Herbicides	11	0.0%	0.0%	0.1%
Dry-Cell Batteries	1	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	2	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	19	0.1%	0.0%	0.1%
Other Potentially Harmful Wastes	9	0.0%	0.0%	0.1%
Fines & Misc Materials	**484**	**1.9%**		
Sand/Soil/Dirt	433	1.7%	0.0%	3.7%
Non-distinct Fines	1	0.0%	0.0%	0.0%
Misc. Organics	46	0.2%	0.0%	0.3%
Misc. Inorganics	4	0.0%	0.0%	0.0%
Total Tons	**25,209**			
Sample Count	**36**			

Table 6-16 Composition by Weight: Self-haul in Summer
(June – August 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**1,474**	**5.2%**		
Newspaper	42	0.1%	0.1%	0.2%
OCC/Kraft, unwaxed	600	2.1%	1.4%	2.8%
OCC/Kraft, waxed	22	0.1%	0.0%	0.2%
High Grade	51	0.2%	0.0%	0.3%
Mixed Low Grade	352	1.2%	0.7%	1.8%
Polycoated Paper	2	0.0%	0.0%	0.0%
Compostable/Soiled	134	0.5%	0.1%	0.9%
Paper/Other Materials	271	1.0%	0.4%	1.5%
Plastic	**1,770**	**6.2%**		
#1 PET Bottles	23	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	5	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	9	0.0%	0.0%	0.1%
Other Plastic Bottles	7	0.0%	0.0%	0.0%
Jars and Tubs	35	0.1%	0.0%	0.2%
Expanded Polystyrene	82	0.3%	0.1%	0.4%
Other Rigid Packaging	162	0.6%	0.3%	0.8%
Grocery/Bread Bags	2	0.0%	0.0%	0.0%
Other Clean PE Bags	36	0.1%	0.1%	0.2%
Other Film	174	0.6%	0.4%	0.9%
Plastic Products	658	2.3%	1.2%	3.4%
Plastic/Other Materials	576	2.0%	1.2%	2.8%
Glass	**450**	**1.6%**		
Clear Bottles	23	0.1%	0.0%	0.1%
Green Bottles	125	0.4%	0.0%	1.1%
Brown Bottles	63	0.2%	0.0%	0.5%
Container Glass	36	0.1%	0.0%	0.2%
Fluorescent Tubes	3	0.0%	0.0%	0.0%
Other Glass	200	0.7%	0.1%	1.3%
Metal	**1,946**	**6.8%**		
Aluminum Cans	27	0.1%	0.0%	0.2%
Alum. Foil/Containers	7	0.0%	0.0%	0.0%
Other Aluminum	49	0.2%	0.1%	0.3%
Other Nonferrous	91	0.3%	0.1%	0.6%
Tin Food Cans	10	0.0%	0.0%	0.1%
Empty Aerosol Cans	5	0.0%	0.0%	0.0%
Other Ferrous	1,037	3.7%	1.8%	5.5%
Oil Filters	6	0.0%	0.0%	0.1%
Mixed Metals/Materials	714	2.5%	1.3%	3.7%
Organics	**3,658**	**12.9%**		
Leaves and Grass	671	2.4%	1.0%	3.7%
Prunings	545	1.9%	0.7%	3.2%
Food	645	2.3%	1.0%	3.6%
Textiles/Clothing	485	1.7%	0.9%	2.5%
Carpet/Upholstery	1,042	3.7%	1.3%	6.0%
Disposable Diapers	12	0.0%	0.0%	0.1%
Animal By-Products	141	0.5%	0.0%	1.0%
Rubber Products	100	0.4%	0.1%	0.6%
Tires	16	0.1%	0.0%	0.1%

	Tons	Mean	Low	High
Appliances & Electronics	**2,573**	**9.1%**		
Furniture	1,981	7.0%	3.8%	10.1%
Mattresses	325	1.1%	0.4%	1.9%
Small Appliances	132	0.5%	0.0%	0.9%
A/V Equipment	84	0.3%	0.0%	0.6%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	52	0.2%	0.0%	0.4%
CDL Wastes	**15,937**	**56.1%**		
Dimension Lumber	4,738	16.7%	12.4%	20.9%
Pallets	584	2.1%	0.0%	4.1%
Crates	72	0.3%	0.0%	0.6%
Other Untreated Wood	236	0.8%	0.2%	1.5%
Treated Wood	3,487	12.3%	9.7%	14.9%
Contaminated Wood	1,408	5.0%	2.8%	7.1%
New Gypsum Scrap	1,848	6.5%	3.2%	9.8%
Demo Gypsum Scrap	817	2.9%	0.0%	6.2%
Fiberglass Insulation	27	0.1%	0.0%	0.2%
Rock/Concrete/Brick	516	1.8%	0.6%	3.0%
Asphaltic Roofing	650	2.3%	0.0%	4.5%
Ceramics/Porcelain	327	1.1%	0.3%	2.0%
Other Construction Debris	1,227	4.3%	3.0%	5.7%
Hazardous	**224**	**0.8%**		
Latex Paints	121	0.4%	0.0%	1.0%
Solvent-based Adhesives/Glues	14	0.0%	0.0%	0.1%
Water-based Adhesives/Glues	17	0.1%	0.0%	0.1%
Oil-based Paints/Solvents	16	0.1%	0.0%	0.1%
Caustic Cleaners	0	0.0%	0.0%	0.0%
Pesticides/Herbicides	43	0.2%	0.0%	0.3%
Dry-Cell Batteries	1	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	2	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	1	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	5	0.0%	0.0%	0.0%
Other Potentially Harmful Wastes	3	0.0%	0.0%	0.0%
Fines & Misc Materials	**379**	**1.3%**		
Sand/Soil/Dirt	341	1.2%	0.4%	2.0%
Non-distinct Fines	2	0.0%	0.0%	0.0%
Misc. Organics	24	0.1%	0.0%	0.2%
Misc. Inorganics	12	0.0%	0.0%	0.1%
Total Tons	**28,411**			
Sample Count	**72**			

Table 6-17 Composition by Weight: Self-haul in Autumn
(September – November 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**1,233**	**5.0%**		
Newspaper	15	0.1%	0.0%	0.1%
OCC/Kraft, unwaxed	325	1.3%	0.7%	1.9%
OCC/Kraft, waxed	0	0.0%	0.0%	0.0%
High Grade	387	1.6%	0.0%	4.0%
Mixed Low Grade	238	1.0%	0.3%	1.7%
Polycoated Paper	1	0.0%	0.0%	0.0%
Compostable/Soiled	28	0.1%	0.0%	0.2%
Paper/Other Materials	240	1.0%	0.1%	1.9%
Plastic	**1,382**	**5.6%**		
#1 PET Bottles	7	0.0%	0.0%	0.0%
#2 HDPE Natural Bottles	2	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	2	0.0%	0.0%	0.0%
Other Plastic Bottles	5	0.0%	0.0%	0.0%
Jars and Tubs	26	0.1%	0.0%	0.2%
Expanded Polystyrene	26	0.1%	0.1%	0.2%
Other Rigid Packaging	32	0.1%	0.1%	0.2%
Grocery/Bread Bags	1	0.0%	0.0%	0.0%
Other Clean PE Bags	21	0.1%	0.0%	0.2%
Other Film	87	0.4%	0.2%	0.5%
Plastic Products	983	4.0%	2.0%	6.1%
Plastic/Other Materials	191	0.8%	0.3%	1.3%
Glass	**435**	**1.8%**		
Clear Bottles	5	0.0%	0.0%	0.0%
Green Bottles	4	0.0%	0.0%	0.0%
Brown Bottles	3	0.0%	0.0%	0.0%
Container Glass	3	0.0%	0.0%	0.0%
Fluorescent Tubes	2	0.0%	0.0%	0.0%
Other Glass	419	1.7%	0.0%	3.4%
Metal	**1,746**	**7.1%**		
Aluminum Cans	4	0.0%	0.0%	0.0%
Alum. Foil/Containers	1	0.0%	0.0%	0.0%
Other Aluminum	33	0.1%	0.0%	0.3%
Other Nonferrous	9	0.0%	0.0%	0.1%
Tin Food Cans	4	0.0%	0.0%	0.0%
Empty Aerosol Cans	0	0.0%	0.0%	0.0%
Other Ferrous	552	2.2%	1.3%	3.2%
Oil Filters	0	0.0%	0.0%	0.0%
Mixed Metals/Materials	1,143	4.7%	1.8%	7.5%
Organics	**4,080**	**16.6%**		
Leaves and Grass	612	2.5%	0.0%	5.7%
Prunings	680	2.8%	0.8%	4.8%
Food	256	1.0%	0.3%	1.8%
Textiles/Clothing	250	1.0%	0.3%	1.8%
Carpet/Upholstery	1,930	7.9%	2.6%	13.1%
Disposable Diapers	0	0.0%	0.0%	0.0%
Animal By-Products	0	0.0%	0.0%	0.0%
Rubber Products	351	1.4%	0.0%	3.6%
Tires	0	0.0%	0.0%	0.0%

	Tons	Mean	Low	High
Appliances & Electronics	**1,782**	**7.3%**		
Furniture	697	2.8%	0.9%	4.8%
Mattresses	492	2.0%	0.0%	4.4%
Small Appliances	296	1.2%	0.3%	2.2%
A/V Equipment	206	0.8%	0.0%	1.7%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	91	0.4%	0.0%	0.9%
CDL Wastes	**13,620**	**55.5%**		
Dimension Lumber	3,163	12.9%	7.8%	18.0%
Pallets	216	0.9%	0.0%	2.1%
Crates	0	0.0%	0.0%	0.0%
Other Untreated Wood	477	1.9%	0.0%	4.9%
Treated Wood	2,421	9.9%	6.1%	13.7%
Contaminated Wood	776	3.2%	1.5%	4.8%
New Gypsum Scrap	3,156	12.9%	6.1%	19.7%
Demo Gypsum Scrap	303	1.2%	0.0%	3.3%
Fiberglass Insulation	19	0.1%	0.0%	0.1%
Rock/Concrete/Brick	957	3.9%	0.8%	7.0%
Asphaltic Roofing	473	1.9%	0.0%	4.1%
Ceramics/Porcelain	237	1.0%	0.0%	2.3%
Other Construction Debris	1,421	5.8%	3.0%	8.5%
Hazardous	**107**	**0.4%**		
Latex Paints	0	0.0%	0.0%	0.0%
Solvent-based Adhesives/Glues	3	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	2	0.0%	0.0%	0.0%
Caustic Cleaners	25	0.1%	0.0%	0.2%
Pesticides/Herbicides	7	0.0%	0.0%	0.1%
Dry-Cell Batteries	8	0.0%	0.0%	0.1%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	0	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0	0.0%	0.0%	0.0%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	48	0.2%	0.0%	0.4%
Other Potentially Harmful Wastes	14	0.1%	0.0%	0.1%
Fines & Misc Materials	**156**	**0.6%**		
Sand/Soil/Dirt	21	0.1%	0.0%	0.2%
Non-distinct Fines	21	0.1%	0.0%	0.2%
Misc. Organics	24	0.1%	0.0%	0.2%
Misc. Inorganics	89	0.4%	0.0%	0.9%
Total Tons	**24,541**			
Sample Count	**36**			

Table 6-18 Composition by Weight: Self-haul in Winter
(December 2003 – February 2004)

