Clark County Residential Recycling Education Project

September 2010

CLARK COUNTY RESIDENTIAL RECYCLING EDUCATION PROJECT

FINAL REPORT

prepared for:

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Vancouver, WA

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EXECUTIVE SUMMARY

INTRODUCTION

This report describes the results of an education program conducted to test the impact of targeted notices for contamination in recycling carts in Clark County. This project was conducted by checking recycling setouts in 15 areas twice, for two consecutive collection days in August. Records were kept as to the contaminants observed for each visit, tags were left noting problem materials or thanking residents for doing well, and then the observations for each visit were compared on a household-by-household basis to determine if a change had occurred in the contamination levels from the first to the second visit.

RESULTS

The results of this project show an improvement in the quality of recycling setouts at single-family homes in the test areas where notification tags were left on carts:

- for plastic bags, 70% of the recycling carts that contained plastic bags at the time of the first visit did not contain plastic bags at the second visit.
- for glass bottles, 94% of the recycling carts that contained glass bottles at the time of the first visit did not contain plastic bags at the second visit.
- for overall quality, 22% of the recycling carts that contained other types of contamination at the time of the first visit were contaminant-free for the second visit.

Even as some households that received tags showed improvement in the their setouts, others were found to be setting out carts that contained problem materials. These results seem to indicate that a regular or longer-term effort may be needed to reach all of the households with the message to improve the quality of commingled setouts.

CONCLUSIONS

The following conclusions are based on observations made during the fieldwork and on the analysis of the results:

- based on the fact that many households put out plastic bags and glass bottles for the second visit but not for the first visit, it can be concluded that a regular

program of tagging would be necessary to catch all of the households that make this mistake.

- from conversations with residents during the fieldwork, it appears that some types of contamination (bottle caps and frozen food packaging, for instance) fall below a threshold of concern or understanding for the residents. In other words, it is likely that no amount of outreach will prevent people from setting out these materials with their recyclables (although this information should still be included on normal public education materials).

- the problems with glass bottles in recycling carts is being caused by a relatively small number of households, whereas problems with plastic bags are more widespread.

- there appears to be some "clustering" of the results, which is possibly the result of a neighbor-to-neighbor effect. This is a common occurrence for recycling, where information is often spread by "word-of-mouth" from one participant to another. This factor is generally beneficial, in that neighbor-to-neighbor communication often helps to promote participation in recycling, but in this case it may be leading to the distribution of misinformation about the materials that are acceptable for recycling.

SECTION ONE

INTRODUCTION

OVERVIEW

This report presents the results of an education project designed to reduce contamination levels in recycling carts in Clark County. This project involved inspecting recycling carts and glass bins set out by single-family residents in 15 test areas, noting contaminants present in each, and leaving tags on the recycling carts to inform residents of the need to keep certain materials out of the carts. Recycling carts and glass bins were then checked on the next collection day to check for a change in contamination levels. The test areas used for this project were based on route information provided by Waste Connections (the collection company for most of Clark County) and were located in the City of Vancouver (where recycling collections are conducted every-other-week) and in unincorporated suburban areas of Clark County (where recycling collections are conducted weekly).

This report was prepared by the environmental consulting firm Green Solutions, with assistance from the Community Environmental Services Department of Portland State University and others.

BACKGROUND

In 2009, Clark County and most of its cities switched from a three-bin recycling program to a dual stream approach. The dual stream approach uses a bin for glass bottles and a wheeled cart (with a typical capacity of either 65 or 95 gallons) for all other recyclable materials. The dual stream program was implemented through a new contract with Waste Connections, which is the collection company for most of Clark County.

In Vancouver and some of the other cities, garbage and recycling services are mandatory, at least in the sense that people are required to sign up for a level of service and pay for that (but not in the sense that they are required to separate recyclables from their garbage or put containers out for collection). Recycling services in the City of Vancouver (COV) are provided every-other-week. In the Urban Growth Area (UGA), garbage collection service is not mandatory but recycling is mandatory in the sense that residents who subscribe to garbage collection must also receive recycling services, and the cost for recycling is embedded in the garbage service fee. Recycling collections in the UGA are provided weekly.

The dual stream system was chosen for most of Clark County because it avoids the problems that have been occurring when glass contaminates paper and the other recyclable materials. Even the advanced processing equipment recently installed at the West Van Material Recovery Facility cannot effectively remove all of the bits of glass from the other recyclables, and so the only certain way to avoid these problems is to keep the glass separate. Plastic bags and strapping materials are also a problem for the processing system, as these become wrapped around the moving parts of the conveyors and other equipment and then must be manually cut off. Hence, glass bottles and plastic bags were a primary focus of this project.

GOALS OF THE EDUCATION PROJECT

This project was designed to provide targeted outreach to single-family residential recycling customers in urban Clark County and in the City of Vancouver. The goal of the project was to improve the quality of recyclable materials collected. This project was modeled after similar efforts that have proven to be successful, especially a recent project conducted by CES in Portland, Oregon a few years before this project.

