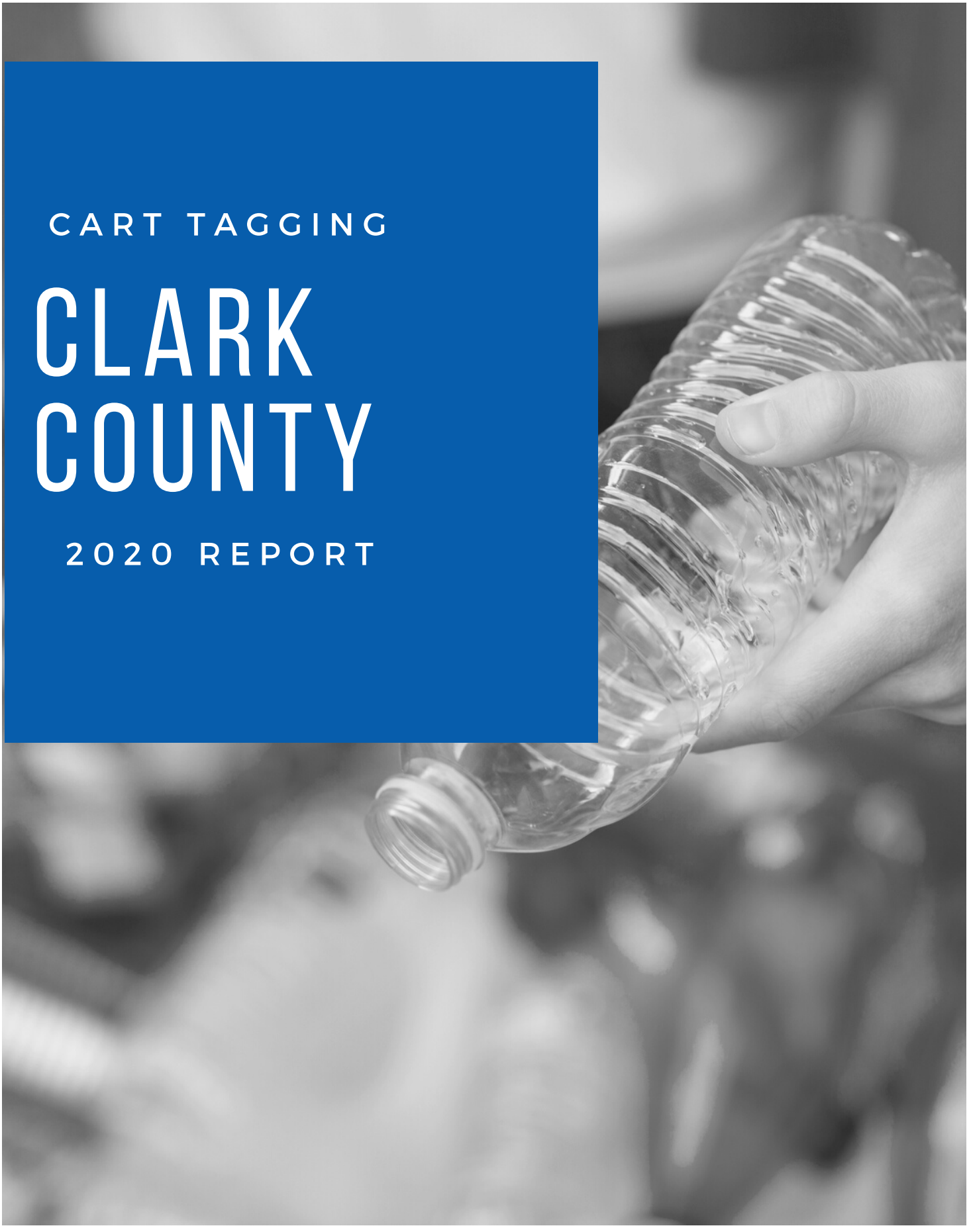

CART TAGGING

CLARK COUNTY

2020 REPORT

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Waste Connections of Washington, Inc.
Connect with the Future

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CART TAGGING

INTRODUCTION

This report provides the Waste Connections of Southwest WA 2020 cart tagging program results, which studies the recycling of single-family homes in two areas of Clark County, focusing on contamination. This program is designed to improve residential recycling practices by visually inspecting recycling carts, collecting data, providing residents with individualized recycling resources, and informing region-wide recycling messaging.

BACKGROUND

The year 2020 brought forth many unique challenges, and the recycling industry was not exempt from those challenges. For the recycling industry, 2020 began with residual impacts from The 2018 China Sword Policy, which interrupted the international trade of recyclables to China. The policy was a response to the devastating amount of litter entering China under the guise of 'recycling' imports. This transition caused public confusion about what can and cannot be recycled, and fueled a growing distrust in recycling in the United Stated. This policy change, compounded with the impacts of the novel Coronavirus (Covid-19) in February, forced many jurisdictions around the country to landfill material and cut recycling programs altogether. Despite the year's challenges, recycling programs in the City of Vancouver and Clark County persisted with a focus on prioritizing contamination reduction as a means to ensure continued success.

In January, Waste Connections of Southwest Washington (WCW) partnered with the City of Vancouver (COV) and Clark County (CC) Solid Waste to address the problem of contamination in residential recycling by implementing a modern education program. This program utilizes two Recycling Advocates (RAs) to manually observe recycling carts for contamination and provide customer-specific recycling education. The program's goal is to improve the region's recycling by educating and empowering residents to generate cleaner recycling that meets strict regulations for recyclable materials. It fulfills the requirements detailed in the Recyclables Collection Contracts and Contamination Reduction Plans agreed upon by each jurisdiction and WCW.

GETTING STARTED

RAs began tagging carts and collecting data on January 21, 2020. A press release detailing the program aspects was distributed via newspapers and various online outlets before tagging to inform residents.

An educational tag, referred to as an “Oops tag” (figure 1), was developed by staff to increase the understanding of recycling for residents. The tag details which items do not belong in the cart on one side and a basic recycling guide on the other.

The RAs are responsible for deploying the tag, recording the type of contamination present in the cart, and communicating with residents regarding the contamination observed in their cart. This year RAs observed 5,905 residential recycling carts for contamination and distributed 2,711 tags to carts with visible contamination in COV and CC. Every resident that received a tag was also provided additional educational resources.

COVID-19 PROGRAM SUSPENSION

There was a brief interruption to the program due to the Covid-19 Shelter in Place mandate, which suspended the program from March 12th – June 8th. This cost the program an estimated 40 days of cart tagging, putting the year at a deficit of nearly 2,676 carts that were not checked between COV and CC.

Unable to conduct everyday tasks and outreach involved with cart tagging, RAs explored using social media platforms to promote contamination reduction and analyzed previously collected data. RAs resumed fieldwork in June with added health and safety precautions in place.

METHODS

RAs spent four days a week in the field observing carts and collecting data. Two days/week was allocated to each COV and CC with corresponding outreach approaches referred to as the "four-visit" and "single-visit" approach.

Four-visit Approach

In COV, the four-visit approach was implemented. Carts within the city limits were observed four successive service days with a progressive outreach strategy for tagged carts, detailed in Table 1.

Single-visit Approach

In CC, the single-visit approach was implemented. Carts were observed only once with no successive visits. RAs observed new neighborhoods every week, and those customers with contaminated carts received a detailed recycle guide in the mail.

TABLE 1: COV PROGRESSIVE OUTREACH STRATEGY

Tag	Action Taken	Responsible	Timing
First	• Cart is serviced. • Recycle guide sent to customer's address.	RAs	Within 24 hours
Second	• Cart is serviced. • Personalized contamination notice sent to customer's address (also sent via email when listed on account).	RAs	Within 24 hours
Third	• Cart is serviced. • Phone call to customer. • Inform Solid Waste Staff if unable to reach customer.	RAs	Day of tag
Fourth	• Cart not serviced. • Contact Solid Waste Staff, share customer notes. • Phone call to customer.	RAs / COV Solid Waste Staff	Day of tag / Within 24 hours

METHODS CONT.

Data Collection

RAs worked with operations to identify which recycle routes to prioritize and monitor. Starting as early as 6:00 am, RAs began cart evaluations and data collection. RAs start their evaluations nearly halfway into the driver's route and follow the route as the driver would. For each contaminated cart, RAs will identify and record the following:

- Customer's account number
- Type of contamination observed
- Glass set-out, contamination Y/N
- Oil/antifreeze set-out, correctly Y/N
- Batteries set-out, correctly Y/N
- Cart Fullness (collected Jan 21 - Mar 12)

If visible contamination is observed, RA's fill out the "Oops Tag" and attach it to the cart. If the cart has been tagged more than 3 times in COV, RAs will turn the cart around and notify dispatch that it should not be serviced.