Calculated at a 90% confidence level

	Tons	Mean	Low	High
Paper	**2,053**	**9.4%**		
Newspaper	111	0.5%	0.3%	0.8%
OCC/Kraft, unwaxed	763	3.5%	2.2%	4.8%
OCC/Kraft, waxed	292	1.3%	0.0%	3.5%
High Grade	210	1.0%	0.0%	2.1%
Mixed Low Grade	378	1.7%	1.1%	2.4%
Polycoated Paper	1	0.0%	0.0%	0.0%
Compostable/Soiled	90	0.4%	0.2%	0.6%
Paper/Other Materials	208	1.0%	0.5%	1.4%
Plastic	**1,004**	**4.6%**		
#1 PET Bottles	17	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	13	0.1%	0.0%	0.1%
#2 HDPE Colored Bottles	9	0.0%	0.0%	0.1%
Other Plastic Bottles	12	0.1%	0.0%	0.1%
Jars and Tubs	65	0.3%	0.0%	0.6%
Expanded Polystyrene	56	0.3%	0.1%	0.4%
Other Rigid Packaging	29	0.1%	0.1%	0.2%
Grocery/Bread Bags	9	0.0%	0.0%	0.1%
Other Clean PE Bags	36	0.2%	0.0%	0.3%
Other Film	107	0.5%	0.3%	0.7%
Plastic Products	275	1.3%	0.8%	1.7%
Plastic/Other Materials	374	1.7%	1.0%	2.4%
Glass	**668**	**3.1%**		
Clear Bottles	34	0.2%	0.0%	0.3%
Green Bottles	19	0.1%	0.0%	0.2%
Brown Bottles	37	0.2%	0.0%	0.4%
Container Glass	12	0.1%	0.0%	0.1%
Fluorescent Tubes	0	0.0%	0.0%	0.0%
Other Glass	566	2.6%	0.0%	5.3%
Metal	**1,712**	**7.8%**		
Aluminum Cans	13	0.1%	0.0%	0.1%
Alum. Foil/Containers	2	0.0%	0.0%	0.0%
Other Aluminum	46	0.2%	0.0%	0.4%
Other Nonferrous	5	0.0%	0.0%	0.0%
Tin Food Cans	30	0.1%	0.1%	0.2%
Empty Aerosol Cans	8	0.0%	0.0%	0.1%
Other Ferrous	786	3.6%	1.9%	5.3%
Oil Filters	1	0.0%	0.0%	0.0%
Mixed Metals/Materials	821	3.8%	2.5%	5.0%
Organics	**2,960**	**13.6%**		
Leaves and Grass	164	0.7%	0.2%	1.3%
Prunings	507	2.3%	0.8%	3.8%
Food	646	3.0%	1.5%	4.4%
Textiles/Clothing	362	1.7%	0.9%	2.4%
Carpet/Upholstery	839	3.8%	2.0%	5.7%
Disposable Diapers	69	0.3%	0.0%	0.6%
Animal By-Products	155	0.7%	0.0%	1.6%
Rubber Products	219	1.0%	0.1%	1.9%
Tires	0	0.0%	0.0%	0.0%

	Tons	Mean	Low	High
Appliances & Electronics	**3,188**	**14.6%**		
Furniture	1,770	8.1%	4.7%	11.5%
Mattresses	1,125	5.2%	1.9%	8.4%
Small Appliances	97	0.4%	0.0%	0.9%
A/V Equipment	131	0.6%	0.2%	0.9%
Computer Monitors	0	0.0%	0.0%	0.0%
TVs	0	0.0%	0.0%	0.0%
Other Computer Components	65	0.3%	0.0%	0.6%
CDL Wastes	**9,679**	**44.4%**		
Dimension Lumber	2,721	12.5%	9.0%	15.9%
Pallets	416	1.9%	0.0%	3.9%
Crates	0	0.0%	0.0%	0.0%
Other Untreated Wood	397	1.8%	0.2%	3.5%
Treated Wood	1,990	9.1%	6.2%	12.1%
Contaminated Wood	831	3.8%	2.2%	5.4%
New Gypsum Scrap	392	1.8%	0.1%	3.4%
Demo Gypsum Scrap	490	2.2%	0.3%	4.2%
Fiberglass Insulation	25	0.1%	0.0%	0.3%
Rock/Concrete/Brick	803	3.7%	1.2%	6.2%
Asphaltic Roofing	141	0.6%	0.1%	1.2%
Ceramics/Porcelain	645	3.0%	1.4%	4.5%
Other Construction Debris	829	3.8%	2.2%	5.4%
Hazardous	**113**	**0.5%**		
Latex Paints	56	0.3%	0.0%	0.5%
Solvent-based Adhesives/Glues	0	0.0%	0.0%	0.0%
Water-based Adhesives/Glues	3	0.0%	0.0%	0.0%
Oil-based Paints/Solvents	2	0.0%	0.0%	0.0%
Caustic Cleaners	1	0.0%	0.0%	0.0%
Pesticides/Herbicides	0	0.0%	0.0%	0.0%
Dry-Cell Batteries	2	0.0%	0.0%	0.0%
Wet-Cell Batteries	0	0.0%	0.0%	0.0%
Gasoline/Kerosene	2	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	6	0.0%	0.0%	0.1%
Asbestos	0	0.0%	0.0%	0.0%
Explosives	0	0.0%	0.0%	0.0%
Medical Wastes	0	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	26	0.1%	0.0%	0.2%
Other Potentially Harmful Wastes	16	0.1%	0.0%	0.2%
Fines & Misc Materials	**442**	**2.0%**		
Sand/Soil/Dirt	367	1.7%	0.6%	2.8%
Non-distinct Fines	2	0.0%	0.0%	0.0%
Misc. Organics	20	0.1%	0.0%	0.2%
Misc. Inorganics	52	0.2%	0.0%	0.4%
Total Tons	**21,820**			
Sample Count	**72**			

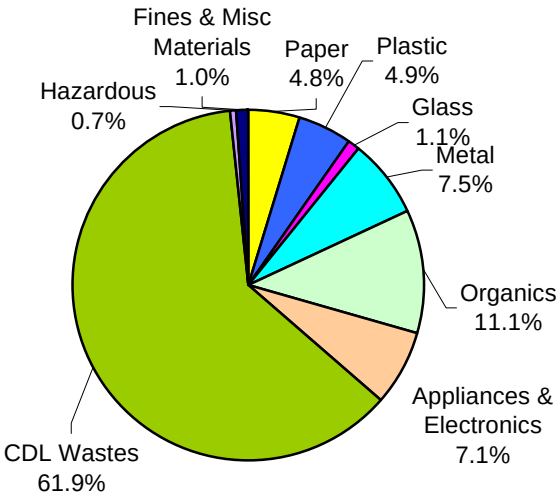
6.4 Composition by Generator Type, by Site

This section provides a brief overview of the wastes self-hauled by residential and non-residential generators to the NRDS and SRDS. One of the purposes of this study was to determine the ratio of residential to non-residential self-haul waste. To accomplish this, self-haul samples were not stratified by vehicle type as they were for the 1996 study.

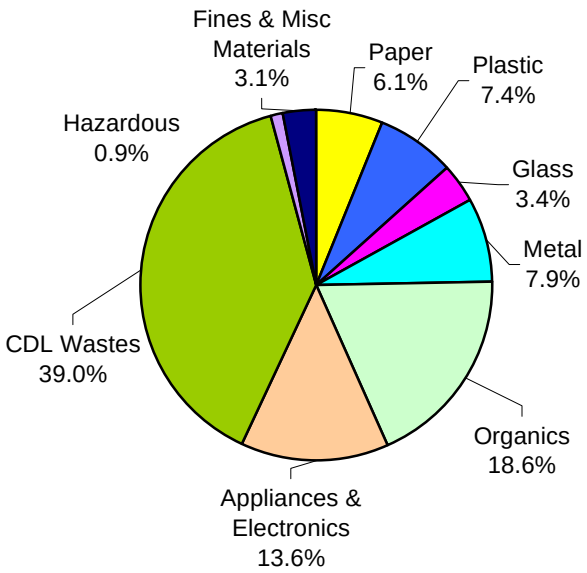
As shown in Figure 6-4, *CDL wastes* accounted for over 30% of the total for residential and non-residential waste at both the NRDS and the SRDS. *CDL wastes* includes such components as *dimension lumber, sand/soil/dirt*, and *new gypsum scrap.*

Figure 6-4 Self-haul Composition Summary: by Generator Type, by Site
(December 2003 – November 2004)

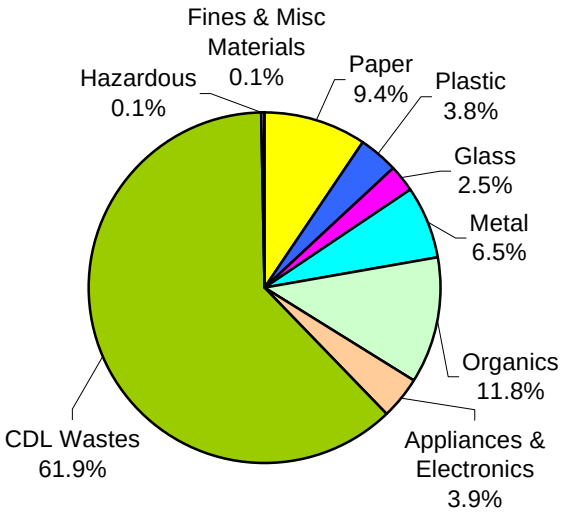
Residential at NRDS



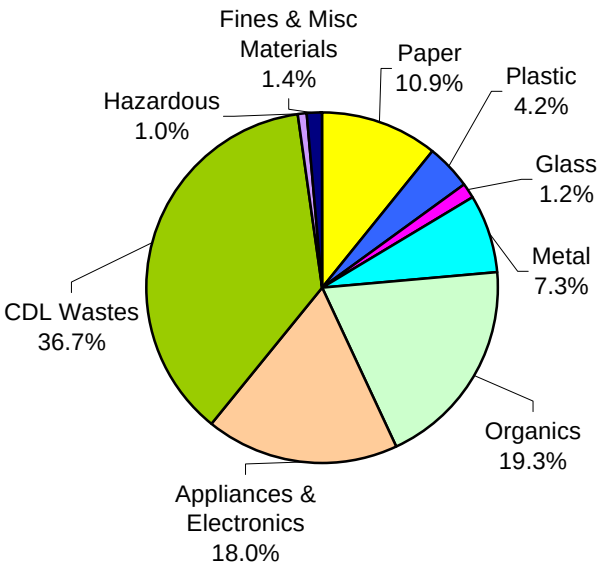
Residential at SRDS



Non-Residential at NRDS



Non-Residential at SRDS



6.4.1 Residential Generators, by Site

6.4.1.1 North Recycling and Disposal Station (NRDS)

A total of 77 samples were taken from residential loads at the NRDS. As shown in Table 6-19, the top ten components accounted for a combined total of about 71% of the tonnage. Table 6-23 lists detailed composition results for the residential waste disposed at the NRDS.

Table 6-19 Top Ten Components: Self-haul Residential at NRDS (December 2003 – November 2004)

Component	Mean	Cum. %
Dimension Lumber	17.0%	17.0%
Treated Wood	16.6%	33.6%
New Gypsum Scrap	7.4%	41.1%
Carpet/Upholstery	5.3%	46.4%
Furniture	5.2%	51.6%
Other Construction Debris	4.3%	55.9%
Contaminated Wood	4.3%	60.2%
Other Ferrous Metal	4.0%	64.2%
Ceramics/Porcelain	3.4%	67.6%
Mixed Metals/Materials	3.3%	70.9%
Total	**70.9%**	

6.4.1.2 South Recycling and Disposal Station (SRDS)

A total of 80 samples were taken from residential loads at the SRDS. As shown in Table 6-20, the top ten components accounted for a combined total of approximately 54% of the tonnage. Table 6-24 lists detailed composition results for the residential waste disposed at the SRDS.

