
Business Waste Characterization Report

St. Johns Library, Multnomah County

Date of Sort: March 16, 2009

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Methodology:

On March 16, 2009, a team of volunteers evaluated a sample of waste from St. Johns Library. Garbage is hauled once per week from St. Johns Library. The sample is one full week's garbage (Tuesday 3/10 – Monday 3/16). Although the sample included recyclable material, the sample only included material from the garbage collection container. The sample was sorted into the following categories: mixed paper, aluminum cans, plastic bottles, glass bottles/jars, plastic bags/film, electronic waste, rigid plastics, compostable papers, compostable food items, non-recyclable containers, and other non-recyclable materials. Each of these material groups were weighed and cataloged. The following report details the material composition of the sample and makes recommendations based on the findings¹.

Weight data was collected utilizing an A & D FK150 series bench scale, independently calibrated by AAA Scale of Portland, Oregon, to collect weights to the nearest 1/100th of a pound.

Findings:

The eleven categories of materials are grouped into one of the four following categories: **Paper**, **Containers** (aluminum cans, plastic bottles, plastic bags/films), **Other Recyclables** (ewaste, rigid plastics, compostable food/fiber), and **Non-recyclables** (food trays, cups, garbage). Figure 1 shows the percent by weight of each of these four general categories.

The following is a breakdown of weight percentage represented by each category.

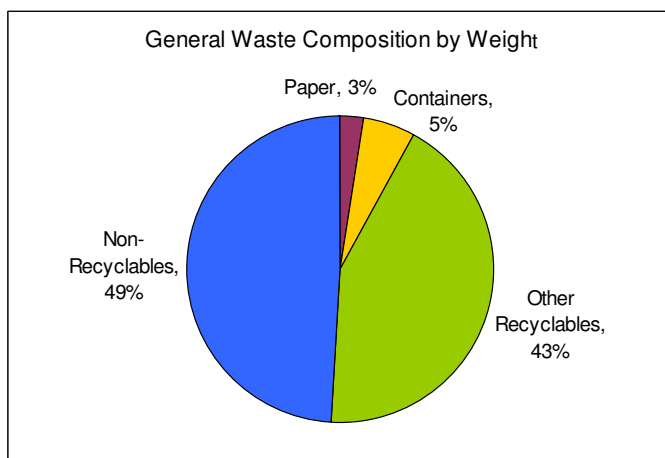


Figure 1: Percentage of Waste Stream by Weight

Recyclable Fibers	Lbs.	Percent of Waste Stream
➤ Mixed Paper	1.3 lbs	2.6%
Recyclable Containers		
➤ Aluminum Cans	0.4 lbs	0.8%
➤ Plastic Bottles	0.8 lbs	1.6%
➤ Glass Bottles	0.7 lbs	1.4%

¹ Note: Both the findings and recommendations are cited in terms of weight, not volume. Weight data may also be skewed by liquid within the sample. These circumstances are noted where they are relevant to the findings.

➤ Plastic Bags/Films	0.8 lbs	1.6%
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Other Recyclables

➤ Compostable Foods	3.9 lbs	7.9%
➤ Compostable Fibers	16.5 lbs	33.3%
➤ Rigid Plastics	0.6 lbs	1.2%
➤ Ewaste	0.2 lbs	0.4%

Non-Recyclables

➤ Non-recyclable containers	3.7 lbs	7.5%
➤ Garbage	20.6 lbs	41.6%

The following chart (Figure 2) shows the distribution of the specific materials in the waste stream by weight.