If any prohibited or hazardous waste (i.e., sharps, biohazards, fluorescent lightbulbs) are present, RAs will immediately contact dispatch, and the cart will not be serviced.

The information collected by the RAs is inputted into a procured Google Form. The data is then exported into an Excel sheet stored in a shared drive to be compiled and analyzed.

Follow-Up

RAs note the customers' accounts through WCWs online customer service platform (Route Manager Online) and perform follow-up outreach to customers that received a tag. Monthly and quarterly reports are presented to COV and CC, summarizing the RAs observations and outreach efforts.

RAs are responsible for identifying the type of contamination observed in recycling carts. Table 2 defines the categories which RAs use to record the type of contamination observed.

TABLE 2: MATERIALS IDENTIFICATION TABLE

Category	Examples
Plastic bags/wrap	Grocery bags, garbage bags, product overwrap, bubble wrap, bubble mailers, air pillows
Plastic Clamshells	Produce packaging, plastic egg cartons
To-go items	Cups, takeout containers (plastic, foam, paper)
Paper towels, napkins, tissues	Paper towels, cleaning wipes, napkins, tissues
Food residue	Food, beverage
Foam	Packing peanuts, block foam
Other non-program plastics	Toys, piping, totes
Loose lids	Pop-off lids, screw on lids (detached)
Scrap metal	Automobile parts, metal pipes, chicken wire
Glass	Bottle & jars
Pet food bags	Dog food bags, cat food bags
Shredded paper	Small bits of paper
Tanglers	Hoses, wires, chains, hangers
Textiles/clothing	Carpet, curtains, blankets, pillows, t-shirts, shoes, socks
Fridge/freezer packaging	Fridge/freezer boxes, microwavable meal trays
Wood	Wood fencing, chopped wood, shelves, plywood
Yard Debris	Twigs, leaves, flowers, grass
Diapers	Diapers
Covid-related waste	Face masks, latex gloves
Other	Air filters, picture frames, automobile parts
HHW	Tube lights, electronics, medication

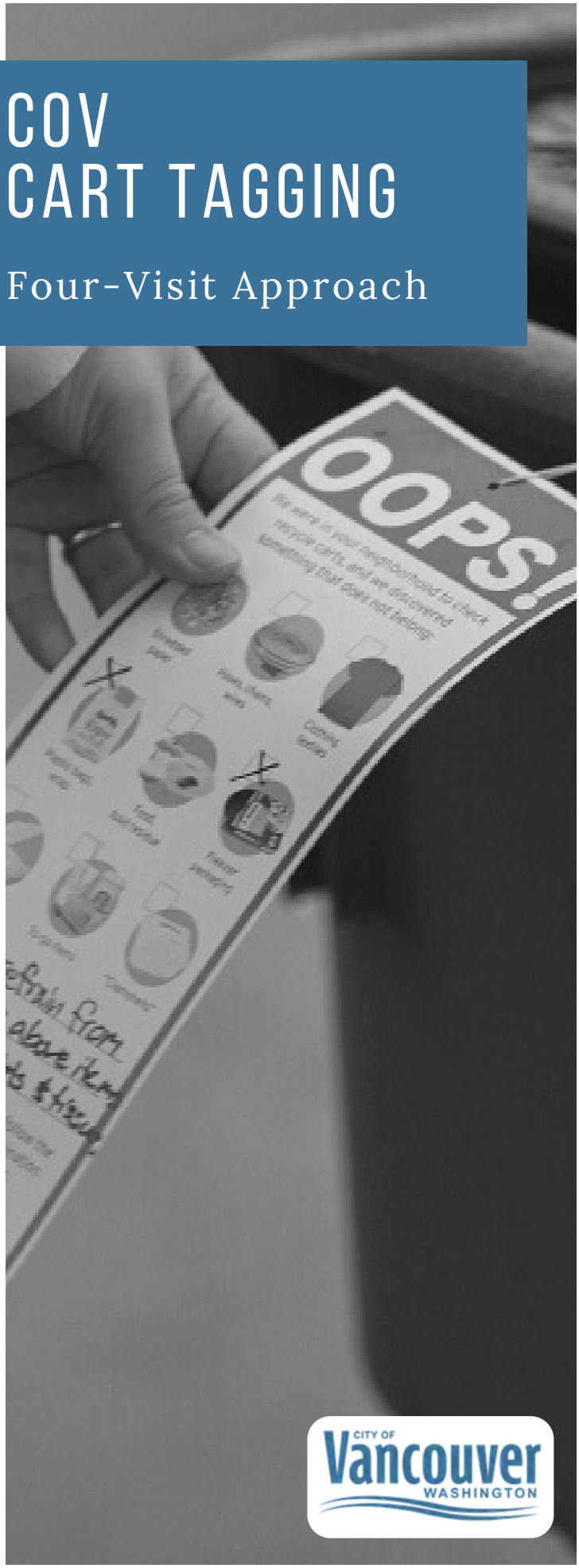
Plastic bags/wrap

Plastic clamshells

FIG 1: "OOPS" TAG

FRONT

BACK



COV CART TAGGING

Four-Visit Approach

OUTREACH

2020

Customer Interactions **57**
Brochures Sent **645**
Letters Sent **300**
Phone Calls Made **49**