Table 6-20 Top Ten Components: Self-haul Residential at SRDS (December 2003 – November 2004)

Component	Mean	Cum. %
Dimension Lumber	10.5%	10.5%
Treated Wood	9.1%	19.6%
Furniture	8.3%	27.8%
Mixed Metals/Materials	4.4%	32.2%
Contaminated Wood	4.3%	36.5%
Carpet/Upholstery	4.0%	40.5%
Food	3.8%	44.3%
Mattresses	3.5%	47.8%
Leaves and Grass	3.3%	51.1%
Textiles/Clothing	3.2%	54.3%
Total	**54.3%**	

6.4.2 Non-Residential Generators, by Site

6.4.2.1 North Recycling and Disposal Station (NRDS)

A total of 31 samples were taken from non-residential loads at the NRDS. As shown in Table 6-21, the top ten components accounted for a combined total of nearly 69% of the tonnage. Table 6-25 lists detailed composition results for the non-residential waste disposed at the NRDS.

Table 6-21 Top Ten Components: Self-haul Non-Residential at NRDS
(December 2003 – November 2004)

Component	Mean	Cum. %
Dimension Lumber	19.1%	19.1%
Other Construction Debris	7.8%	26.9%
Treated Wood	7.5%	34.4%
Demo Gypsum Scrap	7.2%	41.6%
Pallets	5.9%	47.5%
Carpet/Upholstery	5.8%	53.3%
New Gypsum Scrap	5.2%	58.5%
Other Ferrous Metal	3.7%	62.2%
Rock/Concrete/Brick	3.5%	65.7%
Food	2.8%	68.5%
Total	**68.5%**	

6.4.2.2 South Recycling and Disposal Station (SRDS)

A total of 27 samples were taken from non-residential loads at the SRDS. As shown in Table 6-22, the top ten components accounted for a combined total of roughly 66% of the tonnage. Table 6-26 lists detailed composition results for the non-residential waste disposed at the SRDS.

Table 6-22 Top Ten Components: Self-haul Non-Residential at SRDS
(December 2003 – November 2004)

Component	Mean	Cum. %
Dimension Lumber	9.9%	9.9%
Furniture	9.4%	19.3%
Carpet/Upholstery	7.9%	27.3%
Rock/Concrete/Brick	7.4%	34.7%
Mattresses	7.3%	42.0%
Contaminated Wood	6.5%	48.5%
Treated Wood	5.1%	53.6%
Food	4.7%	58.4%
Other Ferrous Metal	4.3%	62.6%
New Gypsum Scrap	3.5%	66.1%
Total	**66.1%**	

6.4.3 Comparisons between Generator Types and Sites

Dimension lumber, *treated wood*, and *carpet/upholstery* were top ten components for both generators at both sites. Materials particular to the top ten components for only one group include *ceramics/porcelain* for self-haul residential at NRDS; *leaves and grass* and *textiles/clothing* for self-haul residential at SRDS; and *demo gypsum scrap* and *pallets* for self-haul non-residential at NRDS.

Table 6-23 Composition by Weight: Self-haul Residential at NRDS
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**4.8%**			***Appliances & Electronics***	**7.1%**		
Newspaper	0.3%	0.1%	0.4%	Furniture	5.2%	3.0%	7.3%
OCC/Kraft, unwaxed	2.3%	1.2%	3.4%	Mattresses	1.1%	0.2%	2.0%
OCC/Kraft, waxed	0.0%	0.0%	0.0%	Small Appliances	0.3%	0.1%	0.5%
High Grade	0.8%	0.0%	2.0%	A/V Equipment	0.3%	0.1%	0.5%
Mixed Low Grade	0.6%	0.3%	0.9%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.0%	0.0%	0.0%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	0.1%	0.0%	0.2%	Other Computer Components	0.2%	0.0%	0.4%
Paper/Other Materials	0.7%	0.3%	1.1%	***CDL Wastes***	**61.9%**		
Plastic	**4.9%**			Dimension Lumber	17.0%	13.6%	20.5%
#1 PET Bottles	0.0%	0.0%	0.1%	Pallets	0.8%	0.0%	1.6%
#2 HDPE Natural Bottles	0.0%	0.0%	0.0%	Crates	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	0.0%	0.0%	0.0%	Other Untreated Wood	0.8%	0.1%	1.5%
Other Plastic Bottles	0.0%	0.0%	0.0%	Treated Wood	16.6%	13.1%	20.1%
Jars and Tubs	0.1%	0.0%	0.2%	Contaminated Wood	4.3%	2.7%	5.9%
Expanded Polystyrene	0.2%	0.1%	0.4%	New Gypsum Scrap	7.4%	3.1%	11.7%
Other Rigid Packaging	0.3%	0.1%	0.5%	Demo Gypsum Scrap	2.0%	0.6%	3.4%
Grocery/Bread Bags	0.0%	0.0%	0.0%	Fiberglass Insulation	0.0%	0.0%	0.1%
Other Clean PE Bags	0.1%	0.0%	0.2%	Rock/Concrete/Brick	2.7%	1.1%	4.4%
Other Film	0.4%	0.3%	0.6%	Asphaltic Roofing	2.4%	0.2%	4.7%
Plastic Products	2.4%	1.3%	3.5%	Ceramics/Porcelain	3.4%	1.8%	5.0%
Plastic/Other Materials	1.2%	0.7%	1.6%	Other Construction Debris	4.3%	3.0%	5.7%
Glass	**1.1%**			***Hazardous***	**0.7%**		
Clear Bottles	0.0%	0.0%	0.0%	Latex Paints	0.3%	0.0%	0.7%
Green Bottles	0.1%	0.0%	0.2%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.1%
Brown Bottles	0.0%	0.0%	0.0%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.0%	0.0%	0.1%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.1%	0.0%	0.1%
Other Glass	0.9%	0.3%	1.5%	Pesticides/Herbicides	0.1%	0.0%	0.2%
Metal	**7.5%**			Dry-Cell Batteries	0.0%	0.0%	0.0%
Aluminum Cans	0.0%	0.0%	0.0%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.0%	0.0%	0.0%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.0%	0.0%	0.1%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.1%	0.0%	0.1%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.0%	0.0%	0.0%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.0%	0.0%	0.0%	Medical Wastes	0.0%	0.0%	0.0%
Other Ferrous	4.0%	2.1%	5.8%	Other Cleaners/Chemicals	0.1%	0.0%	0.1%
Oil Filters	0.0%	0.0%	0.0%	Other Potentially Harmful Wastes	0.1%	0.0%	0.1%
Mixed Metals/Materials	3.3%	2.1%	4.5%	***Fines & Misc Materials***	**1.0%**		
Organics	**11.1%**			Sand/Soil/Dirt	0.8%	0.1%	1.4%
Leaves and Grass	0.8%	0.3%	1.3%	Non-distinct Fines	0.0%	0.0%	0.1%
Prunings	1.8%	0.6%	3.0%	Misc. Organics	0.1%	0.0%	0.1%
Food	0.9%	0.5%	1.3%	Misc. Inorganics	0.1%	0.0%	0.3%
Textiles/Clothing	1.2%	0.5%	2.0%				
Carpet/Upholstery	5.3%	2.7%	8.0%				
Disposable Diapers	0.0%	0.0%	0.1%				
Animal By-Products	0.3%	0.0%	0.7%				
Rubber Products	0.8%	0.0%	1.8%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**77**		

Table 6-24 Composition by Weight: Self-haul Residential at SRDS
(December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High
Paper	**6.1%**		
Newspaper	0.3%	0.2%	0.5%
OCC/Kraft, unwaxed	2.2%	1.6%	2.7%
OCC/Kraft, waxed	0.0%	0.0%	0.1%
High Grade	0.2%	0.1%	0.4%
Mixed Low Grade	2.0%	1.2%	2.8%
Polycoated Paper	0.0%	0.0%	0.0%
Compostable/Soiled	0.6%	0.3%	0.9%
Paper/Other Materials	0.7%	0.3%	1.1%
Plastic	**7.4%**		
#1 PET Bottles	0.1%	0.0%	0.1%
#2 HDPE Natural Bottles	0.1%	0.0%	0.1%
#2 HDPE Colored Bottles	0.1%	0.0%	0.1%
Other Plastic Bottles	0.0%	0.0%	0.1%
Jars and Tubs	0.1%	0.1%	0.2%
Expanded Polystyrene	0.3%	0.1%	0.4%
Other Rigid Packaging	0.3%	0.2%	0.4%
Grocery/Bread Bags	0.0%	0.0%	0.1%
Other Clean PE Bags	0.1%	0.0%	0.2%
Other Film	0.7%	0.4%	0.9%
Plastic Products	3.1%	2.2%	4.1%
Plastic/Other Materials	2.6%	1.7%	3.5%
Glass	**3.4%**		
Clear Bottles	0.2%	0.1%	0.3%
Green Bottles	0.1%	0.0%	0.1%
Brown Bottles	0.1%	0.0%	0.1%
Container Glass	0.1%	0.0%	0.2%
Fluorescent Tubes	0.0%	0.0%	0.0%
Other Glass	3.0%	0.5%	5.6%
Metal	**7.9%**		
Aluminum Cans	0.1%	0.0%	0.1%
Alum. Foil/Containers	0.0%	0.0%	0.0%
Other Aluminum	0.2%	0.0%	0.3%
Other Nonferrous	0.2%	0.1%	0.3%
Tin Food Cans	0.1%	0.0%	0.1%
Empty Aerosol Cans	0.0%	0.0%	0.0%
Other Ferrous	3.0%	2.1%	3.9%
Oil Filters	0.0%	0.0%	0.0%
Mixed Metals/Materials	4.4%	2.8%	5.9%
Organics	**18.6%**		
Leaves and Grass	3.3%	1.5%	5.2%
Prunings	2.4%	1.1%	3.7%
Food	3.8%	2.1%	5.5%
Textiles/Clothing	3.2%	2.0%	4.3%
Carpet/Upholstery	4.0%	2.2%	5.7%
Disposable Diapers	0.3%	0.0%	0.6%
Animal By-Products	1.1%	0.2%	2.0%
Rubber Products	0.5%	0.1%	0.8%
Tires	0.1%	0.0%	0.1%

	Mean	Low	High
Appliances & Electronics	**13.6%**		
Furniture	8.3%	4.8%	11.7%
Mattresses	3.5%	1.5%	5.5%
Small Appliances	0.8%	0.2%	1.3%
A/V Equipment	0.6%	0.2%	1.0%
Computer Monitors	0.0%	0.0%	0.0%
TVs	0.0%	0.0%	0.0%
Other Computer Components	0.5%	0.1%	0.9%
CDL Wastes	**39.0%**		
Dimension Lumber	10.5%	7.3%	13.7%
Pallets	1.7%	0.3%	3.1%
Crates	0.2%	0.0%	0.6%
Other Untreated Wood	1.7%	0.2%	3.1%
Treated Wood	9.1%	6.2%	12.0%
Contaminated Wood	4.3%	2.9%	5.8%
New Gypsum Scrap	1.8%	0.2%	3.3%
Demo Gypsum Scrap	1.3%	0.2%	2.5%
Fiberglass Insulation	0.1%	0.0%	0.1%
Rock/Concrete/Brick	2.9%	1.4%	4.4%
Asphaltic Roofing	1.2%	0.2%	2.3%
Ceramics/Porcelain	1.5%	0.5%	2.5%
Other Construction Debris	2.8%	1.4%	4.1%
Hazardous	**0.9%**		
Latex Paints	0.5%	0.0%	1.0%
Solvent-based Adhesives/Glues	0.1%	0.0%	0.2%
Water-based Adhesives/Glues	0.1%	0.0%	0.1%
Oil-based Paints/Solvents	0.1%	0.0%	0.2%
Caustic Cleaners	0.0%	0.0%	0.0%
Pesticides/Herbicides	0.1%	0.0%	0.2%
Dry-Cell Batteries	0.0%	0.0%	0.0%
Wet-Cell Batteries	0.0%	0.0%	0.0%
Gasoline/Kerosene	0.0%	0.0%	0.0%
Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Asbestos	0.0%	0.0%	0.0%
Explosives	0.0%	0.0%	0.0%
Medical Wastes	0.0%	0.0%	0.0%
Other Cleaners/Chemicals	0.0%	0.0%	0.1%
Other Potentially Harmful Wastes	0.1%	0.0%	0.2%
Fines & Misc Materials	**3.1%**		
Sand/Soil/Dirt	2.6%	1.1%	4.0%
Non-distinct Fines	0.0%	0.0%	0.0%
Misc. Organics	0.3%	0.1%	0.4%
Misc. Inorganics	0.3%	0.0%	0.5%
Sample Count	**80**		

