SOLID WASTE
MANAGEMENT
CONSULTANTS

MEMORANDUM

TO: Russell Gale, Assistant City Manager, Administration, City of Broken Arrow, OK

FROM: Kate Vasquez, Project Manager, Gershman, Brickner & Bratton, Inc. (GBB)

CC: Lee Zirk, General Services Director, City of Broken Arrow, OK
Tom Reardon, Sr. Vice President, Gershman, Brickner & Bratton, Inc.

DATE: September 12, 2019

RE: Results of Recycling Pilot Project and Recommendations for Implementation

1. Introduction

In January 2016, the City of Broken Arrow (City) and the Broken Arrow Municipal Authority (BAMA) contracted with Gershman, Brickner & Bratton, Inc., (GBB) and GBB's partner, ShapardResearch, to conduct a randomized, statistically significant telephone survey of the residents of Broken Arrow about their attitudes, behaviors, and engagement regarding their curbside garbage service, recycling, and the bag voucher system. The intent of the project was to gather information that could be used in decision-making about future revisions to the solid waste collection system in Broken Arrow. The survey was administered in May 2016, and the results presented to BAMA in August 2016.

Overall, the survey revealed that residents of Broken Arrow were positive about the current bag-based collection system. They were not, however, opposed to some change. Residents agreed that their limited access to recycling is "behind the times." And while 48 percent of people said they don't recycle at all, 82.4 percent said they would likely make an effort to recycle more and generate less trash for landfilling if they had curbside service. They also acknowledged that adding more direct service—i.e., curbside recycling—would likely have a cost associated with it, and about 40 percent said they were willing to pay additional dollars on their utility bills to add recycling.

In the survey, responsiveness to the idea of waste carts varied among groups. Over half of residents were favorable regarding the idea, with more than a quarter saying they were "extremely favorable." Long-term residents, older people, and those who described themselves as retired or disabled tended to be more unfavorable. GBB finds that this is typical, particularly for older people who generate less trash per household and who may find the carts difficult to manage, physically. In the survey, newer residents (fewer than 10 years in town), households of 4 or 5 people (presumably many of which are families), and self-described homemakers tended to be more favorable towards the carts.

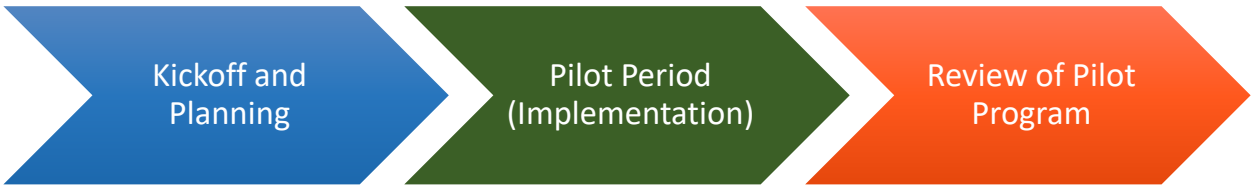
After considering the survey results, the BAMA created a Citizens' Committee regarding the implementation of curbside recycling collection from residential customers in Broken Arrow. From October 2016 to August 2017, GBB worked with the City supporting the Committee. This included a

presentation of the Committee's work to BAMA on August 2, 2017. In the report, the Committee recommended to BAMA that the City conduct a pilot project of two methods for collecting recyclables at the curb: Scenario 1, as described by the Committee, involves a two-cart system whereby residents set out recyclables in one rolling cart and garbage in another; Scenario 2 involves using one cart for setting out recyclables and allowing residents to continue to set out garbage in plastic bags on the ground. In addition, the Committee advised that customers in the pilot projects, as they would during the ultimate implementation, would receive collection once-weekly, with all materials collected on the same day. Furthermore, at the time any subsequent recycling program should be fully implemented, the Committee recommended that the City would discontinue distribution of the "free" black plastic bags in which residents currently set out their waste.

The City requested that GBB prepare a detailed cost estimate for conducting the pilot programs as recommended by the Committee, along with some alternate possibilities. This included costs for consulting support and for other vendors (public relations, survey services, and truck routing). The City gave its recommendations to BAMA, and on December 5, 2017, the City was directed to proceed with a pilot project that would involve two pilot collection areas—one with a 2-cart collection system and one with a 1-cart collection system—each with approximately 500 homes. As described in further detail herein, planning for the pilot project took place throughout 2018, and the pilot period ran for four months from January 24 through May 25, 2019. Two audits were conducted of collected materials, and three surveys were administered to participants. The results are discussed in the following sections of this report.

The Pilot Project

As approved by BAMA on December 5, 2017, the City's pilot project involved two pilot collection areas, each with approximately 500 homes. The project was divided into three phases:



The members of the pilot project team included:

- GBB, solid waste consultants, including a project manager, subject matter experts, and senior executives;
- C2Logix, a computerized routing firm that previously assisted with routing and resource allocation in Broken Arrow;
- ShapardResearch, a national survey firm located in Oklahoma and continuing partner, to solicit meaningful opinion surveys from the pilot participants;
- Propeller Communications, a Tulsa-based public relations firm that provided creative content and expert outreach messaging;
- Tulsa Refuse & Transfer (also known as American Waste Control), whose Material Recovery Facility (MRF) processed the collected recyclables; and,
- City staff from the General Services Department, the City Manager's Office, and other agencies as needed.

As the two types of service to be piloted were decided by BAMA, the first steps in the planning process were to select the participating neighborhoods and to procure necessary equipment.

Selection of Participants

Great effort was made by the team in selecting the participating neighborhoods, one for Thursday and one for Friday,[1] roughly 500 homes each. The following criteria were outlined to start:

- A pilot area that was fashioned from within an existing route, so as to minimize the impact on the collections in the non-pilot areas;
- A combination of homes representative of more than one type of housing stock (or value) and home type (lot size, house size);
- Inclusion of enough collection challenges to allow for learning on the part of the drivers and helpers—e.g., cul de sacs, dead-ends, "country stops" of widely spaced properties, and other special conditions;
- Housing additions that were geographically contiguous, or nearly so; and,
- Clearly delineated or "natural" dividing lines at the edge of the areas, such as roads or gates.

Ultimately, an area of 579 homes in Ward 2 was chosen for the 2-cart pilot (Thursdays) and an area of 514 homes in Ward 3 was chosen for the 1-cart pilot (Fridays). The maps in Figure 1 show the location of the two areas in the city and also show details of the streets and additions in the pilot.

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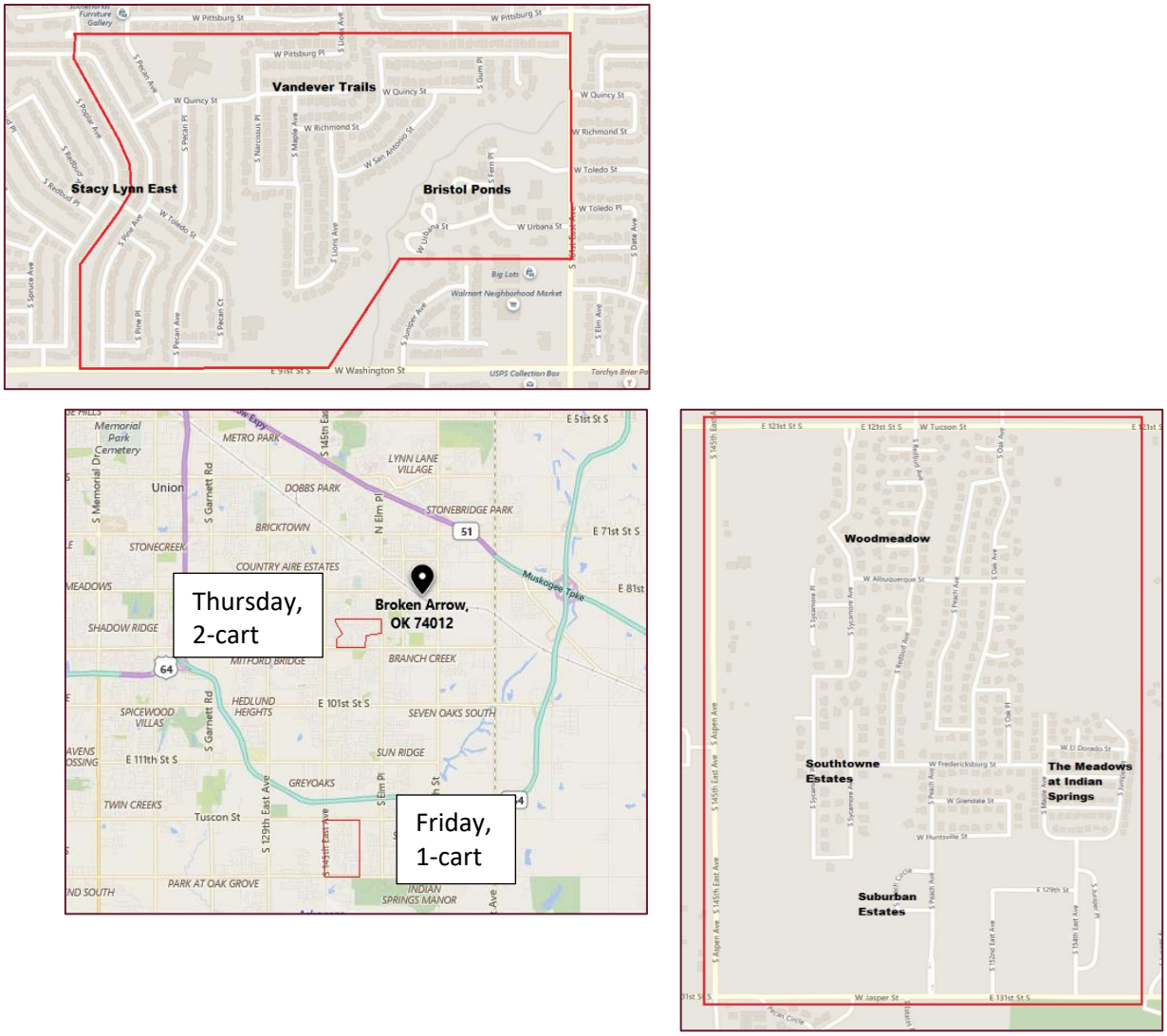
[1] That is to say, one pilot area from the existing Monday/Thursday customer areas and one pilot area from the existing Tuesday/Friday customer areas, so as to have one pilot area per day. This was part of the planning to minimize the impact of the pilot project on the collection areas in the rest of the city.

Figure 1 – Pilot Areas for Thursday and Friday



Description of the Pilot Project Services

The Thursday pilot group received two rolling carts—a bright blue one for recyclables and a black one for refuse, or garbage and trash. The Friday pilot group received a blue rolling cart for the separation of recyclables and was instructed to continue to set out their refuse in plastic bags.[2] The City collected from both pilot groups once-weekly, which was a change from the previous schedule of twice-weekly collection. The City collected recycling and refuse on the same day. Set-out and collection of yard waste and bulky items remained unchanged in the pilot program, and would likely remain largely unchanged in the future, except for improvements to routing and scheduling.

[2] While it was anticipated (and has come to fruition) that most pilot project participants would use the heavy-duty City-issued bags they already had, the Citizen's Committee has recommended discontinuing distribution of the bags as part of implementing curbside recycling Citywide.

The carts were delivered over a period of four days, January 16 – 19, 2019. Collection using the carts began on Thursday, January 24, and Friday, January 25, accordingly.

Outreach and Education

The plan for notifying residents of their selection of the pilot program and for educating them on how to participate started with information in the general press after the decision was made in December 2017 to go forward. The participants received their first notice in October 2018, via a letter sent directly to each home with an active waste collection account. The letter laid out the most basic aspects of the pilot, including which pilot they were in (1-cart or 2-carts), when it would start, and the fact that collection would now be just once-weekly. Signed under the name of the City Manager, the letters also invited residents to an "open house" in their neighborhoods, where they could see samples of the carts and ask questions about the project or recycling.

The open houses were held on November 13 and 14. At the open houses, the City had sample carts so residents could get an idea of what would be delivered in a couple months' time. There were also some initial print materials made available, which residents were welcome to take with them. Turnout exceeded expectations, and response from attendees was generally positive.

Over the course of the three months from the original notification in October 2018 up to and including the delivery of the carts in January 2019, the following information was delivered to participants:

- 2 post cards: one to encourage residents to sign up for automatic reminders about their collection day and one to advise them to expect surveying about the pilot;
- A customized brochure on how to use the cart (or carts) and what material to put in the recycling cart; and,
- A customized "cart sheet" which was attached to the recycling carts when they were delivered to the houses.

The figures below show the outreach materials that were sent to participants in the pilot project.

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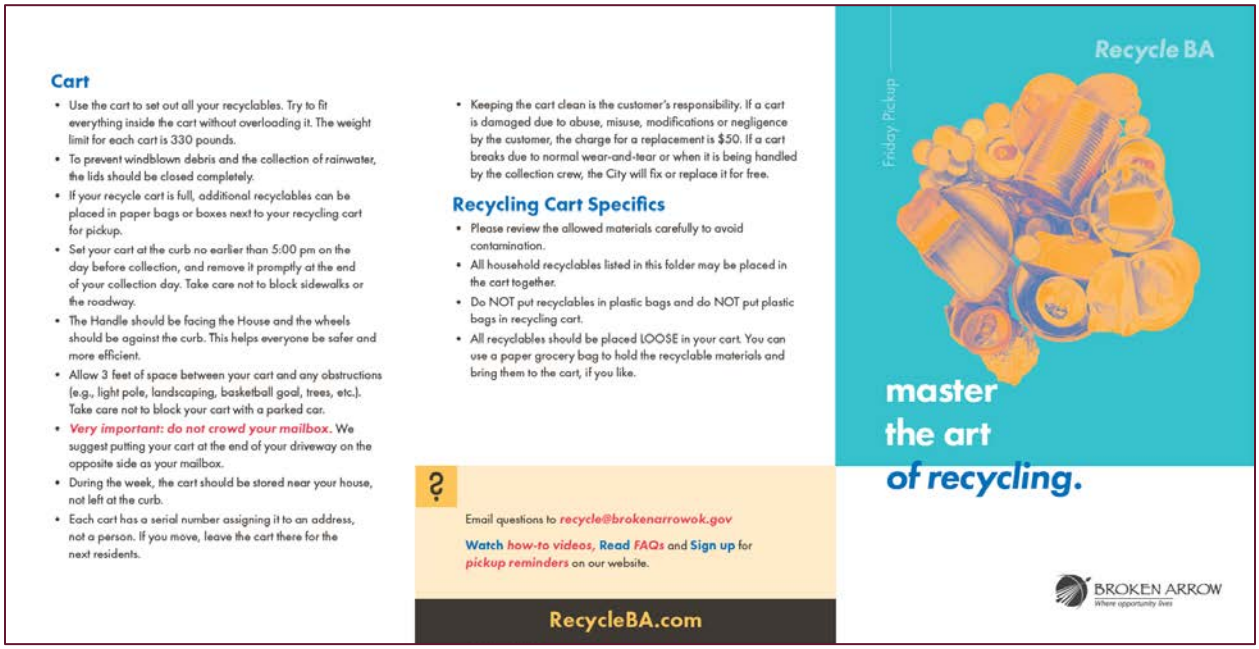
Figure 2 – Postcards about Pick-up Day Reminders and Customer Surveys

Figure 3 – Tri-fold Brochure About the Pilot (Front and Reverse)



Cart

- Use the cart to set out all your recyclables. Try to fit everything inside the cart without overloading it. The weight limit for each cart is 330 pounds.
- To prevent windblown debris and the collection of rainwater, the lids should be closed completely.
- If your recycle cart is full, additional recyclables can be placed in paper bags or boxes next to your recycling cart for pickup.
- Set your cart at the curb no earlier than 5:00 pm on the day before collection, and remove it promptly at the end of your collection day. Take care not to block sidewalks or the roadway.
- The Handle should be facing the House and the wheels should be against the curb. This helps everyone be safer and more efficient.
- Allow 3 feet of space between your cart and any obstructions (e.g., light pole, landscaping, basketball goal, trees, etc.). Take care not to block your cart with a parked car.
- *Very important: do not crowd your mailbox*. We suggest putting your cart at the end of your driveway on the opposite side as your mailbox.
- During the week, the cart should be stored near your house, not left at the curb.
- Each cart has a serial number assigning it to an address, not a person. If you move, leave the cart there for the next residents.
- Keeping the cart clean is the customer's responsibility. If a cart is damaged due to abuse, misuse, modifications or negligence by the customer, the charge for a replacement is $50. If a cart breaks due to normal wear-and-tear or when it is being handled by the collection crew, the City will fix or replace it for free.

Recycling Cart Specifics

- Please review the allowed materials carefully to avoid contamination.
- All household recyclables listed in this folder may be placed in the cart together.
- Do NOT put recyclables in plastic bags and do NOT put plastic bags in recycling cart.
- All recyclables should be placed LOOSE in your cart. You can use a paper grocery bag to hold the recyclable materials and bring them to the cart, if you like.

Email questions to *recycle@brokenarrowok.gov*

Watch *how-to videos*, **Read** *FAQs* and **Sign up** for *pickup reminders* on our website.

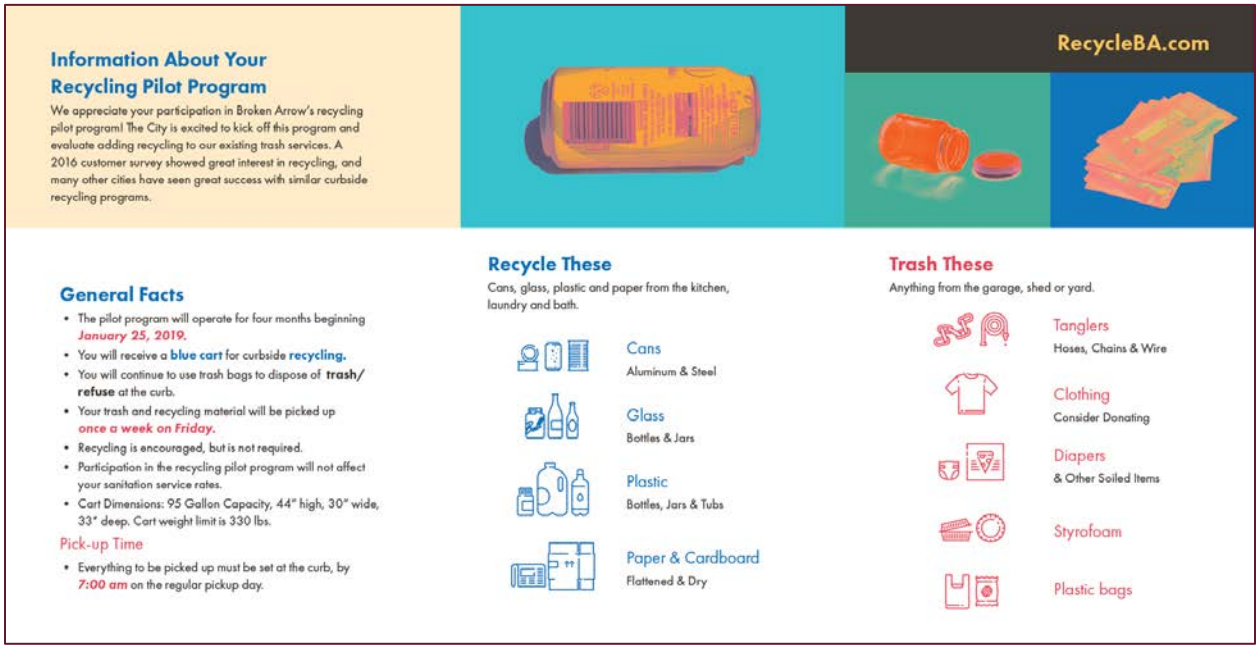
RecycleBA.com

Friday Pickup

Recycle BA

master the art of recycling.

BROKEN ARROW
Where opportunity lives



Information About Your Recycling Pilot Program

We appreciate your participation in Broken Arrow's recycling pilot program! The City is excited to kick off this program and evaluate adding recycling to our existing trash services. A 2016 customer survey showed great interest in recycling, and many other cities have seen great success with similar curbside recycling programs.

RecycleBA.com

General Facts

- The pilot program will operate for four months beginning *January 25, 2019*.
- You will receive a **blue cart** for curbside **recycling.**
- You will continue to use trash bags to dispose of **trash/ refuse** at the curb.
- Your trash and recycling material will be picked up *once a week on Friday*.
- Recycling is encouraged, but is not required.
- Participation in the recycling pilot program will not affect your sanitation service rates.
- Cart Dimensions: 95 Gallon Capacity, 44" high, 30" wide, 33" deep. Cart weight limit is 330 lbs.

Pick-up Time

- Everything to be picked up must be set at the curb, by *7:00 am* on the regular pickup day.

Recycle These

Cans, glass, plastic and paper from the kitchen, laundry and bath.

- **Cans** – Aluminum & Steel
- **Glass** – Bottles & Jars
- **Plastic** – Bottles, Jars & Tubs
- **Paper & Cardboard** – Flattened & Dry

Trash These

Anything from the garage, shed or yard.

- **Tanglers** – Hoses, Chains & Wire
- **Clothing** – Consider Donating
- **Diapers** – & Other Soiled Items
- **Styrofoam**
- **Plastic bags**

Figure 4 – Cart Sheet that Accompanied the Recycling Carts upon Delivery

Recycle BA

Broken Arrow Recycling Pilot Program

Pickup begins **Friday, January 25, 2019.**

Recycle These

Cans, glass, plastic and paper from the kitchen, laundry and bath.

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Trash These

Anything from the garage, shed or yard.

Tanglers
Hoses, Chains & Wire

Diapers
& Other Soiled Items

Clothing
Consider Donating

Styrofoam

Plastic bags

Using Your Cart

Set out your cart(s) by 7:00 am on your collection day. The handle should be facing the house and the wheels should be against the curb. The best place is at the end of your driveway. Allow 3 feet of space between the cart and any other objects, including cars. Take care not to crowd your mailbox! During the week, the cart should be stored beside or behind your house.

Questions or Concerns?
918-259-8373
recycle@brokenarrowok.gov

Watch *how-to videos*, Read *FAQs* and Sign up for ***pickup reminders*** on our website.

RecycleBA.com

Five weeks after the start of the pilot, the City delivered to each participant a reusable bag for collecting their recyclables and transporting them to the carts, intended to educate and encourage them not to tie their recyclables up in a plastic bag. The bag also contained a simple black-and-white flier congratulating the residents on their success at recycling thus far and reminding them about recycling right.

Figure 5 – Reusable Bag for Collecting Recyclables

Around the same time, the City started using colorful, light-hearted “Oops!” hangtags. These are paper die-cut to form a hanger, with a humorous picture and the word “Oops!” on one side and reminder information about how to recycle on the reverse side.

Figure 6 – "OOPS!" Tag for Improperly Prepared Recycling Carts

Field staff began putting "Oops!" tags on improperly prepared recycling carts in early March; however, for the purposes of evaluating the performance of the pilot, all recycling carts were collected regardless of contamination or preparation.