The specific goals of this project were to:

- decrease recycling contamination (especially plastic bags, glass, and garbage) from the residential stream. and
- increase awareness among residents about curbside recycling opportunities.

The following sections of this report discuss the methods, results, and conclusions of this project.

SECTION TWO

OUTREACH AND DATA COLLECTION METHODS

INTRODUCTION

This section of the report presents information about how this project was conducted and how many recycling carts were surveyed.

PROJECT APPROACH

The successful completion of this project was the result of a team effort by Clark County, Community Environmental Services (CES) and Green Solutions, with assistance provided by Waste Connections and the City of Vancouver. Clark County staff led a team, which included County and City of Vancouver (COV) staff, to coordinate project logistics (timeline, route selection, printed material, and on-route protocols). County staff designed (with assistance from Waste Connections and COV staff) and printed the tags, and were the primary point of contact with Waste Connections and worked with them to choose the routes to be tested. CES provided an experienced pool of people for the fieldwork and coordinated their work. Green Solutions implemented the project with their assistance, and also provided project management and data analysis skills, including preparing this report.

The fieldwork was conducted using lists of addresses and route maps provided by Waste Connections. These lists varied from 144 to 334 households (with an average size of 221 households), and were selected to provide a representative cross-section of COV and Urban Growth Area (UGA) routes. These lists were modified because it was noted during the first few days of the study that the address sequence used by the recycling trucks was not efficient for field crews to follow because both sides of the street were not combined within the list. The address sequence was modified to list addresses on both sides of a street in order to increase the efficiency of field teams.

The lists of addresses were converted into data collection forms for use by the research teams. The data collection forms were edited for the second visit to each route to increase the number of contaminants recorded (see Appendix A for a sample of the final record form that was used).

Visits were made to each route on a pre-determined schedule (see Table 1). The presence of a recycling cart and glass bin were noted for each household on the route. If there was no cart or bin set out, the absence was noted for that address. If a cart or bin had been set out, the contents were checked and notes kept on the presence of contaminants or it was noted if the contents of the cart and bin were clean (no

Table 1: Schedule for Route Observations.						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Aug. 1	715-1 (COV)	717-2 (COV)	705-3 (UGA)	715-4 (COV)	717-5 (COV)	
Aug. 8	722-1 (COV) 703-1 (UGA)	722-2 (COV) 703-2 (UGA)	705-3 (UGA) 703-3 (UGA)	722-4 (COV) 703-4 (UGA)	722-5 (COV) 703-5 (UGA)	
Aug. 15	715-1 (COV) 703-1 (UGA)	717-2 (COV) 703-2 (UGA)	706-3 (UGA) 703-3 (UGA)	715-4 (COV) 703-4 (UGA)	717-5 (COV) 703-5 (UGA)	
Aug. 22	722-1 (COV)	722-2 (COV)	706-3 (UGA)	722-4 (COV)	722-5 (COV)	

Notes: COV = City of Vancouver.
UGA = Urban Growth Area.

unacceptable materials). The contents of the recycling cart were checked by digging partway into the cart (it was impractical to dig to the bottom of each cart if it was full, although if the cart was only partly full then the entire contents could generally be observed and this was the case with about 80% of the carts). The contents of the glass bins could generally be observed without needing to shift the contents around. Depending on the quality of the recycling cart, a tag was left that thanked the resident for recycling or that asked them to keep glass bottles or plastic bags out of the cart (see Appendix B for copies of the tags used). If other contaminants were present or if more than one contaminant was in the cart, a "garbage" tag was left ("when in doubt, leave it out") and the problem materials were circled on that tag.

Table 1 shows the schedule for the route observations. Field observations began on August 2, 2010 and were completed on August 27, 2010. Observations were made for consecutive collection events, but in Vancouver the collections are every-other-week and in the UGA the collections are weekly. In the second and third weeks, two research crews were in the field each day because two different routes were being surveyed. Observations were made by teams of either two or three researchers, which allowed one person to record the data for each address while the other one or two crewmembers checked containers.

The data collected through the route observations was entered into an Excel spreadsheet and the information for each address was compared for the first and second visits. Addresses for households that did not set out a recycling cart in one or

both of the visits were eliminated for this part of the analysis, and the results for households with setouts for both visits were summarized as to whether they:

- set out glass bottles (in the commingled cart) for one visit and not the other.
- set out plastic bags one visit and not the other.
- set out other contaminants one visit and not the other.

NUMBER OF ROUTE OBSERVATIONS

Table 2 shows the number of households checked on each route, including the setout rates for the recycling carts within the test group. As can be seen from the number of glass bins for each route, the setout rate for the bins was much lower than for the carts. Furthermore, only rarely was a glass bin set out without also a cart being set as well.