Table 6-25 Composition by Weight: Self-haul Non-Residential at NRDS[14] (December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**9.4%**			***Appliances & Electronics***	**3.9%**		
Newspaper	0.1%	0.0%	0.2%	Furniture	2.6%	0.3%	4.9%
OCC/Kraft, unwaxed	2.6%	1.4%	3.7%	Mattresses	0.0%	0.0%	0.0%
OCC/Kraft, waxed	0.2%	0.0%	0.4%	Small Appliances	0.3%	0.0%	0.7%
High Grade	2.2%	0.0%	5.0%	A/V Equipment	0.5%	0.0%	1.4%
Mixed Low Grade	1.4%	0.5%	2.3%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.0%	0.0%	0.0%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	0.8%	0.0%	1.8%	Other Computer Components	0.5%	0.0%	1.1%
Paper/Other Materials	2.1%	0.6%	3.7%	***CDL Wastes***	**61.9%**		
Plastic	**3.8%**			Dimension Lumber	19.1%	10.1%	28.0%
#1 PET Bottles	0.1%	0.0%	0.2%	Pallets	5.9%	0.0%	11.8%
#2 HDPE Natural Bottles	0.1%	0.0%	0.1%	Crates	0.0%	0.0%	0.0%
#2 HDPE Colored Bottles	0.1%	0.0%	0.1%	Other Untreated Wood	2.6%	0.0%	6.0%
Other Plastic Bottles	0.0%	0.0%	0.0%	Treated Wood	7.5%	3.7%	11.3%
Jars and Tubs	0.0%	0.0%	0.0%	Contaminated Wood	1.3%	0.4%	2.3%
Expanded Polystyrene	0.2%	0.1%	0.3%	New Gypsum Scrap	5.2%	0.0%	10.4%
Other Rigid Packaging	0.1%	0.0%	0.2%	Demo Gypsum Scrap	7.2%	0.0%	15.7%
Grocery/Bread Bags	0.0%	0.0%	0.0%	Fiberglass Insulation	0.2%	0.0%	0.6%
Other Clean PE Bags	0.4%	0.0%	0.8%	Rock/Concrete/Brick	3.5%	0.0%	7.2%
Other Film	1.0%	0.1%	2.0%	Asphaltic Roofing	0.4%	0.0%	1.1%
Plastic Products	0.9%	0.3%	1.4%	Ceramics/Porcelain	1.0%	0.0%	2.3%
Plastic/Other Materials	0.9%	0.3%	1.6%	Other Construction Debris	7.8%	3.7%	12.0%
Glass	**2.5%**			***Hazardous***	**0.1%**		
Clear Bottles	0.2%	0.0%	0.4%	Latex Paints	0.1%	0.0%	0.2%
Green Bottles	1.0%	0.0%	2.6%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.1%
Brown Bottles	0.5%	0.0%	1.2%	Water-based Adhesives/Glues	0.0%	0.0%	0.1%
Container Glass	0.0%	0.0%	0.1%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	0.8%	0.0%	1.8%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**6.5%**			Dry-Cell Batteries	0.0%	0.0%	0.0%
Aluminum Cans	0.1%	0.0%	0.2%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.0%	0.0%	0.1%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.6%	0.1%	1.0%	Motor Oil/Diesel Oil	0.0%	0.0%	0.0%
Other Nonferrous	0.0%	0.0%	0.0%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.1%	0.0%	0.1%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.0%	0.0%	0.1%	Medical Wastes	0.0%	0.0%	0.0%
Other Ferrous	3.7%	2.0%	5.4%	Other Cleaners/Chemicals	0.0%	0.0%	0.0%
Oil Filters	0.0%	0.0%	0.1%	Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Mixed Metals/Materials	2.0%	0.8%	3.1%	***Fines & Misc Materials***	**0.1%**		
Organics	**11.8%**			Sand/Soil/Dirt	0.0%	0.0%	0.1%
Leaves and Grass	1.2%	0.0%	2.6%	Non-distinct Fines	0.0%	0.0%	0.0%
Prunings	1.5%	0.0%	3.4%	Misc. Organics	0.1%	0.0%	0.1%
Food	2.8%	0.1%	5.4%	Misc. Inorganics	0.0%	0.0%	0.0%
Textiles/Clothing	0.2%	0.0%	0.3%				
Carpet/Upholstery	5.8%	0.1%	11.6%				
Disposable Diapers	0.0%	0.0%	0.0%				
Animal By-Products	0.0%	0.0%	0.0%				
Rubber Products	0.3%	0.0%	0.8%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**31**		

[14] The error rates for this subpopulation are relatively large. This is because the number of non-residential self-haul samples captured at the NRDS is relatively small.

Table 6-26 Composition by Weight: Self-haul Non-Residential at SRDS (December 2003 – November 2004)

Calculated at a 90% confidence level

	Mean	Low	High		Mean	Low	High
Paper	**10.9%**			***Appliances & Electronics***	**18.0%**		
Newspaper	0.1%	0.0%	0.3%	Furniture	9.4%	3.9%	15.0%
OCC/Kraft, unwaxed	3.1%	1.4%	4.8%	Mattresses	7.3%	0.3%	14.3%
OCC/Kraft, waxed	3.2%	0.0%	8.5%	Small Appliances	0.8%	0.0%	2.0%
High Grade	0.2%	0.0%	0.4%	A/V Equipment	0.5%	0.0%	1.3%
Mixed Low Grade	2.5%	0.9%	4.2%	Computer Monitors	0.0%	0.0%	0.0%
Polycoated Paper	0.0%	0.0%	0.0%	TVs	0.0%	0.0%	0.0%
Compostable/Soiled	0.3%	0.0%	0.7%	Other Computer Components	0.0%	0.0%	0.0%
Paper/Other Materials	1.3%	0.2%	2.5%	***CDL Wastes***	**36.7%**		
Plastic	**4.2%**			Dimension Lumber	9.9%	4.4%	15.5%
#1 PET Bottles	0.1%	0.0%	0.1%	Pallets	0.4%	0.0%	1.0%
#2 HDPE Natural Bottles	0.0%	0.0%	0.0%	Crates	0.1%	0.0%	0.2%
#2 HDPE Colored Bottles	0.1%	0.0%	0.3%	Other Untreated Wood	0.4%	0.0%	1.1%
Other Plastic Bottles	0.1%	0.0%	0.1%	Treated Wood	5.1%	2.2%	7.9%
Jars and Tubs	0.6%	0.0%	1.3%	Contaminated Wood	6.5%	1.7%	11.4%
Expanded Polystyrene	0.3%	0.1%	0.6%	New Gypsum Scrap	3.5%	0.0%	7.5%
Other Rigid Packaging	0.3%	0.1%	0.5%	Demo Gypsum Scrap	0.0%	0.0%	0.0%
Grocery/Bread Bags	0.0%	0.0%	0.1%	Fiberglass Insulation	0.2%	0.0%	0.4%
Other Clean PE Bags	0.0%	0.0%	0.1%	Rock/Concrete/Brick	7.4%	2.2%	12.7%
Other Film	0.3%	0.1%	0.5%	Asphaltic Roofing	0.2%	0.0%	0.4%
Plastic Products	1.3%	0.6%	2.1%	Ceramics/Porcelain	0.5%	0.0%	0.9%
Plastic/Other Materials	1.0%	0.3%	1.7%	Other Construction Debris	2.5%	0.5%	4.6%
Glass	**1.2%**			***Hazardous***	**1.0%**		
Clear Bottles	0.1%	0.0%	0.3%	Latex Paints	0.4%	0.0%	0.9%
Green Bottles	0.0%	0.0%	0.1%	Solvent-based Adhesives/Glues	0.0%	0.0%	0.0%
Brown Bottles	0.3%	0.0%	0.9%	Water-based Adhesives/Glues	0.0%	0.0%	0.0%
Container Glass	0.0%	0.0%	0.1%	Oil-based Paints/Solvents	0.0%	0.0%	0.0%
Fluorescent Tubes	0.0%	0.0%	0.0%	Caustic Cleaners	0.0%	0.0%	0.0%
Other Glass	0.7%	0.0%	1.5%	Pesticides/Herbicides	0.0%	0.0%	0.0%
Metal	**7.3%**			Dry-Cell Batteries	0.0%	0.0%	0.0%
Aluminum Cans	0.1%	0.0%	0.1%	Wet-Cell Batteries	0.0%	0.0%	0.0%
Alum. Foil/Containers	0.0%	0.0%	0.0%	Gasoline/Kerosene	0.0%	0.0%	0.0%
Other Aluminum	0.0%	0.0%	0.0%	Motor Oil/Diesel Oil	0.0%	0.0%	0.1%
Other Nonferrous	0.4%	0.0%	0.9%	Asbestos	0.0%	0.0%	0.0%
Tin Food Cans	0.2%	0.0%	0.3%	Explosives	0.0%	0.0%	0.0%
Empty Aerosol Cans	0.0%	0.0%	0.1%	Medical Wastes	0.0%	0.0%	0.0%
Other Ferrous	4.3%	1.3%	7.3%	Other Cleaners/Chemicals	0.6%	0.0%	1.3%
Oil Filters	0.0%	0.0%	0.0%	Other Potentially Harmful Wastes	0.0%	0.0%	0.0%
Mixed Metals/Materials	2.4%	0.3%	4.5%	***Fines & Misc Materials***	***1.4%***		
Organics	**19.3%**			Sand/Soil/Dirt	1.3%	0.0%	3.0%
Leaves and Grass	0.2%	0.0%	0.4%	Non-distinct Fines	0.0%	0.0%	0.0%
Prunings	1.6%	0.0%	3.4%	Misc. Organics	0.0%	0.0%	0.0%
Food	4.7%	0.0%	10.1%	Misc. Inorganics	0.0%	0.0%	0.0%
Textiles/Clothing	2.7%	0.6%	4.8%				
Carpet/Upholstery	7.9%	0.2%	15.6%				
Disposable Diapers	0.1%	0.0%	0.1%				
Animal By-Products	0.0%	0.0%	0.0%				
Rubber Products	2.1%	0.0%	4.3%				
Tires	0.0%	0.0%	0.0%	**Sample Count**	**27**		

Appendix A Waste Component Categories

Waste samples were sorted by hand into 83 waste component categories. The waste categories in the 2004 study had some significant changes from those used in Seattle's previous waste composition study (the 2000 commercial and self-haul waste streams composition study). Two new broad material categories were created: *appliances and electronics* and *fines and miscellaneous materials*. Most components from the *other materials* category were moved to the new *appliances and electronics* category, although some were reclassified into the new *fines and miscellaneous materials*, *organics* and *construction, demolition, and landclearing* categories.