2. Findings

When considering the numerical reporting from this pilot project, it is important for the reader to keep in mind the size of the two groups of participants. A 1 percent difference in number of houses, for example, represents about 5 houses. A variation in the pounds of recyclables of 1 percent represents about 34 to

37 pounds, spread out over more than 500 homes. In a larger population—for example, the entire city—smaller percentages are more significant; in this case, however, small percentage differences could be accounted for by the actions of only a few people.

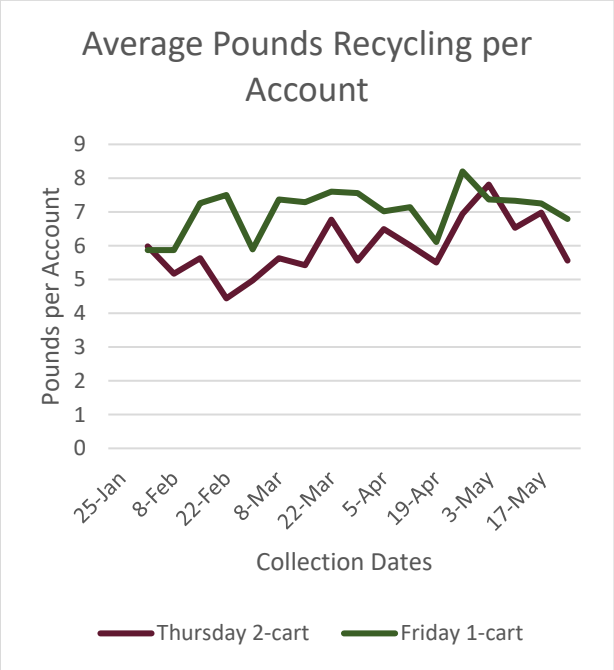
Levels of participation and amounts of recyclables set out by participants

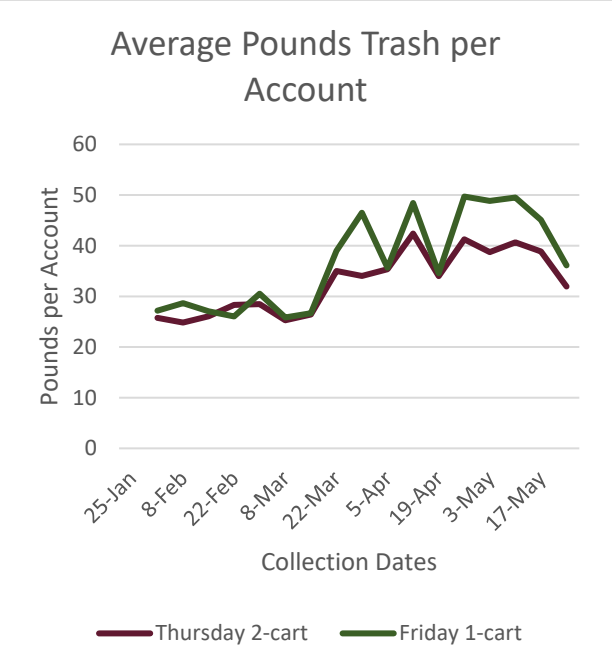
Participation in setting out recyclables was tracked by the City drivers, using the new in-truck computer equipment. Each combined load of recyclables was weighed by the processor when it was taken to the MRF (individual carts were not weighed). Tracking the tonnage on each weight ticket and dividing tonnages by the number of set-outs counted using the in-truck computers, the City was able to accurately gauge the average pounds per customer and the average pounds per set-out. At the same time, by delivering the pilot area loads of refuse separately to Covanta—i.e., not commingling with other routes—the City was able to track that information and generate the average pounds per customer set out as refuse. These two values were used by GBB to calculate a tons-over-tons recycling rate for the pilot participants in each area. Summary statements and figures depicting the results of this data management are shown below.

THE FRIDAY (1-CART) CUSTOMERS SET OUT SLIGHTLY MORE POUNDS PER HOUSE OF BOTH RECYCLABLES AND GARBAGE THAN DID THE THURSDAY (2-CART) CUSTOMERS.

As shown in Figure 7, during most weeks, the customers on the Friday routes—the ones with only a recycling cart—put out slightly more waste for both recycling and garbage.

Figure 7 – Pounds per Account (House) Set Out During Pilot Project

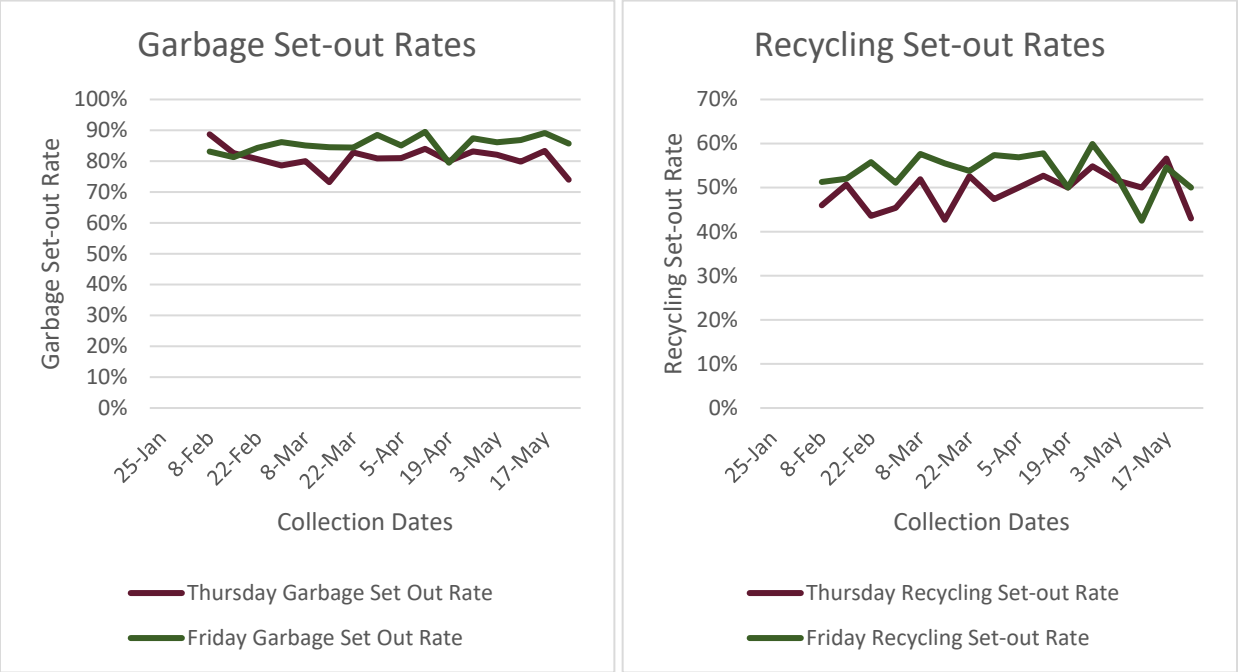




THE FRIDAY (1-CART) CUSTOMERS SET OUT THEIR RECYCLING CARTS WITH SLIGHTLY GREATER INCIDENCE THAN THE THURSDAY (2-CART) CUSTOMERS.

As shown in Figure 8, in most weeks, a slightly greater proportion of the Friday (1-cart) customers set out garbage than did Thursday (2-cart) customers. Similarly, in most weeks, a slightly greater proportion of the Friday (1-cart) customers set out their recycling cart than did Thursday (2-cart) customers.

Figure 8 – Set-out Rates for Garbage and for Recycling During the Pilot Period

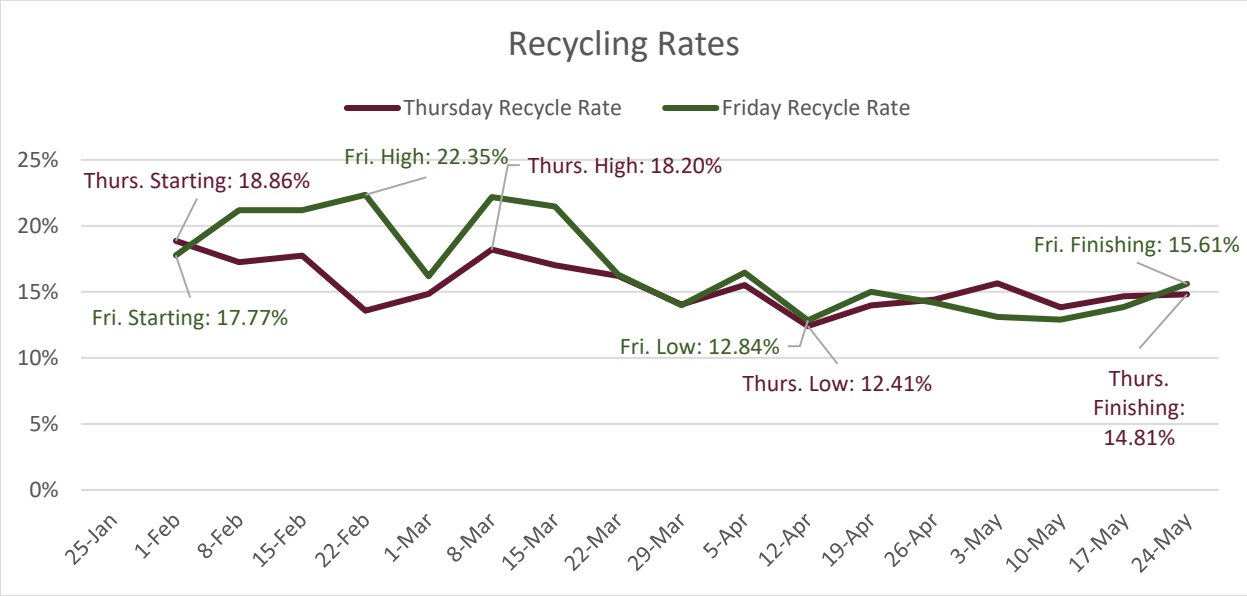


IN THE INITIAL WEEKS, THE FRIDAY (1-CART) CUSTOMERS HAD A SLIGHTLY HIGHER RECYCLING RATE THAN THE THURSDAY (2-CART) CUSTOMERS; BY THE MIDDLE OF MARCH, HOWEVER, THEY WERE VIRTUALLY IDENTICAL.

Each pilot area started with virtually the same recycling rate, which was calculated simply by dividing the recycling weights by the sum of the recycling and the garbage weights (R / [R+G]). Over the course of the first month, the Friday customers climbed steadily to more than 20 percent. The Thursday customers never broke the 20 percent barrier. The recycling rate in both pilot areas began to fall in March. This is typical in communities where yard waste is not collected separately from garbage. Mathematically, when the growing season begins and residents begin generating yard waste, those tons "tank" the recycling rate because they increase the denominator in the aforementioned equation. In the Friday routes, for example, the pounds of garbage nearly doubled from January to April and May.

At the close of the measurement period, the two pilot areas had virtually the same recycling rate. This needs to be considered in conjunction with the information shown in Figure 7, which shows that the spike in garbage set-outs in March in April were steeper in the Friday routes than in the Thursday routes. It's possible, although unverifiable, that the homes on the Friday routes happen to set out more yard waste per house than the homes in Thursday routes. If the impact of the yard waste could be isolated, it might show a greater difference between the recycling rates of the two pilot project areas. Also, the notable

increase in trash/rejects going into recycling carts in the Thursday routes (see Figure 9 and related discussion, below) is also belying the differences in the quality of recycling activity between the two pilot methods. In other words, in May, a great production of yard waste could be dragging down the rate for the Friday 1-cart pilot area while improper materials in the recycling carts could be falsely boosting the mathematical recycling rate in the Thursday 2-cart pilot area.



Contamination in the Recycling Cart

The contamination level in the recycling carts is an important factor in determining the success of a curbside recycling program, and during the pilot project the City evaluated the amount of trash that was placed in the recycling carts. The recyclables processor conducted an audit of the recyclables from each pilot area twice during the pilot period: once shortly after the start of the program, in March, and once in the final two weeks, in May. This is important because lower contamination rates mean cleaner material and therefore fewer resources expended to sort the material after collection.

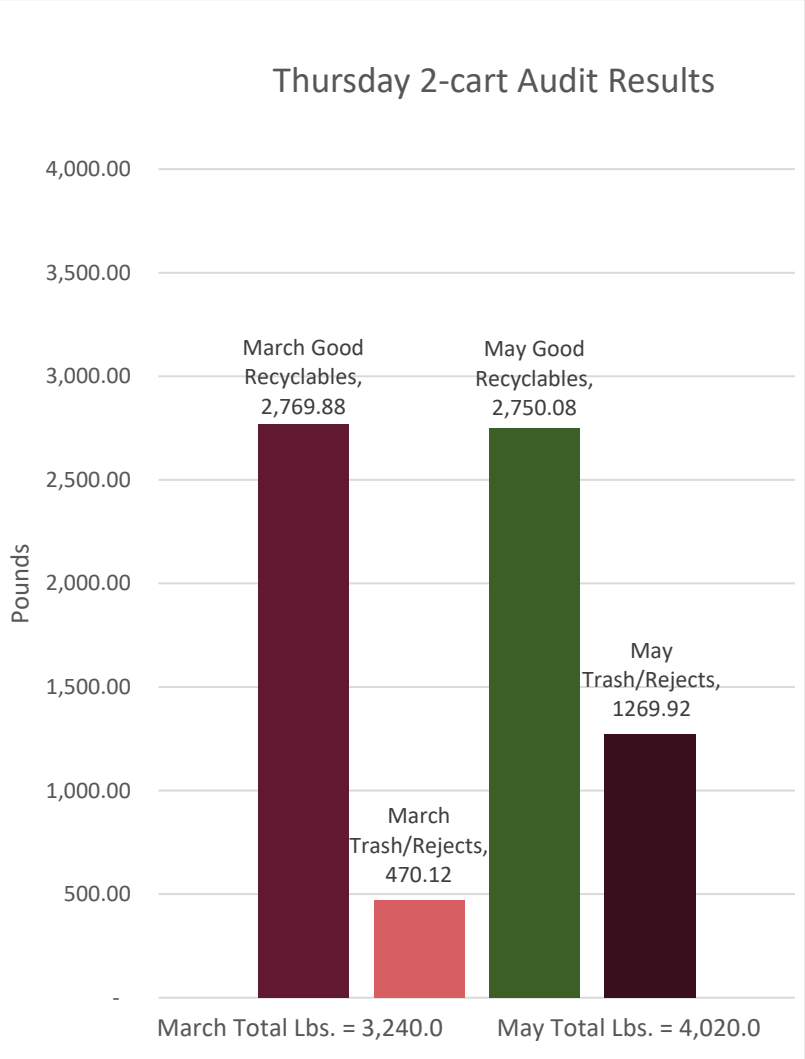
OVER TIME, THE THURSDAY (2-CART) CUSTOMERS PUT INCREASING POUNDS OF NON-RECYCLABLE OR NON-PROGRAM MATERIALS IN THEIR RECYCLING CARTS, WITHOUT INCREASING THE AMOUNT OF PROPER RECYCLABLES.

THE FRIDAY (1-CART) CUSTOMERS PUT ALMOST EXACTLY THE SAME NUMBER OF POUNDS IN THEIR RECYCLING CARTS, BUT OVER TIME, THE MATERIAL WAS SLIGHTLY MORE CONTAMINATED.

As shown in Figure 9, between March and May, the Thursday 2-cart customers were putting more than 2.7 times as much trash and rejects in their recycling carts. In fact, it nearly accounts for the entirety of the increase in the Thursday recycling pounds. In the Friday 1-cart pilot, the overall weight in the recycling carts was almost exactly the same from March to May, but contamination inched up from a very good rate of 13 percent to a less-acceptable rate of 21 percent contamination.[3]

[3] This is a generalization as compared to contractual contamination rates at MRFs around the country. Acceptable rates range from 10 to 15 percent; 20 percent requires action. These rates are also based on prior market conditions, and the affordability of recyclables processing in 2019 would greatly benefit from lower contamination rates.

Figure 9 – Audit Results for Good Recyclables versus Trash/Rejects, By Pilot Area and Audit Month



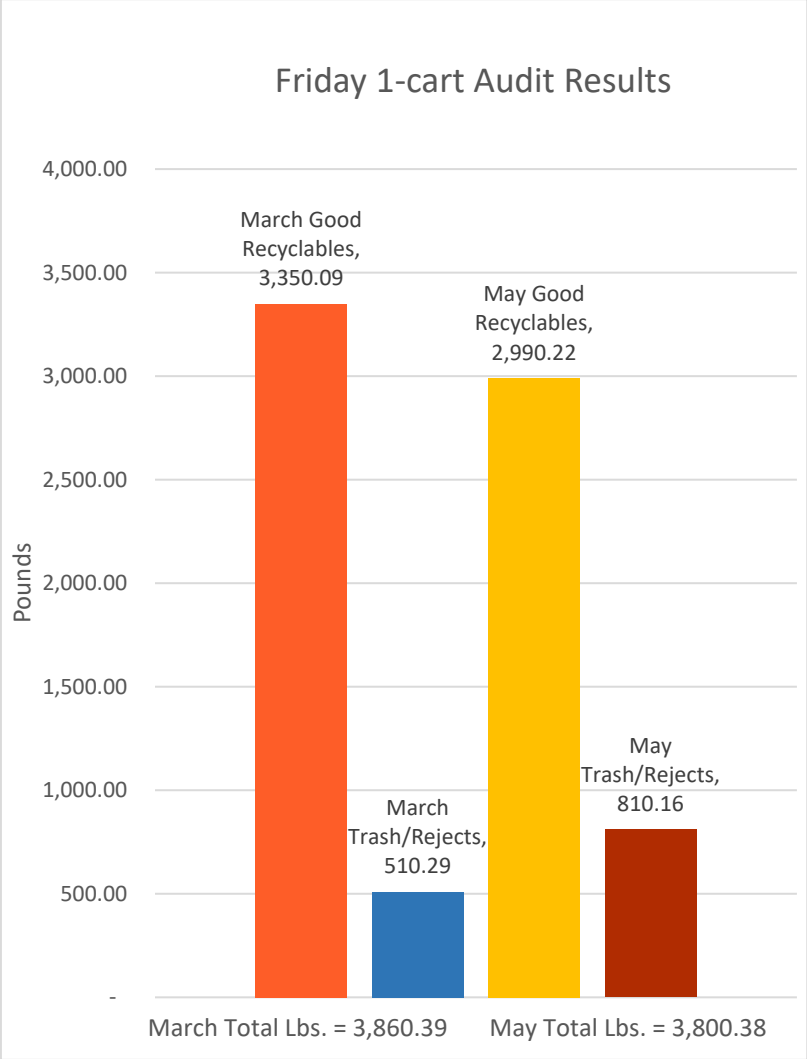
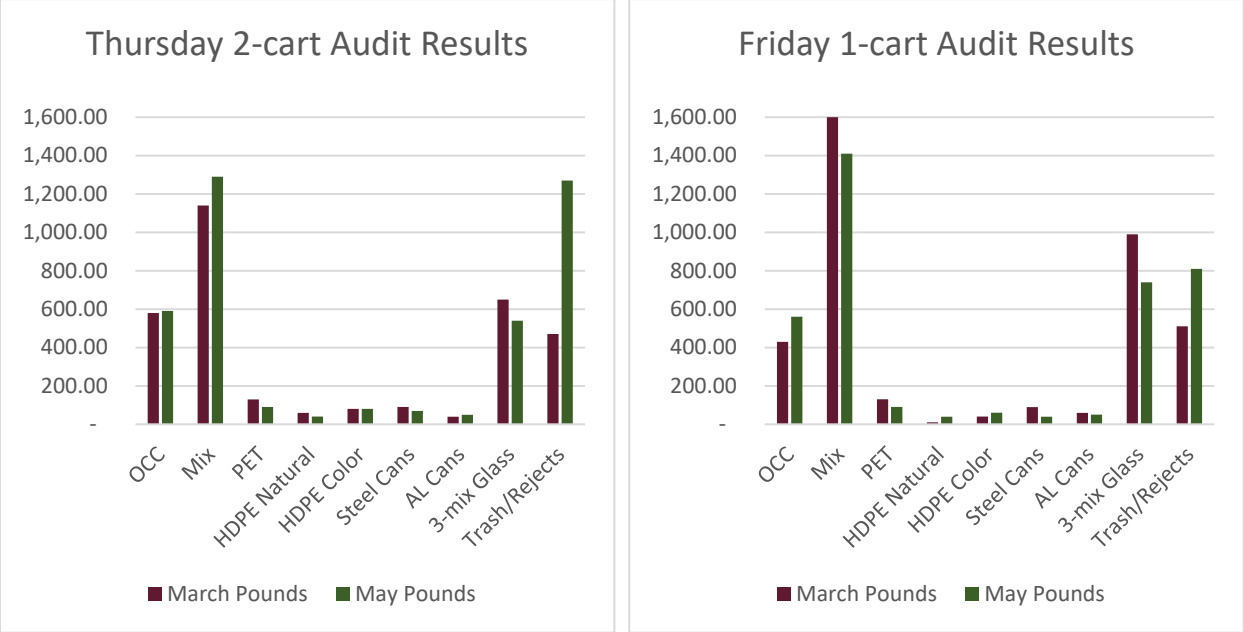


Figure 10 shows the results of the audits in detail, by pilot area. The Thursday 2-cart audits reiterate that most program materials stayed about the same over time, but many more pounds of trash/rejects were put in the recycling carts. The Friday 1-cart audits show that most of the moderate decrease in program materials was in mixed paper and glass containers, and the uptick in trash/rejects over time.

Figure 10 – Audit Results, by Pilot Area, March and May 2019



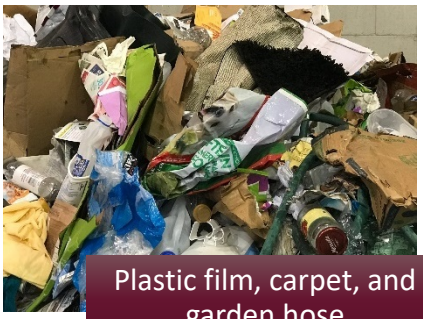
Following the March audit, the recyclables processor noted that the loads from the Thursday 2-cart pilot had fewer incidents of bagged items than the Friday 1-cart pilot, but the bags that were in those Thursday carts were more likely to be garbage. Most of the bagged items pulled from the Friday 1-cart pilot were improperly prepared recyclables. The Thursday 2-cart pilot instead had more loose bags (non-program items like dog food bags, retail bags, newspaper sleeve bags, packaging bags) and film plastics (heat shrink plastic used for bottled water and sheet plastic) than the Friday 1-cart pilot. The Team has discussed that pet owners may be an audience to consider reaching out to with messaging. Products such as canned food, extra-large plastic buckets of litter, etc., and some containers are very good to recycle while others aren't. See Figure 11 and Figure 12 for pictures from the March audits.