ROUTE OBSERVATIONS, PRODUCTIVITY

The goal of this project was to check the contents of 2,500 recycling carts twice (for a minimum of 5,000 observations altogether). Since the setout rate is not 100% on any one collection day, the initial list of households to be surveyed was increased to more than 2,500 to offset losses that would be caused by non-setouts. With a projected setout rate of about 75% in both the City of Vancouver and the UGA, the number of households on the 15 routes was increased to 3,322 to compensate for this factor.

The productivity of the crews varied each day due to routing problems and other issues. On the first day, only some of the recycling carts on the route could be checked for contaminants because many of them were emptied by a "floater" (an extra driver who was assisting with the route and didn't know that he wasn't supposed to empty carts in that area). A few of the routes turned out to include gated areas, which couldn't be checked. In other cases, the lack of familiarity of the crews with the areas prevented them from finishing the routes by noon (crews were instructed to stop by noon so as to avoid delaying the collection trucks). The crews generally met at 6:15 a.m. each morning in Portland and started checking carts by 7:00 a.m. or earlier, so the number of carts checked on each route represents a maximum of five hours of on-route time. A few of the routes were finished in about four hours.

Out of the potential total of 6,644 observations (3,322 carts checked twice), the research crews were able to check 5,853 households for setouts. Many of these were non-setouts of course, and so the actual number of carts checked was reduced by that factor to 4,013 carts. The setout rate was slightly lower than what was expected. The average setout rate for the test routes was 71% (75% was anticipated based on data from a few months

Table 2: Number of Setouts Surveyed by Route

Test Routes	Number Observed for First Visit				Number Observed for Second Visit			
	Total Households	Set-Outs		Setout Rate for Carts	Total Households	Set-Outs		Setout Rate for Carts
		Carts	Bins			Carts	Bins	
Vancouver Routes:								
715-1	69	60	7	87.0%	89	79	13	85.4%
715-4	179	138	54	77.1%	101	88	45	87.1%
717-2	187	147	36	78.6%	161	117	41	72.7%
717-5	192	158	74	82.3%	220	175	87	79.5%
722-1	157	112	50	71.3%	144	112	67	77.8%
722-2	279	167	47	59.9%	280	182	43	65.0%
722-4	212	163	48	76.9%	213	154	54	72.3%
722-5	202	142	74	70.3%	213	159	86	74.6%
UGA Routes:								
703-1	160	129	46	80.6%	227	119	38	52.4%
703-2	214	150	40	70.1%	211	144	41	68.2%
703-3	236	169	68	71.6%	215	138	54	64.2%
703-4	151	103	41	68.2%	226	147	53	65.0%
703-5	199	138	41	69.3%	190	130	40	68.4%
705-3	165	122	25	73.9%	221	143	25	64.7%
706-3	166	107	25	64.5%	174	124	31	71.3%
Vancouver Subtotal	1,477	1,087	390	73.6%	1,421	1,063	436	74.8%
UGA Subtotal	1,291	918	286	71.1%	1,464	945	282	64.5%
Total / Average	2,768	2,005	676	72.4%	2,885	2,008	718	69.6%
Vancouver, Total for Both Visits					2,898	2,150	826	74.2%
UGA, Total for Both Visits					2,755	1,863	568	67.6%
Total/ Average, Total for Both Visits					5,653	4,013	1,394	71.0%

prior to this project). The setout rate for recycling carts on the Vancouver routes was higher on the average (74.2%) than the UGA routes (67.6%), but this can be expected since the Vancouver routes are conducted every-other-week and the UGA routes are weekly. The research crews did an excellent job of matching households checked one visit with the households checked the second time, leading to 2,534 matching data points (5,068 addresses checked twice, for an 87% matching rate based on the total of 5,853 households checked).

The number of usable data points was further reduced, however, by the households that did not set out carts for one visit or the other. This factor had a larger impact than anticipated, in part because of the lower setout rate. Once the data had been reduced by the households that were non-setouts in one or both visits, only 1,334 addresses (2,668 observations) remained with usable data in both visits. The results for the observations made at these households are discussed in the next section of this report.

For the 20 days of fieldwork and 30 routes (15 routes each checked twice), a total of 417 hours were spent by the research crews in the field. This includes preparation time and driving to the routes. A large part of this time (and subsequent time spent on data entry and analysis as well as this report) was for recording data that would allow the results to be tracked on a household-by-household basis (and hence to allow an evaluation of the value of this approach). Future education efforts like this could likely be done without the data collection requirements of this project, leading to a cost that would be less than half of the cost of this project.

RESULTS

INTRODUCTION

This section of the report provides the results of household-by-household comparisons before and after tagging, a summary of the contaminants found in the recycling carts and a summary of the contaminants found in the glass bins.