1,019 TAGS DISTRIBUTED

Total Residential Visits **3,614**
Carts Observed **2,532**
Field Days **43**

40% CONTAMINATION RATE

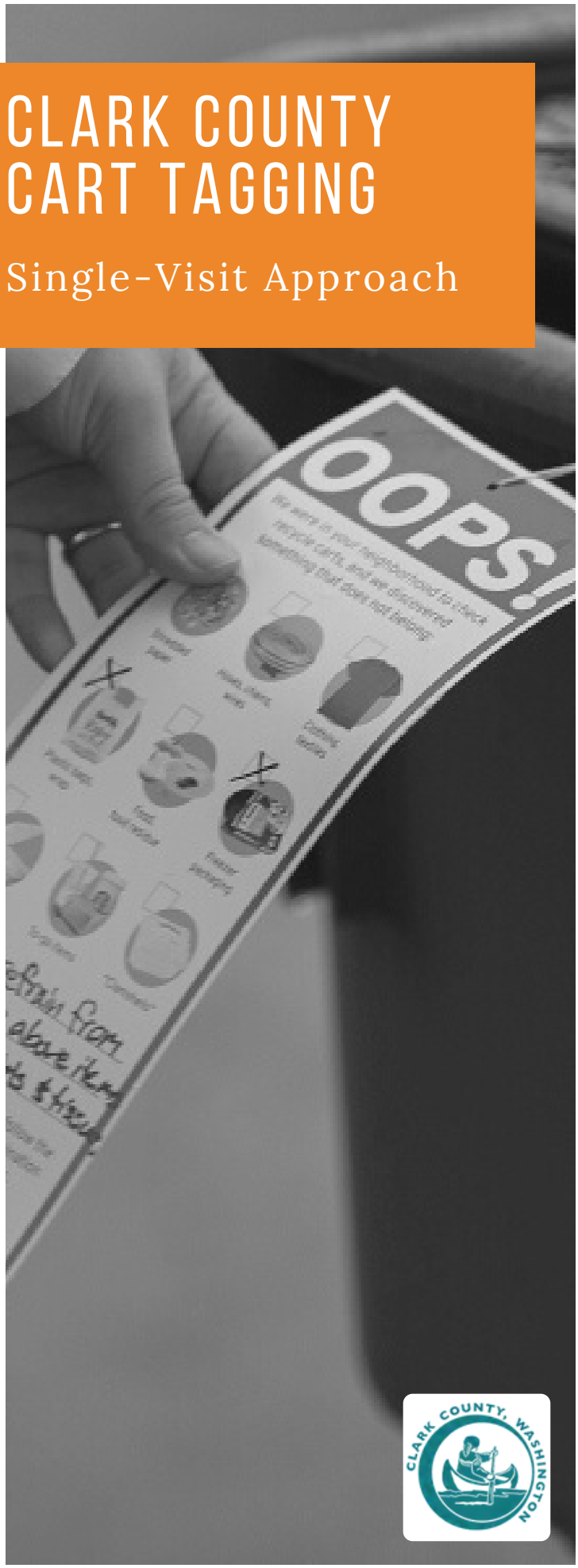
58.88 Average Carts Checked A Day

TOP 5 CONTAMINANTS

1. Plastic Bags/Wrap
2. Plastic Clamshells
3. To-Go Items
4. Food Residue
5. Fridge & Freezer Packaging

CLARK COUNTY CART TAGGING

Single-Visit Approach



OUTREACH

2020

Customer Interactions **81**

Brochures Sent **1,692**

1,692

TAGS DISTRIBUTED

Total Residential Visits **4,622**

Carts Observed **3,373**

Field Days **43**

50%

CONTAMINATION RATE

74.95 Average Carts Checked A Day

TOP 5 CONTAMINANTS

1. Plastic Bags/Wrap
2. Plastic Clamshells
3. To-Go Items
4. Food Residue
5. Paper Towels, Napkins, & Tissues

RESULTS

COV CONTAMINATION TYPE

In COV, residents have the potential to be tagged up to four times under the four-visit approach. Figures 2-5 detail the type and frequency of contamination found in COV recycling carts that received first, second, third, and fourth tags. The data collected for contamination type is compiled from a sample size of 1,019 contaminated carts in COV.

As the number of tags increases, the sample size decreases, indicating that residents had cleaner recycling or did not set out recycling carts after being tagged consecutive service days. Regardless of the number of tags a customer may have received, plastic bags are the most common contaminant observed in COV recycling carts.