Medical wastes were not sorted; virtually all other waste was weighed and recorded. A list of component categories and definitions follows:

Paper

NEWSPAPER: Printed ground wood newsprint (Advertising "slicks" (glossy paper), if found mixed with newspaper; otherwise, ad slicks are included with mixed low grade).

PLAIN OCC/KRAFT PAPER: Old unwaxed/uncoated corrugated container boxes and Kraft paper, and brown paper bags.

WAXED OCC/KRAFT PAPER: Old waxed/coated corrugated container boxes and Kraft paper, and brown paper bags.

HIGH GRADE PAPER: White and lightly colored bond, rag, or stationary grade paper. This includes white or lightly colored sulfite/sulfate bond, copy papers, notebook paper, envelopes, Continuous-feed sulfite/sulfate computer printouts and forms of all types, excluding carbonless paper.

MIXED LOW GRADE PAPER: Mixed paper acceptable in Seattle's residential curbside program. This includes junk mail, magazines, colored papers, bleached Kraft, boxboard, mailing tubes, carbonless copy paper, ground wood computer printouts, paperback books, and telephone directories.

POLYCOATED PAPER: Bleached and unbleached paperboard coated with HDPE film. This includes polycoated milk, ice cream, and aseptic juice containers, including those with plastic spouts attached, and frozen/refrigerator packaging. Excludes juice concentrate cans.

COMPOSTABLE/SOILED PAPER: Paper towels, paper plates, waxed paper, tissues, and other papers that were soiled with food during use (e.g., pizza box inserts).

MIXED/OTHER PAPER: Predominantly paper with other materials attached (e.g. orange juice cans and spiral notebooks), and other non-recyclable papers such as carbon copy paper, hardcover books, and photographs.

Plastic

PET BOTTLES: Polyethylene terephthalate translucent bottles.

HDPE NATURAL BOTTLES: High-density translucent polyethylene (#2) milk, juice, beverage, oil, vinegar, distilled water bottles with necks.

HDPE COLORED BOTTLES: High-density colored polyethylene (#2) bottles. Liquid detergent bottles, some hair care bottles with necks. Petroleum bottles are not included.

OTHER PLASTIC BOTTLES: Plastic bottles not classified in the above-defined PET or HDPE categories; also includes #3-#7, unknown bottles, petroleum bottles, and other dark colored bottles with necks.

JARS & TUBS: #1-#7 wide mouth jars and tubs, without a neck, such as yogurt, cottage cheese, and margarine.

EXPANDED POLYSTYRENE: Includes packaging and finished products made of expanded polystyrene. Includes Styrofoam products such as plates and bowls.

OTHER RIGID PACKAGING: #1-#7 and unmarked rigid plastic packaging (excluding expanded polystyrene). Includes clamshells, salad trays, lids, cookie tray inserts, plastic spools, and toothpaste tubes.

CLEAN SHOPPING/DRY CLEANER BAGS: Labeled grocery and merchandise, dry cleaner, and newspaper polyethylene film bags that were not contaminated with food, liquid or grit during use.

OTHER CLEAN POLYETHYLENE FILM: Polyethylene film and bags, other than those identified above, which were not contaminated with food, liquid or grit during use.

OTHER FILM: Film packaging not defined above, or: was contaminated with food, liquid or grit during use; is woven together (e.g., grain bags); contains multiple layers of film or other materials that have been fused together (e.g., potato chip bags). This category also includes plastic sheeting, photographic negatives, shower curtains, any bags used to contain food or liquid (e.g., produce and bread bags), and used garbage bags.

PLASTIC PRODUCTS: Finished plastic products made entirely of plastic such as toys, toothbrushes, vinyl hose, forks and spoons, plastic lawn furniture. Includes fiberglass resin products and materials.

PLASTIC/OTHER MATERIALS: Items that are predominately plastic with other materials attached such as disposable razors, pens, lighters, toys, and 3-ring binders.

Glass

CLEAR BEVERAGE: Bottles that are clear in color, including pop, liquor, wine, juice, beer, and vinegar bottles.

GREEN BEVERAGE: Bottles that are green in color, including green pop, liquor, wine, beer, and lemon juice bottles.

BROWN BEVERAGE: Bottles that are brown in color, including brown pop, beer, liquor, juice, and extract bottles.

CONTAINER GLASS: Glass containers of all colors, holding solid materials such as mayonnaise, non-dairy creamer, and facial cream containers.

FLUORESCENT TUBES: Fluorescent light tubes and compact fluorescent bulbs (CFL).

OTHER GLASS: Window glass, mirrors, light bulbs (except fluorescent tubes), glassware, and blue glass bottles.

Metal

ALUMINUM CANS: Aluminum beverage cans (UBC) and bi-metal cans made mostly of aluminum.

ALUMINUM FOIL/CONTAINERS: Aluminum food containers, trays, and foil.

OTHER ALUMINUM: Aluminum products and scrap such as window frames, cookware.

OTHER NONFERROUS: Metals not derived from iron to which a magnet will not adhere, and which are not significantly contaminated with other metals or materials.

TIN FOOD CANS: Tinned steel food containers, including bi-metal cans mostly of steel.

EMPTY AEROSOL CANS: Empty, mixed material/metal aerosol cans. (Aerosols that still contain product are sorted according to that material—for instance, solvent-based paint.)

OTHER FERROUS: Ferrous and alloyed ferrous scrap metals to which a magnet adheres and which are not significantly contaminated with other metals or materials.

OIL FILTERS: Metal oil filters used in cars and other automobiles.

MIXED METALS/MATERIALS: Items that are predominately metal with other materials attached such as motors, insulated wire, and finished products containing a mixture of metals, or metals and other materials. White goods are banned from Seattle's disposal. However, segments of large appliances are occasionally found; they are included in this category.

Organic

LEAVES AND GRASS: Non-woody plant materials from a yard or garden area, including grass clippings, leaves, weeds, and garden wastes.

PRUNINGS: Cut prunings, 6" or less in diameter, from bushes, shrubs, and trees.

FOOD: Food wastes and scraps, including bone, rinds, etc. Excludes the weight of food containers, except when container weight is not appreciable compared to the food inside. Biodegradable peanuts also included in this category.

TEXTILES: Rag stock fabric materials including natural and synthetic textiles such as cotton, wool, silk, woven nylon, rayon, and polyester.

CARPET/UPHOLSTERY: General category of flooring applications and non-rag stock textiles consisting of various natural or synthetic fibers bonded to some type of backing material. Also includes non-rag stock grade textiles such as shoes, handbags, heavy linens, and draperies.

DISPOSABLE DIAPERS: Diapers made from a combination of fibers, synthetic, and/or natural, and made for the purpose of single use. This includes disposable baby diapers and adult protective undergarments.

ANIMAL BY-PRODUCTS: Animal carcasses not resulting from food storage or preparation, animal wastes, and kitty litter.

RUBBER PRODUCTS: Finished products and scrap materials made of natural and synthetic rubber, such as bath mats, inner tubes, rubber hoses, and foam rubber.

TIRES: Vehicle tires of all types. Tubes are put into the rubber category.

Appliances and Electronics

FURNITURE: Mixed-material furniture such as upholstered chairs. Furniture that is made purely of one material, such as plastic or metal, would be categorized according to that material (e.g., plastic products or other ferrous metal).

MATTRESSES: Mattresses and box springs.

SMALL APPLIANCES: Small electric appliances such as toasters, microwave ovens, power tools, curling irons, and light fixtures.

AUDIO/VISUAL EQUIPMENT: Examples include stereos, radios, tape decks, VCRs, and cell phones.

COMPUTER MONITORS: Items other than televisions containing a cathode ray tube (CRT) such as computer monitors and laptops.

TELEVISIONS: Television sets containing a cathode ray tube (CRT).

OTHER COMPUTER EQUIPMENT: Computer items not containing CRTs such as processors, mice and mouse pads, keyboards, and disk drives.

Construction, Demolition, and Landclearing Wastes

DIMENSION LUMBER: Milled lumber commonly used in construction for framing and related uses, including 2 x 4's, 2 x 6's, sheets of plywood, strandboard, and particleboard.

PALLETS: Untreated wood pallets, whole and broken.

CRATES: Untreated crates, pieces of crates, and other packaging lumber/panelboard.

OTHER UNTREATED WOOD: Compostable prunings or stumps 6" or greater in diameter.

TREATED WOOD: Lumber and wood products that have been painted or treated so as to render them difficult to compost (with generally 50% or more of the surface area treated). This includes painted and chemically treated lumber.

CONTAMINATED WOOD: Predominantly wood and lumber products that are mixed with other materials in such a way that they cannot easily be separated. This includes wood with metal, gypsum, concrete, or other contaminants that would not compost easily.

NEW GYPSUM SCRAP: Calcium sulfate dehydrate sandwiched between heavy layers of Kraft-type paper. Also known as drywall. This category includes new drywall that has not been painted or treated in other ways.

DEMO GYPSUM SCRAP: Used or demolition gypsum wallboard scrap that has been painted or treated.

FIBERGLASS INSULATION: Fiberglass building and mechanical insulation, batt or rigid.

ROCK/CONCRETE/BRICKS: Rock gravel larger than 2" diameter, Portland cement mixtures (set or unset), and fired-clay bricks.

ASPHALTIC ROOFING: Asphalt shingles and tarpaper of built-up roofing.

CERAMICS: Finished ceramic or porcelain products such as toilets, sinks, and some dishware.

OTHER CONSTRUCTION DEBRIS: Construction debris (other than wood) that cannot be classified elsewhere and mixed fine building material scraps. For example, floor sweepings from construction activities containing sawdust, nails, wire, etc.

Hazardous Wastes

LATEX PAINTS: Water-based paints and similar products.

SOLVENT-BASED ADHESIVES/GLUES: Oil/resin/volatile solvent-based glues and adhesives, including epoxy, rubber cement, two-part glues and sealers, and auto body fillers.

WATER-BASED ADHESIVES/GLUES: Water-based glues, caulking compounds, grouts, and spackle.

OIL-BASED PAINT/SOLVENT: Solvent-based paints, varnishes, and similar products. Various solvents, including chlorinated and flammable solvents, paint strippers, solvents contaminated with other products such as paints, degreasers, and some other cleaners if the primary ingredient is (or was) a solvent, or alcohol such as methanol and isopropanol.

CAUSTIC CLEANERS: Caustic acids and bases used primarily to clean surfaces, unclog drains, or perform other actions.

PESTICIDES/HERBICIDES: Variety of poisons with the purpose of discouraging or killing insects, weeds, or microorganisms. Fungicides and wood preservatives, such as pentachlorophenol, are also included.

DRY-CELL BATTERIES: Dry-cell batteries of various sizes and types as commonly used in households. Includes cell phone and button cell batteries.

WET-CELL BATTERIES: Wet-cell batteries of various sizes and types as commonly used in automobiles.

GASOLINE/KEROSENE: Gasoline, diesel fuel, and fuel oils.

MOTOR OIL/DIESEL OIL: Lubricating oils, primarily used in vehicles but including other types with similar characteristics.

ASBESTOS: Asbestos and asbestos-containing wastes (if this is the primary hazard associated with these wastes).

EXPLOSIVES: Gunpowder, unspent ammunition, picric acid, and other potentially explosive chemicals.

MEDICAL WASTES: Materials typically discarded in a health care setting such as I.V. tubing and patient drapes, specimen containers, and Petri dishes. Medical wastes that could be considered a biohazard were weighed, but not further sorted.