By the May audit, as has already been noted, contamination by weight was considerably higher in the Thursday 2-cart pilot area and somewhat higher in the Friday 1-cart pilot area. The Thursday 2-cart pilot area continued to have large amounts of plastic bags and film, along with a much higher incidence of non-program materials like carpet remnants and many other textiles, yard waste, large plastic items, and even window blinds. The processor characterized some of it as coming from the "yard, shed, or garage," a messaging point given to participants previously. The rejected items from the Friday 1-cart pilot area consisted mainly of bagged recyclables and household trash. See Figure 13 and Figure 14 for pictures from the May audits.

Figure 11 – Trash and Rejects from Thursday 2-cart pilot, March 7

Figure 12 – Trash and Rejects from Friday 1-cart pilot, March 8

Figure 13 – Trash and Rejects from Thursday 2-cart pilot, March 16



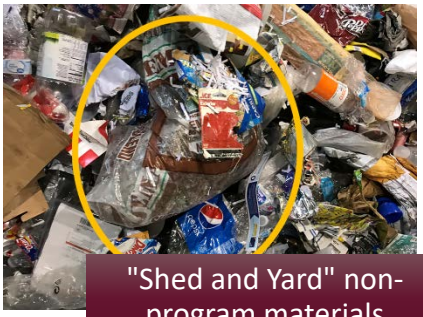
Plastic film, carpet, and garden hose

Bag textiles--i.e., trash

Non-program materials

Non-program materials

Figure 14 – Trash and Rejects from Friday 1-cart pilot, March 17



"Shed and Yard" non-program materials

Bagged garbage

Bagged recyclables

Bagged recyclables

Field Observations

On April 11, and 12, the GBB Project Manager came to Broken Arrow to meet with the project team and to observe the two collection pilot areas first-hand. On the morning of Thursday, April 11, the team toured the 2-cart pilot area. The team spot-checked carts for participation quality and quantity. The team observed the following:

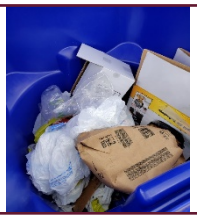
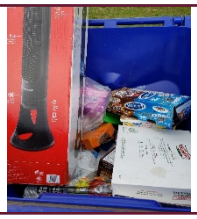
- Participation was widespread throughout the different neighborhoods in the pilot area (see Figure 15).

Figure 15 – Curbside set-outs on Thursday April 11 (left) and Friday April 12 (right)

- Carts that were spot-checked varied in the quality of their recyclables, and residents seem to be getting the message that recyclables should not be bagged when they are put in the cart.

- As confirmed by the March audit at the MRF,[4] a large amount of plastic wrap—for example, overwrap from cases of bottled beverages—was getting put into otherwise well-prepared carts (see Figure 16).
  - The team noted this as a messaging point to stress in the future. The team later decided to ask about it in the next survey and noted it in the concluding letter to the participants at the end of May.

Figure 16 – Examples of Materials in Recycling Carts, April 11 and 12

					
Very Good: All program materials, no bags or film visible	Good: Some film, some non-program materials, all materials loose	Okay: About half program materials, half plastic film	Not Okay: Bagged materials, plastic film, contaminated paper	Bad: All materials bagged	Poor: All non-program materials, appears to be used for trash

[4] This preceded the May audit.

- Most homes seemed to have plenty of set-out capacity for a typical week's worth of waste (not counting bulky set-outs and amounts that were consistent with a clean-out project). See Figure 17. Residents did frequently have "extra bags" beside their carts for collection, but there often was plenty of space in the cart for those bags. An inspection showed that many of the "extra bags" were bagged yard trash. For some reason, these residents were not putting bagged yard waste in the carts.
  - The team noted this as another information point to message residents about, as they represent unnecessary bending and lifting for the helpers—and time that could be saved.

Figure 17 – Trash and Recycling Carts from a Sample Home (same house) with 1 Week of Material

- Residents were setting out their carts in a variety of locations: on the driveway apron, on the grass strip up on the curb, and in the street along the curb. Few to none were obstructing vehicle traffic or sidewalk traffic.

- The trucks were servicing both sides of the street at the same time, as they had done prior to the pilot period and as they do in other areas of the City. Sometimes the truck weaves from side to side, in a way *guarding* the workers; other times, the truck stays on the right-hand side and the workers cross the street. GBB advised that both-sides service is not best practice, and that when considering a city-wide roll-out of carts and once-weekly service, the City should at least look at the possibility of single-side routing, as it is much safer for the workers and for motorists and pedestrians.

- Helpers on the trucks reported that although the slower pace of the cart collection is sometimes mentally fatiguing, they like the carts and lifts because their backs do not hurt as much at the end of their day. They also feel safer maneuvering the carts than when they were walking around with bags—as if drivers notice them more when they are holding a cart, especially the blue recycling cart. They also said they have less litter and spills they have to clean up, and they think there is less mess because bags don't get broken into by animals.

- On the morning of Friday, April 12, the team toured the 1-cart pilot area. GBB had been processing information the City had been sending and had identified several customers who on one or more occasions had set out a recycling cart but not trash bags. It was suspected that these customers might be using their recycling carts as trash carts.
  - Of the stops identified, about half may or may not have been doing so—it could not be confirmed. Some homes the team suspected the data was erroneous—e.g., the home might have set out their bags in close proximity to a neighbor and gotten marked as a "not-out" by mistake; however, a few of the houses did, indeed, have their recycling carts full of inappropriate material.
  - The team also realized that this data manipulation would not reveal every problem: if a customer was using their recycling cart for trash, but then put even one bag of trash on the ground beside it, the data being captured would not reveal them. It is only when they can fit everything in the cart that they stand out. The team put "oops" tags on several carts they spot-checked that had contaminants, and the City staff made a note to encourage the field personnel to continue to use the oops tags.
  - The team discussed that in the future, it might be necessary to tag and leave such contaminated carts. Also, in other cities, more spot-checking of carts and coaching of individual residents has been shown to improve participation or identify candidates for cart removal.[5]

Participant Opinion Surveys

The surveying partner, ShapardResearch (also known as SoonerPoll) conducted three surveys over the course of the pilot period. The participants in the survey pool were recruited from the pilot area residents by using telephone calls, print mail, and door visits to build a list of email and phone contacts of people who opted-in to participate. In all three surveys, roughly two-thirds of the responses were captured by phone and one-third were captured electronically. In this case, since the population was finite and relatively small as considered in the field of statistics, electronic capture of the information was deemed acceptable. All the responses were verified as being from participants in the pilot area.

Figure 18 – Examples of Over- and Under-represented Demographic Groups
Yellow/Light bar shows 2016 Citywide Demographics; Blue/Dark bar shows average from 2019 pilot project surveys

[5] This is the practice of simply removing from service the recycling cart when the resident is unwilling or unable to use it properly.

Unlike the 2016 telephone survey, the responses were not balanced, or "weighted," to reflect the actual demographic composition for the communities or for Broken Arrow. As a result, the demographic make-up of the respondent population varies somewhat from the population overall. Figure 18 (above) shows the five demographic categories with the greatest discrepancies from the 2016 survey. The categories of Age, Household Size, Employment, and Identity illustrate the well-known industry condition that certain individuals—namely, people who have retired and people who identify themselves as female—tend to participate in surveys at higher incidences. A fifth category, Income, over-represents the middle bands for income level, and under-represents both the highest and the lowest bands in Broken Arrow. This could be another example of the impact of the disproportionate number of retirees who responded, who can be on fixed incomes. It could also be a reflection of the neighborhoods that were participating—in general terms, they were family homes representing the middle price bands of the real estate market in Broken Arrow. For this project, it was determined that these discrepancies were an acceptable condition, as the responses would still yield valuable information, and this was the most efficient way to capture the greatest number of opinions. The absence of randomness is also why such great effort was taken to diversify the pilot areas as much as possible.

Overall, respondents to the opinion survey were positive about the curbside recycling program. The complete report from ShapardResearch is in Appendix 1 to this report. Participants added their endorsement to the frequency of collection, and to having curbside recycling. They confirmed the 96-gallon size for the carts; when asked, they were not interested in a smaller garbage or recycling cart, and most indicated that they have space to store the carts. Most respondents with garbage carts said they preferred the carts to the bag system. Certain concerns about the carts were captured, which is typical in studies such as this one. Crosstab

Data in Action

Interestingly, people who identified as Retired gave noticeably different opinions regarding the size of the carts, depending on the pilot project in which they participated.

In February, 33 retired persons in the 2-cart pilot answered a question about their favorability of smaller carts. Just 27% said smaller carts would be better, 55% said smaller carts would not be better, and 18% said they were uncertain. Two months later, 30 retired persons answered the same question. This time, 50% said smaller carts were preferable, 47% still said they were not, and now only 3% were uncertain.

In the 1-cart pilot, of the 70 retired persons who answered in February, 63% said a smaller cart would be preferable, 33% said it would not, and 4% were uncertain. In April, 72 retired persons responded, and not a lot changed. Now, 61% said a smaller cart was preferable, 33% said it was not, and 6% were uncertain.

What effect does the presence of 2 carts have on these participants' opinions? Were people in the 2-cart pilot waiting to see how the capacity of the trash cart applied to their needs? Is their opinion influenced by the fact that they have 2 carts to store and manage? Distributing smaller carts is one way the City could accommodate people who struggle with the large carts; but if the retirees don't feel that a smaller cart is a solution, that is useful for planning accommodation programs.

comparisons showed that those who identified as retired or in the older age bands were the most likely to express those concerns. Other cities that have implemented cart collection programs use various accommodation programs to ensure that all residents can use their city services safely and conveniently. Any planning process for implementing larger use of carts would include analysis related to accommodation programs and the creation of such a program.

Participation in the recycling program varied some across different demographic groups, but not much. The youngest age bands and the newer residents participated at slightly higher rates. Newer residents also had the strongest preference for the carts versus the bags. The highest income bands participated at slightly higher rates, but no income band was below 66 percent participation. There was no notable variation across household sizes, except that the largest households had 100 percent participation and set-out. Those who identified as Homemakers expressed the greatest satisfaction with the pilot service and placed the greatest amount of importance on having recycling. Regarding the bag program, most Homemakers said they greatly or somewhat prefer the carts to bags; those working full-time outside the home mostly preferred the bags greatly or were neutral.

3. Additional Information

Changes to Program Costs from 2017 to 2019

Since the original estimations for the cost of adding recycling collection in Broken Arrow were first analyzed in 2016 and 2017, worldwide recyclables values are being strongly influenced by importation changes. This affects the costs to process the recyclables, and the revenues from the sale of the commodities in which the City can share. In Oklahoma, processors are somewhat insulated from these impacts because of their greater reliance on domestic buyers, as opposed to on the coasts. There are still ripple effects, however, and the price per ton to process recyclables has increased more than $20 since this project began.

In recent years, much of the recyclables produced in the U.S. had been exported to other counties, like China. The Chinese Government's increasingly restrictive policies have had a strong negative effect on commodity markets. The policies have effectively closed the largest receiver of source-separated recyclables to mixed paper (magazines, office paper, junk mail, newspapers) due to an unattainable level of acceptable contamination (a fraction of 1 percent). The commodity pricing in the U.S. for cardboard and for aluminum cans have also dropped precipitously.

In 2018, it became national news when some processors in the U.S.—especially on the coasts—found themselves in a position of being unable to export material they had already processed and baled because it would have been rejected at the ports in China. It is unsafe and, in many cases, illegal to have waste or recyclables sitting around for long periods of time. Unable to find someone to buy their bales in a timely fashion, as they had been prepared, some buyers were forced to dispose of the material rather than market it. In the nearly 12 months since that time, processors have been working to find different buyers AND to adjust and improve how they sort materials, so that their bales are more attractive in the marketplace.

As mentioned, processors in Oklahoma are somewhat insulated from the export problems because much of the recyclable material produced in this part of the country is sold and used domestically, rather than being exported. In fact, the processor that Broken Arrow is presently using markets all of their recovered

materials in Oklahoma and the U.S. Currently, the processor has 92 percent of all Cardboard and Paper sold to buyers in Oklahoma. The remaining 8 percent is sold to buyers in Texas and Louisiana. Recent information shows 72.65 percent of their glass jars & bottles are sold to buyers in Oklahoma, with the remaining 27.35 percent sold in Texas to be used in the manufacturing of blown-in or encapsulated insulation. Plastic bottles & containers, Aluminum Cans and Steel Cans are sold to buyers throughout the Midwest and the South (AL, KY, IL, IN, MI, TN, LA).

Predictions for the future of the markets in 2019, and now 2020, are mixed. Across the industry, consultants, processors, and scrap dealers foresee the value of mixed paper recovering somewhat. This is because MRFs and paper mills around the country are working frantically to respond to the glut of paper that has been collected but cannot be exported. Industry experts are, however, telling their customers that they can expect to have a negative composite value in 2019—i.e., per ton processing costs will exceed the customers' share of the revenues from recyclables.[6]

Despite this outlook, there is cautious optimism in the industry and in the long-term, markets should recover. The current situation is not a case of *market collapse*. There is a *price crash* on low-quality paper which is temporarily dragging down the *composite value* of a ton of collected recyclables, because mixed paper and cardboard constitute about 60 percent of recyclables, by weight. In fact, while paper prices were crashing, the value of high-quality plastics actually increased. Overall, the current market challenges have to do with the ***quality of product*** (a technical problem that is already being worked on) and a ***market disruption*** (the second-largest economy in the world withdrew from the scrap market). The fact is that the economic value of scrap metal and good quality recovered paper fiber is real, not intangible. These commodities are wanted and needed by manufacturers, and when the market adjusts, values should recover.

Discussion about Glass

Another commodity value that has changed in recent years is glass. Over the past several years, the cost to process it—i.e., the detraction from revenue shares—has increased significantly in the Tulsa metro area. Even within the past six months, since the start of the pilot, the cost increased by $5.00 per ton. If glass recycling is going to continue to be more expensive than landfilling rejects when the City procures processing for the entire City, BAMA might want to re-consider including or excluding glass in the new citywide curbside program. Based on industry experience,[7] in non-glass curbside recycling programs, glass constitutes 3 to 5 percent of the material that goes to the MRF (i.e., people are putting it in there anyway) as opposed to about 20 percent, which is what Broken Arrow is sending currently from the pilot areas, and which is typical. Combined with a glass drop-off at the M.e.t, the City might be better off removing glass, even if the City has to pay the M.e.t. to provide this service. Otherwise, the City will be paying a processor about $68.00 per ton to process it plus another -$10.00 per ton for the negative impact on the revenue sharing, plus the space and weight the glass is taking up in the curbside program. If there weren't glass in the curbside program, for example, each truck could service more houses per trip.

The current processor has stated that they don't expect to see the charge for processing dropping more than $5.00 to $10.00 per ton, if at all. The negative revenue share for the City is related to the costs to transport the glass, primarily. The carrier that takes the glass to be recycled has been increasing the rate

[6] These statements are based on conversations GBB has had with processors and other experts and written opinions in trade publications, in addition to GBB's own perspective.
[7] GBB and AWCOK, specifically.

to haul it. The carrier is attributing these costs to the increased difficulty in obtaining and or retaining drivers. The market for drivers is very competitive currently, mainly due to a lack of drivers. The truck driver shortage is a nationwide phenomenon affecting transportation businesses across the country. The carrier also cites increasing costs of trucks as a source of expense. Tulsa Refuse & Transfer sees this as a trend for the past five years. Their tracking of prices shows an increase or decrease once every six to twelve months, with the price (charge) increasing more often than decreasing. The processor added that if glass is removed as a program material, the volume in the recyclables stream would drop to the point that it is not economical to recover (as stated, 3 to 5 percent by weight), and glass would count as a reject or trash, and be charged as such.

The processor also notes that a significant challenge for Broken Arrow to removing glass as a program material is the fact that all the surrounding communities allow glass in the recycle cart. Broken Arrow residents will see other education material from those cities, which could result in confusion.

Some communities found that when they launched glass-only drop-off programs in partnership with the processor, their glass recycling tonnages increased. For example,

- Salt Lake County, UT, accepts glass separately at drop off locations or residents can subscribe directly to the contractor for monthly curbside collection for about $8 per month. The glass is processed into cullet and developed into many recycled bottles or other products.[8] From 2014 to 2016, the Salt Lake County recycling rate increased 6 points to 22 percent.[9]
- Kansas City, MO, collects glass separately at drop off centers and in its curbside program. The contractor processes about 40,000 tons of glass annually into cullet. This represents about 20 percent of the glass in the waste stream; when the glass was collected commingled with other materials, the glass recycling rate was 5 percent[10] In 2016, Kansas City residents recycled more than 30,000 tons of waste, keeping 30 percent of household trash out of landfills.[11]
- Boise, ID, removed glass from its recycling program in 1996 due to marketing difficulties. In 2009, they developed a partnership with an abrasive manufacturer to offer free glass drop off or optional monthly curbside collection of glass for an additional fee. Since 2011, the program has collected about 37,000 cubic yards of glass. The City estimates that it gets more glass now than when it previously collected it commingled, and the quality is far superior. The City's recycling rate varies seasonally from 27 to 32 percent, which does not include any organics diversion.[12]

Unlike many other cities, Broken Arrow is able to recycle glass. It is not being used as alternate daily cover in a landfill, it is being made into one or more new products. Also, although it has a negative value at present, it is not prohibitively expensive—i.e., it's not a "deal-breaker" for the recycling program. Combined with the strong drive people feel to recycle glass and in the interest of consistency with the region, **it is recommended that a curbside single stream recycling program in Broken Arrow include container glass.**

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[8] http://utah.momentumrecycling.com/products-made-from-recycled-glass/
[9] https://slco.org/uploadedFiles/depot/publicWorks/recycle/resources/recyclePamphlet.pdf
[10] http://www.bizjournals.com/kansascity/news/2016/09/14/ripple-glass-growth.html
[11] http://kcmo.gov/news/2017/city-celebrates-earth-day-with-recycling-event-april-22/
[12] http://curbit.cityofboise.org/other-services/glass-collection/ and phone conversation with Boise Solid Waste Program Manager Katherine Chertudy on June 6, 2017.

Feedback from the Citizens' Committee

After the results of the pilot program and the surveys were analyzes, the City provided the members of the Citizens' Recycling Committee with an initial draft of this report and asked them to convene to discuss the results of the pilot project they had recommended and to give their subsequent recommendation for BAMA regarding a citywide recycling program. The Committee convened on August 5, 2019, and the discussion was sufficiently extensive that a second meeting was convened to complete the work on August 19, 2019. A summary of the meetings is provided in this section; complete official minutes are provided in the attachments to this report.

August 5, 2019

For the most part, this meeting was spent going over the draft report and the results of the pilot project. The consultant reviewed the outcomes of the recycling activity and of the pilot participant surveys, as discussed in Section 1 and Section 2, above. The Committee members asked questions as the group went through the report. Beyond reviewing the content of this report, points of discussion included:

- When referring to recyclable materials, "properly prepared" means lightly rinsed and not put in the cart inside a plastic bag.
- The committee asked about removing recycling carts from the homes of people who do not participate properly on an ongoing basis. The consultant noted that this is a common practice in other cities and would be recommended in Broken Arrow, also. This is usually established with an ordinance confirming that the carts are the property of the City, and that they may not be used for any purpose other than setting out recyclables.
- An acceptable target rate for contamination is 15 percent. A contamination rate of 10 percent is considered very good, but it is achievable.
- Emphasizing that trash goes to energy production, not a landfill, might encourage or reassure people about putting materials in the proper cart.
- In a discussion about glass, it was noted that it is "easier" to add a new program material in the future than to remove one in the future. The consultant suggested if glass were not in the curbside program, perhaps a drop-off center for glass could be operated by The Met. Mr. Brannin of the Met responded in the affirmative, and that The Met is already considering this.
- The Committee asked if the initiation of a curbside program would negatively affect The Met. Mr. Brannin responded that they did not anticipate that happening. When Tulsa implemented its recycling program, The Met was not negatively affected. The Met accepts many recyclable items which are not accepted in curbside programs, such as batteries, liquids, electronics, etc. They also serve small businesses and people who live in multifamily properties. The consultant added that it is very common for communities with curbside recycling to also have busy drop-off centers.
- The consultant shared that preliminary (at that time) cost estimations indicated that the current fleet level might possibly provide recycling service, through re-routing and other operational changes. This would mean no significant change to the per-unit solid waste costs. The consultant noted that while the Committee was not charged with considering costs, this information should let them consider the options freely without worrying about the costs.
- The Committee asked if cities normally purchase or lease carts. The consultant responded that it varies from one city to another. Broken Arrow typically chooses to own and manage equipment rather than lease or contract out service; however, leasing is possible.