FIG 2: COV CONTAMINATION TYPE OF FIRST TAG

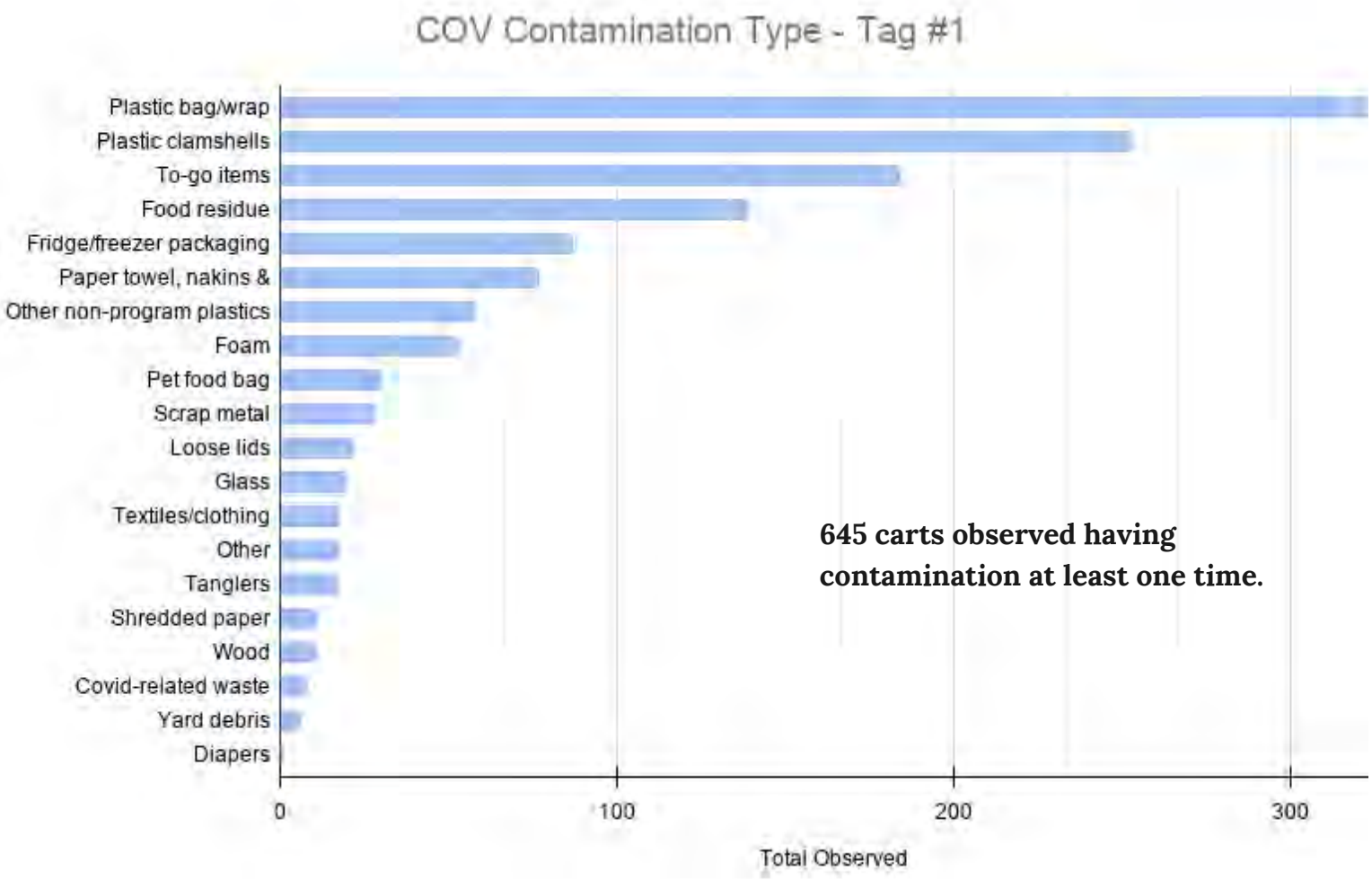


FIG 3: COV CONTAMINATION TYPE OF SECOND TAG

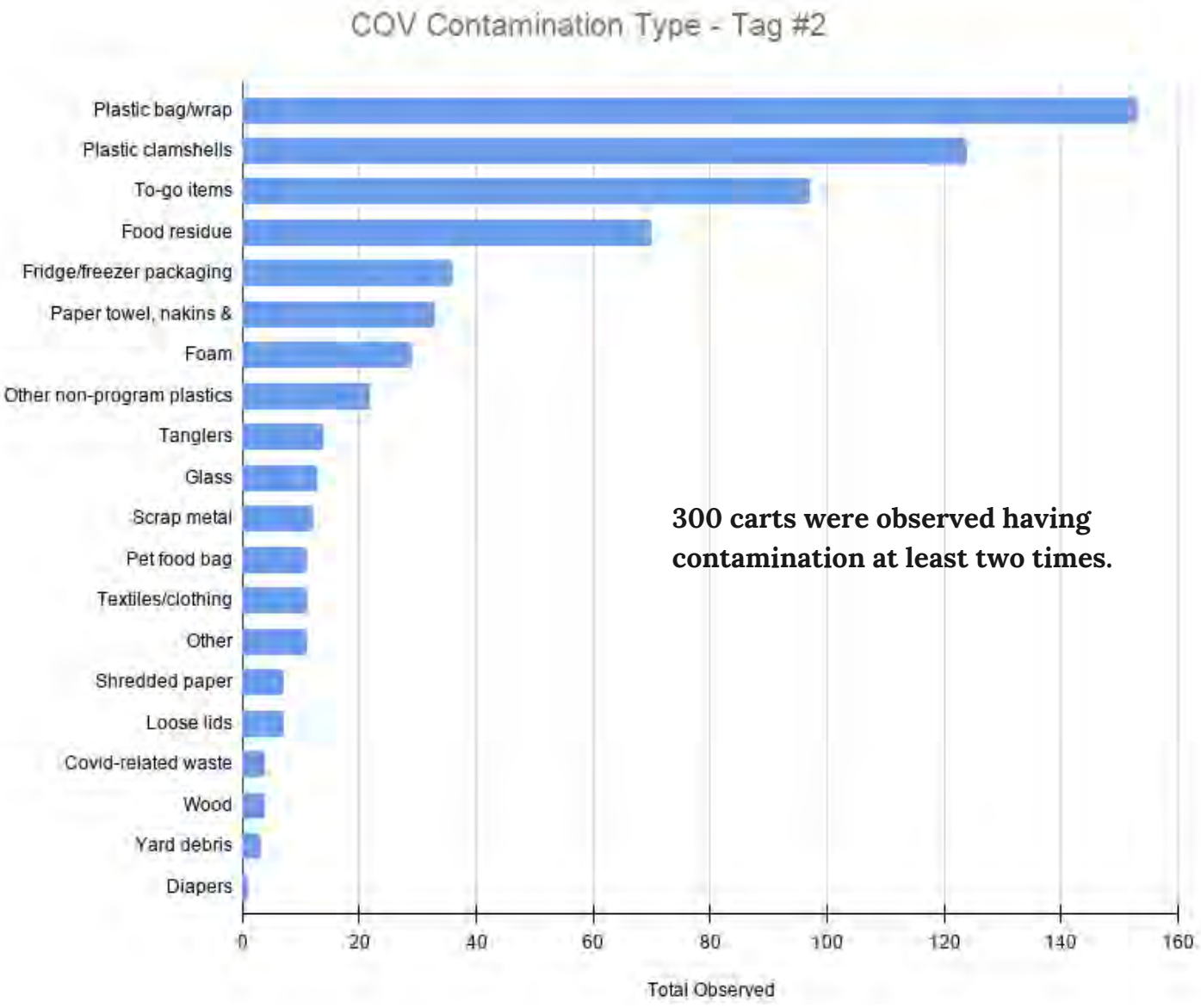
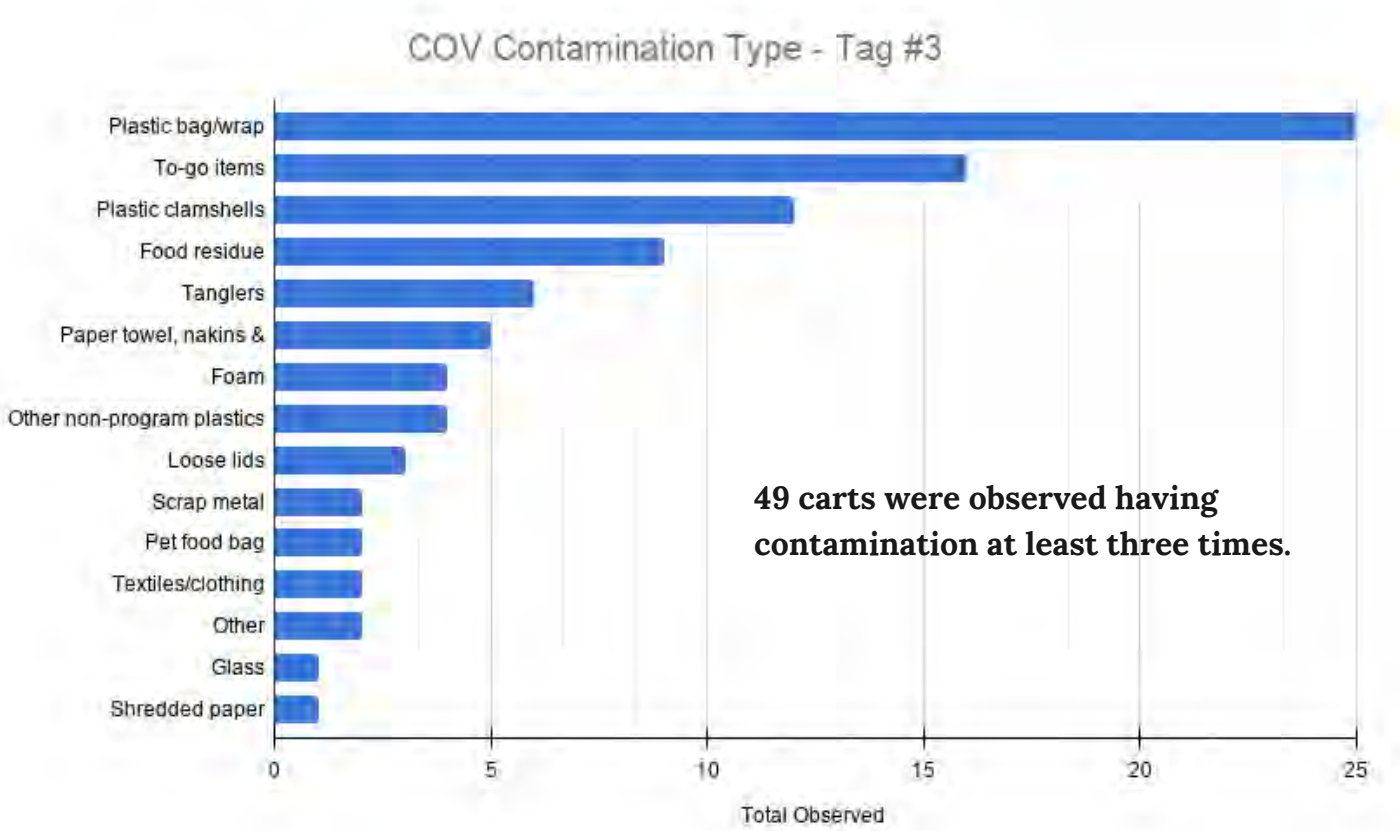
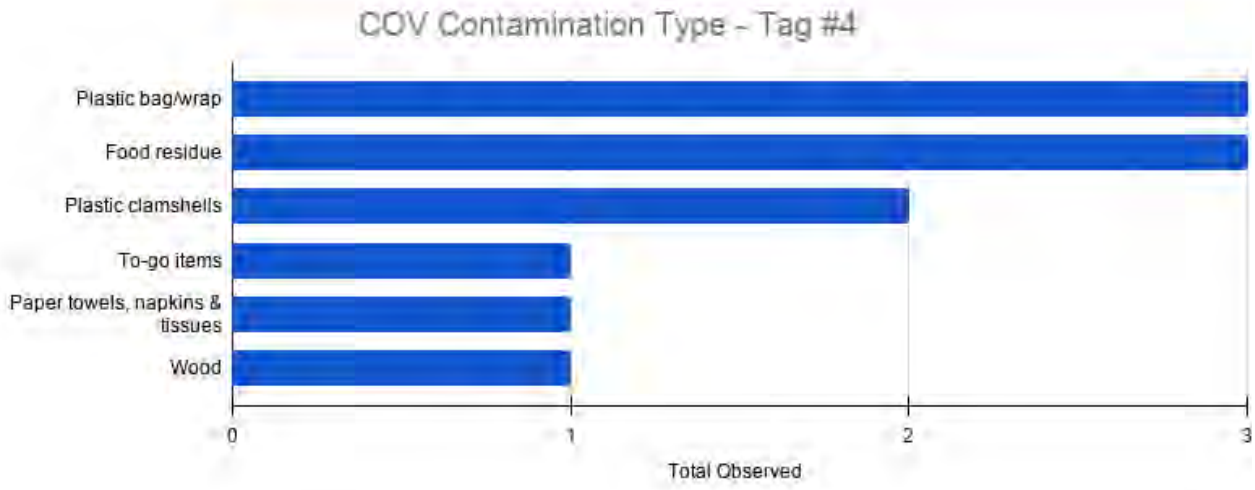


FIG 4: COV CONTAMINATION TYPE OF THIRD TAG



49 carts were observed having contamination at least three times.

