



Report

Pre-Program Waste Audit Recycling Drop-off

Presented to:



Prepared by:



March 3, 2020



CONTENTS

Introduction	1
Methodology.....	1
Data Analysis	3
Conclusions.....	5
Attachment A – Raw Data	5
Attachment B – Photos with Labeled Categories	5



INTRODUCTION

The Adams-Clermont Solid Waste District (District) recently was awarded a grant to purchase surveillance cameras and a sign for messaging. An education campaign will be rolled out to address illegal dumping and recycling contamination. The District was interested in conducting an initial waste sort at one of its drop-off recycling locations (Pattison Park drop-off in Owensville, Ohio) before the education campaign is implemented in order to collect baseline data. The District would like to conduct a second sort at the same drop-off recycling location after the education campaign has been rolled out in order to measure the success and impact of the surveillance cameras, messaging sign and education campaign. Additionally, the District would like to obtain information on the specific types of contaminants that are commonly deposited with acceptable recyclables at the drop-off location so the District can make necessary adjustments to its messaging and educational efforts.

In 2020, the District hired GT to conduct a waste audit for baseline data. The purpose of the audit was to determine the generation, contamination, and composition of the recycling drop-off site. The results of the audit and data collection will allow the District to implement targeted educational strategies to specific materials.

METHODOLOGY

Recyclables materials were collected from residents at a public recycling drop-off site located at: 2228 US-50, Batavia, OH 45103. This site contains two 6-cubic yard front load packer style containers and is service by Rumpke four times per week.

Figure 1. Pattison Park Drop-off Location



One GT project manager, and two to four sorters (four sorters in morning sort and two in the afternoon sort) from the District were on site participating in all sorting and data collection



activities on February 21, 2020. The sort crew received protective equipment, daily safety instructions, and instruction on waste sorting. A health and safety plan (HASP) specific to the sort was developed and implemented for the audit. The scale, provided by GT, was calibrated prior to the sort and checked.

Prior to sorting, the sample was collected from the 6-cy container and weighed to obtain an initial weight. The initial weight served as a check and balance to ensure that all weighed components at the end of each sort matched the initial weight. The sample was placed on the sorting table and manually sorted into labeled bins. The sorters specialized in a material or material group (such as plastics or fibers).



Materials collected during the sampling period were sorted manually into pre-defined material categories and placed in containers for weighing and recording.

Audited materials were sorted into the following identified material categories.

Table 1. Material Categories

Type	Category	Examples
Recyclables	Recyclable Paper	Newspaper, office paper, magazines, brown paper bags, and computer paper
	Recyclable Plastics	#1 and #2 bottles and jugs
	Glass	Brown, green, and clear bottles
	Metals	Aluminum, steel, copper, and tin cans Contaminants
	Cardboard	Cardboard boxes
	Aseptic	Milk cartons, broth cartons
Contaminants	Non-Recyclable Fibers	Napkins, tissue, paper towels, paper plates
	Organics	Food, coffee grounds
	Non-Recyclable Plastics	Food wrappers, plastic containers #3-7, cutlery, polystyrene
	Plastic Bags	Flexi-plastics, garbage bags
	Other	Metallic food wrappers, items made of multiple materials, hardback books, string, candles, etc.
	Construction/Furniture	Construction materials, furniture
	Textiles/Reusables/ Household Items	Clothing, small appliances



*Books and Liquid Filled containers were added during the audit to account for these specific items found in the recycling dumpsters.

Additionally, photographs of sorted material categories of interest for each sample were taken. Each photo included a label identifying the type of waste contained in the sample labeled on the bin.

DATA ANALYSIS

A total of 670.2 pounds were sorted during this audit. Out of this total, 395.7 lbs. were recyclable, and 274.5 lbs. were contamination or materials not acceptable in the program. The figure below shows the composition of the Pattison Park Recycling Drop-off.

Table 2. Pattison Park Recycling Drop-off Data

Pattison Park Drop-off	Total	Percentage
Recyclable Paper	93.8	14.0%
Recyclable Plastics	39.9	6.0%
Glass	113.7	17.0%
Metals	14.8	2.2%
Cardboard	131.1	19.6%
Aseptic	2.4	0.4%
Books	49.1	7.3%
Non-Recyclable Fibers	5.3	0.8%
Organics	21.2	3.2%
Non-Recyclable Plastics	26.5	4.0%
Plastic Bags	4.3	0.6%
Other	63.2	9.4%
Construction/Furniture	86.5	12.9%
Textiles/Reusables/ Household Items	16.5	2.5%
Liquid Filled Containers	2.0	0.3%
Total Recyclables	395.7	59.0%
Total Contamination	274.5	41.0%
Total Weight	670.2	100.0%

Two 6-cubic yard dumpster were sorted on February 21, 2020. The second dumpster, of the sort, contained 45% by weight bagged material. This was pulled and sorted separately.