COMPARISON OF THE FIRST AND SECOND OBSERVATIONS

The analysis of the data collected through this project shows a net improvement in the quality of the cart setouts, based on the total number of carts examined in both the first and second observations:

- for glass bottles, there was a 0.2% net improvement in the number of carts that did not contain glass bottles.
- for plastic bags, there was 5.2% net improvement in the number of carts that did not contain plastic bags.

These results are shown in Table 3 and Figures 1 through 4. The pie charts shown in Figures 1 through 4 look first at the total results, and then focus on the portion of the carts that could show improvement.

Table 3: Results for Recycling Carts.

	Contained Glass Bottles	Contained Plastic Bags	Contained Other Contaminants	Contaminant-Free Carts
Showed Improvement (carts that contained contaminants in first visit but not second)	6.0	19.2	20.0	17.7
Stayed the Same (carts either had contamination for both visits or not)	88.2	66.9	65.1	70.8
Worsened (carts that did not contain contaminants in first visit but that did for second visit)	5.8	14.0	14.9	11.6
Net Improvement (net positive change)	0.2	5.2	5.1	6.1

Note: All figures are percentages.

Figure 1: Glass Bottles in Recycling Carts

Figure 1a: Carts that Contained Glass Bottles.

Figure 1b: Only Carts that Contained Glass Bottles in First Visit.

Of the 87 carts that contained glass bottles in first visit, 94% improved in second visit.

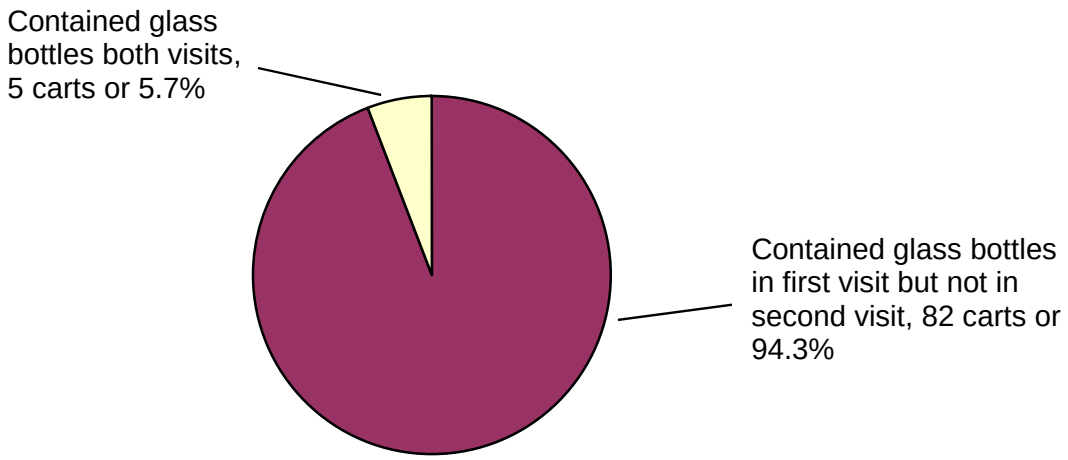


Figure 2: Plastic Bags in Recycling Carts

Figure 2a: Carts that Contained Plastic Bags.

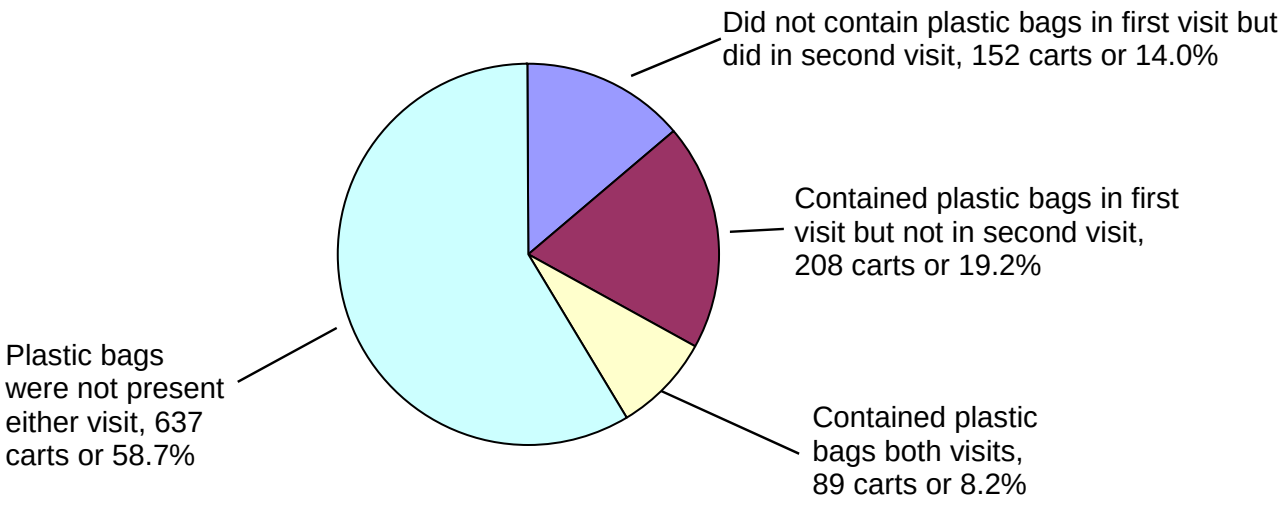


Figure 2b: Only Carts that Contained Plastic Bags in First Visit.