OTHER CLEANERS/CHEMICALS: Soaps, non-caustic cleaners, medicines, cosmetics, and other household chemicals.

OTHER POTENTIALLY HARMFUL WASTES: Other chemicals or potentially harmful wastes that do not fit into the above categories, including unidentifiable materials.

Fines and Miscellaneous Materials

SAND/SOIL/DIRT: Contains mixed fines smaller than 2" in diameter.

NONDISTINCT FINES: Self-defined.

MISCELLANEOUS ORGANICS: Combustible materials including wax, bar soap, cigarette butts, scraps of leather and leather products including shoes and belts, feminine hygiene products, briquettes, and fireplace, burn barrel and fire pit ash, and other organic materials not classified elsewhere.

MISCELLANEOUS INORGANICS: Vacuum cleaner bag contents and other inorganic materials not classified elsewhere.

Changes to Waste Component Categories

The material types used to categorize Seattle's waste stream have been refined over the years. Table A-1 tracks these changes. (An "X" signifies that the component remains the same from the previous study period; an outline border reflects how components were split apart or grouped together.)

Table A-1 Changes to Waste Component Categories, 1988 to present

1988-89	*1990*	*1992*	*1994*	1996	1998/99	2000	2002	2004
PAPER								
Newspaper	x	x	x	x	x	x	x	x
Corrugated Paper	x	x	OCC/Kraft	OCC/Kraft, Unwaxed	x	x	x	x
Office Paper	x	x	x	x	x	x	x	High Grade Paper
Computer Paper	x	x	x	x	x	x	x	
Mixed Scrap Paper	x	x	Mixed Low Grade	x	x	x	x	
			Phone Books	x	x	x	x	x
Other Paper	x	x	Milk/Juice Polycoats	x	x	x	x	
			Frozen Food Polycoats	x	x	x	x	x
			Compostable/Soiled	x	x	x	x	x
				OCC/Kraft, Waxed	x	x	x	x
			Paper/Other Materials	x	x	x	x	Mixed/Other Paper
			Other Paper	x	x	x	x	
PLASTIC								
PET Bottles	x	x	PET Pop & Liquor	x	x	x	x	#1 PET Bottles
			Other PET Bottles	x	x	x	x	*Moved to component "Other plastic bottles"*
HDPE Bottles	x	x	HDPE Milk & Juice					#2 HDPE Natural Bottles
				x	x	x	x	#2 HDPE Colored Bottles
			Other HDPE Bottles	x	x	x	x	*Moved to component "Other plastic bottles"*
Expanded Polystyrene	x	x	x	x	x	x	x	x
Plastic Packaging	Other Plastic Bottles	x	x	x	x	x	x	x
	x	x	Other Rigid Containers	Jars & Tubs	x	x	x	x
			Other Rigid Packaging	x	x	x	x	x
			Grocery/Bread Bags	x	x	x	x	Clean Shopping/Dry Cleaner Bags
			Other Film	Garbage Bags	x	x	x	Other Film
				x	x	x	x	Other Clean PE Film
Other Plastic Products	x	x	Plastic Products	x	x	x	x	x
			Plastic/Other Materials	x	x	x	x	x
GLASS								
Nonrefillable Pop	x	x	Clear Beverage	x	x	x	x	Clear Bottles
Refillable Pop	x	x	Green Beverage	x	x	x	x	Green Bottles
Nonrefillable Beer	x	x	Brown Beverage	x	x	x	x	Brown Bottles
Refillable Beer	x	x	*(After 1994, characterized according to color)*					
Container Glass	x	x	x	x	x	x	x	x
Nonrecyclable Glass	x	x	x	Other Glass	x	x	x	x
				Fluorescent Tubes	x	x	x	x
METAL								
Aluminum Cans	x	x	x	x	x	x	x	x
Aluminum Foil/Containers	x	x	x	x	x	x	x	x
Tinned Cans	x	x	x	x	x	x	x	x
Bi-metal Cans	x	x	*(After 1994, characterized according to predominant metal)*					
Ferrous	x	x	x	x	x	x	x	x
Nonferrous	x	x	x	Other Nonferrous	x	x	x	x
			Other Aluminum	x	x	x	x	x
				Empty Aerosol Cans	x	x	x	x
Mixed Metals/Materials	x	x	x	x	x	x	x	x
					Metal Oil Filters	x	x	x
White Goods	x	x	*(After 1994, banned from disposal. Parts show up in "Mixed Metals")*					
RUBBER								
Rubber Products	x	x	*moved to "Other Materials"*	x	x	x	x	*Moved to "Organics"*
Tires	x	x	*moved to "Other Materials"*	x	x	x	x	*Moved to "Organics"*

Table A-1 Changes to Waste Component Categories, 1988 to present (continued)

1988-89	1990	1992	1994	1996	1998/99	2000	2002	2004
ORGANICS								
Wood	x	Untreated Wood	x	Dimension Lumber; *new category "CDL Wastes"*	x	x	x	x
			Crates/Pallets	Other Untreated Wood; *new category "CDL Wastes"*	x	x	x	x
				Pallets	x	x	x	*Moved to "CDL Wastes"*
				Crates/Boxes	x	x	x	*Moved to "CDL Wastes"*
		Treated Wood	x	*Moved to new category "CDL Wastes"*	*x*	*x*	*x*	*x*
				Contaminated Wood; *new category "CDL Wastes"*	x	x	x	x
Leaves and Grass	x	x	x	x	x	x	x	x
Prunings	x	x	x	x	x	x	x	x
Food	x	x	x	x	x	x	x	x
OTHER MATERIALS								
Textiles	x	x	x	Textiles/Clothing	x	x	x	*Moved to "Organics"*
			Carpet/Upholstery	x	x	x	x	*Moved to "Organics"*
Leather	x	x	x	x	x	x	x	*Moved to component "Miscellaneous Organics"*
Disposable Diapers	x	x	x	x	x	x	x	*Moved to "Organics"*
(Discarded from samples prior to 1994)			Animal By-Products	x	x	x	x	*Moved to "Organics"*
Ash	x	x	x	x	x	x	x	*Moved to component "Miscellaneous Organics"*
(Prior to 1994, split among various materials; Mixed Metal, Textiles, Other Plastics, etc.)			Furniture	x	x	x	x	*Moved to new category "Appliances and Electronics"*
(Prior to 1994, split among various materials; Mixed Metal, Textiles, Other Plastics, etc.)			Mattresses	x	x	x	x	*Moved to new category "Appliances and Electronics"*
(Prior to 1994, split among various materials; Mixed Metal, Textiles, Other Plastics, etc.)			Small Appliances	x	x	x	x	*Moved to new category "Appliances and Electronics"*
(Prior to 1994, split among various materials; Mixed Metal, Textiles, Other Plastics, etc.)			A/V Equipment	x	x	x	x	*Moved to new category "Appliances and Electronics"*
						Televisions & Computer Monitors	Television Sets	*Moved to new category "Appliances and Electronics"*
							Computer Monitors	*Moved to new category "Appliances and Electronics"*
						Other Computer Equipment	x	*Moved to new category "Appliances and Electronics"*
Ceramics, Porcelain, China	x	x	x	x	x	x	x	*Moved to "CDL Wastes"*
Gypsum Drywall	x	x	x	New Gypsum Scrap; *new category CDL Wastes*	x	x	x	x
				Demo Gypsum Scrap; *new category CDL Wastes*	x	x	x	x
Fiberglass Insulation	x	x	x	*Moved to new category CDL Wastes*	*x*	*x*	*x*	*x*
Rock/Concrete/Brick	x	x	x	*Moved to new category CDL Wastes*	*x*	*x*	*x*	*x*
Other Construction Debris	x	x	x	*Moved to new category CDL Wastes*	*x*	*x*	*x*	*x*
				Asphaltic Roofing; *new category CDL Wastes*	x	x	x	x
Sand, Dirt, Non-distinct Fines	x	x	Sand/Soil/Dirt	*Moved to new category CDL Wastes*	*x*	*x*	*x*	*Moved to new category "Fines & Miscellaneous Materials"*
			Non-distinct Fines	x	x	x	x	*Moved to new category "Fines & Miscellaneous Materials"*
(Prior to 1994, mostly in "Sand, Dirt, Non-distinct Fines; also in various "Mixed" and "Other" categories)			Misc. Organics	x	*x*	*x*	*x*	*Moved to new category "Fines & Miscellaneous Materials"*
(Prior to 1994, mostly in "Sand, Dirt, Non-distinct Fines; also in various "Mixed" and "Other" categories)			Misc. Inorganics	x	*x*	*x*	*x*	*Moved to new category "Fines & Miscellaneous Materials"*

Table A-1 Changes to Waste Component Categories, 1988 to present (continued)

1988-89	*1990*	*1992*	*1994*	1996	1998/99	2000	2002	2004
HOUSEHOLD HAZARDOUS								**HAZARDOUS WASTES**
Latex Paints	x	x	x	x	x	x	x	x
Adhesives/Glues	x	x	x	Hazardous Glue/Adhesives	x	x	x	Renamed "Solvent-based Adhesives/Glues"
				NonHazardous Glue/Adhesives	x	x	x	Renamed "Water-based Adhesives/Glues"
Oil-based Paints/Solvents	x	x	x	x	x	x	x	x
Cleaners	x	x	x	x	x	x	x	Renamed "Caustic Cleaners"
Pesticides/Herbicides	x	x	x	x	x	x	x	x
Batteries	x	x	Dry-Cell Batteries	x	x	x	x	x
			Wet-Cell Batteries	x	x	x	x	x
Gasoline/Kerosene	x	x	x	x	x	x	x	x
Motor Oil/Diesel Oil	x	x	x	x	x	x	x	x
Asbestos	x	x	x	x	x	x	x	x
Explosives	x	x	x	x	x	x	x	x
Other Chemicals	x	x	x	Other Hazardous Chemicals	x	x	x	Other Potentially Harmful Wastes
								Medical Wastes
				Other NonHazardous Chemicals	x	x	x	Renamed "Other Cleaners/Chemicals"

Appendix B Sampling Methodology

Overview

The objective of the 2004 Seattle Waste Composition Study was to provide statistically significant data on the composition of commercial and self-haul waste in the City of Seattle. The commercial and self-haul waste substreams were last sampled in 2000. The current project follows the same basic methodology as the 2000 study. However, the component categories were revised since the 2000 study (Appendix A).

Substream Definition

For any specific geographic area, the total *waste stream* is composed of various *substreams*. A "substream" is determined by the particular generation, collection, or composition characteristics that make it a unique portion of the total waste stream. This study targets two of three main substreams in Seattle: the commercial and self-haul substreams.[1] These are described in detail below.

Commercial Substream

The **commercial** substream is comprised of wastes that are a) generated at businesses and institutions and b) collected by contracted hauling companies. The commercial substream is composed of twelve subpopulations as shown in Table B-1. Subpopulations are defined according to three groupings: service area (north or south), shift (day or night), and vehicle type (front loader, rear loader, or roll-off).

Table B-1 Commercial Subpopulations, by Service Area, Shift, and Vehicle Type

		Service Area					
		North			*South*		
		Vehicle Type			***Vehicle Type***		
		Front loader	*Rear loader*	*Roll-off*	*Front loader*	*Rear loader*	*Roll-off*
Shift	*Day*	Day FL North	Day RL North	Day RO North	Day FL South	Day RL South	Day RO South
	Night	Night FL North	Night RL North	Night RO North	Night FL South	Night RL South	Night RO South

The two service areas from which Seattle's commercial waste is collected, *north* and *south*, are divided by Royal Brougham Way and Jackson Street, located south of downtown.