- The consultant noted there were many positive reasons to support the addition of recycling; there was good participation, good tonnage, and good set out, as well as demonstrated interest from the public at-large and the Committee. She stated in regards to which recycling process was the best choice, if looking strictly at the data, the one cart system was optimal; however, if a household chose not to recycle, said household would have a week's worth of garbage in bags which could be problematic. She noted in the pilot program the residents were still utilizing the high quality City-issued bags; however, if these bags were no longer distributed, the use of regular kitchen bags or even grocery sacks could be problematic due to animals, breakage, etc. She noted cart and bag pickup was a slow process for the sanitary workers; however, there would always be bag pickup regardless of single cart/dual cart use, unless yard waste was picked up separately.
- The consultant laid out the four scenarios discussed in Section 4, below, and discussion ensued. She noted that GBB does not recommend the scenario of re-routing for once-weekly without adding garbage carts AND without adding recycling service, as there would be too much trash material set out in bags. There was also a scenario for re-routing for once-weekly collection of trash in a cart without adding recycling. This would not be in keeping with all the previous intentions expressed by the Committee, BAMA, and the opinion survey.
- In a discussion about the bags that the City currently distributes, the consultant surmised that if Broken Arrow no longer provided bags, residents would be placing kitchen bags and possibly grocery bags with garbage curbside; therefore, Broken Arrow might still need to provide garbage bags to residents if the one cart and trash bag system was chosen; however, the City would not need to supply as many bags. The Chair noted that during the City Council Meeting discussion of the recycling pilot programs many residents indicated a preference for garbage bag pickup. He noted residents appreciated not having to bring a cart back up to the house at the end of trash pickup day. Discussion ensued regarding residents currently utilizing personal carts for trash, bags becoming problematic if not being provided by the City, the number of bags currently being distributed by the City, workers compensation complaints with bag pickup, cart utilization significantly reducing workers comp complaints, trash bag pickup no longer being sustainable due to bag cost and personnel cost, the difficulty in hiring personnel willing to pick up trash bags. Further, the Committee discussed the benefits and efficiency of a two cart system, the possibility of rolling out a two cart system over several years, side loading trucks versus rear loading trucks, Tulsa's trash and recycling collecting system, using one truck for both recycling and trash by collecting trash first, dumping, and then collecting the recycling, side loading trucks being difficult to maneuver in cul-de-sacs, and utilizing smaller trucks in tighter neighborhoods.
- The consultant stated that their recommendation of the 1-cart system was primarily due to it begin easier to get going in a shorter time frame and the data from the pilot, in which the 1-cart customers had less contamination. If the City wants to do a 2-cart system, the consultant expressed confidence that could also be successful, as it is in many cities across the U.S.
- The City's current trash bag vendor, Waste Zero, presented the idea of a bag + bag recycling program, in which recyclables would be placed in a different color bag for collection, rather than a cart. Garbage would continue to be set out in the bags, as currently. Waste Zero runs systems like this in other communities. He noted that over fifty communities in Texas have bag give-away programs. He reviewed drawbacks of carts, including costs and the challenges for older residents to use them. He also talked about a co-collection program with one vehicle collecting both types of bags, and sorting them out later. He said he knows from talking with the firm that AWCOK does

not have a bag breaker than can handle the City's volume; therefore, Waste Zero would look to finance a larger bag breaker for use there.
    - In response, a Committee member noted that the two-bag system was considered early on and set aside. The Committee did not feel it was in the interest of the workforce, and did not see how it could improve any part of the operations.
- Regarding carts, generally, another Committee member stated he received feedback from his residents. He noted the biggest complaint he received regarding the cart system was difficulty to store and roll. He noted in his neighborhood a large portion of the residents were older and had difficulty with the carts; his neighbor experienced an accident pushing the cart which resulted in a trip to the hospital with a broken nose, broken glasses, facial abrasions and skinned knees, elbows, and knuckles. He stated he personally felt the cart was poorly designed and unbalanced, as well as too large and difficult to store. He indicated the carts should be smaller and have four wheels rather than two.
- A representative of AWCOK spoke about their operations. He noted in an effort to curb contamination his company allowed residents to opt out of recycling. He explained most residents who did not wish to recycle would utilize the recycling cart for garbage or storage/personal use. He noted allowing residents to opt out of recycling would also bring the initial cost of carts down. He noted approximately 5% to 7% of households in the community would opt out of recycling. He went over what they have learned about education and information programs. He noted residents wanted to recycle glass; however, keeping glass out of the curbside recycling stream and recycling glass separately would keep recycling costs lower. He noted citizens could take glass recyclables to the Met depot.
- The representative from AWCOK was asked about a dual-bag program. He expressed concern because bags of recyclables that look contaminated are tossed in the trash before they are even broken open, whereas loose recyclables are all sorted. This results in more recyclables making it into bales. He also called installation of a bag breaker for this purpose a large capital investment for very little gain. He noted that the breaker itself is not the only cost; rather there are additional labor positions required to run it, which drive up operations costs. He said it is a method better suited for commercial waste rather than residential.

As the Committee adjourned and scheduled a follow-up meeting to form their recommendations, the Assistant City Manager noted that the Committee already recommended switching to once a week pickup and Broken Arrow Municipal Authority adopted this recommendation; therefore, the Committee Members should keep this in mind while reviewing and considering the presented information.

August 19, 2019

After the Chair briefly reviewed the previous meeting and the Committee approved the minutes, the goal was set to continue discussion and make a recommendation to BAMA. The consultant had been asked in the intervening weeks to prepare some additional information, to address questions the staff and some Committee members had shared.

- In response to concerns about accommodating customers who cannot safely manage a waste cart, whether for garbage or recyclables, the consultant presented information on programs and methods used in other cities. She discussed them in terms of complication of administration, impacts on operations, and degree of accommodation for the customer.

  - The first policy question is whether to restrict access to the accommodation to certain qualified individuals, or to allow anyone who wants to pay extra to have such service. It was advised that allowing special service for a fee would be a lot to administer. Some cities require a doctor's note, and perhaps a follow-up visit to the home to make an assessment of the property and how to service it. Other communities allow anyone over a certain age to have the accommodation.
  - The next decision point is whether to allow for different container sizes or alternatives, such as smaller carts, bins, boxes, bags, or even reusable bags issued by the City. If not, then the carts would be required to be used, but they wouldn't have to be rolled out to the curb, sometimes referred to as "back door," "front door," or "garage door" service, where the resident can keep the cart near the house and on service days, an employee will retrieve for emptying and then return it to the designated spot. Front-door or garage-door, which require the resident to set-out the cart in a designated spot, is more time-efficient because if the cart is not in position, the collector can keep moving. When back-door service, the collector has to go to the cart every time, no matter what, because it is never in a set-out spot. This takes much more time.
  - Accommodation with a smaller cart size still requires residents to bring a cart to the street; however, for garbage carts, the same truck and lift could be used with any change to routing. The same would not be true for recycling carts, if the City started using automated side loading trucks, which cannot handle small-capacity rolling carts very well. Allowing a bin presents the same collection problems.
  - The consultant noted that these methods and choices are not mutually exclusive; for example, "front door" service with the regular cart could be an accommodation for anyone over a certain age, and "back door" service could be reserved for those with the most severe need, such as people with disabilities.
  - A committee member asked what is the most common method of accommodation. The consultant said "garage door" is the easiest and most straightforward method. "Back door" is more common when there are properties with long driveways, and smaller trucks are used to get up the driveways and pick up the carts.
  - The General Services Director, when asked, stated that currently all trash is required to be brought to the street, except for nine individuals who are granted a special accommodation due to their health. The consultant noted that this number would obviously increase with the initiation of carts, but that it is still usually a single-digit percentage of the population receiving an accommodation.
  - A Committee member asked if the consultant recommended uniform cart size with "garage door" accommodation service. She responded the City could start with this type of program and adjust it to the needs of the residents; for example severely disabled individuals could be permitted to set bags outside the garage door for pickup if carts were too difficult.

- Discussion turned to opting out of recycling by customers. The consultant described several different philosophies and approaches. She recommended the system used by some other cities where full distribution occurs on the front-end, and then residents can ask to have them picked up if they don't want them. This is different than the recommendation by AWCOK, who recommended allowing opt-out in the beginning; however, the consultant felt that based on experience in other cities, and in Broken Arrow, it would be better to distribute first and then re-

collect. When asked, the consultant advised that since two-thirds of the cost is in collection, the City should not allow a reduction in fees for those who might opt out of recycling.

- A Committee Member recommended a four wheel cart design as a low cost alternative for better maneuverability and cart stability. The consultant stated she looked into this option and discovered there were four wheeled carts; however, these carts were designed for indoor use as there was a risk of four wheeled carts rolling into the street.
- The consultant noted she was asked to discuss how her firm came to the recommendation of the one-cart system. She explained after reviewing the data collected during the pilot program, she met with her VP and an associate with 30 years of experience in curbside pickup to review and discuss the data collected and Broken Arrow as a community. She stated it was decided the one cart and bag system would be the simplest system to roll out most readily. She explained data supported the one cart and bag system while there would be major capital needs to initialize a new dual cart curbside system, including the necessity of more carts and possibly truck purchases. She stated if the one cart system was chosen the City could begin immediately; tippers would only need to be installed on six more trucks. She stated there had been some concerning contamination in the two cart pilot; however, this could be addressed through targeted education. She discussed potential targeted education messages. She indicated trash pickup would be slow until the City decided to switch to fully automated trucks; however, fully automated trucks could not be used while yard waste was picked up as trash. She noted with the one cart system the City would still need to distribute bags. She explained while the one cart system was not perfect, the firm felt it could be successful and could be implemented the most readily. She stated whichever program was implemented, education would be required. She reported the residents in both pilot programs demonstrated a desire to recycle and participate at a high level of engagement. This choice would allow for reconsideration in the future and the addition of garbage carts as appropriate.
- The Committee discussed at length how the 1-cart system might work and what might happen as people adopted and adapted to the program. Several problems were anticipated, including vectors, complaints, and people setting out garbage in their own cart or can, which would slow down operations.
- The Committee asked the consultant and staff questions about the financing and costs of transitioning to a recycling program. At the end, the consultant noted if the City chose to move immediately into the two cart system, the cost was not tremendously more expensive. She believed the Committee would be making a sound recommendation with the recommendation of a two cart system, even though it was different than her firm's recommendation. A Committee member noted that the consultant's recommendation actually was the one-cart system with an eventual transition to the two-cart system, as the two-cart system is the best practice. The consultant noted that if Broken Arrow had not had the current bag system in place, the recommendation would have been a two-cart system.
- The consultant had been asked to bring in formation about one-weekly and twice-weekly collection in cities. She shared that her firm maintains a database of communities with over 100,000 residents. Upon review of the communities which used internal collection services, it was noted 271 communities picked up trash weekly while 54 communities picked up trash twice weekly.

The Committee members then began an intensive discussion to work through to their recommendation. Initially, the group was somewhat split as to whether to start with a 1-cart system or to go straight to a 2-cart system. Ultimately, the recommendation of the Citizens' Recycling Committee was:

Convert the entire City to once a week collection via rerouting, issue all customers a 96 gallon blue recycling cart with the option to opt-out, continue collection of garbage and yard waste in bags with a 50% reduction in bags to each customer, consider beginning to replenish truck fleet with automated trucks for collecting recyclables, and within three years of the date of implementation of the recycling program implement trash carts and eliminate the free trash bag program.

This is intended to construe that the two-cart system is the goal, with the one-cart system being part of a transition process to allow time to adapt and to spread out capital costs. The members also noted that "opting-out" applied only to the recycling cart, and doing so would not result in a discount or rebate for the monthly rate.

Potential Costs of the Program

To estimate the costs associated with a revised solid waste collection system in Broken Arrow, a cost model was developed. Assumptions and inputs for the model were assembled collaboratively by the team. If first-hand cost information was not available, GBB and the City worked from comparable data to which GBB has primary access, such as other clients or best practices. Many inputs were derived from recent operations in Broken Arrow or from long-term trend data.

Methodology

The routing subcontractor, C2Logix, used real-world route statistics from Broken Arrow as inputs for its Resource Estimator software. The Resource Estimator uses costs for labor (salaries and wages plus benefits), truck operations, fuel, maintenance, and also inputs for time, distance, set-out rate, pounds per household, and staffing levels. It calculates how many routes are needed to service an area, and then estimates the costs to operate those routes. This was one of the most important parts of the cost modeling, because transportation (trucks and drivers) is usually two-thirds of the cost of operation, in addition to capital costs if Broken Arrow would need to expand its fleet to add recycling.

The Resource Estimator exercise included the assumption that the City would make the following changes to current operations:

- The entire customer base would be transitioned to once-weekly collection.
- Collection of recyclables would use 96-gallon carts, and collection of refuse was modeled in two different ways, as in the pilot.
- Computerized routing would be used to make the new routes as efficient as possible.
- The City would collect from one side of the street at a time, also known as "single-side" or "dual pass" collection.[13] This change would mean that each rear-loading truck would need only one worker on the back of the truck instead of two as in current operations.

[13] Presently, City trucks perform one "pass" down each street, pulling bags from both sides of the street at the same time. In "dual pass" collection, the truck would go down a street twice and collect material from a "single side"—i.e., the right-hand curb—on each pass. This is a safer practice and requires less labor per hour.

- Recyclables collection would ultimately be performed using automated side-loading (ASL) trucks which require only one employee to operate them.

The three-year transition model includes the following operational assumptions:

- The three sanitation vehicles tentatively approved in the FY20 budget would be ordered with cart tippers on the back, for use in collection of either refuse or recyclables.
- Annual capital expenditures for the three year transition period would be higher than the average annual capital expenditures in order to build up and modify the fleet; at the same time, two or three of the current "back-up" trucks would have their life extended by one year beyond the current operations, in order to allow the fleet transition to be spread across three years. This will result in slightly higher annual maintenance costs during the transition period, as some older trucks are in use; after the transition period, the pattern of retiring trucks after seven years will remove that temporary increase.[14]
- Generally, annual cost increases of five percent were applied to the Year 1 data; salaries were increased at 2.5 percent per year; per-ton disposal fees at Covanta were increased 4.5 percent annually; and, waste tonnage was increased at 3 percent annually.
- Three new positions would be created in the Sanitation Department: two Field Supervisors[15] whose primary job responsibilities are to manage daily operations on the routes and an Area Manager[16] who is responsible for operations, fleet management, and resource allocation.[17] Budget allocations were also made for supplies and equipment for these positions.
- Distribution of black trash bags would be reduced by fifty percent in years 1 and 2, and in year 3 would be 25 percent of the current level. The Citizens' Recycling Committee has recommended eventually doing away with bag distribution entirely.
- Rolling carts would be financed and amortized over ten years; retrofitted tippers on trucks would be financed and amortized over seven years OR the remaining useful life of the truck, whichever is shorter.
- A per-customer expenditure of $3.00 each was used to fund an outreach and education program. This would include instruction to customers on how to participate in curbside collection, and also educational communications such as the messages referred to in this report (e.g., details for pet owners, details about recycling plastic film, etc.). The resulting line item could be used to fund one or more positions to perform duties related to this program, which has proven impactful in other cities, along with printed materials and other consumables.

Results of Cost Modeling

The Resource Estimator calculated that Broken Arrow would need 26 routes per week to collect garbage in bags or 39 collection routes per week to collect garbage in carts. It also calculated 32 routes per week to collect recyclables in a cart. As shown in Table 1, the number of routes was spread out across a 4-day work week, meaning that Broken Arrow would need 6 or 7 trucks per day to collect garbage in bags, 9 or

[14] FY Maintenance $577,000; values of $900,000 and $800,000 are used during the transition period.
[15] City job classification is "Sanitation Supervisor."
[16] City job classification is "Assistant Sanitation Manager."
[17] The current position of "Sanitation Manager" would become more of a Superintendent, which is an administrative officer or business manager providing agency leadership and making senior-level decisions.

10 trucks per day to collect garbage in carts, and 8 trucks per day to collect recyclables in carts. For the purposes of planning the cost model, this fleet of 18 trucks was used (8 garbage, 8 recycling, and 2 spares).

Table 1 – Routes to Collect Trash and Recyclables with Existing Staff Schedule[18] (Source: C2Logix Resource Estimator)

Day	Recycling Routes	Garbage Bag Routes	Garbage Cart Routes
Monday	8 per day	6 per day	10 per day
Tuesday	8 per day	7 per day	10 per day
Thursday	8 per day	7 per day	10 per day
Friday	8 per day	6 per day	9 per day
Total	32 routes per week	26 routes per week	39 routes per week

This fleet would be closely comparable in overall size—i.e., number of trucks—to the current fleet. This means that maintenance, fuel, and other related costs should also be comparable. The re-routing to computerized routes and the staffing change to 2 employees for rear-loading packer trucks and 1 employee for ASL trucks mean significant savings in labor. This can be accomplished by reducing or eliminating spending on temporary labor, and (if necessary) reducing the number of permanent positions through attrition—i.e., it should not be necessary to conduct a reduction in force (RIF). After the transition period, beginning in FY24, the City should be able to resume its pattern of purchasing (on average) two trucks every two years.

There are some new per-unit costs associated with adding recyclables collection and the other operational changes. Approximately 20 percent of waste by weight—that which is source-separated by residents for recycling—will be processed at a MRF. The cost used in the model for this processing was the rate currently paid by the City at AWCOK.[19] In the first year, the new budget line item is about $427,000. For now and the foreseeable near future, the per-ton cost to process recyclables will likely exceed the cost to dispose of the material at Covanta. Another new budget line item will be amortization for rolling carts, and an annual expenditure for repairing and maintaining the carts. In the first two years, with only recycling carts, this would be about $290,000 to $295,000; in the third year, with the addition of recycling carts, those cost increase to about $480,000. There are also costs associated with amortizing the tippers retrofitted onto the existing rear-loading packer trucks; this decreases each year, starting at $25,200 in FY20 and FY21, then $14,700 in FY22, then $7,700 in FY23, and $4,200 in the final year, FY24.

As described above, at least three new staff positions are created in the three-year transition model—two Field Supervisors and one Area Manager. The monies designated for outreach and for cart maintenance might also be used to create up to 1 full-time-equivalent, each.

Despite some increases in costs and the new line items, during the transition period the impact is greatly mitigated by savings that will be realized. The first is reducing the bag purchase. Halving the bag buy in FY21 results in significant reductions in expenditures—more than $300,000 in each of the first two years,

[18] The cost model assumed that the current work week of four 10-hour days would continue. If a 5-day work week were adopted, each route would be somewhat shorter but the workload would be spread across five days. There is the possibility that the fleet size could be smaller by one or two routes, overall, resulting in some cost savings.
[19] This price is appropriate for the volume and contract length as procured in 2018. It is possible that a longer contract and a competitive procurement could result in a somewhat less-expensive price; in the interest of conservatism, GBB used this price rather than pricing from any contracts from other cities.

and more than $460,000 in the third year. Furthermore, the need for temporary labor should nearly be eliminated—in FY20, more than $350,000 is allocated for this line item. As described throughout this section, the reduction in labor needs for sanitation collectors ("helpers") results in significant cost savings. The re-routing project, combined with the adoption of "single-side" collection, results in a net savings of about $416,500 in the first year.[20] Each successive year of the transition, as more ASL trucks are added to the fleet, additional marginal savings in labor are realized. By the end of the transition period, labor costs for collection operations would be more than $650,000 less than in the FY20 budget.

The major budget line item increases and savings discussed above are summarized in Table 2. Based on the assumptions and information available, adding recyclables collection should not result in an increase to the annual Sanitation Department budget.

Table 2 Summary of Major Budget Line Item Increases and Savings Over Transition Period

Line Item	FY20 Allocation	Year 1 (FY21) Projection	Year 2 (FY22) Projection	Year 3 (FY23) Projection	Approximate Overall Impact After Transition[21]
Salaries, Wages, & Benefits	$2,969,700.00	$2,553,197.92	$2,473,759.60	$2,315,328.63	($654,371.37)
Waste Processing (Disposal and Recycling, combined)	$589,600.00	$1,069,321.53	$1,125,219.34	$1,184,612.60	$595,012.60
Temporary Labor	$353,000.00	$0	$0	$0	($353,000.00)
Plastic Bags	$620,000.00	$318,301.46	$318,301.46	$159,150.73	($460,849.27)
Amortization and Maintenance of Carts	$0	$290,013.45	$294,951.08	$480,399.34	$480,399.34
Retrofitting Tippers	$25,200.00	$25,200.00	$14,700.00	$7,700.00	Goes to $0 in FY25

The complete cost model for the 3-year transition and all the assumptions can be found in Appendix 2.

4. Possible Scenarios for Future System

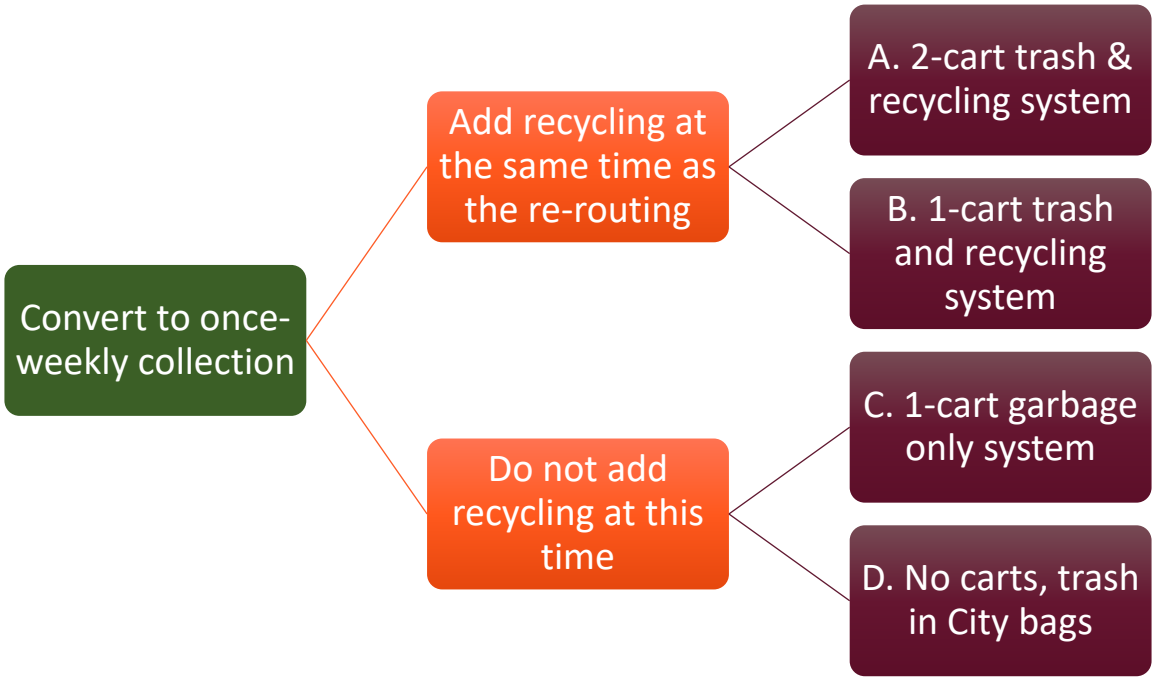
GBB was instructed that in the wake of what has been learned in the pilot project, the City will almost certainly reroute and convert the entire residential customer base to once-weekly collection. The volumes are manageable, and responses to weekly collection by the pilot participants have mostly been support, acceptance, or ambivalence.

[20] Net savings includes the funding of three new field positions.
[21] Costs are increased annually but dollar amounts are not corrected for inflation and are therefore approximate.

The next question to consider is whether recycling will be added at this time. Residents are supportive of the opportunity. Processing costs are volatile, but other operational changes the City will undertake provide significant savings opportunities, which help offset that impact. Industry experts expect that the conditions will normalize, and the commodities will regain their economic value. In fact, when values return to 2016 levels, as at the beginning of this process, the recycling rebates could once again make disposal the more-expensive option.

If the decision is made to adopt a curbside recycling program, the third question is which of the piloted programs (or perhaps some other) would be adopted: 1 cart or 2 carts. If the decision is made not to adopt recycling at this time, the City must decide whether to implement trash carts or continue with the bag program largely as-is, benefitting from the efficiency improvements of re-routing. This decision process is shown in Figure 19.

Figure 19 – Decision Tree for Curbside Recycling



A. 2-cart trash and recycling system

This is the scenario, or system, that was piloted in the Thursday route area. It requires the largest cart purchase. Some of the benefits—i.e., efficiencies—of utilizing carts is foregone in Broken Arrow because bags must still be collected manually due to the allowance of extra bags and the absence of a separate yard waste program. As a result, some additional efficiency typically associated with the servicing of carts using ASL trucks is also foregone on the garbage routes. The recycling routes, however, could use ASL trucks, and this is what was assumed in the cost modeling, as described in Section 3. Furthermore, in the pilot program, the recycling performance of the 2-cart pilot was slightly more contaminated and, more importantly, was trending toward greater contamination. A 2-cart system is considered a best practice standard in the U.S., and it provides the best sanitation due to storing and setting-out refuse in a cart.