FIG 5: COV CONTAMINATION TYPE OF FOURTH TAG



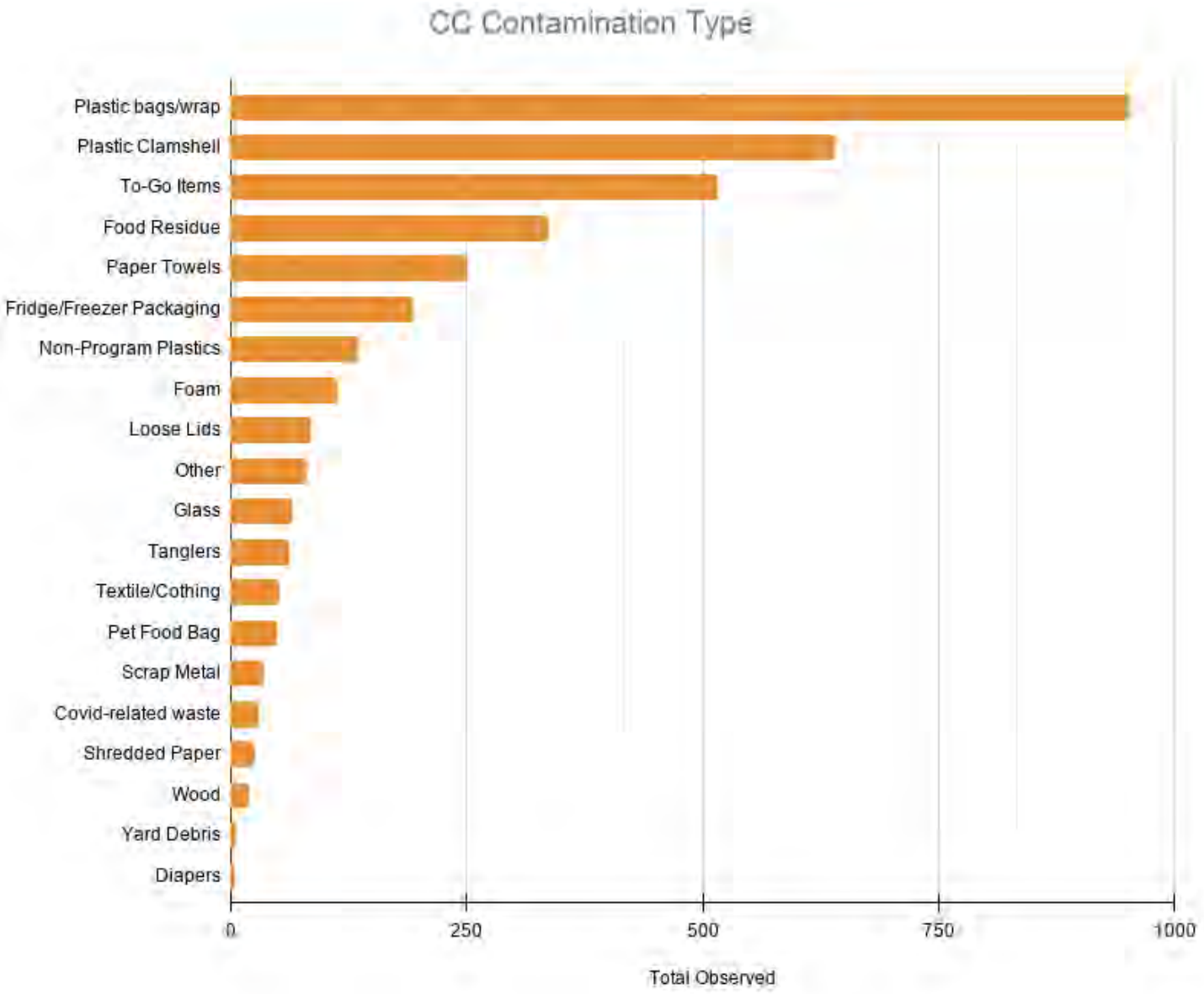
4 carts were observed having contamination four times.

CC CONTAMINATION TYPE

Recycle carts in CC are only observed and tagged once for having contamination. Figure 6 represents the type and frequency of contamination observed in recycle carts in CC.

The data collected for contamination type is compiled from a sample size of 1,692 contaminated carts in CC. Similar to COV, CC's most common recycling contaminant is plastic bags.

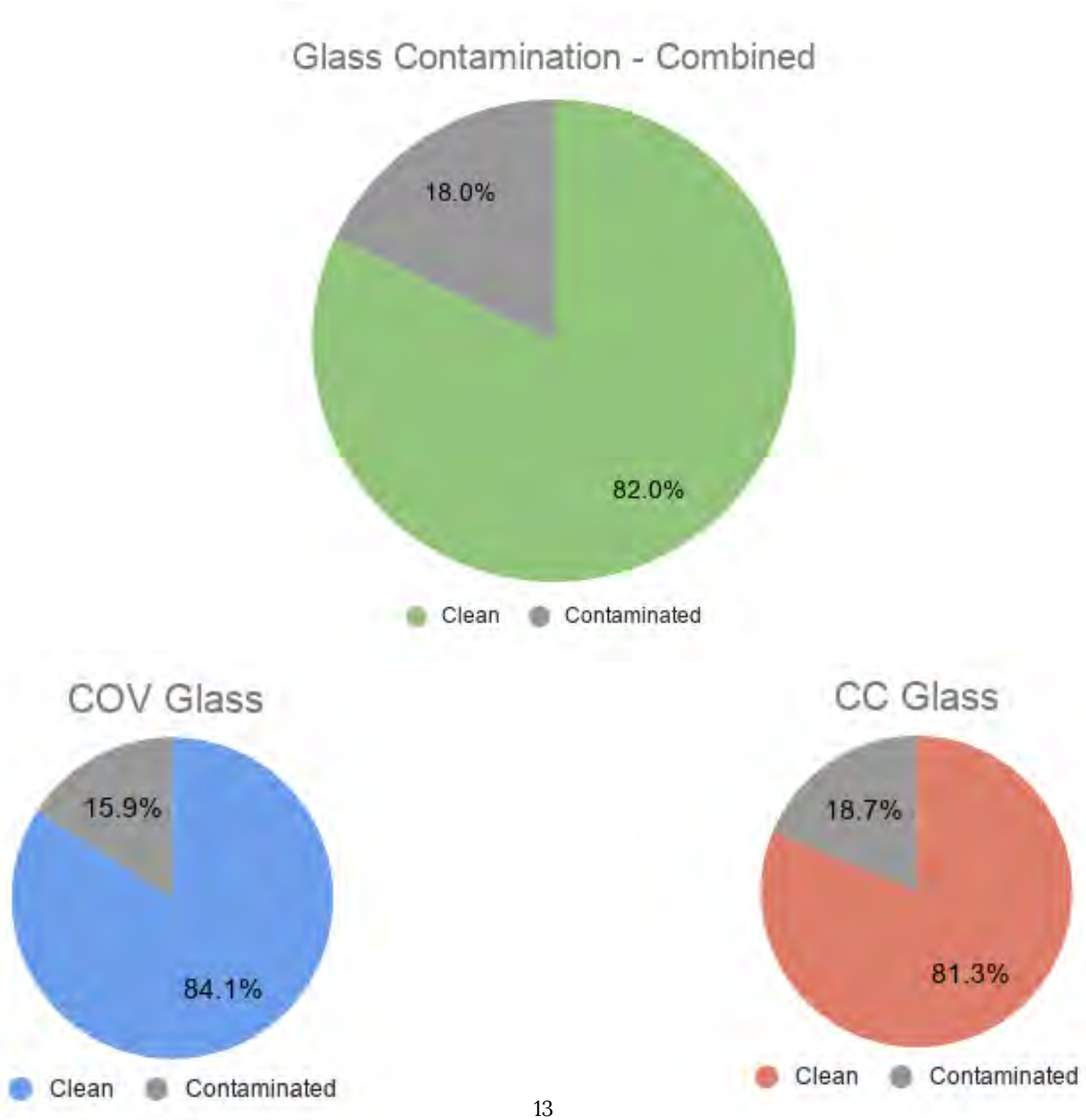
FIG 6: CC CONTAMINATION TYPE



RAs collected information on curbside glass recycling starting in June and continued collection until the end of the year. The data gathered detailed if the glass bin was set-out for service and whether or not contamination was observed. RAs did not record the type of contamination observed for glass, but a list of common contaminants is provided below. Figure 7 details the combined results for glass contamination in both COV and CC, as well as the results generated in each jurisdiction. The data collected for contamination in glass bins are compiled from a sample size of 757 total glass bin set outs (201-COV, 565-CC) and yields an 18.0% contamination rate of glass bins.

Common contaminants in glass bins: lightbulbs, candle holders, food, drinking glasses, cans, plastic bottles, and ceramics.