[1] The residential substream was not included in this study. For the most recent analysis of Seattle's residential waste stream, please see the *2002 Residential Waste Composition Study Final Report* prepared for the Seattle Public Utilities by Cascadia Consulting Group, Inc.

Commercial waste from the north and south service areas is hauled by private hauling companies. During the study period the majority of waste from both service areas – 53% of the total collected – was hauled to Third & Lander (owned by Allied Waste). Some waste from the south service area – 32% of the total collected – was hauled to two stations: Eastmont (owned by Waste Management) through June 2004; and, after the Eastmont station was closed in June, to the South Recycling & Disposal Station (SRDS). Also, 14% of the total waste collected was hauled to the North Recycling & Disposal Station (NRDS). Finally, a negligible amount of waste is hauled to the Rabanco station and was not included in this study. See Appendix B for the locations and dates of the sampling events. Since this study characterized municipal solid waste (MSW) only, no samples were taken from construction, demolition, and landclearing waste (CDL) loads delivered to these facilities.[2]

Self-haul Substream

The **self-haul** substream is comprised of wastes that are a) generated at residences as well as businesses and institutions and b) hauled by the household or business that generated the waste. The self-haul substream is composed of four subpopulations as shown in Table B-2. Subpopulations are defined according to generator type and disposal station. Generator types are defined as follows.

- *Self-haul commercial*: Waste that is hauled to the NRDS or SRDS by a commercial enterprise (landscaper, contractor, etc.), including waste from residential dwellings.
- *Self-haul residential*: Waste that is hauled to the NRDS or SRDS by a resident from his or her home.

All self-haul waste included in the study is disposed at one of two City-owned disposal stations: North or South Recycling and Disposal Station (NRDS or SRDS).

Table B-2 Self-haul Subpopulations, by Generator Type and Service Area

		Generator Type	
		Commercial	*Residential*
Disposal	NRDS	Commercial NRDS	Residential NRDS
	SRDS	Commercial SRDS	Residential SRDS

Sample Allocation

Commercial Samples

For this study, a total of 270 commercial samples were characterized. These samples were allocated to the 12 commercial subpopulations using the following steps.

1. Samples were allocated to each of the two service areas equally: 135 to the north and 135 to the south service area. An equivalent number of samples provides a comparable

[2] For more detail regarding Seattle's CDL waste stream, please see the *Construction, Demolition and Landclearing (CDL) Report* electronically at http://www.seattle.gov/util/About_SPU/Garbage_System/Reports/CDL_Reports/index.asp.

level of precision, or similar error rates, in the resulting composition data for each of these geographic service areas. These "comparable" data permit sensitive comparisons between the two areas and provide equally sound composition information for future geographic-based programmatic and evaluative analyses.

2. For both the day and night shifts, samples for each service area were allocated based on the proportion of tonnage collected. For example, about 60% of the total waste collected from the south service area is disposed during the day, so 60% of the samples assigned to that service area were allocated to day shifts and 40% to night shifts.
3. Next, samples were allocated to specific vehicle types such as loose roll-offs and packer trucks. Again, samples were allocated based on the average tons collected in each service area and delivered by each vehicle type for each shift.

The numbers of samples allocated to the various subpopulations are detailed in Table B-3.

Table B-3 Commercial Sample Allocation[3]

Service Area Shift Vehicle Type	# of Samples	% of total
North Service Area		
Day		
Front loader	58	21%
Rear loader	4	1%
Roll-off	31	11%
Night		
Front loader	20	7%
Rear loader	4	1%
Roll-off	18	7%
South Service Area		
Day		
Front loader	48	18%
Rear loader	1	0%
Roll-off	32	12%
Night		
Front loader	25	9%
Rear loader	0	0%
Roll-off	29	11%
Totals	**270**	**100%**

4. On each day, samples were allocated based on the sampling quotas for each service area and shift. For example, in the south service area during the night shift, seven samples were allocated to front loaders, one to rear loaders, and seven to roll-offs.

[3] Seattle Public Utilities provided commercial and self-haul tonnages used for allocating samples in the study. These tonnages were confirmed with the haulers and adjusted when needed.

Self-haul Samples

Since the proportion of self-haul tonnage transported to the NRDS and SRDS is nearly equal (54% and 46%, respectively), half the self-haul samples were allocated to each facility: 108 at NRDS and 108 at SRDS. This study did not stratify samples by generator type as data from the study was also used to determine the relative mix of residential and commercial loads arriving at each disposal station.

Sampling Calendar

A total of 270 commercial and 216 self-haul samples were sorted during this study. Due to the expense of moving the sampling crew from site to site, sorting only occurred at one facility per sampling day. Since the field crew can sort approximately 15 commercial loads and 18 self-haul loads per day, 18 days of commercial and 12 days of self-haul sampling were scheduled to meet the study's sampling goals. In order to capture any seasonal variation, the sampling events were distributed across the 12-month study period. Sampling generally occurred every other month for five consecutive days each selected month, for a total of 30 days of sampling. Each sampling month consisted of three days of commercial sampling and two days of self-haul sampling. Contingency days were scheduled for the months of April and June to fulfill the study's sampling goals for the commercial substream.

Working around major holidays and the sorting crew's availability, sampling dates within each month were selected using a random number generator and refined so that the distribution across weeks of the month and days of the week were roughly even. Whenever possible, the sampling dates for both the commercial and self-haul waste sorts were scheduled contiguously.

The sampling calendar is shown in Table B-4. The resulting allocation of waste sampling days for the commercial and self-haul substreams is shown in Table B-5 and Table B-6, respectively.

Table B-4 Sampling Calendar

Date	Shift	Hauler/ Substream	Facility	Day of the Week	Week of the Month
12/10/2003	Night	Emerald City	3rd & Lander	Wednesday	2
12/12/2003	Day	Emerald City	3rd & Lander	Friday	2
12/17/2003	Day	Self-haul	SRDS	Wednesday	3
12/18/2003	Day	Waste Management	Eastmont	Thursday	3
12/19/2003	Day	Self-haul	NRDS	Friday	3
2/8/2004	Day	Self-haul	NRDS	Sunday	2
2/9/2004	Day	Waste Management	Eastmont	Monday	2
2/9/2004	Night	Waste Management	Eastmont	Monday	2
2/11/2004	Day	Self-haul	SRDS	Wednesday	2
2/12/2004	Day	Emerald City	3rd & Lander	Thursday	2
3/22/2004	Day	Self-haul	NRDS	Monday	4
3/23/2004	Day	Self-haul	SRDS	Tuesday	4
4/28/2004	Day	Waste Management	Eastmont	Wednesday	4
4/29/2004	Day	Emerald City	3rd & Lander	Thursday	5
4/29/2004	Night	Emerald City	3rd & Lander	Thursday	5
5/1/2004	Day	Emerald City	3rd & Lander	Saturday	1
7/12/2004	Day	Self-haul	SRDS	Monday	2
7/13/2004	Day	Emerald City	3rd & Lander	Tuesday	2
7/14/2004	Day	Self-haul	NRDS	Wednesday	2
7/14/2004	Night	Waste Management	3rd & Lander	Wednesday	2
7/16/2004	Day	Waste Management	SRDS	Friday	3
7/17/2004	Day	Waste Management	SRDS	Saturday	3
8/16/2004	Night	Both	3rd & Lander	Monday	3
8/17/2004	Day	Emerald City	3rd & Lander	Tuesday	3
8/18/2004	Day	Emerald City	3rd & Lander	Wednesday	3
8/19/2004	Day	Self-haul	NRDS	Thursday	3
8/19/2004	Night	Waste Management	3rd & Lander	Thursday	3
8/20/2004	Day	Emerald City	3rd & Lander	Friday	3
8/21/2004	Day	Self-haul	SRDS	Saturday	4
10/3/2004	Day	Self-haul	SRDS	Sunday	1
10/5/2004	Day	Self-haul	NRDS	Tuesday	1
11/2/2004	Night	Both	3rd & Lander	Tuesday	1
11/4/2004	Day	Waste Management	SRDS	Thursday	1
11/5/2004	Day	Emerald City	3rd & Lander	Friday	1

Table B-5 Distribution of Commercial Waste Sampling Days

Number of Commercial Waste Sampling Days: North Service Area

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Overall
	1	**3**	**2**	**3**	**3**	**1**	**0**	**13**
Winter	**0**	**0**	**1**	**1**	**1**	**0**	**0**	**3**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	1	1	1	0	0	3
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Spring	**0**	**0**	**0**	**2**	**0**	**1**	**0**	**3**
Week 1	0	0	0	0	0	1	0	1
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	2	0	0	0	2
Summer	**1**	**2**	**1**	**0**	**1**	**0**	**0**	**5**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	1	0	0	0	0	0	1
Week 3	1	1	1	0	1	0	0	4
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Fall	**0**	**1**	**0**	**0**	**1**	**0**	**0**	**2**
Week 1	0	1	0	0	1	0	0	2
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0

KEY
Day
Night
Both

Number of Commercial Waste Sampling Days: South Service Area

	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday	Overall
	3	**1**	**2**	**3**	**1**	**1**	**0**	**11**
Winter	**2**	**0**	**0**	**1**	**0**	**0**	**0**	**3**
Week 1	0	0	0	0	0	0	0	0
Week 2	2	0	0	0	0	0	0	2
Week 3	0	0	0	1	0	0	0	1
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Spring	**0**	**0**	**1**	**0**	**0**	**0**	**0**	**1**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	1	0	0	0	0	1
Summer	**1**	**0**	**1**	**1**	**1**	**1**	**0**	**5**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	1	0	0	0	0	1
Week 3	1	0	0	1	1	1	0	4
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Fall	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**2**
Week 1	0	1	0	1	0	0	0	2
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0

KEY
Day
Night
Both

Table B-6 Distribution of Self-haul Sampling Days

	Number of Self-haul Waste Sampling Days (NRDS)							
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Overall**
	1	**1**	**1**	**1**	**1**	**0**	**1**	**6**
Winter	**0**	**0**	**0**	**0**	**1**	**0**	**1**	**2**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	0	0	0	0	1	1
Week 3	0	0	0	0	1	0	0	1
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Spring	**1**	**0**	**0**	**0**	**0**	**0**	**0**	**1**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	1	0	0	0	0	0	0	1
Week 5	0	0	0	0	0	0	0	0
Summer	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**2**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	1	0	0	0	0	1
Week 3	0	0	0	1	0	0	0	1
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Fall	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**
Week 1	0	1	0	0	0	0	0	1
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0

	Number of Self-haul Waste Sampling Days (SRDS)							
	Monday	**Tuesday**	**Wednesday**	**Thursday**	**Friday**	**Saturday**	**Sunday**	**Overall**
	1	**1**	**2**	**0**	**0**	**1**	**1**	**6**
Winter	**0**	**0**	**2**	**0**	**0**	**0**	**0**	**2**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	1	0	0	0	0	1
Week 3	0	0	1	0	0	0	0	1
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0
Spring	**0**	**1**	**0**	**0**	**0**	**0**	**0**	**1**
Week 1	0	0	0	0	0	0	0	0
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	1	0	0	0	0	0	1
Week 5	0	0	0	0	0	0	0	0
Summer	**1**	**0**	**0**	**0**	**0**	**1**	**0**	**2**
Week 1	0	0	0	0	0	0	0	0
Week 2	1	0	0	0	0	0	0	1
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	1	0	1
Week 5	0	0	0	0	0	0	0	0
Fall	**0**	**0**	**0**	**0**	**0**	**0**	**1**	**1**
Week 1	0	0	0	0	0	0	1	1
Week 2	0	0	0	0	0	0	0	0
Week 3	0	0	0	0	0	0	0	0
Week 4	0	0	0	0	0	0	0	0
Week 5	0	0	0	0	0	0	0	0

Hauler and Transfer Station Participation

Commercial Sampling

The sampling schedule for the study year was given to each commercial hauler. Prior to each month's sampling event, a vehicle selection sheet was faxed to the affected companies. The haulers were asked to notify the drivers of the loads selected for sampling and write in the estimated time of arrival for each load (to assist the Field Supervisor in identifying the sample truck). Because both haulers occasionally deliver waste to the public transfer stations, drivers of these loads were re-routed when selected for sampling.