Table 3. Pattison Park Recycling Drop-off Data Broken Out by Sub-sort

Pattison Park Drop-off	Dumpster #1	Dumpster #2		Total
		Loose Material	Bagged Materials	
Total Recyclables	205.1 lbs	104.2 lbs	86.4 lbs	395.7 lbs
Total Contamination	127.5 lbs	82.3 lbs	64.7 lbs	274.5 lbs
Total Weight	332.6 lbs	186.5 lbs	151.1 lbs	670.2 lbs

Figure 2. Pattison Park Recycling Drop-off Dumpsters



Figure 3. Comparison of Waste Audited (Loose Materials)

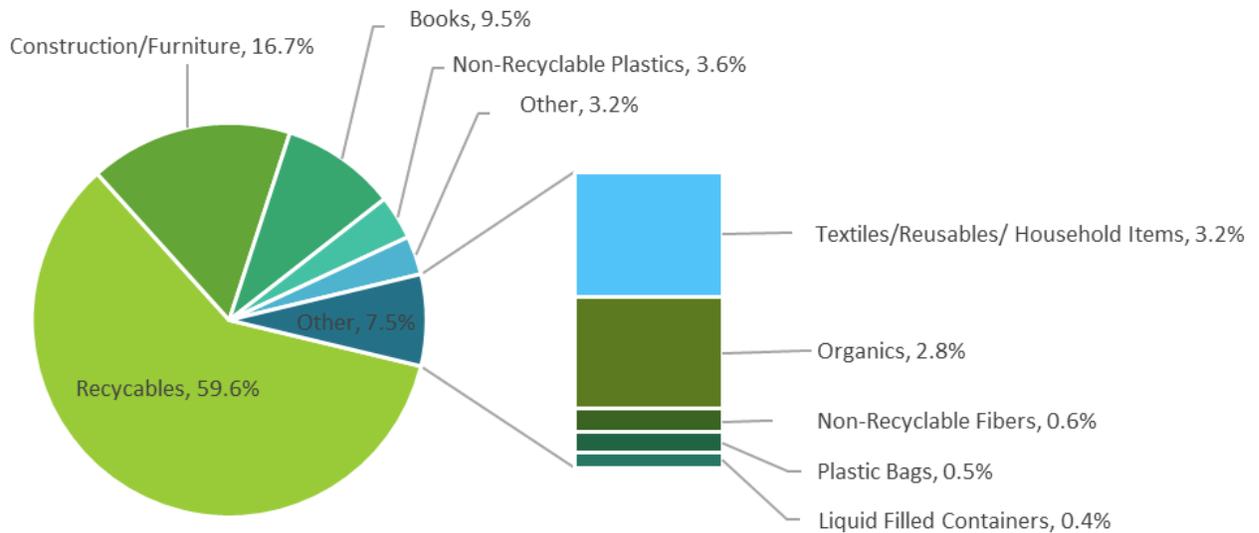
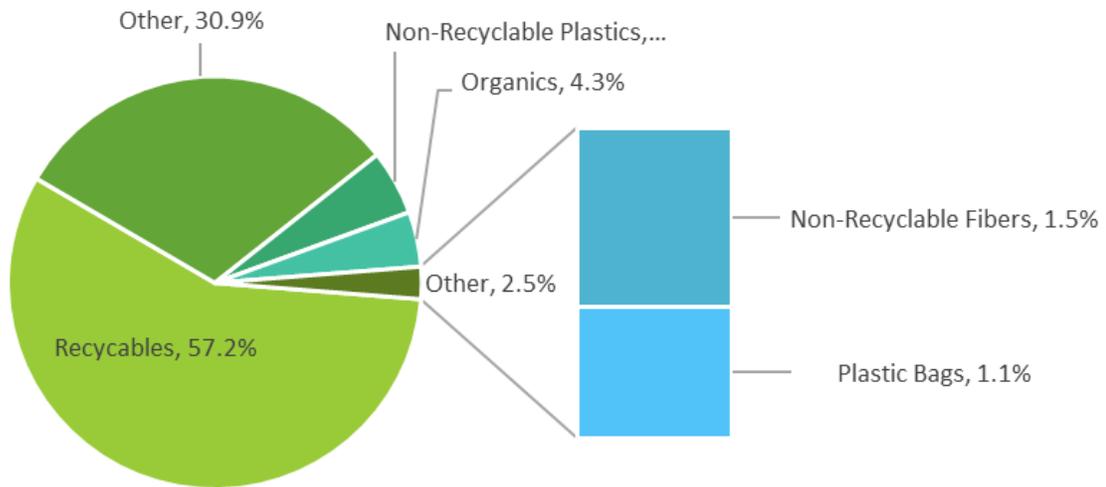




Figure 4. Comparison of Waste Audited (Bagged Materials from Dumpster #2)



CONCLUSIONS

Overall, 59.0% of the materials placed in the drop-off containers were recyclable. Bagged material was found to have fewer recyclable materials and many with little to no recyclable material. This sort was intended to provide baseline data for future education outreach to be provided by the Adams-Clermont Solid Waste District.

A second audit will occur after the education and outreach program has been implemented. Data from the second audit will be compared to the data in this report to determine the effectiveness of the education and outreach program.

ATTACHMENT A – RAW DATA

Attachment A can be accessed using the following link: <http://bit.ly/ACPattisonDropoff022120> as an Excel file titled “Attachment A – Sortable Data.”

ATTACHMENT B – PHOTOS WITH LABELED CATEGORIES

Attachment B can be accessed using the following link: <http://bit.ly/ACPattisonDropoff022120> under the “Pattison Park Recycling Drop-off Photos” folder as JPEG files.