Of the 297 carts that contained plastic bags in first visit, 70% improved in second visit.

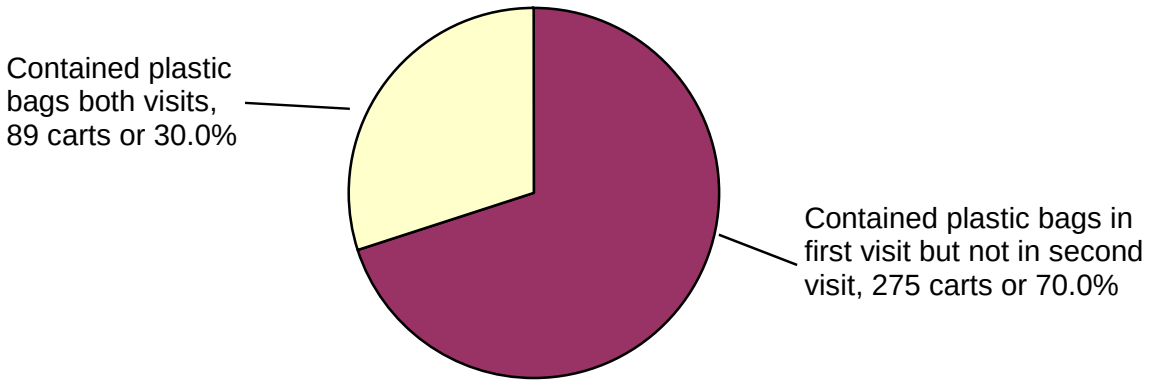


Figure 3: Other Contaminants in Recycling Carts

Figure 3a: Carts that Contained Other Contaminants.

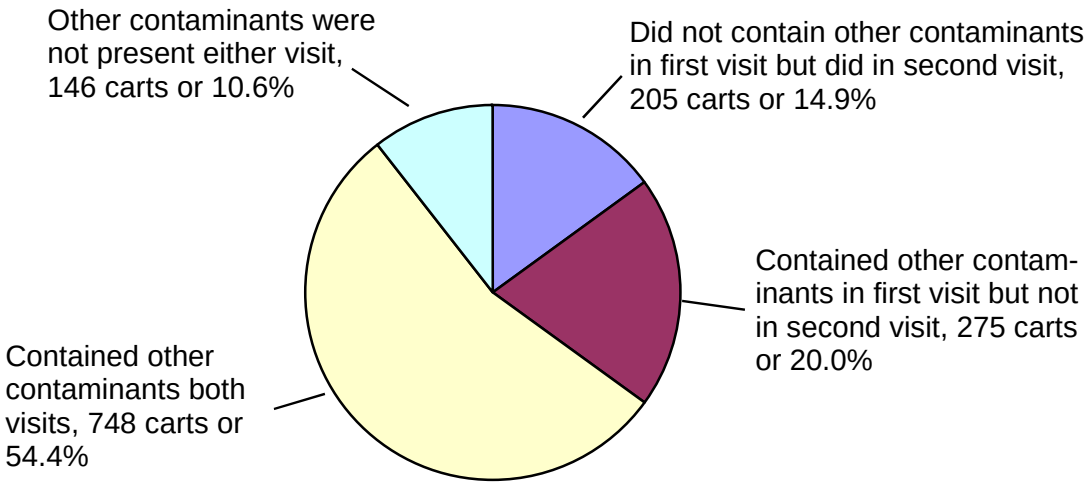


Figure 3b: Only Carts that Contained Other Contaminants in First Visit.

Of the 1,023 carts that contained other contaminants in first visit, 27% improved in second visit.