Self-haul Sampling

For self-haul loads, affected staff were given an annual schedule and informed of loads that were selected at the facility, NRDS or SRDS, on each sampling day.

Load Selection

Commercial Loads

Typically, commercial vehicles transport more than one load per shift. Since there were more vehicles per shift than the quota to be sampled, it was necessary to designate which specific loads were to be sampled. To accomplish this, an identifier was assigned to every expected load on a given sampling day. A random number generator was used to sort the identifiers by vehicle type; loads were then selected in that sequence until the quota for each vehicle type was filled. Selected loads for a sampling day were summarized on vehicle selection sheets such as the one shown in Appendix F.

Self-haul Loads

Self-haul loads were systematically selected at each facility. Systematic selection consisted of taking every "nth" vehicle that entered the facility at a randomly selected start time. The sampling intervals (n) were determined by dividing the day's expected number of arriving vehicles by the number of samples needed on that day. This method of selecting vehicles provides a representative number of samples for the commercial and residential generators of self-haul waste. The expected traffic count was based on either the average weekday or weekend vehicle count from the same month in 2003. On a typical sampling day, every 13th vehicle was sampled, although the "n" value could be as low as 7 and as high as 16.

Field Procedures

Upon arrival at the sampling facility, the Field Manager coordinated the details of truck diversion, sample extraction, sorting, and disposal of sorted waste with each transfer station manager. When a vehicle selected for sampling arrived, the Field Supervisor obtained the origin of all loads, truck and route information from commercial drivers, and generator and residence type from self-haul drivers. Both commercial and self-haul drivers were asked to identify from which type of business the sample load is from. Table B-7 lists the corresponding Standard Industry Codes (SIC) for loads from businesses. Information collected from each driver was recorded on the load's corresponding tally sheet (see Appendix F for a copy of this sheet).

Table B-7 SIC Codes, by Generator Type

Generator Category	SIC Codes
Construction, Demolition, and Landclearing	15-17
Education	82
Health Care	80
Hotel/Motel	70
Manufacturing	20, 22-26, 28-36, 38-39, 372, 373, 376
Office	01-02, 08-09, 10, 14, 27, 48, 49, 60-67, 73, 81
Other Non-Residential	
Other Services	7, 55, 72, 75, 76, 78-79, 84, 86, 89
Restaurant	58
Retail	52-54, 56-57, 59
Transportation	40-47, 371, 374, 375, 379
Wholesale	50, 51
Mixed Commercial Generators	

Commercial Samples

To capture commercial samples at SRDS, the loader nosed into the stream of material falling from the selected truck, capturing a 5-cubic yard slice of garbage. For most commercial samples, the entire truckload of waste was dumped onto the floor at the transfer station. Wherever possible, an imaginary 8-section, 2-layer grid (16 cells total) was superimposed on the load, and a randomly selected cell was identified for sampling. Approximately 250 pounds of waste was dumped onto a tarp for sorting.

In order to meet the sampling goals, as outlined in Table B-1, it was occasionally necessary to capture two samples from a selected load. About 80 commercial samples were captured in this way. These samples were extracted from two randomly selected cells identified for sampling. This occurred on a limited basis when the number of vehicles was constrained so that it was not otherwise possible to meet the sampling goals.

Self-haul Samples

Samples from large (greater than 250 pounds) self-haul loads were either entirely sorted, or a slice was selected in much the same manner as commercially collected loads. If the load was less than 250 pounds then the next vehicle of the same generator group (residential or commercial) was selected. A sample was captured from this vehicle so that the weight of the two samples equaled at least 250 pounds.

To obtain net weights, the Field Supervisor gave the drivers of non-passenger vehicles a net weight card so that the scale attendant could record the weight. For passenger vehicles, which are not weighed, if the full load is sorted the total weight of the sample was equal to the weight of the load. Otherwise, the Field Supervisor estimated what percentage of the load was sorted so that the weight of the load can be estimated.

Each sample was sorted by hand into the defined component categories (please see Appendix A for component definitions). For example, food containers were separated from the food and classified according to the containers' material. Each sample was sorted to the greatest reasonable detail. Rarely, a *supermix* of material (a residue composed of mixed material, each piece smaller than one-half inch) remained after sorting a sample. During this study period, a supermix was recorded for fewer than 20 samples. In these cases, the Field Supervisor weighed the combined *supermix* (never totaling more than 10 pounds) and visually estimated the percentage of each component material in the *supermix*. The weights of all materials were recorded on tally sheets, such as the one shown in Appendix F.

Appendix C Comments on Monthly Sampling Events

December 2003

The commercial waste stream sampling began on the night of December 10 at Third & Lander. Samples from seven roll-offs and eight front loaders were obtained as planned.

On December 12, a total of seven front loaders and seven roll-offs were sorted at Third & Lander. Two of the expected roll-off loads did not arrive, so one less roll-off load was sampled. We have determined that our list of vehicles will need to be checked with dispatch on the very morning of sampling, instead of the day before as the roll-off drivers are still being assigned vehicles at the last minute.

Eighteen self-haul samples were sorted as planned at the SRDS on December 17.

At Eastmont on December 18, four front loaders, 1 rear loader, and eight roll-offs were sampled. The sampling crew was unable to sort two of the pre-selected front loaders.

On December 19, eighteen samples were captured and sorted at NRDS as planned.

February

Sampling this month began at the North Recycling and Disposal Station on Sunday, February 8th. Eighteen self-haul samples were captured and sorted.

On Monday, February 9, commercial sampling took place at Eastmont. Ten roll-off and three front loaders were sampled. On this day, the sampling crew was asked to move to a new area by a King County Health Department Inspector due to a lack of containment of waste. The new area should be sufficient for sorting in the future.

On Monday night, thirteen samples were again collected at Eastmont. Samples were taken from six front loaders and seven roll-offs. Front loaders were double-sampled since the number of loads is not representative of the night tonnage.

Eleven samples, from eight front loaders and three roll-offs, were captured at Third & Lander on Wednesday, February 12. One front loader and one roll-off were not sampled.

A total of eighteen self-haul samples were sorted at the SRDS on Thursday, February 11.

March

The self-haul waste stream sampling occurred on March 22 at NRDS and March 23 at SRDS. As planned, eighteen samples were captured and sorted both days.

April

On April 28 at Eastmont, the sampling goal, eight front loaders, 1 rear loader, and four roll-offs, was met.

At Third & Lander on April 29 during the day shift, 9 front loaders and 4 roll-offs were sampled, which was consistent with the day's goal. That night at Third & Lander, 6 front loaders, 2 rear loaders, and 6 roll-offs were sampled. This was the same number of samples as were planned for the night shift.

May

On Saturday, May 1, at Third & Lander, eight front loaders and 3 roll-offs were sampled. The sampling crew was unable to capture 2 of the roll-offs that were pre-selected for sampling.

July

Eighteen self-haul samples were sorted as planned at the SRDS on July 12.

On July 13 at Third & Lander, Rabanco commercial loads were sampled. Samples were collected from 1 rear loader, 6 front loaders, and 3 roll-offs. The crew was not able to get several samples that day due to operational difficulties at the facility. Brad Anderson, of Sky Valley Associates, arrived at the facility a few minutes before 6am and communicated to several people that he needed to have a drop-box moved so that he could use the area for sorting. Despite his repeated attempts to have the box moved, it wasn't actually moved until 8:45. While it was moved, the five samples that he had placed on the ground in front of the box were disposed by the loader operator. As a result, Sky Valley was only able to sort 10 samples. Unfortunately, Cascadia is obligated to pay Sky Valley for 15 samples on this day since they had captured the 15 samples and had crew available to sort them.

On Wednesday, July 14, 18 self-haul samples were sorted at the NRDS.

During the night shift of Wednesday, July 14, samples were collected at Third & Lander from Waste Management commercial loads. Eight front loaders and eight roll-off samples were collected and sorted.

Waste Management commercial loads were sampled at the SRDS on Friday, July 16 and Saturday, July 17. On Friday, two rear loaders, 14 front loaders, and six roll-offs were sampled. On Saturday, four front loaders and one roll-off were sampled.

Multiple samples were taken from loads on the night shift on Wednesday, July 14, and the day shifts on Friday, July 16, and Saturday, July 17. This was done to make up for an insufficient number of packer loads available for sampling.

August

Unlike previous sampling seasons, we were able to collect samples from both haulers during the night shift at Third & Lander. This flexibility made meeting sampling goals easier. Eighty-two samples were sorted during this week.

On Monday, August 16, samples were selected from both Rabanco and Waste Management commercial loads during the night shift at Third & Lander. One rear loader, four front loaders, and four roll-offs were selected for sampling from Rabanco. Samples were captured from three front loaders and one roll-off Waste Management loads. A total of thirteen commercial loads were sampled.

The following day, Tuesday, August 17, while the crew was sorting the previous night's samples, four additional Rabanco commercial front loaders were selected for sampling.

On Wednesday, at Third & Lander, commercial loads from Rabanco were sampled. One rear loader, nine front loaders, and five roll-offs were selected for sampling, for a total of 15 samples. One front-loader was double-sampled.

Eighteen self-haul samples were sorted as planned at the NRDS on August 19.

During the night shift on Thursday, August 19, the crew selected samples at Third & Lander. Commercial loads from both haulers were sampled. Four front loaders and eight roll-offs were sampled from Waste Management; one front loader and one roll-off were selected from Rabanco. Fourteen commercial samples were collected in all. One front-loader was double-sampled. On Saturday, the last day of the sampling week, eighteen self-haul samples were sorted at the SRDS.

October

Due to issues at Third & Lander, discussed below, only self-haul vehicles were sampled.

Eighteen self-haul vehicles were sampled on each of two sampling days: Sunday, October 3 at the SRDS and on Tuesday, October 5 at the NRDS. A total of 36 samples were captured and sorted.

Commercial sampling did not occur as planned. On Monday morning, the Sky Valley crew, led by Brad Anderson, arrived at Third & Lander as scheduled. Brad worked with the loader operator to clear an area for sample collection and sorting. He had captured one sample when the operations manager arrived and told him that they wouldn't be able to accommodate him.

We learned that they were experiencing at least two major difficulties at the facility that day. There had been a power outage on the previous Friday that they were apparently still trying to recover from. More importantly, though, the train was not able to handle the trash that was building up. After this incident, the facility manager informed us that the site would be unable to accommodate our sorting activities for at least two weeks.

Brad and the crew are not available again until the first week of November. This week would replace the previously scheduled first week of October. Sampling will take place Wednesday through Friday, November 3 through the 5. Both haulers would be sampled during the night shift on Tuesday. On Wednesday, the crew would sort those samples. Thursday would be a Waste Management day and Friday would be a Rabanco sampling day. The only change in this schedule is that the previously planned Monday loads from Rabanco would now be captured on Friday.

November

As self-haul sampling was completed in October, only commercial trucks were sampled in November.

On the night on Tuesday, November 16, both Waste Management and Allied trucks were sampled at Third & Lander. Fourteen samples were captured and sorted: 3 from Allied and 11 from Waste Management trucks. Two front-loaders and 1 roll-off were sampled from Allied. Eight front-