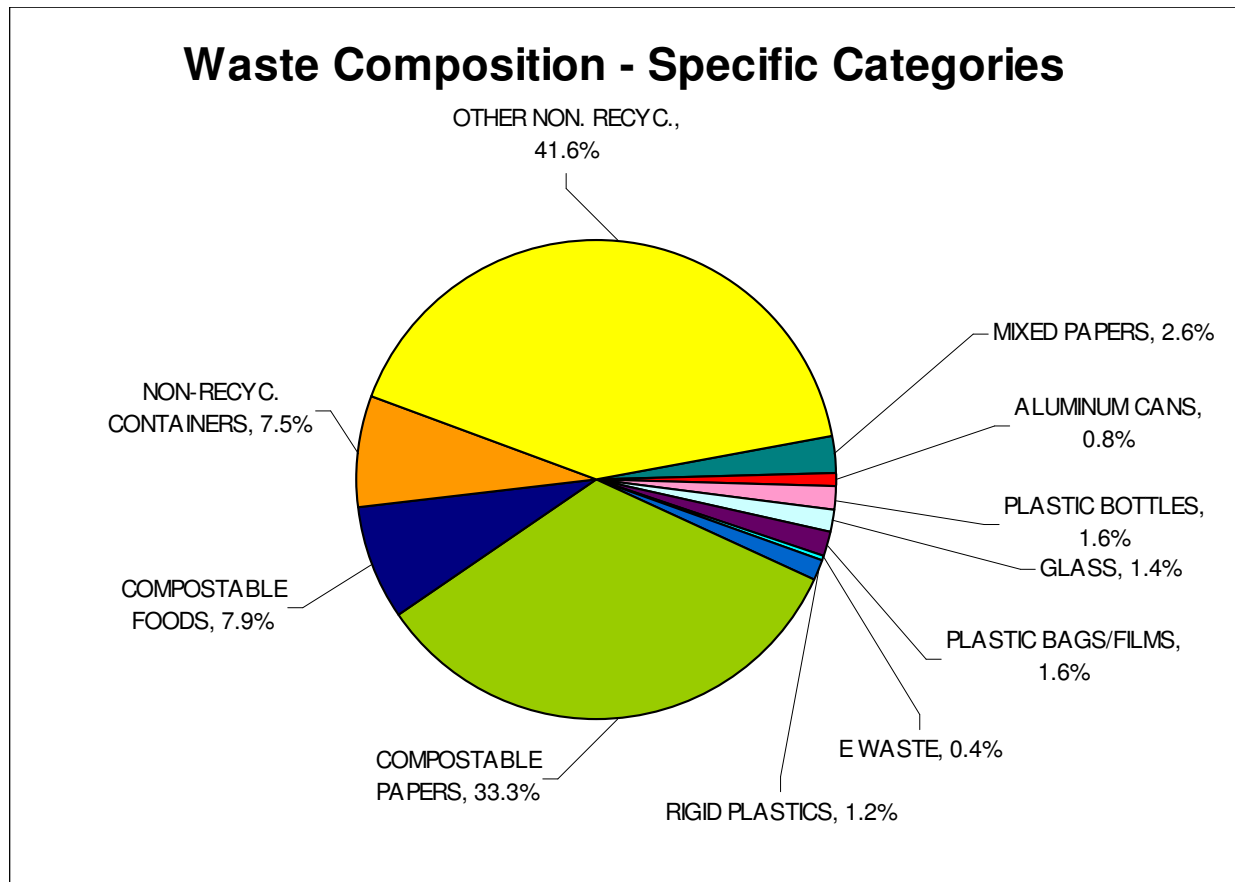


Figure 2: Percentage of composition by specific material categories

Observations & Recommendations:

One week's worth of garbage filled less than half of the 2-yard dumpster used for garbage collection at St. Johns Library. St. Johns Library should consider checking the level of garbage each Monday for one month to see if the week of 3/10-3/16 generated a normal amount of garbage or if this amount was lower than normal. Each week Multnomah County pays \$21.15 to have this container emptied. Since the dumpster was less than half full, collection could be reduced to biweekly service and would save Multnomah County \$42.30 per month and \$507.60 annually.

The garbage contained some water and the weights of the compostable fibers, compostable food, mixed paper, and non-recyclable materials were affected. The high moisture content increased the weights and percentages of these materials. Although the weights were affected, the volume of each of these materials was still significant.