B. 1-cart trash and recycling system

This is the system that was piloted in the Friday route area. It requires a smaller supply of carts, and keeps the time efficiency of collecting the trash in bags. This system keeps open the possibility of adding garbage carts at some point in the future. Diversifying the collection fleet having two types of trucks in the fleet—rear-loaders for trash and side-loaders for recycling—is a possibility. This adds some administrative complication, but it also allows each type of waste to be collected in the most efficient manner. During the pilot period, participants in the 1-cart system had lower and relatively stable levels of contamination. In the intervening months since the evaluation period ended, some of these customers have complained that hotter temperatures make storing waste in bags for up to a week problematic. This is the biggest operational challenge with a 1-cart system.

C. 1-cart garbage-only system

This system is a variation on the current curbside program, adding carts for the collection of the garbage. Extra bags could be allowed, either as presently allowed and charged, or under some new regulations. It keeps open the possibility of adding recycling at some point in the future. This system requires purchasing a smaller supply of carts than the 2-cart system. If the City is going to convert to once-weekly collection and not add recycling in a cart at this time, it is advisable to provide a cart, rather than having residents pile up their entire week's worth of waste (refuse and recycling) in bags.

D. No cart, garbage only

This system is not advised. It has the least cost of acquisition, as it requires no carts, but it would result in a week's worth of waste piled at the curb. The seconds per stop would be greater than in the 1-cart recycling pilot and greater than what is currently done in the twice-weekly collection program. Residents would have to store bagged trash in the garages or personal storage containers until collection day, and then bring it to the curb. It is reasonable to assume that this system would also attract far more vectors than using a cart.

GBB recommendations

GBB initially recommended to staff and to the Citizens' Recycling Committee that the City pursue its inclination to re-route the City for once-weekly collection, adding recycling with a 96-gallon blue cart at the same time. The process would be as follows:

* For the foreseeable future, until the recycling program is well-established, and carts can be reconsidered.

This course of action would have yielded the following benefits:

1. The better-performing recycling program from the pilot project.
2. Less capital costs for purchasing carts, as compared to a 2-cart system.
3. Opportunity to reduce the number and cost of bags purchased and distributed to residents.
4. Keep the time efficiency of the bagged waste system, blunting the impact on the fleet capacity caused by adding recycling.

The following challenges would have existed:

1. The need to use field work and enforcement to identify customers who are abusing their recycling carts and design a solution for such behavior other than a week's worth of waste piled at the curb in bags.
2. The obligation of the City to provide or require appropriate bags for curbside set-out and week-long storage.
3. Increased risk of vectors due to waste being stored for up to a week in bags; and/or, residents purchasing their own carts or cans for storing the waste, and then setting out using those carts or cans. This slows down collection times and increases risk to workers.

5. Conclusions

Residents, leaders, and stakeholders in Broken Arrow have expressed strong interest through their words and actions to divert material from disposal and recover resources for recycling. The region is relatively strong for recycling markets, because it has not been dependent on the export market. Households in the two pilot areas participated at rates that are considered very good, and the material they put in their recycling carts was good. **The 1-cart pilot performed slightly better in terms of contamination, but most of the issues observed in both pilot areas can be addressed with education about not bagging recyclables, leaving out plastic film, and sticking to the list of program materials.**

The 1-cart system would have lower costs to initiate, due to the smaller number of carts purchased and the fact that the City includes capital expenditures in per-customer costs. **That being said, the operational costs of a 2-cart system and a 1-cart system are virtually identical; in fact, because the cost modeling for the 2-cart system assumes purchasing half as many bags as the 1-cart system, those operations costs are actually less.** Adopting a 2-cart system also opens up the opportunity to phase out the bag program entirely, while the 1-cart system would require some sort of bag program continue or greater regulation be implemented, in the interest of sanitation.

The cost modeling, in the broadest terms, indicates the following conclusions:

1. With the efficiencies gained from re-routing, once-weekly collection, and reducing the bag purchase, **per-unit costs should remain stable even with the addition of new recycling service**.
2. Conclusion 1 holds true for both collection systems tested in the pilot—the projected monthly per-unit costs are within 25¢ of each other. This indicates that **there is, in actuality, no financial indicator for choosing one system over the other**.

Cost modeling and industry experience indicate that the recommendation from the Citizens' Recycling Committee is sound, and can be accomplished in a three-year time frame. The recommended action receives the benefit of both faster initialization and spreading out the capital purchases. It can be adopted into a plan to get all residents of Broken Arrow access to curbside recycling collection in FY21 and work relatively quickly towards national best practice.

GBB – Broken Arrow Waste & Recycle Study

Weeks 3-4

n=152, MoE ±7.56%

Fielding from February 11th – 20th, 2019

Weeks 11-12

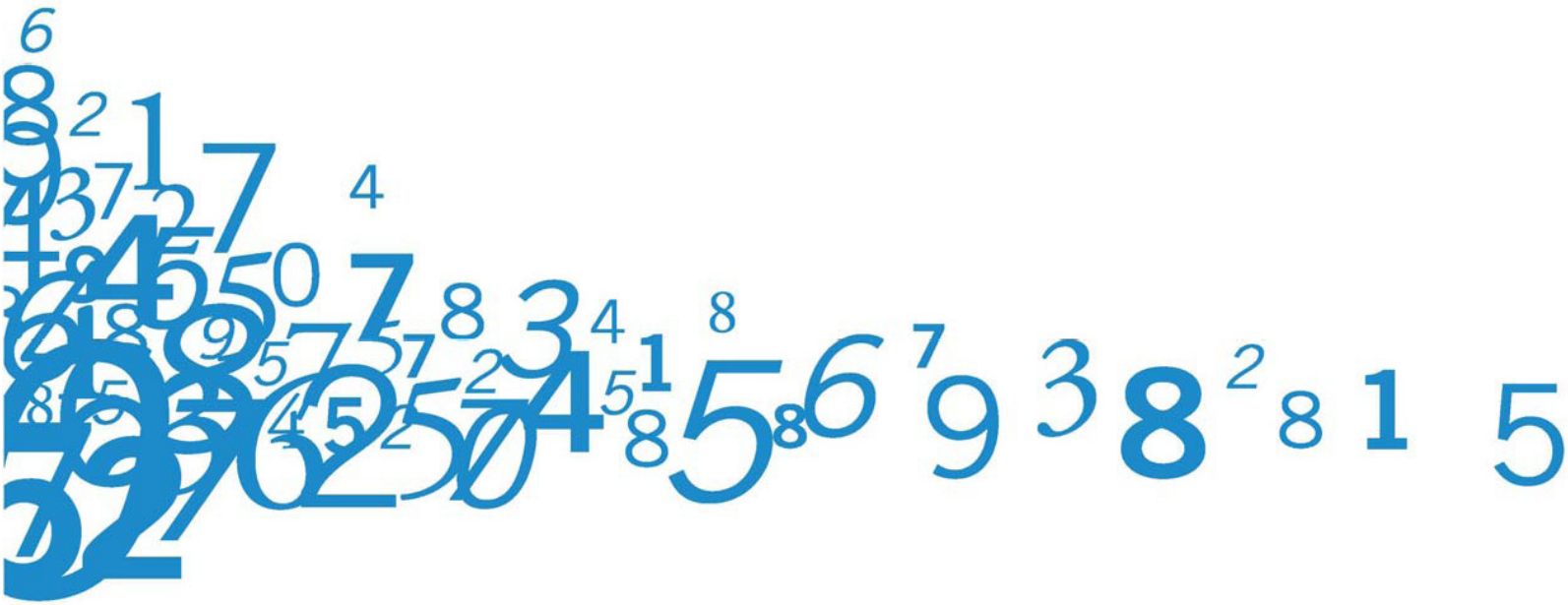
n=162, MoE ±7.05%

Fielding from April 15th – 23rd, 2019

Post-Project Evaluation

n=141, MoE ±7.71%

Fielding from May 30th – June 14th, 2019



SoonerPoll.com

Methodology

For the first part of this study, we collected a total of one hundred fifty two (152) responses. Ninety four (94) of these responses were collected by live callers via phone. Fifty eight (58) responses were collected online. Data collection for this portion of the study was conducted from February 11th – 20th, 2019.

For the second part of this study, we collected a total of one hundred sixty two (162) responses. One hundred twenty (120) of these responses were collected by live callers via phone. Forty two (42) responses were collected online. Data collection for this portion of the study was conducted from April 15th – 23rd, 2019.

For the third part of this study, we collected a total of one hundred forty one (141) response. Fifty eight (58) of these responses were collected by live callers via phone. Eighty three (83) responses were collected online. Data collection for this portion of the study was conducted from May 30th – June 14th, 2019.

All responses for this study were collected from residents in select neighborhoods in Broken Arrow who have been taking part in the recycling pilot program.

For the phone portion of this research, SoonerPoll's own interviewers, who are predominantly female ages 30 to 60, conducted the survey from Oklahoma City with an interviewer to supervisor ratio of 4 to 1. A one hour training session was conducted prior to fielding the survey and recognized research standards were followed in order to minimize all types of research bias and errors.

Data collection was conducted by SoonerPoll on behalf of GBB and Broken Arrow.

The above methodology meets the disclosure standard as prescribed by the Marketing Research Association (MRA).

Key Takeaways

- **Out of the 141 responses collected, 86.5% said that they had put recyclables into the cart that week.**
  - This is 1.6% higher than in weeks 3-4 of the pilot program and 5% higher than in weeks 11-12.
  - Only 13.5% said that they had not put anything into the recycling cart that week.
- **86.5% said that they had set out their recycling cart this week.**
  - **This is 8.9% higher than in weeks 3-4 of the pilot program and 13.7% higher than in weeks 11-12.**
- **39.7% of respondents told us they set out their recycling cart every week.**
  - 17% set it out 3 out of 4 weeks every month and 25.5% set it out every other week. 16.3% said they only set out their recycling cart 1 week of every month.
- **38.3% said they would like to have a smaller recycling cart. This is down about 10% from weeks 3-4 and 11-12.**
  - 51.8% would NOT like to have a smaller cart.
- 68.1% of respondents said they have less trash now that they are recycling.
- 88.7% of respondents said they believe that recycling is important in their community and only 6.4% said they did not believe it to be important.
- **86.5% of respondents are currently satisfied with their recycling service through the pilot program.**
  - Only 6.4% of respondents are not satisfied with their recycling service.
- About 3 in 4 respondents (76.6%) spend less than 30 minutes per week preparing recycling.
  - About 1 in 5 respondents (20.6%) spend 30-60 minutes per week on recycling.
  - Less than 2% spend more than 30 minutes on recycling.
- Only 8.5% said that they had questions about what items should go into the recycling cart. This number has steadily decreased from 24.3% in weeks 3-4 and then 17.9% in weeks 11-12.
- About 70% said they would never take recyclable items to the MET or other drop off location before they had curbside recycling.
  - About 30% said they would take recyclables to the MET or other drop off location about 1 – 2 times a week before curbside recycling.
- **61.9% of those who had taken recyclables to the MET or other drop off location before did believe that they were recycling more now than before due to curbside recycling.**
- 69.1% of respondents from the neighborhood who had only recycling carts said they were setting out about 1-2 bags of trash on average.
  - 18.5% of respondents said they set out about 3-4 bags on average per week.

- **60.5% of respondents from the neighborhood with only recycling carts said this was less trash than they had before the pilot program started. This is an increase of 30.2% since weeks 3-4 of the pilot program.**
    - 37% said they thought it was about the same amount of trash.
- **2 out of 3 respondents from the neighborhood with both recycling and trash carts said their trash cart was half or three quarters full when they took it to the curb.**
    - 18.3% said their cart was completely full and 5% said their cart was full plus some extra bags of trash.
- **55% of respondents from the neighborhood with both recycling and trash carts said this was less trash than before the pilot program started.**
    - 36.7% said they thought it was about the same amount of trash.
- From the neighborhood with both trash and recycling carts, a combined 63.4% said they greatly or somewhat prefer the carts to the bags.
    - A combined 33.4% said they somewhat or greatly preferred the bags to the carts.
- 98.3% of respondents from the neighborhood with trash and recycling carts said they believe one recycling cart is enough for their needs and 96.7% believe that one trash cart is enough.
- Of those that believed one trash cart was enough for their household needs, 68.3 said that they would not like a smaller recycling cart and 26.7 would like a smaller cart.
- In the neighborhood with both trash and recycling carts, only 8.3% reported that they have had a problem in the past week.
    - Some of the reported problems include
        - Carts being too large or bulky to move around easily, especially for elderly citizens.
        - Steeper driveways make controlling a cart full of trash harder to control.
        - Cart lids don't seal well and will blow open
        - Carts end up in street, either by workers leaving them there or wind blowing them
- **In the neighborhood with recycling carts only, 76.6% combined said were either very or somewhat favorable of the recycling cart with 56.8% of that being very favorable.**
    - 14.8% combined said they were unfavorable of the recycling cart.
- In the neighborhood with recycling carts only, 93.8% said they believe one cart is enough to meet their needs.
- Also in the neighborhood with recycling carts only, only 6.2% reported that they had a problem with the cart that week.
    - Most of the problems reported were the same, but also included residents having questions about what to do if they were not home on collection days.
- **When asked if they would also like a trash cart now that they had a chance to experience the recycling cart, 43.2% said they would and 54.3% said they would not.**

- **62.4% of respondents had used the reusable B.A. tote bag that was provided to them in February.**
- 86.5% said that they were aware that re-sealable bags and the overwrap on plastic bottles such as Gatorade was not recyclable.
- **Most people said they had gotten their information from the City, either via flyer, mailer, email, or something handed to them at a meeting prior to the program.**
    - A few people reported getting their information from the MET, online, or by calling the City or water dept.
    - Of those that went online for information on their recycling program, Most went to recycleba.org, others used the MET website or their water department website.
- 58.2% said they were aware of the recycleba.org website and of that 58.2%, 56.4% had visited the site.

Broken Arrow – Refuse & Recycle Pilot Program Evaluation Study
May 30th – June 14th, 2019
After Completion of Pilot Program

Sample: Residents in TWO select Broken Arrow neighborhoods on the pilot program
(n=141) Margin of Error: ± 7.71%

Introduction:
Hello, I'm _____ with SoonerPoll! We're simply gathering opinions about the Broken Arrow recycling pilot program in which your neighborhood is participating. Can you help me with a moment of your time to answer some questions? Please be assured that we are not trying to sell you anything and your individual responses are confidential.

Section 1 – Questions about recycling

[FOR ALL CUSTOMERS]
Let's talk briefly about your experience with the addition of recycling and your recycling habits.

1. Did you put out any recyclable materials into the cart this week?

1. Yes	122	86.5
2. No	19	13.5

2. Did you set out your recycling cart at the curb this week?

1. Yes	122	86.5
2. No	19	13.5

3. How many weeks per month do you set out the recycling cart out on the curb for collection?

1. 1 week out of the month	23	16.3
2. 2 weeks out of the month	36	25.5
3. 3 week out of the month	24	17.0
4. 4 weeks out of the month	56	39.7
5. Don't remember [DNR]	2	1.4

4. Would a smaller RECYCLING cart be preferable for your household over the current 96-gallon cart that you have?

1. Yes	54	38.3
2. No	73	51.8
3. Don't know [DNR]	14	9.9

5. Do you feel like your household has LESS TRASH now that you have curbside recycling?

1. Yes	96	68.1
2. No	37	26.2
3. Don't know [DNR]	8	5.7

6. How IMPORTANT or UNIMPORTANT do you believe recycling is in your community?

1. Very important	107	75.9
2. Somewhat important	18	12.8
3. DK/Neutral [DNR]	7	5.0
4. Somewhat unimportant	3	2.1
5. Very unimportant	6	4.3

7. How SATISFIED or UNSATISFIED are you with this recycling service?

1. Very satisfied	106	75.2
2. Somewhat satisfied	16	11.3
3. DK/Neutral [DNR]	10	7.1
4. Somewhat dissatisfied	2	1.4
5. Very dissatisfied	7	5.0

8. How much time per week do you spend preparing recycling?

1. Less than 30 minutes	108	76.6
2. 30 – 60 minutes	29	20.6
3. 60 – 90 minutes	1	0.7
4. 90 – 120 minutes	0	0.0
5. More than 120 minutes	1	0.7
6. Don't know [DNR]	2	1.4

9. Do you have any questions about what items should go into the recycling cart?

1. Yes	12	8.5
2. No	129	91.5

10. How many times a week did you take recyclables to the MET or other location, before you had curbside recycling?

1. 0	99	70.2
2. 1 – 2	41	29.1
3. 3 – 4	1	0.7
4. 5 or more	0	0.0
5. Don't remember	0	0.0

11. **[IF 1 OR MORE IN Q10]** Thinking about how much you recycled prior to the pilot program, do you find that you are recycling more now than before?

1. Yes	26	61.9
2. No	16	38.1

12. **[IF YES IN Q11]** How much more?

1. About 10 additional items a week than before	4	15.4
2. About 20 additional items a week than before	10	38.5
3. About 30 additional items a week than before	2	7.7
4. About 40 additional items a week than before	4	15.4
5. About 50 additional items a week than before	1	3.8
6. More than 50 additional items a week	5	19.2
7. Don't know [DNR]	0	0.0

[FOR CUSTOMERS WITH RECYCLING CARTS ONLY]

13. On average, how many bags of trash do you set out for collection since the pilot program started? **[RECORD VERBATIM]**

1. 1	24	29.6
2. 2	32	39.5
3. 3	10	12.3
4. 4	5	6.2
5. 5	5	6.2
6. 6	2	2.5
7. 7	1	1.2
8. 9	1	1.2
9. 10	1	1.2

14. Is this amount MORE or LESS than the number of bags of trash you set out BEFORE the pilot program started?

1. More	2	2.5
2. Less	49	60.5
3. About the same	30	37.0

[FOR CUSTOMERS WITH TRASH CART & RECYCLING CARTS]

15. When you do put your trash cart out for collection, on average, how full is it.

1. Quarter full	8	13.3
2. Halfway full	18	30.0
3. Three quarters full	20	33.3
4. Full	11	18.3
5. Full cart and then some more bags of trash	3	5.0
6. Don't know [DNR]	0	0.0

16. Is this amount MORE or LESS trash than you set out BEFORE the pilot program started?

1. More	5	8.3
2. Less	33	55.0
3. About the same	22	36.7

Section 2 – Questions about carts

[FOR CUSTOMERS WITH TRASH CART & RECYCLING CART]

17. Compared to the trash bags, how do you like the trash and recycle carts?

1. I greatly prefer the carts to the bags	31	51.7
2. I somewhat prefer the carts to the bags	7	11.7
3. DK/Neutral [DNR]	2	3.3
4. I somewhat prefer the bags to the carts	10	16.7
5. I greatly prefer the bags to the carts	10	16.7

18. Do you feel like one RECYCLING cart is enough to meet your trash needs for an average week?

1. Yes	59	98.3
2. No	1	1.7
3. Don't know [DNR]	0	0.0

19. Do you feel like one TRASH cart is enough to meet your trash needs for an average week?

1. Yes	58	96.7
2. No	2	3.3
3. Don't know [DNR]	0	0.0

20. **[IF YES IN Q19]** Would a smaller TRASH cart be preferable for your household?

1. Yes	16	26.7
2. No	41	68.3
3. Don't know [DNR]	3	5.0

21. Did you have any problems this week getting the carts to the curb on collection day and then back to the house after they had been emptied?

1. Yes	5	8.3
2. No	55	91.7

22. **[IF YES IN Q22]** What problem did you have moving the carts? **[RECORD VERBATIM]**

1. Carts too big/Cumbersome	4	80.0
2. Workers leave carts in the street	1	20.0

[FOR CUSTOMERS WITH RECYCLING CART ONLY]

23. Do you have a FAVORABLE or UNFAVORABLE opinion of the recycling cart?

1. Very favorable	46	56.8
2. Somewhat favorable	16	19.8
3. DK/Neutral [DNR]	7	8.6
4. Somewhat unfavorable	7	8.6
5. Very unfavorable	5	6.2

24. Do you feel like one RECYCLING cart is enough to meet your trash needs for an average week?

1. Yes	76	93.8
2. No	2	2.5
3. Don't know [DNR]	3	3.7

25. Did you have any problems this week getting the cart to the curb on collection day and then back to the house after it had been emptied?

1. Yes	5	6.2
2. No	76	93.8

26. **[IF YES IN Q25]** What problems did you have moving the cart? **[RECORD VERBATIM]**

1. Steep driveway makes it difficult	2	40.0
2. Workers leave cart in street	1	20.0
3. Storm blew open lid and cart filled with water	1	20.0
4. Not home on collection day	1	20.0

27. Now that you've had a recycling cart, do you think you would like to have a trash cart as well?

1. Yes	35	43.2
2. No	44	54.3
3. Don't know [DNR]	2	2.5

28. **[IF YES IN Q27]** What about a trash cart would be beneficial for your household? **[RECORD VERBATIM]**

1. Helps keep trash contained/Cleaner/Away from animals	17	51.5
2. Wheels make it easier to haul trash to curb	8	24.2
3. Gives somewhere to store trash until collection	6	18.2
4. Only have to make 1 trip to curb	1	3.0
5. Would save on plastic bags	1	3.0

29. **[IF NO IN Q27]** Why would having a trash cart not be beneficial for your household? **[RECORD VERBATIM]**

1. Like the bags	11	25.6
2. No room to store it	9	20.9
3. Carts are difficult to move	8	18.6
4. Already purchased a trash cart	6	14.0
5. Don't produce enough trash to need a cart	4	9.3
6. Residents leave on curb for extended periods of time	3	7.0
7. Produce too much yard waste to fit in a trash cart	2	4.7

30. **[IF NO IN Q27]** One idea being considered is discontinuing distribution of the heavy-duty black bags for setting out garbage. If that change were made, and the City were to no longer provide the heavy-duty black bags to set out garbage, would that change your opinion about also having a trash cart?

1. Yes	11	25.0
2. No	29	65.9
3. Don't know [DNR]	4	9.1

Section 3 – Questions about Recycling Knowledge

[FOR ALL CUSTOMERS]

In February you were given a reusable B.A. tote bag to collect your recyclables in and then dump into your recycle cart. The side of the bag has some instructions for some items that can be recycled.

31. Have you used the reusable B.A. tote bag?

1. Yes	88	62.4
2. No	53	37.6

32. Did you know that plastic items such as re-sealable bags, and the overwrap on plastic soda and water battles is not recyclable?

1. Yes	122	86.5
2. No	19	13.5

33. Where in your community do you get information on what items are recyclable? **[RECORD VERBATIM]**

1. Info provided by the city	29	23.6
2. Online	28	22.8
3. On the cart or tote bag	22	17.9
4. Flyers/Mailers	21	17.1
5. Meeting at beginning of pilot program	8	6.5
6. From past recycling experience	4	3.3
7. Called the city	3	2.4
8. On TV	2	1.6
9. From the MET	1	0.8
10. Homeowners meeting	1	0.8
11. Call BA Sanitation	1	0.8
12. Newspaper	1	0.8

34. Where online would you get information on what items are recyclable? **[RECORD VERBATIM]**

1. Recycleba.org	46	88.5
2. MET website	2	3.8
3. Brokenarrowok.gov	2	3.8
4. Google	2	3.8

35. Are you aware of the recycling website Broken Arrow has, recycleba.com?

1. Yes	82	58.2
2. No	59	41.8

36. **[IF YES IN Q35]** Have you ever visited recycleba.com?