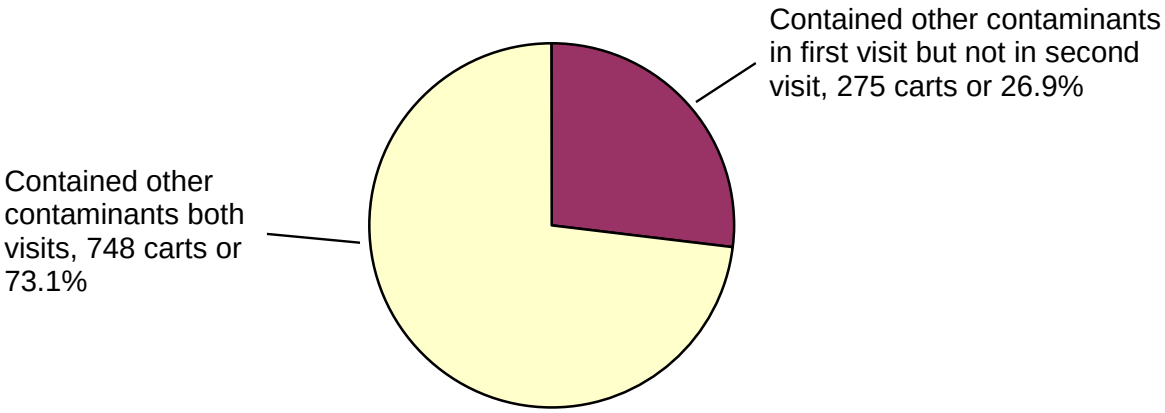


Figure 4: Contamination-Free Recycling Carts

Figure 4a: Contaminant-Free Carts.

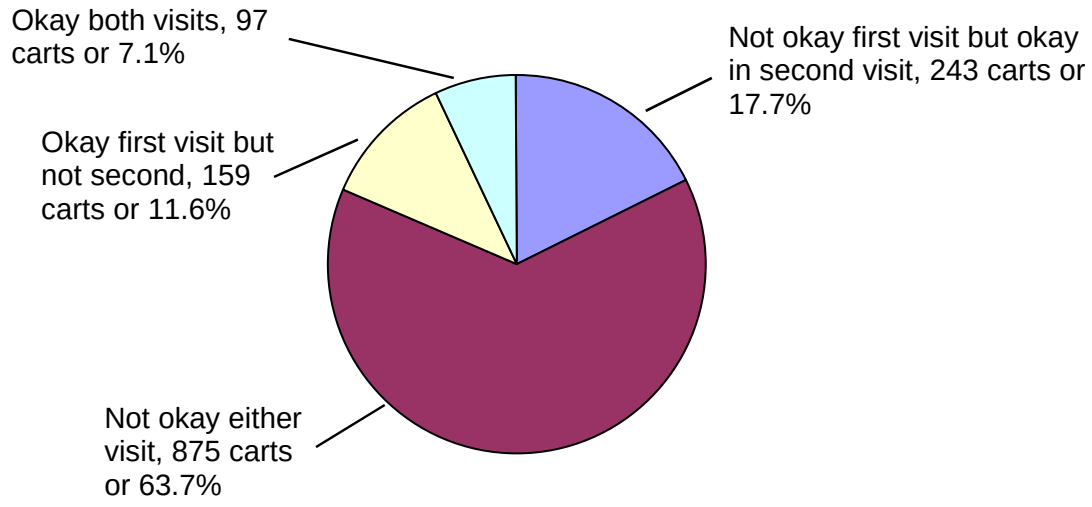
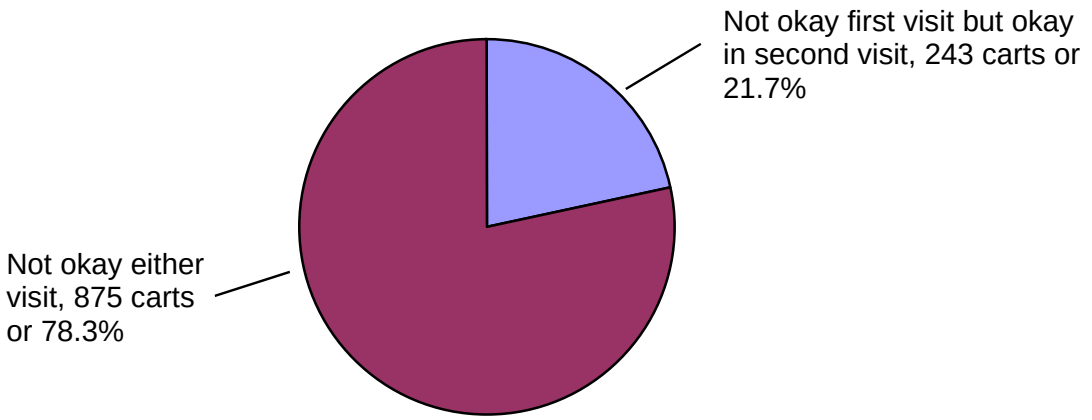


Figure 4b: Only Carts that were Not Contaminant-Free in First Visit.

Of the 1,118 carts that contained contamination in first visit, 22% improved in second visit.



Another way to look at these results is to look at the percentage of households that improved from the first visit to the second. These are the households that were tagged in the first visit and so received the message to avoid placing contaminants in their recycling carts:

- for glass bottles in the carts, 94% of the households that set out glass bottles in the first visit did not set out glass bottles in the second visit.
- for plastic bags in the carts, 70% of the households that set out plastic bags in the first visit did not set out plastic bags in the second visit.
- for other contaminants, 27% of the households that set out other contaminants in the first visit did not set out plastic bags in the second visit.
- for overall quality, 22% of the recycling carts contained contamination of various types in the visit were contaminant-free in the second visit.