The findings from this waste evaluation suggest that there are several materials that might be targeted to help reduce the amount of waste generated by St. Johns Library.

Mixed Paper, Aluminum Cans, and Plastic Bottles: These three materials are easily recycled in the commingled bins and account for 5% of the waste.

Recommendation: Ensure that on-site staff is aware of co-mingled recycling collection. Consider a tour of the building to check for informational posters. Consider checking public areas and consider if additional containers might be warranted for increasing capture of paper, bottles and cans.



Figure 3: Compostable Material

Compostable Food and Fibers: A surprisingly high percentage of the garbage was compostable material (41.2%).

Recommendation: Consider educating staff and clients about the wastefulness of excessive paper towel use and encourage individuals to use fewer paper towels when drying their hands, to bring in their own reusable towel, and to allow their hands to air dry.

To help divert food scraps, consider creating an onsite compost collection or encourage individuals to bring their food scraps home for composting.

Food Containers and Cups: Non-recyclable food containers and cups composed a significant part of the waste stream (7.5% of the sample – See Figure 4)

Recommendation: Consider creating incentives for staff members to choose a reusable mug and promote waste free lunches.



Figure 4: Food Containers and Cups



Figure 5: Plastic Bags

Plastic bags/films: Although only a small percentage of the garbage was composed of plastic bags and film (1.6%), it represented a significant volume of the garbage. In addition, we found several empty and near empty garbage bags. These appeared to be can liners from daily janitorial collection of desk-side and other office waste containers.

Recommendation: Consider reducing the number of desk-side trash cans. In smaller office areas a central waste container may be sufficient, saving both office space and time needed by janitorial staff to complete their rounds in each work area. Alternatively, consider instructing janitorial staff to empty only those waste containers that are

a minimum of 50% full (or contain food waste or other material with odor potential).

Consider collecting plastic film and bags for recycling. If collected separately in a clear plastic bag, plastic bags and film may be recycled with the commingled recycling.

Unfinished supplies: Several rolls of partially used toilet paper and receipt paper were found in the garbage.

Recommendation: Consider coordinating with janitorial staff to ensure that toilet paper rolls are only changed when empty. Consider encouraging library staff to only change receipt paper rolls when empty and to recycle the receipt spools with the rigid plastics collection.

Figure 6: Unfinished Receipt Paper



Appendix A: Glossary of Sort Categories

Aluminum cans – Containers made of aluminum, including containers for beverages and other materials.

Compostable foods/fibers – Includes vegetables, fruit, meats and dairy, paper fibers.

Ewaste – All types of waste containing electrically powered components. This includes computers, televisions, VCRs, stereos, copiers, fax machines, clocks, keyboards, phones, and other electronic products.

Glass bottles/jars – Containers made of glass exhibiting a neck or threaded top.

Magazines – Publications printed on glossy paper

Mixed paper – Office paper, paper board/soft cardboard, folders, scrap paper, sticky notes, shredded paper, paper bags, newspaper and all other non-corrugated cardboard.

Non-recyclable containers – Included containers not made of metal or glass or plastic bottles. Examples include carry out food containers, water and soda cups. These materials are also known as “true waste” because there are currently no recycling options for these materials.

Other non-recyclable materials – All other non-container materials that can not be recycled including non compostable food waste, plastic utensils, bathroom paper towels, ballasts, and plastic trays. These materials are also known as “true waste” because there are currently no recycling options for these materials.

Plastic bags/film – All bags including grocery, trash and sandwich bags. Also includes shrink wrap, plastic pallet wrap, and bubble wrap.

Plastic bottles – Plastic containers with a neck, including containers for beverages and other fluids.

Rigid Plastics – Plastic CD or DVD cases, plastic crates, and receipt spools.

Steel/tin cans – Containers made of steel or tin, most often non-refundable metal beverage and food containers.