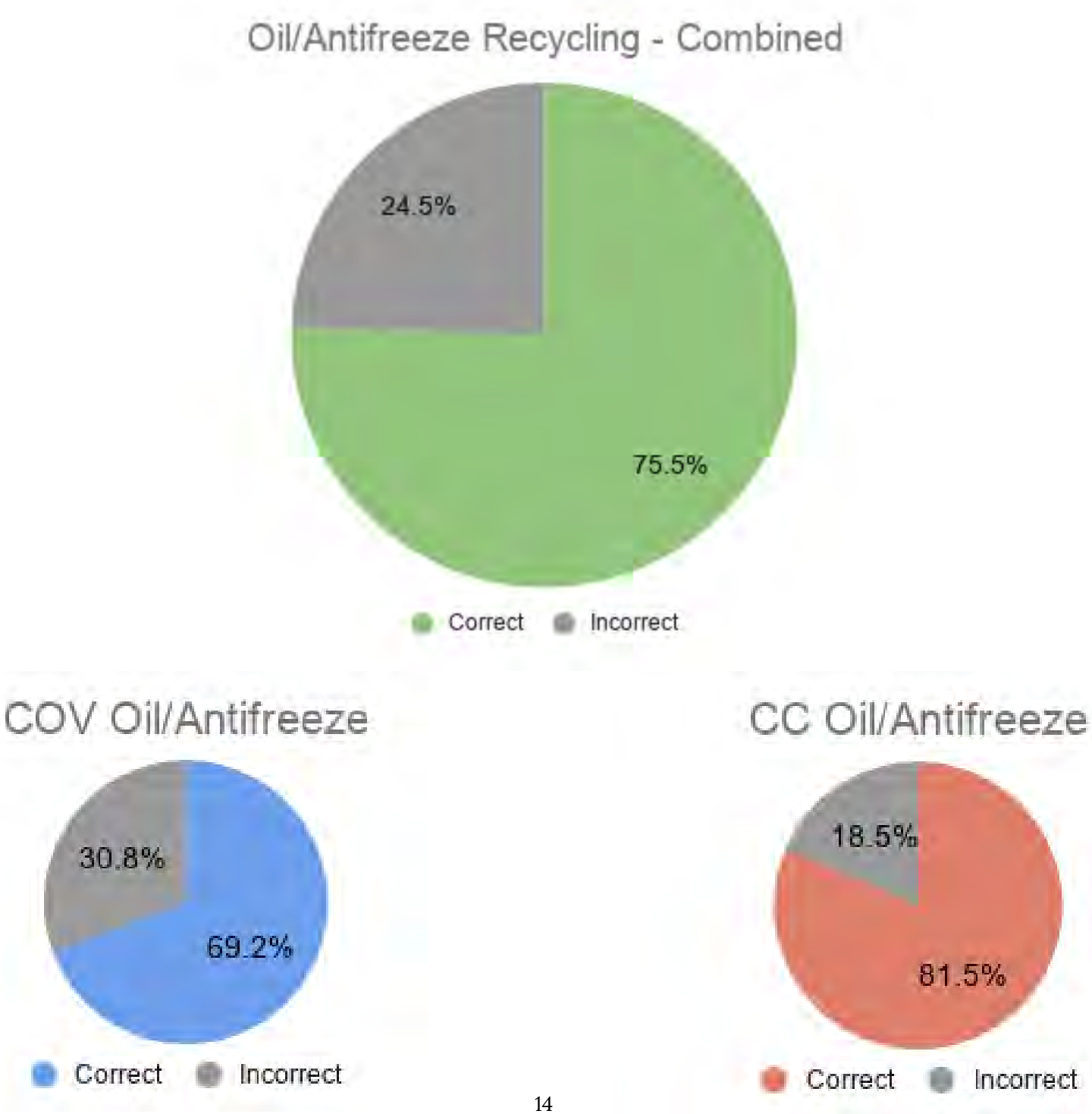
FIG 7: GLASS CONTAMINATION



Similarly, RAs collected information on curbside oil/antifreeze recycling starting in June and continued data collection until the end of the year. The information collected for oil/antifreeze recycling detailed the number of set-outs and if the material was set-out correctly or incorrectly. To be considered "Correct," the fluid (oil or antifreeze) must be set out next to the cart in a clear gallon milk jug. Residents disposing of the fluid in the original container when setting it out for pick up is the most common mistake. Setting the fluid out in this way characterizes it as "Incorrect."

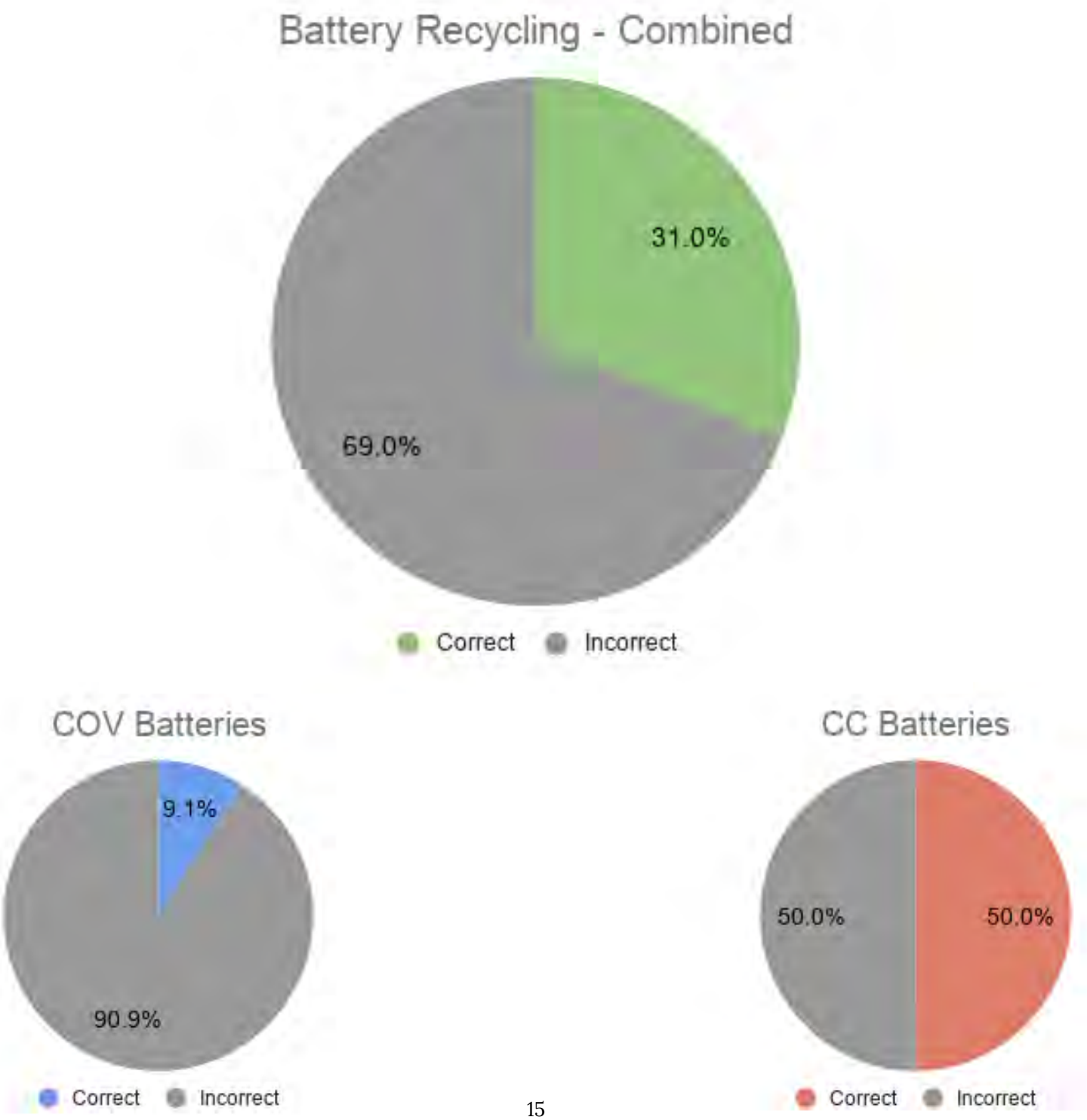
Figure 8 details the combined results for oil/antifreeze recycling in both COV and CC, as well as the results generated in each jurisdiction. The data collected for oil/antifreeze recycling is compiled from a sample size of 53 total set outs (26-COV, 27-CC) and yields an overall 24.5% Incorrect oil/antifreeze set-outs.

FIG 8: OIL/ANTIFREEZE RECYCLING



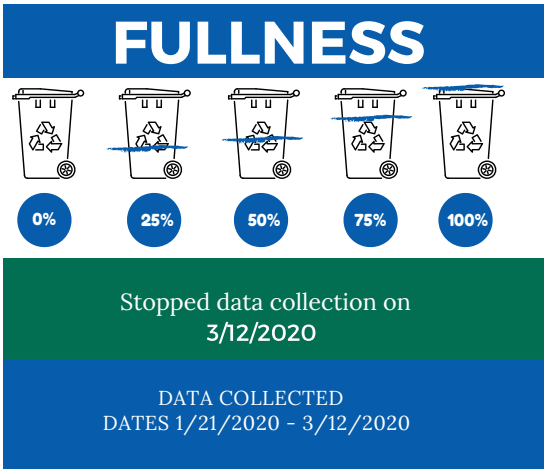
RAs also collected information on curbside battery recycling starting in June and continued collection until the end of the year. The data collected for battery recycling detailed the number of set-outs and if the batteries were set-out correctly or incorrectly. To be considered "Correct," batteries must be placed on top of the recycle cart in a clear, plastic baggy, and the ends of the batteries must be taped. Common 'Incorrect' set-outs include not taping batteries and placing batteries in the glass bin instead of on top of the recycle cart. Both can result in dangerous conditions that could potentially lead to a truck fire. Figure 9 details the combined results for curbside battery recycling in both COV and CC, as well as the results generated in each jurisdiction. The data collected for battery recycling is compiled from a sample size of 71 total set outs (33-COV, 38-CC) and yields an overall 69% Incorrect oil/antifreeze set-outs.