OTHER CONTAMINANTS FOUND

Contamination Found in Recycling Carts

Data from the second route observations was analyzed to determine the types of contaminants (besides glass bottles and plastic bags) that were found in the recycling carts. Only the second route observation was used because of inconsistencies in the data collection sheet between the first and second observation. Based on the total number of recycling carts observed in the second visit, the major types of contaminants found in the recycling carts are shown below. The percentage of the 2,008 carts examined in the second visit that contained each material were:

37.7% of the recycling carts contained bottle caps and lids
26.8% frozen food boxes
24.2% plastic bags
22.5% plastic film
19.9% clamshells
18.2% plastic packaging / blister packs
14.3% beverage cups
10.3% soiled pizza boxes
8.7% food wrappers, disposable paper packaging and plates
7.0% glass bottles
6.4% Styrofoam
5.4% other rigid plastic

There were also other contaminants present in smaller quantities, including items such as bags of garbage, tissue and other non-recyclable paper, yard debris, food, diapers,

plastic objects such as toys and DVDs, and clothing. Many carts had multiple contaminants, so above figures add up to more than 100%. Only 25% of the 2,008 carts in the second visit were free of any contaminants.

As can be seen in the above list, plastic bags (one of the two primary contaminants targeted by this project) were present in almost one-quarter of the recycling carts, but glass bottles (the other primary contaminant targeted by this project) was present in fewer of the carts (only 7.0%). The small number of carts containing glass bottles means that the contamination problems being caused by this material are being caused by a relatively small number of participants, whereas problems with plastic bags are much more widespread.

When glass bottles were found in the recycling carts, the bottles were typically accompanied by other contaminants. Most frequently, the glass bottles were found with other types of contamination (56%) or with plastic bags and other types of contamination (28%), and only rarely were the bottles the only contamination found (13%) or with just plastic bags (3%).

When glass bottles were found in the recycling carts, there was a slightly lower chance of that household placing a glass bin out separately. Based on data for all 30 routes (for 4,013 recycling carts altogether), 69 of the 261 households with carts that contained glass also had a glass bin set out (26.4%). The normal setout rate for glass bins was 34.7% (based on all of the first and second visits, or 4,013 observations altogether), so there appears to be a slight tendency for residents who are putting glass bottles in their recycling cart to be doing that instead of using their glass bin (as opposed to doing that in addition to using their glass bin too).

Contamination Found in Glass Bins

Contaminants found in the glass bins were primarily bottle caps, lids and corks, which do not actually present a significant problem for processing and marketing of the glass bottles. On the other hand, several bins were observed that contained ceramics and light bulbs, which are a much more serious problem for glass recycling. Altogether, the contaminants found in the glass bins included:

24.9% of the glass contained bottle caps and lids
10.7% other contaminants
1.5% corks

"Other contaminants" in the glass bins included non-recyclable glass objects such as vases and light bulbs, ceramics, and other recyclables such as cans and paper. In general, however, the glass bins had less contamination than the recycling carts, and in the second visit 68% of the glass bins were free of contaminants.

CONCLUSIONS

INTRODUCTION

This section of the report presents conclusions based on the results of this project.

CONCLUSIONS

Conclusions from the route observations include:

- based on the fact that many households put out plastic bags and glass bottles in the second visit but not in the first visit, it can be concluded that a regular program of tagging would be necessary to notify all of the households that make this mistake.

- from conversations with residents during the fieldwork, it appears that some types of contamination (bottle caps and frozen food packaging, for instance) fall below a threshold of concern or understanding for the residents. In other words, it is likely that no amount of outreach will prevent people from setting out these materials with their recyclables (although this information should still be included on normal public education materials).

Conclusions from the analysis of the results include:

- the problems with glass bottles in recycling carts is being caused by a relatively small number of households, whereas problems with plastic bags are more widespread.

- there appears to be some "clustering" of the results, which is possibly the result of a neighbor-to-neighbor effect. This is a common occurrence for recycling, where information is often spread by "word-of-mouth" from one participant to another. This factor is generally beneficial, in that neighbor-to-neighbor communication often helps to promote participation in recycling, but in this case it may be leading to the distribution of misinformation about the materials that are acceptable for recycling.

Informational messaging should also be evaluated based on feedback from residents. For this project, Clark County Environmental Services received phone calls from residents inquiring specifically about the terms "clamshell" and "freezer box." Both of

these materials were listed on the "when in doubt, leave it out" tag. In the future, these and similar terms should be explained better on tags and other public education materials.