1. Yes	53	56.4
2. No	41	43.6

37. One more question before we get some quick demographics information. Now that the evaluation period has concluded, the City will be preparing a report on the pilot project. Is there anything else you would like to add about your experience using the recycling system, changing your set-outs, having the carts, etc.? **[RECORD VERBATIM]**

Section 4: Demographics

We're almost done. Now for some questions about demographics, these are for classification purposes only.

D1. Into which of the following categories does you age fall?

1. 18-24	1	0.7
2. 25-34	7	5.0
3. 35-44	16	11.3
4. 45-54	18	12.8
5. 55-64	37	26.2
6. 65 and over	62	44.0

D2. Which of the following broad categories best describes your annual household income?

1. Under $15,000	2	1.4
2. $15,000 to $24,999	9	6.4
3. $25,000 to $34,999	11	7.8
4. $35,000 to $49,999	19	13.5
5. $50,000 to $74,999	28	19.9
6. $75,000 to $99,999	32	22.7
7. $100,000 to $125,000	13	9.2
8. Over $125,000	15	10.6
9. Dk/Refused [DNR]	12	8.5

D3. Including you, how many people are currently living in your household?

1. One	29	20.6
2. Two	65	46.1
3. Three	19	13.5
4. Four	14	9.9
5. Five	8	5.7
6. More than five	5	3.5
7. Refused [DNR]	1	0.7

D4. How long have you lived at this address?

1. Less than 1 year	2	1.4
2. 1 – 5 years	31	22.0
3. 6 – 10 years	26	18.4
4. 11 – 15 years	21	14.9
5. 15 – 20 years	16	11.3
6. Over 20 years	44	31.2
7. DK/Refused [DNR]	1	0.7

D5. Have you ever previously lived in an area that offered curbside recycling?

1. Yes	29	20.6
2. No	112	79.4

D6. Are you married?

1. Yes	95	67.4
2. No	46	32.6

D7. Which of the following categories best describes your work status?

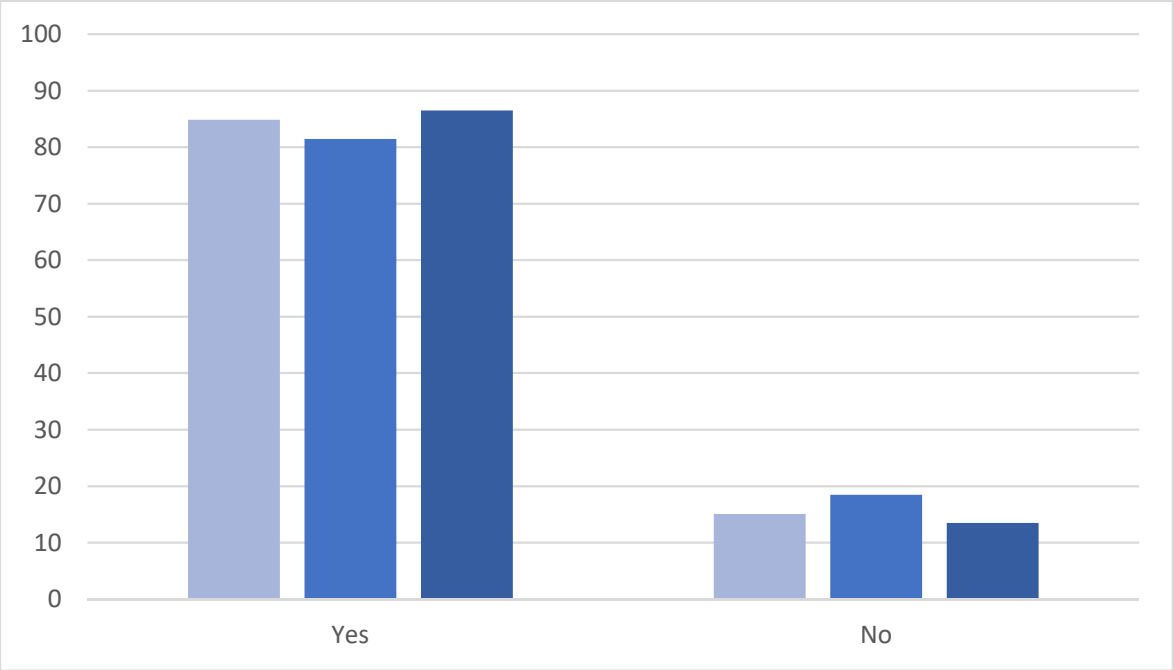
1. Full-time	55	39.0
2. Part-time	10	7.1
3. Self-employed	10	7.1
4. Homemaker	9	6.4
5. Retired	56	39.7
6. Unemployed	1	0.7

D8. Are you:

1. Male	52	36.9
2. Female	89	63.1

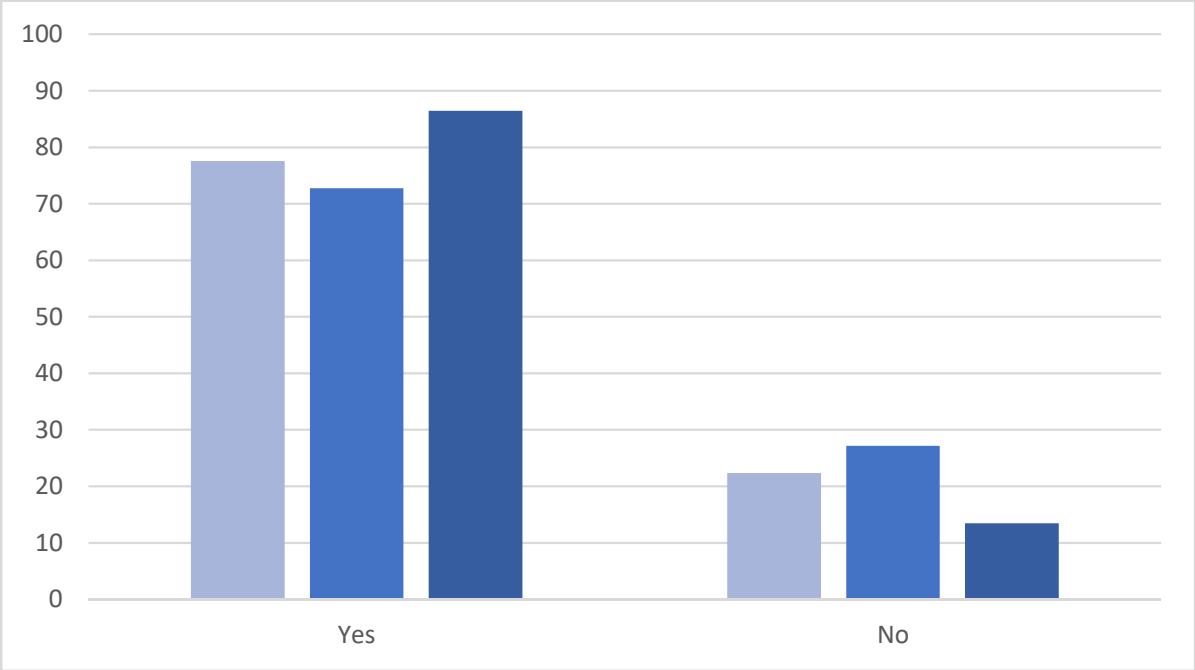
Broken Arrow Waste & Refuse Analysis

Q1. Did you put out any recyclable material into the cart this week?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	84.9	81.5	86.5
No	15.1	18.5	13.5



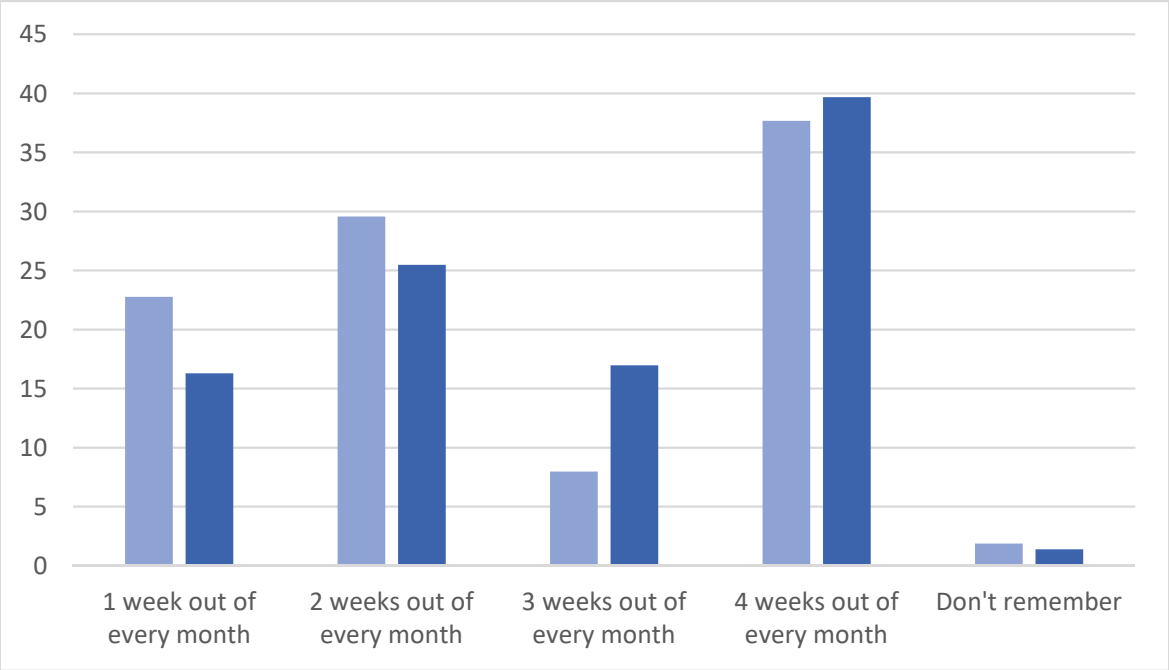
Broken Arrow Waste & Refuse Analysis

Q2. Did you set out your recycling cart at the curb this week?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	77.6	72.8	86.5
No	22.4	27.2	13.5



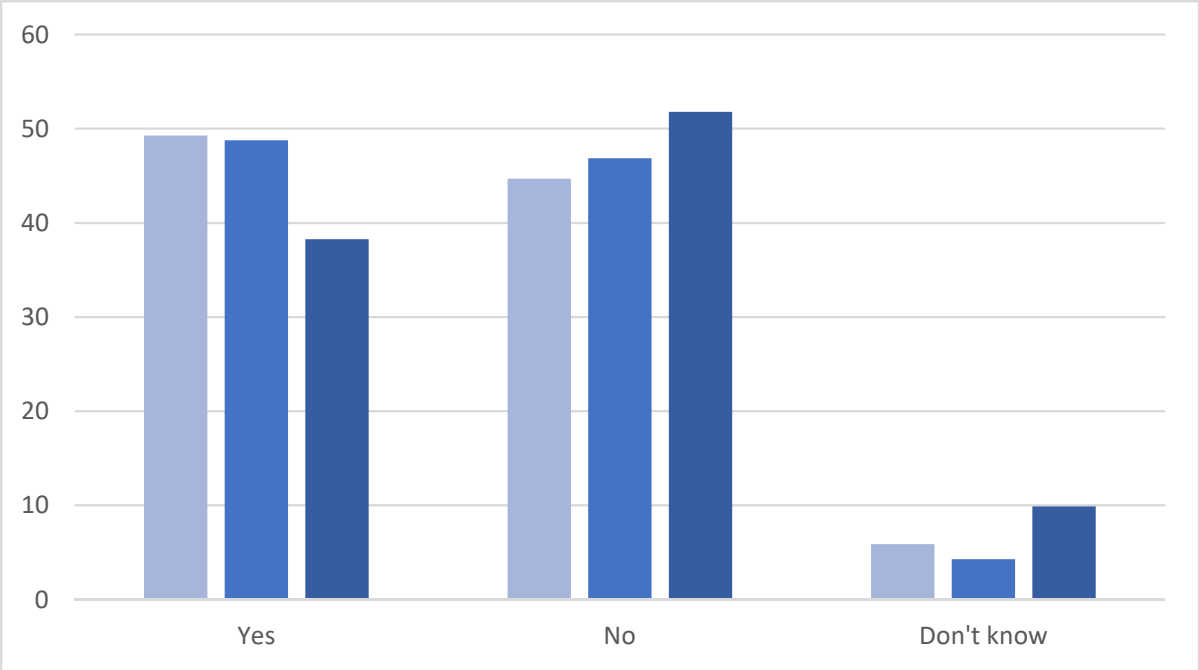
Broken Arrow Waste & Refuse Analysis

Q3. How many weeks per month do you set the recycling cart out on the curb for collection?	n=162 Weeks 11-12	n=141 Post-Project Completion
1 week out of every month	22.8	16.3
2 weeks out of every month	29.6	25.5
3 weeks out of every month	8.0	17.0
4 weeks out of every month	37.7	39.7
Don't remember	1.9	1.4



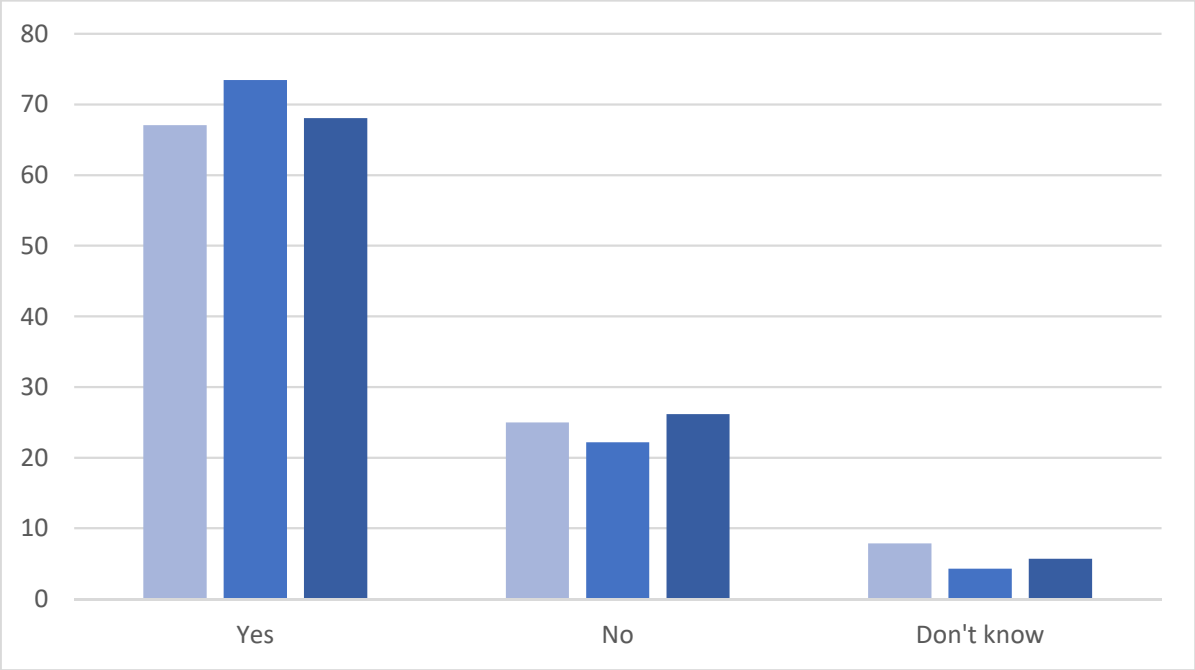
Broken Arrow Waste & Refuse Analysis

Q4. Would a smaller RECYCLING cart be preferable for your household over the current 96 gallon cart that you have?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	49.3	48.8	38.3
No	44.7	46.9	51.8
Don't know	5.9	4.3	9.9



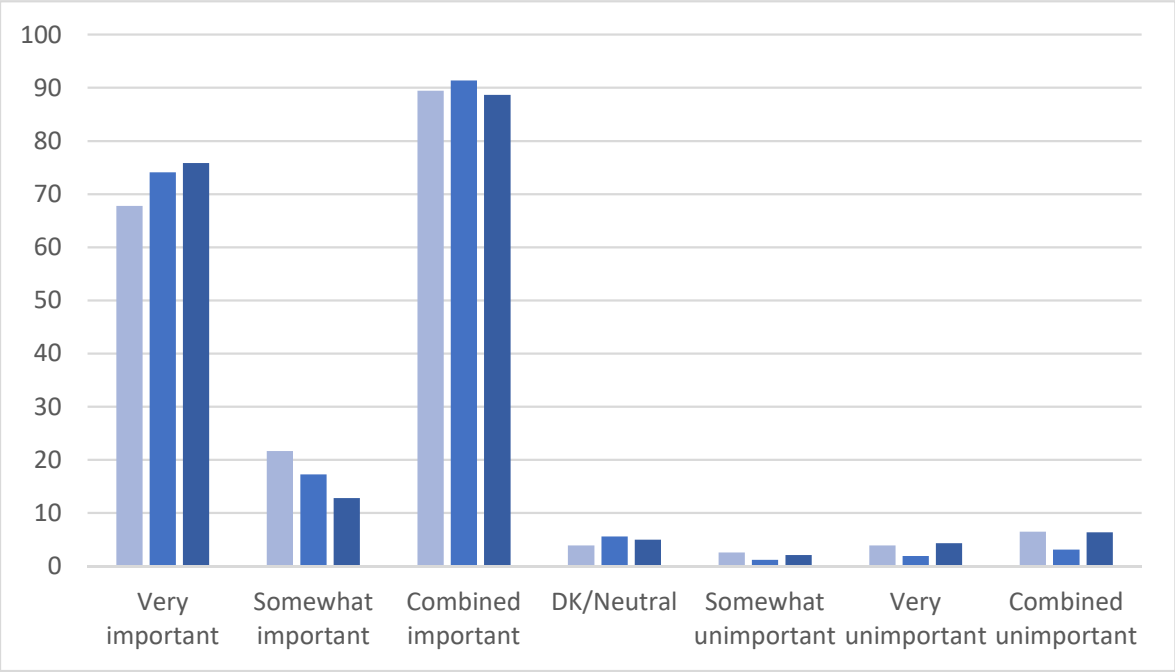
Broken Arrow Waste & Refuse Analysis

Q5. Do you feel like your household has LESS TRASH now that you have curbside recycling?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	67.1	73.5	68.1
No	25.0	22.2	26.2
Don't know	7.9	4.3	5.7



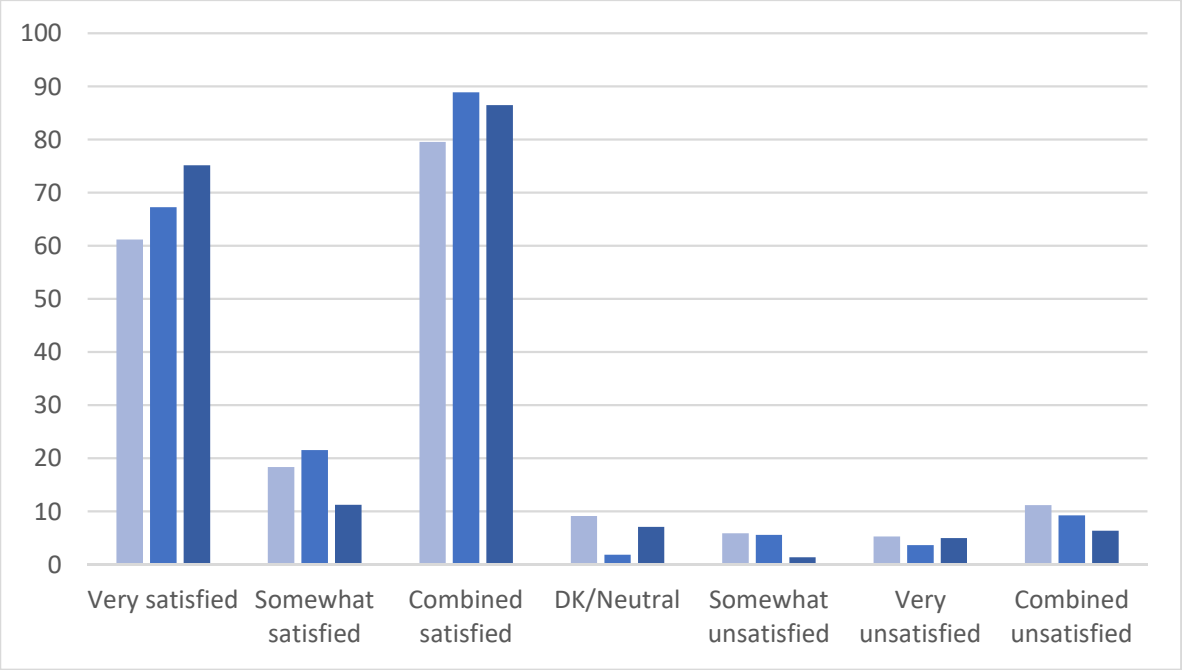
Broken Arrow Waste & Refuse Analysis

Q6. How IMPORTANT or UNIMPORTANT do you believe recycling is in your community?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Very important	67.8	74.1	75.9
Somewhat important	21.7	17.3	12.8
Combined important	**89.5**	**91.4**	**88.7**
DK/Neutral	3.9	5.6	5.0
Somewhat unimportant	2.6	1.2	2.1
Very unimportant	3.9	1.9	4.3
Combined unimportant	**6.5**	**3.1**	**6.4**