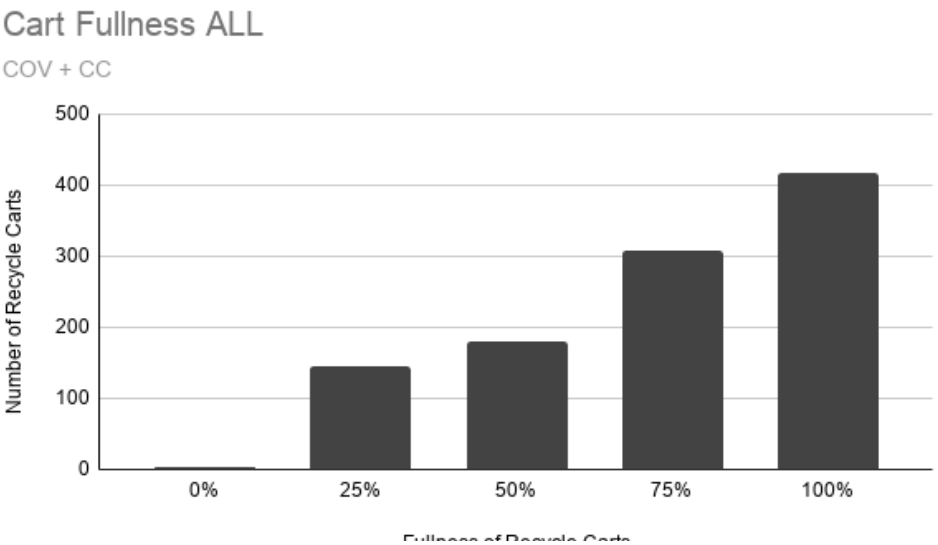
FIG 9: OIL/ANTIFREEZE RECYCLING

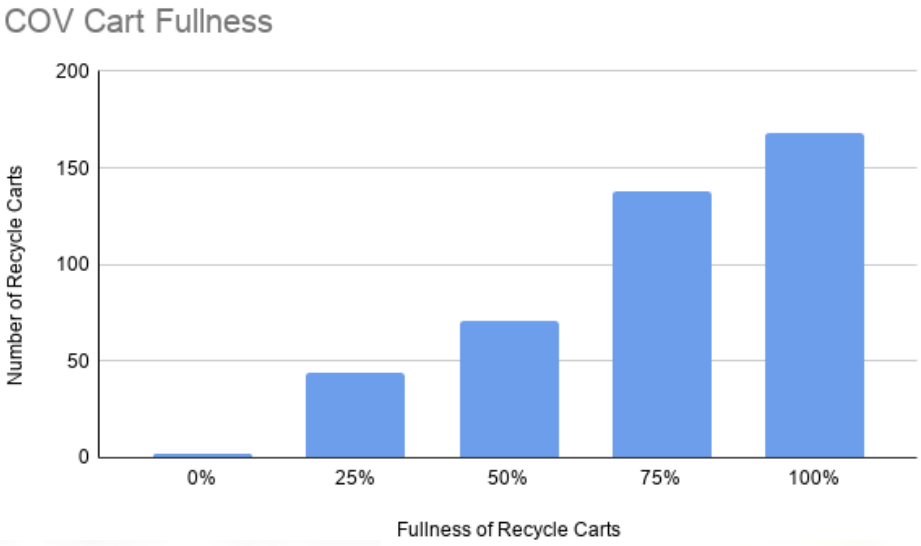


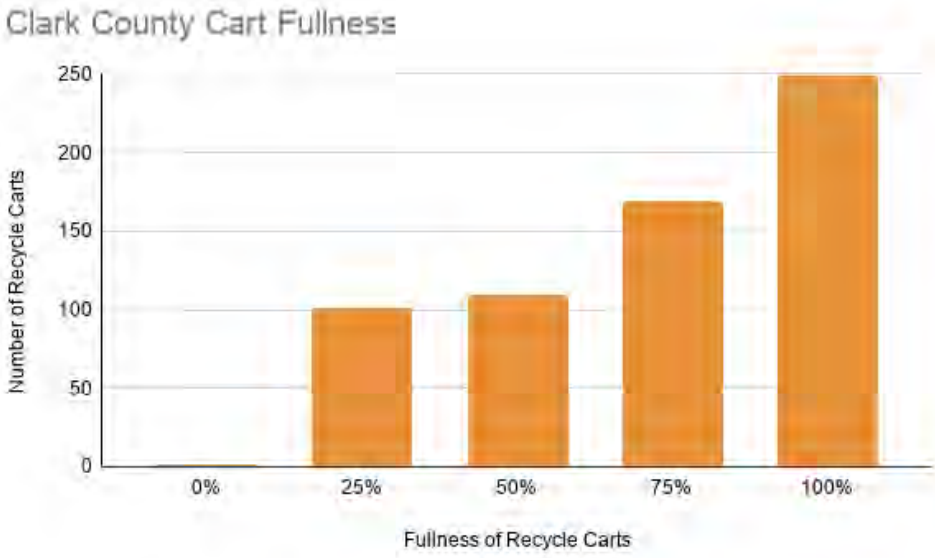
From January until March, RAs collected data on how full recycle carts were for all of Clark County. After reassessing the data collection process, it was decided that there was sufficient information and to discontinue fullness data collection. 40% of all carts being set out are completely full or more than full (i.e. extra recycle).