A final conclusion of this project is that conducting a similar project in the future, but without the data-collection and monitoring tasks, could be done at a cost of about one-third of the current project. With other parameters being the same (tagging only the carts, similar setout rates, conducting two consecutive visits, similar labor rates and productivity, etc.), the approximate cost of this approach would be about $2.22 per household (for two visits, including non-setouts but not including the cost of printing tags and other supplies) or about $1.62 per cart checked.

APPENDIX A

ROUTE OBSERVATION DATA FORM

INTRODUCTION

This appendix shows the form used to record data from the setouts.

DATA COLLECTION FORM

Shown on the next page is one page of the data collection form used for one of the routes (Route 706-3). The data collection forms for each route typically consisted of five to eight pages of addresses. Blank rows were inserted into the form to facilitate the addition of new addresses (generally so that both sides of a street could be surveyed at the same time). A list of abbreviations for the other contaminants was used with this form to explain the codes used for the columns and also used to make data entry more efficient for those materials that were commonly found but that didn't warrant a dedicated column (these other contaminants were noted in the comments column).

The percent contamination (on a volume basis) was also noted for each recycling cart, and this data was used to verify the other data collected.

Route #706-3, UGA **Date:** _____ **Recorder:** _____

207 stops

	Recycling Cart															Glass Bin			
	None	Ok	Glass	Bags	Film	S	C	PP	DC	FW	FB	PB	G	% cont		None	Ok	Contaminated	Comments
NE 47TH CIR, 9312																			
NE 47TH CIR, 9324																			
NE 47TH RD, 9115																			
NE 47TH RD, 9123																			
NE 47TH RD, 9127																			
NE 47TH RD, 9201																			
NE 93RD ST, 3706																			
NE 93RD ST, 3707																			
NE 93RD ST, 3710																			
NE 93RD ST, 3711																			
NE 93RD ST, 3714																			
NE 93RD ST, 3801																			
NE 93RD ST, 3804																			
NE 93RD ST, 3805																			
NE 93RD ST, 3809																			
NE 93RD ST, 3812																			
NE 93RD ST, 3813																			
NE 93RD ST, 3816																			
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TAGS

INTRODUCTION

This appendix shows the tags used for the recycling carts.

TYPES OF TAGS

Copies of the tags used for this project are shown on the next few pages. These tags were used to note the presence of plastic bags, glass bottles, and other contaminants. If more than one type of contaminant was observed, then the general tag ("when in doubt, leave it out") was attached to the cart and the problem items were circled or noted on the tag. If the recycling cart was contaminant-free, than the "your recycling looks great" tag was attached to the cart.

KEEP GLASS SEPARATE

Oops!

Place glass bottles and jars in your bin.

Glass cannot be put in your cart. Glass gets in the paper mix and causes problems with sorting and processing at our regional paper mills.

Place glass bottles and jars in your bin. Set the bin out near your blue cart. Help make our recycling program a success.

If you have questions or would like more information about recycling in Clark County, call (360) 397-2121 ext. 4352 or visit www.RecyclingA-Z.com.

Stay true to Blue

Solid Waste Regional Planning and Programs are a cooperative effort of Battle Ground, Camas, Clark County, La Center, Ridgefield, Vancouver, Washougal, and Yacolt.

Funded by Department of Energy (DOE) and American Recovery and Reinvestment Act (ARRA) Award DE-EE0000856. Views expressed are not necessarily those of DOE.


KEEP PLASTIC
BAGS OUT

Oops!

Plastic bags are recyclable, but not at the curb.

Take your plastic bags to a local grocery store where they are collected for recycling.

Plastic bags cannot go through the processing equipment for mixed recyclables. They cause problems by getting tangled in the processing equipment and clog the sorting screens.

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WHEN IN DOUBT, LEAVE IT OUT

Oops!

Avoid common recycling mistakes.

Today we checked recycling carts in your neighborhood. Your cart contains items NOT recyclable curbside. Improperly recycled materials can contaminate whole recycling loads and cause problems with recycling equipment.

These items are NOT recyclable curbside. Take them to a recycling center:

- Block foam (Styrofoam™)
- Bottle caps and lids
- Plastic bags
- Plastic film and wrap
- Plastic trays and clamshells

Garbage can't be recycled.

- Frozen food boxes
- Coffee cups
- Food-contaminated paper

To locate your nearest recycling center, call (360) 397-2121 ext. 4352 or visit **www.RecyclingA-Z.com.**

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YOUR RECYCLING LOOKS GREAT!

Thanks for recycling!

Today we checked recycling containers in your neighborhood. Your recycling was sorted and prepared correctly. Good job!

Thanks for helping to make our recycling program a success!

Keep our program successful in the future by avoiding common recycling mistakes. As a reminder, these items are not recyclable curbside:

- Block foam (Styrofoam™)
- Bottle caps and lids
- Plastic bags
- Plastic film and wrap
- Plastic trays and clamshells

Garbage can't be recycled.

- Frozen food boxes
- Coffee cups
- Food-contaminated paper

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