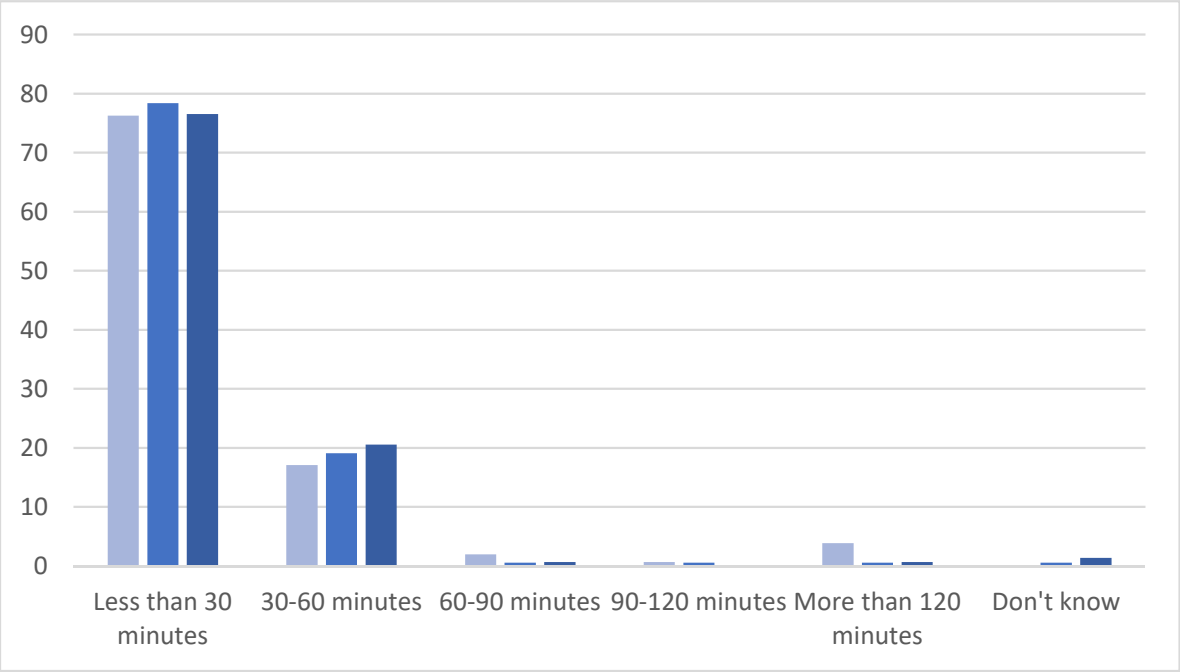
Broken Arrow Waste & Refuse Analysis

Q7. How SATISFIED or UNSATISFIED are you with this recycling service?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Very satisfied	61.2	67.3	75.2
Somewhat satisfied	18.4	21.6	11.3
Combined satisfied	**79.6**	**88.9**	**86.5**
DK/Neutral	9.2	1.9	7.1
Somewhat unsatisfied	5.9	5.6	1.4
Very unsatisfied	5.3	3.7	5.0
Combined unsatisfied	**11.2**	**9.3**	**6.4**



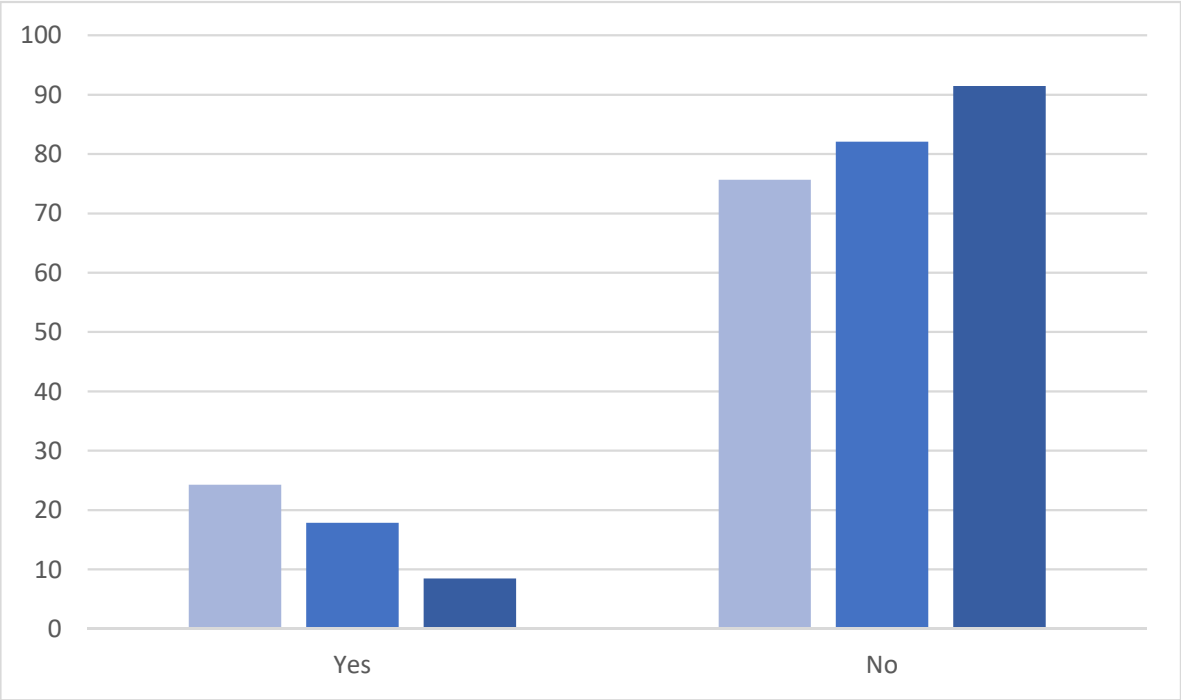
Broken Arrow Waste & Refuse Analysis

Q8. How much time per week do you spend preparing recycling?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Less than 30 minutes	76.3	78.4	76.6
30-60 minutes	17.1	19.1	20.6
60-90 minutes	2.0	0.6	0.7
90-120 minutes	0.7	0.6	0.0
More than 120 minutes	3.9	0.6	0.7
Don't know	0.0	0.6	1.4



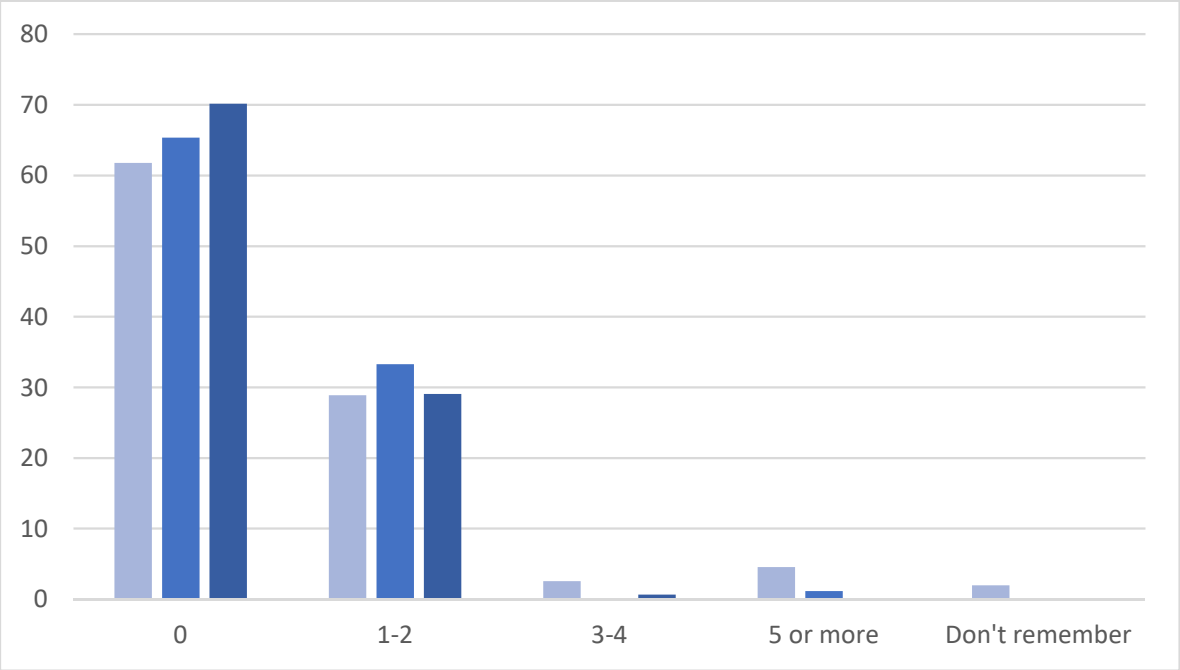
Broken Arrow Waste & Refuse Analysis

Q9. Do you have any questions about what items should go into the recycling cart?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	24.3	17.9	8.5
No	75.7	82.1	91.5



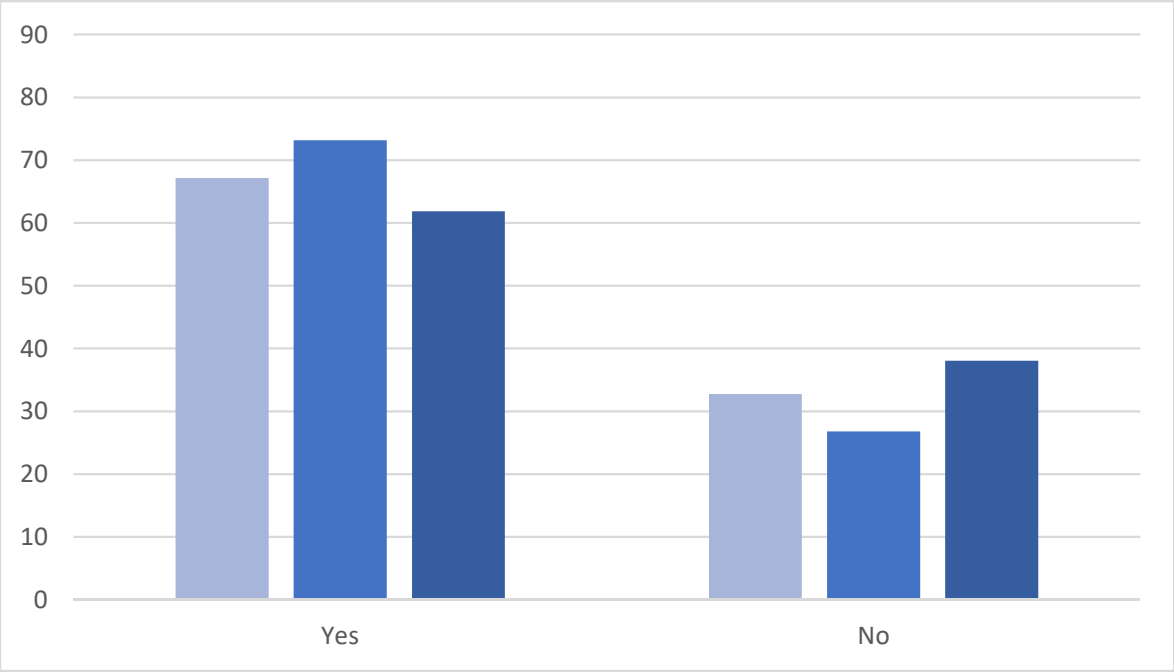
Broken Arrow Waste & Refuse Analysis

Q10. How many times a week did you take recyclables to the MET or other location before you had curbside recycling?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
0	61.8	65.4	70.2
1-2	28.9	33.3	29.1
3-4	2.6	0.0	0.7
5 or more	4.6	1.2	0.0
Don't remember	2.0	0.0	0.0



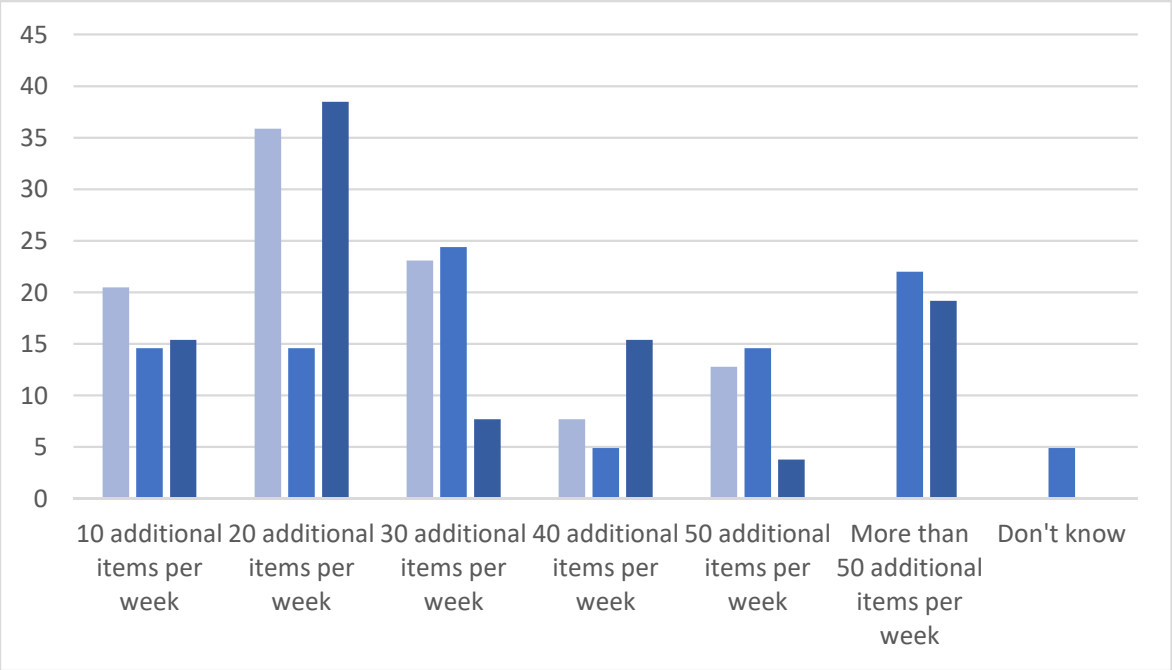
Broken Arrow Waste & Refuse Analysis

Q11. [IF 1 OR MORE IN Q10] Thinking about how much you recycled prior to the pilot program, do you find that you are recycling more now than before?	n=58 Weeks 3-4	n=56 Weeks 11-12	n=42 Post-Project Completion
Yes	67.2	73.2	61.9
No	32.8	26.8	38.1



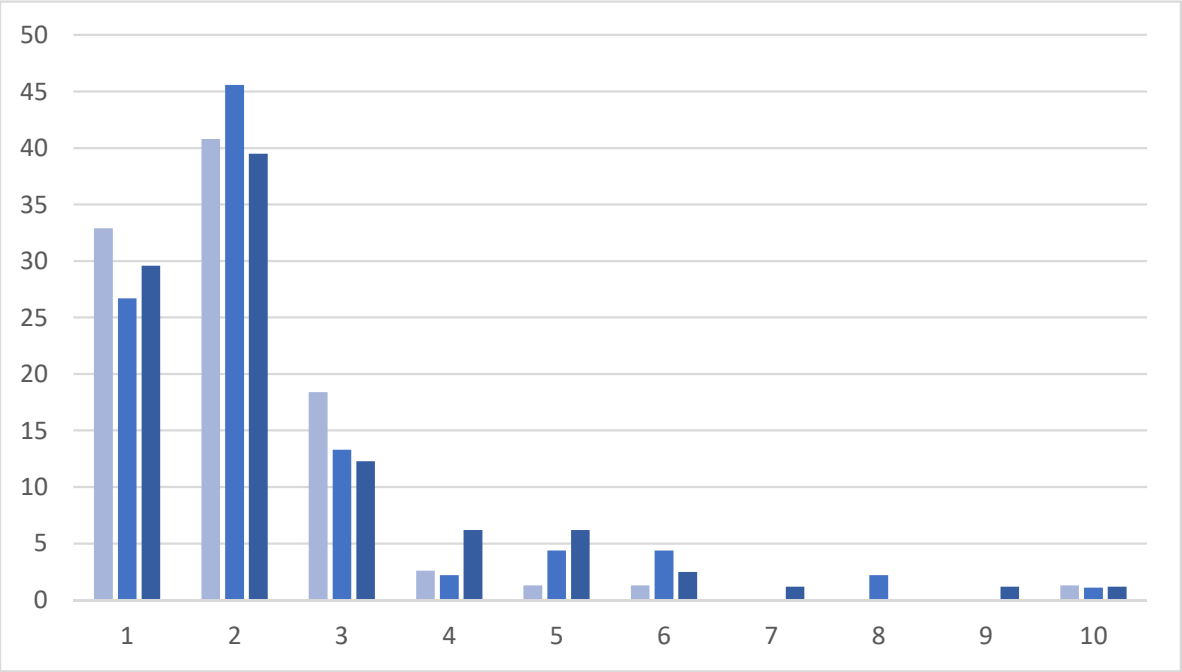
Broken Arrow Waste & Refuse Analysis

Q12. [IF YES IN Q11] How much more?	n=39 Weeks 3-4	n=41 Weeks 11-12	n=26 Post-Project Completion
10 additional items per week	20.5	14.6	15.4
20 additional items per week	35.9	14.6	38.5
30 additional items per week	23.1	24.4	7.7
40 additional items per week	7.7	4.9	15.4
50 additional items per week	12.8	14.6	3.8
More than 50 additional items per week	0.0	22.0	19.2
Don't know	0.0	4.9	0.0



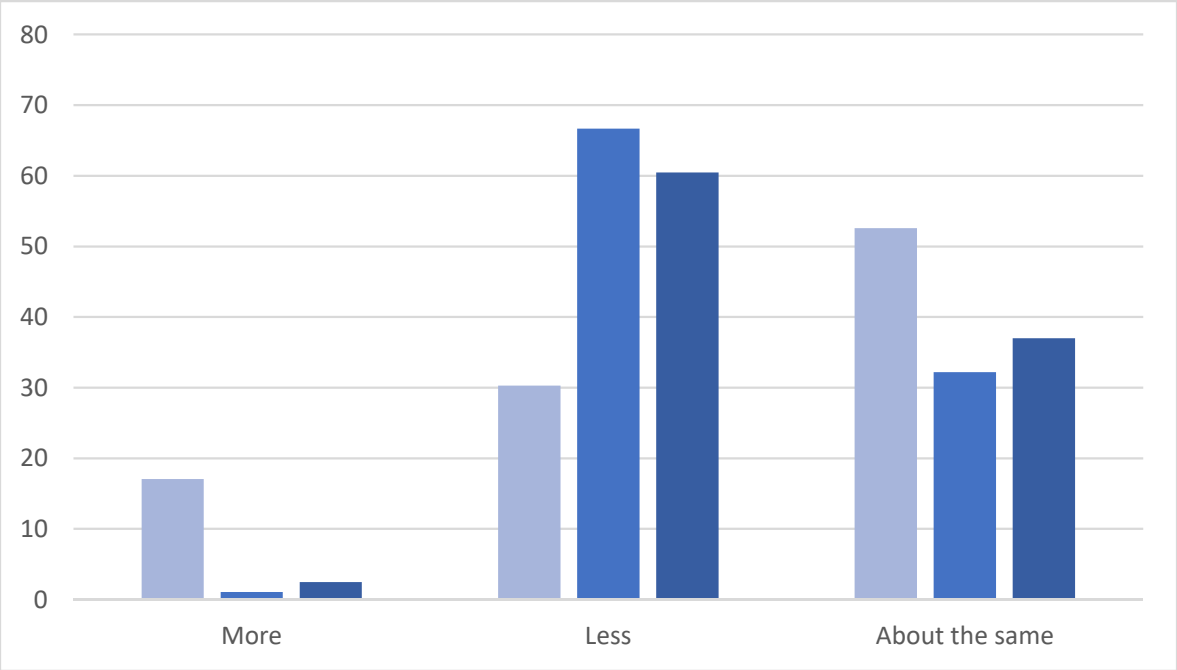
Broken Arrow Waste & Refuse Analysis

Q13. On average, how many bags of trash do you set out for collection since the pilot program started? [RECORD VERBATIM] [RECYCLE CART ONLY]	n=76 Weeks 3-4	n=90 Weeks 11-12	n=81 Post-Project Completion
1	32.9	26.7	29.6
2	40.8	45.6	39.5
3	18.4	13.3	12.3
4	2.6	2.2	6.2
5	1.3	4.4	6.2
6	1.3	4.4	2.5
7	0.0	0.0	1.2
8	0.0	2.2	0.0
9	0.0	0.0	1.2
10	1.3	1.1	1.2



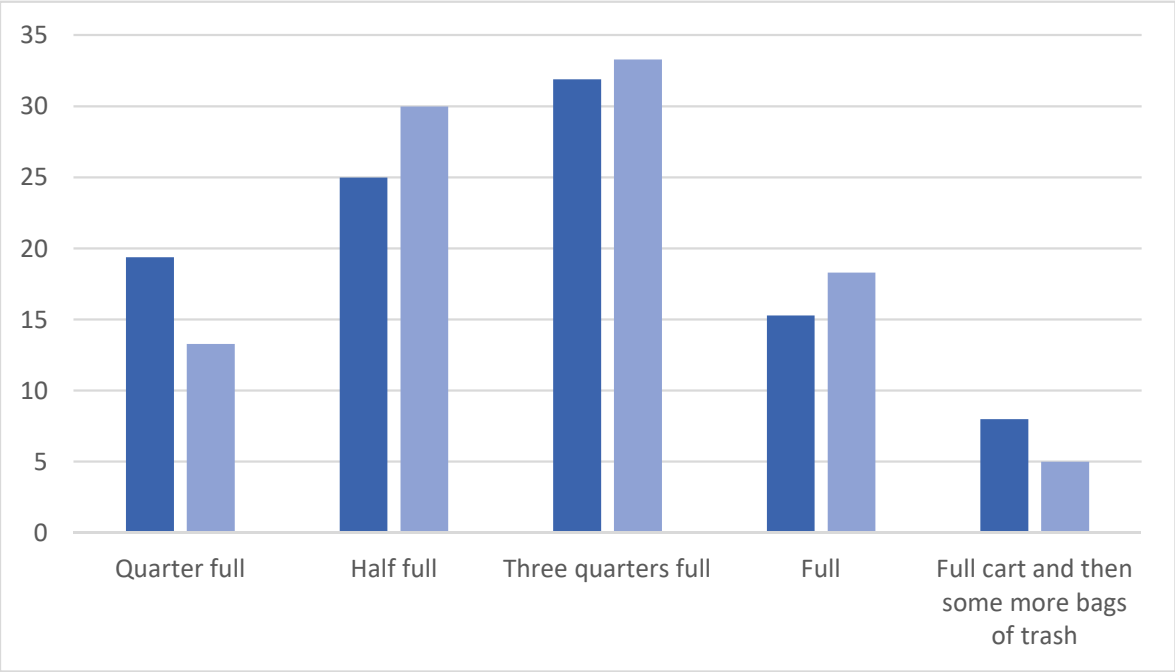
Broken Arrow Waste & Refuse Analysis

Q14. Is this amount MORE or LESS than the number of bags of trash you set out BEFORE the pilot program started? [RECYCLE CART ONLY]	n=76 Weeks 3-4	n=90 Weeks 11-12	n=81 Post-Project Completion
More	17.1	1.1	2.5
Less	30.3	66.7	60.5
About the same	52.6	32.2	37.0