FIG 10: RECYCLING CART FULLNESS



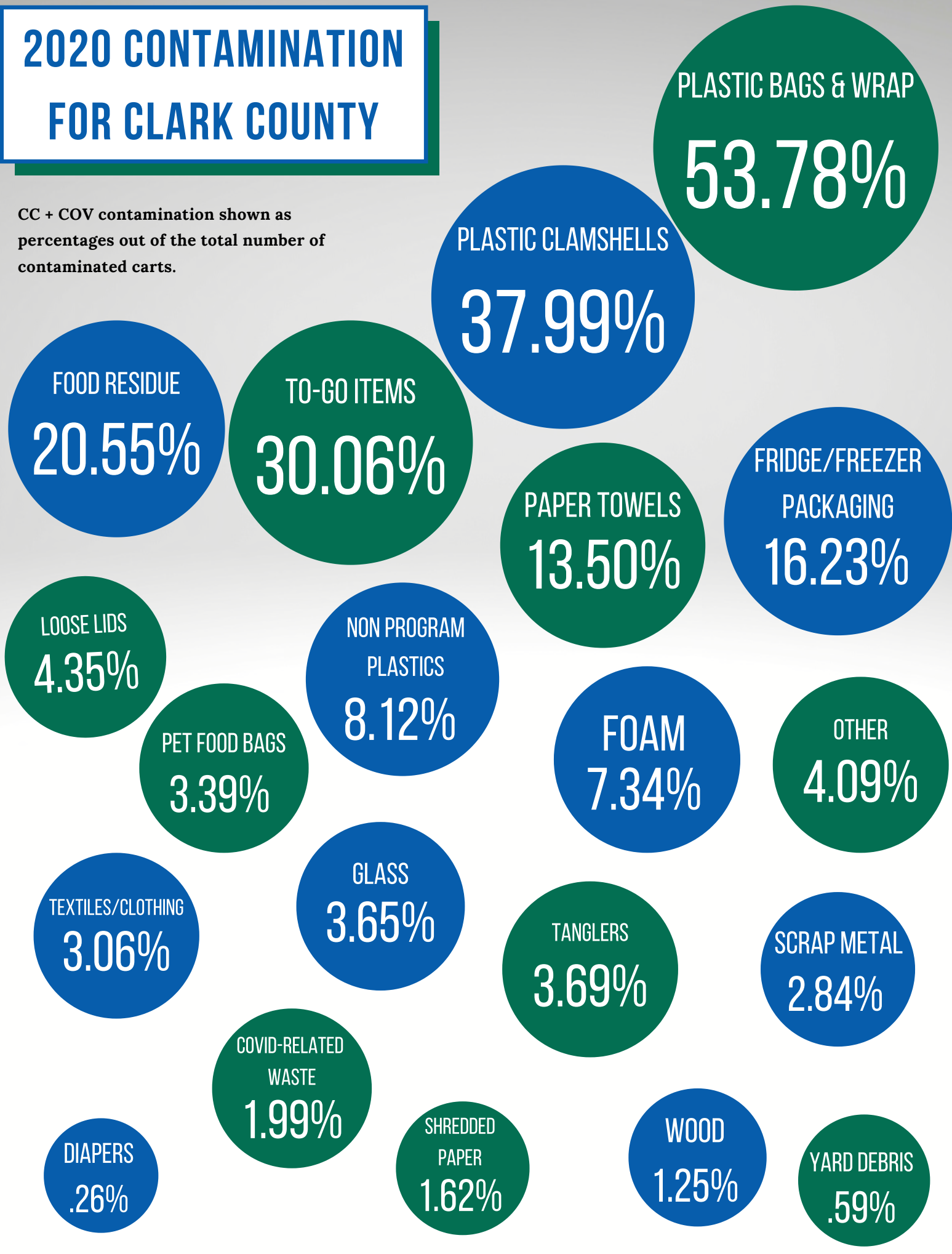


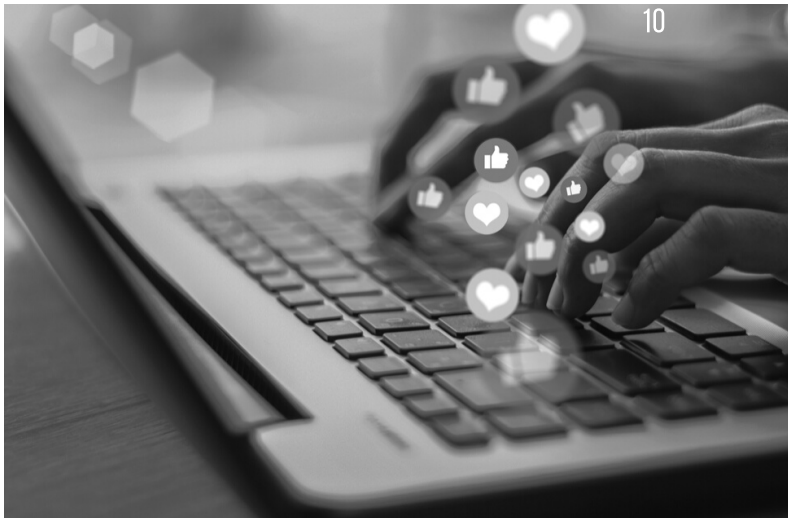




2020 CONTAMINATION FOR CLARK COUNTY

CC + COV contamination shown as percentages out of the total number of contaminated carts.





COVID-19 IMPACTS

Interruption to the cart tagging program March 12th, 2020 - June 6th, 2020, resulting in the program's 12-week suspension. The interruption cost the program an estimated 40 days of tagging. Put the year at a deficit of carts not checked at 2,355 (COV), 2,998 (UGA), 2,676 (BOTH). When RAs resumed in June, they noted more COVID-related waste in carts (i.e., face masks and latex gloves).

FIG 11: COVID-RELATED WASTE

SOCIAL MEDIA OUTREACH

Unable to conduct the everyday tasks and outreach involved with cart tagging, RAs explored using social media platforms such as Facebook (FB) and Instagram to promote contamination reduction during this time.

In April, RAs organized 3 Facebook Live chats discussing recycling contamination, information on organics, and Covid-19 related waste. These videos reached a combined 6,210 people.

Did you know that plastic eggs are NOT recyclable?

- Reached 1.2K on FB
- Reached 312 on Instagram
- 68 Reactions (Likes/Comments/Shares)

FACE MASKS = GARBAGE

- Reached 2.4K on FB
- Reached 252 on Instagram
- 134 Reactions (Likes/Comments/Shares)

CUSTOMER COMMUNICATIONS

2,337 Brochures Sent

49 Phone Calls

138 Customer Interactions

300 Personalized Letters Sent

Outreach and education are the cornerstones of the project. The "Oops tag" (Figure 1) provides firsthand recycling feedback to residents and is the first educational tool the RAs use from their many customer-specific resources. Customer interactions on the routes, mailing recycle right guides, sending personalized letters, and making phone calls. Ten residents answered the phone upon the first call. RAs left twenty-one voice messages with callback numbers, going to their desk phones. The RAs could not connect nine calls to the customer because of varying circumstances; (i.e., voicemail box full, out of service, or wrong number). Five callbacks were received, some of which were forwarded from customer service representatives. RAs also conduct extra follow-up outreach with customers by mail, email, or phone, providing excellent customer service to our community.

CUSTOMER TESTIMONIALS

The following are a series of statements from emails between COV residents and RAs after the resident was tagged two or more times.

"Thanks for reminding me of this. I get very busy with cooking, cleaning, etc. etc. and don't sometimes focus on those important issues that I know are important in the bigger picture of what happens to our waste. This should have been more of a priority for us."

"I take pride in my recycling habits and I am very sorry for the past 2 carts ... The first picture is awful and I apologize and I am going to forward this email to my two guests that were staying with me for 3 weeks ... My guests were both from the Sacramento California area and neither of them have recycling at their apartment rentals, which shocked me. Thank you for all your hard work."

"At this point, I can hardly recycle anything and I am paying for a service that is harassing me and also not emptying my garbage completely. If you are going to be checking my recycling and garbage every month, I will be contacting the city about this as I do feel targeted and harassed."

"Thank you for bringing this to our attention. We will be more careful in the future."

"Please just cancel our recycling it's getting way to tuff to figure out what's good and not good I would rather just throw it all in the trash at this point. Thank you."

"I received the letter from Waste Connections about unacceptable materials in my cart. I have a few questions. I regularly have homeless people going through my cart looking for cans, casting recycling around the street, and I have often found unfamiliar items placed in the cart. Other than threatening to "not be able to service the cart" what are you doing to address this issue? Are you seriously suggesting that you will stop recycling the entire can just because an accidental item makes its way into the bin? How is this beneficial to anyone? I was actually surprised about the note saying that black hard plastic six pack rings were not recyclable, as they were marketed as replacing the clear plastic rings and therefore better for the environment. What is the reasoning behind this?"

"Can I get rid of the recycle can and just get a bigger garbage can since nothing seems to be allowed in recycling anymore?"

"Thanks for letting us know, we will try to do the right thing, I apologize."

"OK I will make sure I check things before the kids take out the recycle, I am sorry for this. Thank you."

"I am so sorry. I will make sure that the things that are in there are right."

CONCLUSION

SUMMARY

Widespread contamination has decreased when data collection has allowed RAs to review the amount of recycling cart contamination consecutively. As the number of tags increases, the sample size decreases, indicating that residents had cleaner recycling or did not set out recycling carts after being tagged consecutive service days. Contamination of glass bins was relatively lower-yielding an 18.0% contamination. The most common mistake for oil/antifreeze is disposing of the fluid into the original container when setting it out for pickup. Not taping battery ends and incorrect placement at set-out has given this category a high incorrect rate. As the taping is a fairly new addition to the battery set-out requirements, more outreach may be needed to increase resident's knowledge for correct set-outs.

NEXT STEPS

Education and outreach are necessary to help increase residents' knowledge on how to recycle right to reduce contamination. RAs will continue tagging carts and collecting data. RAs, WCW Waste Reduction Manager, and partners in the City of Vancouver and Clark County will meet to discuss program updates and review procedures. RAs will continue to produce quarterly reports detailing performance and cart observations results for the City of Vancouver and Clark County.

2021 GOALS

- Adapt to COVID-19 pandemic restrictions and prioritize safety procedures
- Check 6,500+ single-family residential recycling carts
- Maintain consistent and relevant social media
- ***Multi-Family***: RAs will begin cart tagging and outreach to multi-family complexes and their residents, working closely with WCW Multi-Family Educator to produce consistent outreach and education tools. RAs will assess enclosure and recycling areas for Best Management Practices as well.