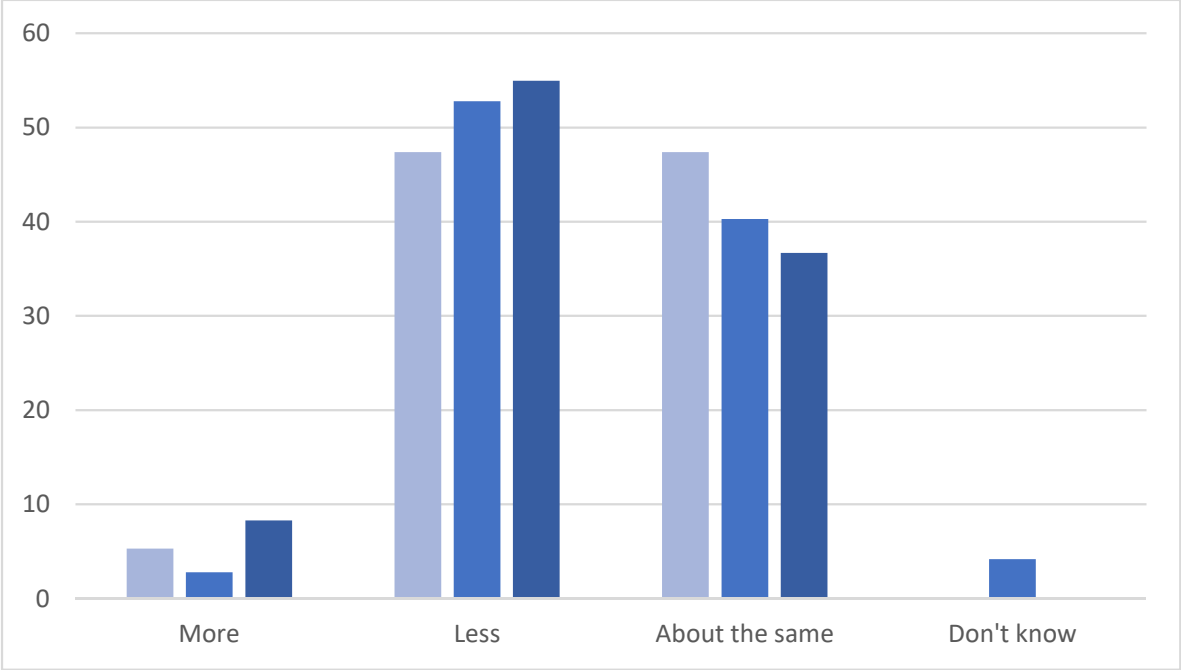
Broken Arrow Waste & Refuse Analysis

Q15. When you do put your trash cart out for collection, on average, how full it it? [TRASH AND RECYCLE CARTS]	n=72 Weeks 11-12	n=60 Post-Project Completion
Quarter full	19.4	13.3
Half full	25.0	30.0
Three quarters full	31.9	33.3
Full	15.3	18.3
Full cart and then some more bags of trash	8.0	5.0



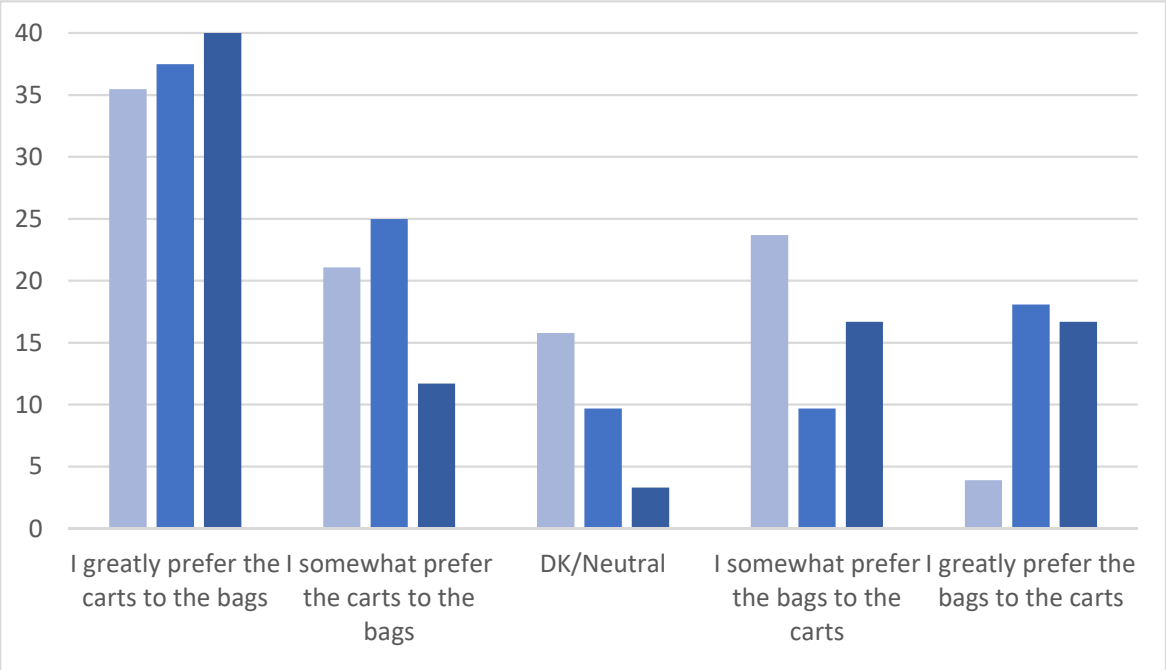
Broken Arrow Waste & Refuse Analysis

Q16. Is this amount MORE or LESS trash than you set out BEFORE the pilot program started? [TRASH AND RECYCLE CARTS]	n=76 Weeks 3-4	n=72 Weeks 11-12	n=60 Post-Project Completion
More	5.3	2.8	8.3
Less	47.4	52.8	55.0
About the same	47.4	40.3	36.7
Don't know	0.0	4.2	0.0



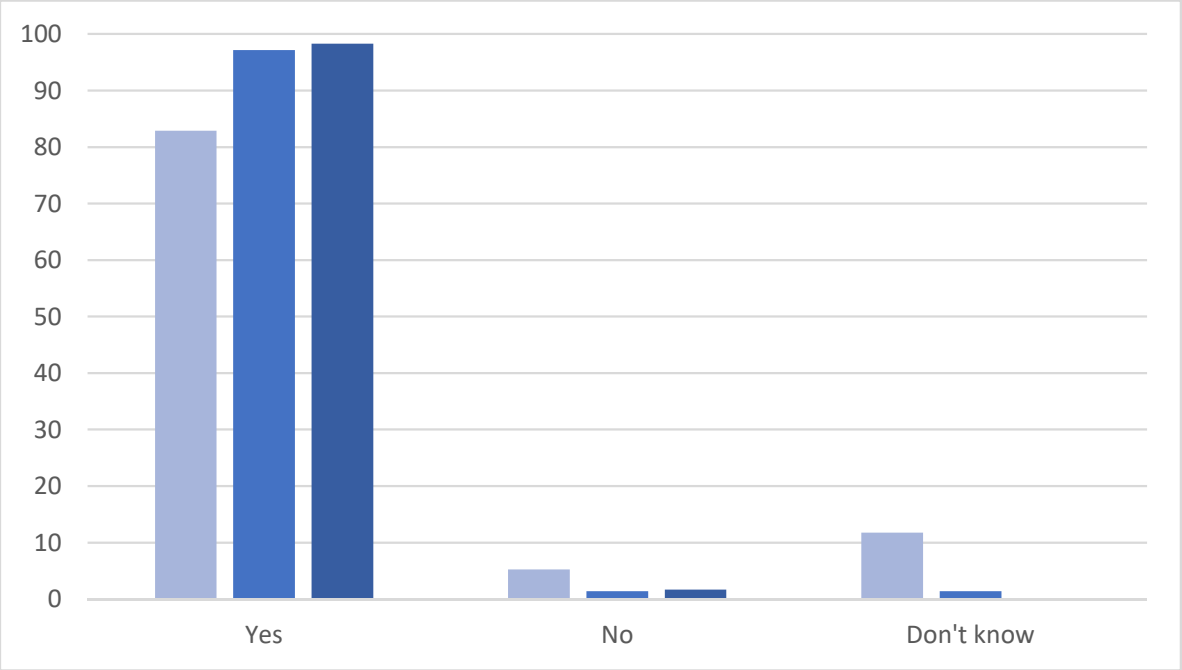
Broken Arrow Waste & Refuse Analysis

Q17. Compared to the trash bags, how do you like the trash and recycle carts? [TRASH AND RECYCLE CARTS]	n=76 Weeks 3-4	n=72 Weeks 11-12	n=60 Post-Project Completion
I greatly prefer the carts to the bags	35.5	37.5	51.7
I somewhat prefer the carts to the bags	21.1	25.0	11.7
DK/Neutral	15.8	9.7	3.3
I somewhat prefer the bags to the carts	23.7	9.7	16.7
I greatly prefer the bags to the carts	3.9	18.1	16.7



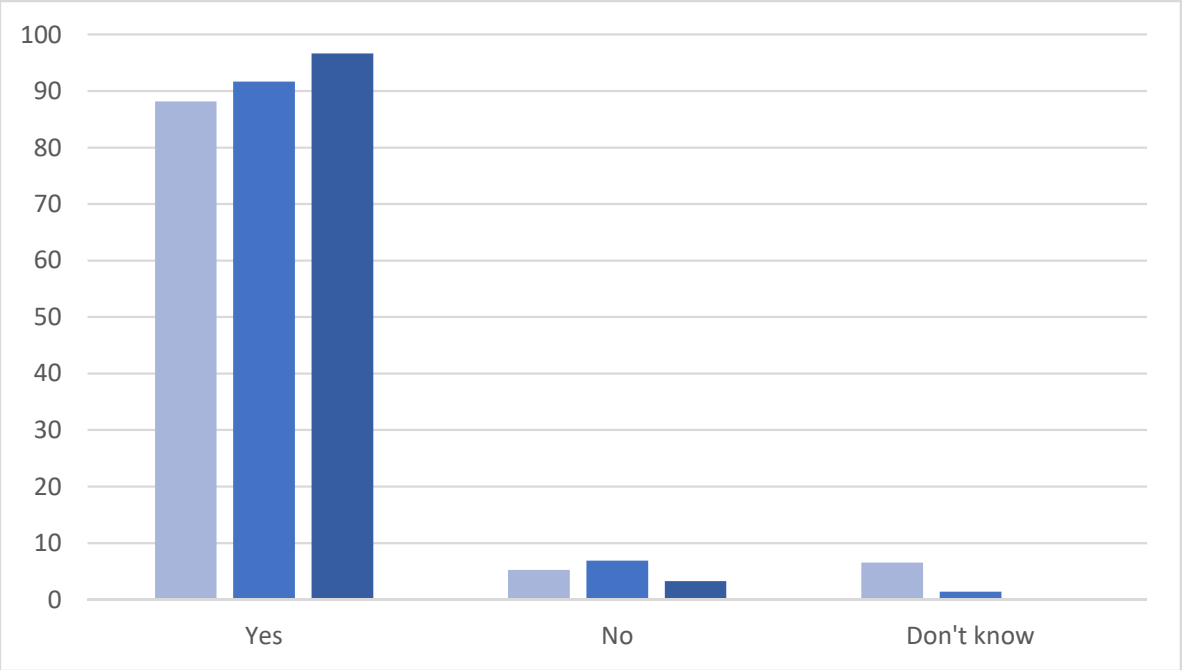
Broken Arrow Waste & Refuse Analysis

Q18. Do you feel like one RECYCLING cart is enoough to meet your needs for an average week? [TRASH AND RECYCLING CARTS]	n=76 Weeks 3-4	n=72 Weeks 11-12	n=60 Post-Project Completion
Yes	82.9	97.2	98.3
No	5.3	1.4	1.7
Don't know	11.8	1.4	0.0



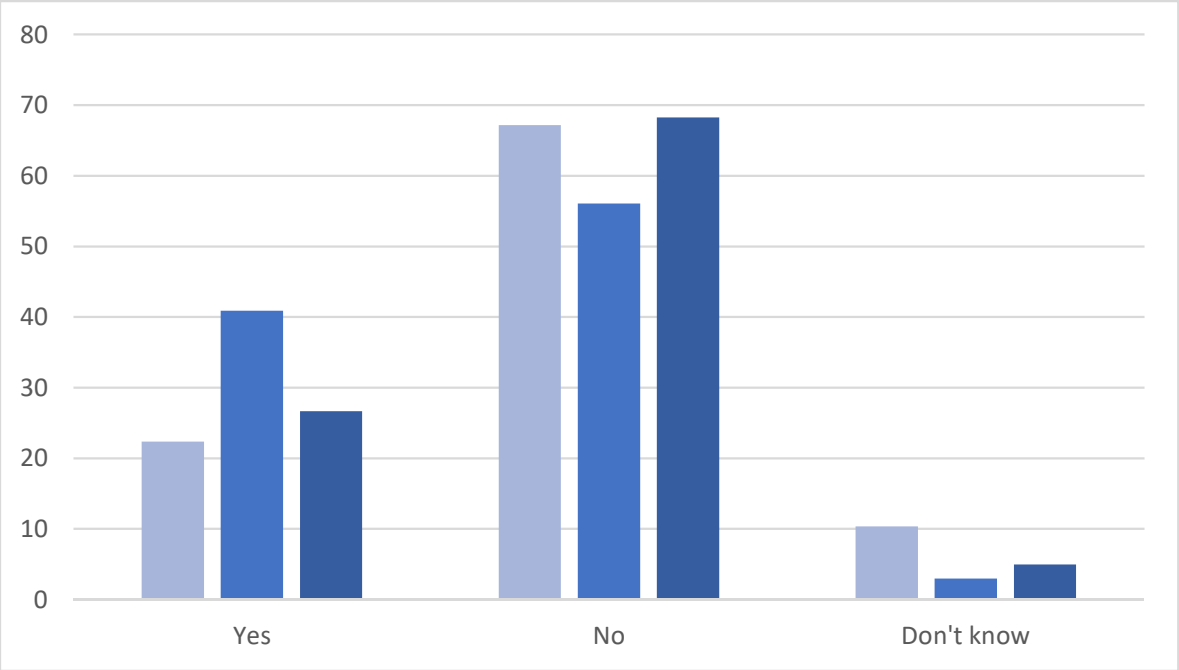
Broken Arrow Waste & Refuse Analysis

Q19. Do you feel like one TRASH cart is enough to meet your trash needs for an average week? [TRASH AND RECYCLE CARTS]	n=76 Weeks 3-4	n=72 Weeks 11-12	n=60 Post-Project Completion
Yes	88.2	91.7	96.7
No	5.3	6.9	3.3
Don't know	6.6	1.4	0.0



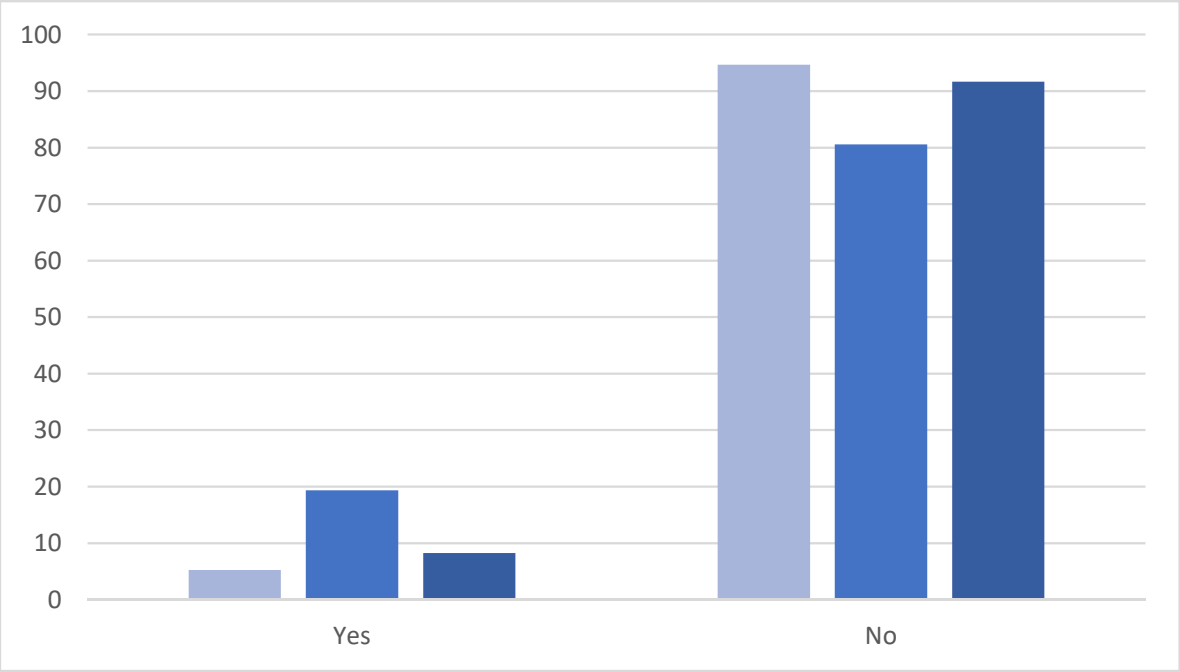
Broken Arrow Waste & Refuse Analysis

Q20. [IF YES IN Q19] Would a smaller TRASH cart be preferable for your household? [TRASH AND RECYCLE CARTS]	n=67 Weeks 3-4	n=66 Weeks 11-12	n=60 Post-Project Completion
Yes	22.4	40.9	26.7
No	67.2	56.1	68.3
Don't know	10.4	3.0	5.0



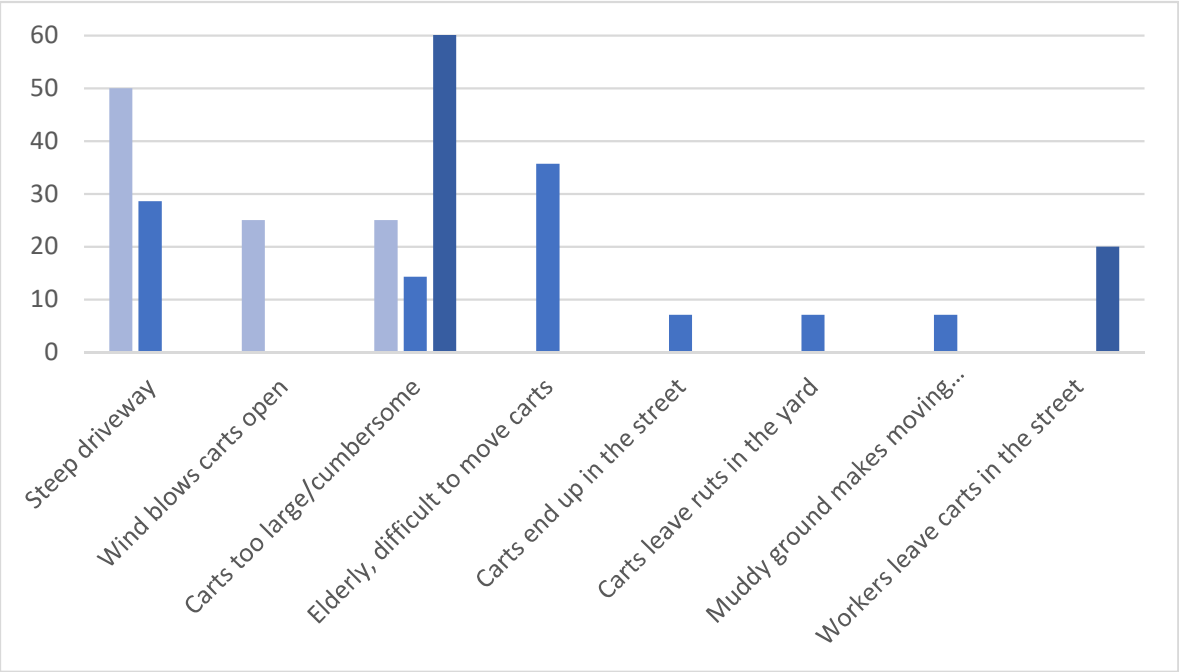
Broken Arrow Waste & Refuse Analysis

Q21. Did you have any problems this week getting the carts to the curb on collection day and then back to the house after they had been emptied? [TRASH AND RECYCLE CARTS]	n=76 Weeks 3-4	n=72 Weeks 11-12	n=60 Post-Project Completion
Yes	5.3	19.4	8.3
No	94.7	80.6	91.7



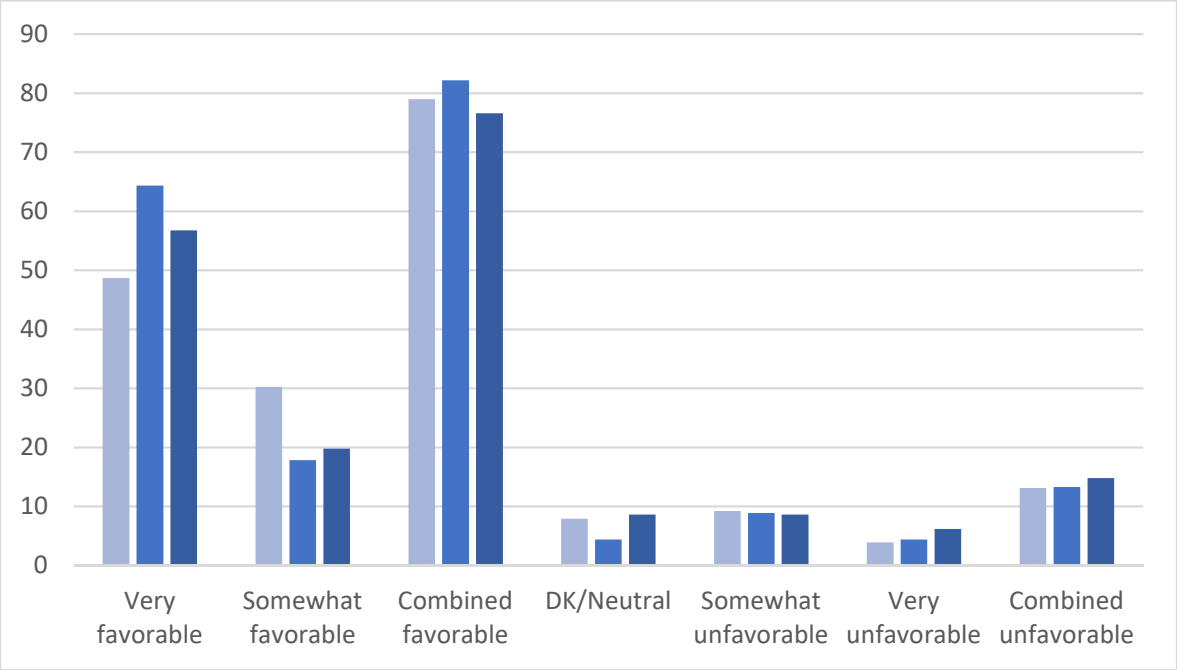
Broken Arrow Waste & Refuse Analysis

Q22. [IF YES IN Q22] What problem did you have moving the carts [TRASH AND RECYCLE CARTS]	n=4 Weeks 3-4	n=14 Weeks 11-12	n=5 Post-Project Completion
Steep driveway	50.0	28.6	0.0
Wind blows carts open	25.0	0.0	0.0
Carts too large/cumbersome	25.0	14.3	80.0
Elderly, difficult to move carts	0.0	35.7	0.0
Carts end up in the street	0.0	7.1	0.0
Carts leave ruts in the yard	0.0	7.1	0.0
Muddy ground makes moving carts difficult	0.0	7.1	0.0
Workers leave carts in the street	0.0	0.0	20.0



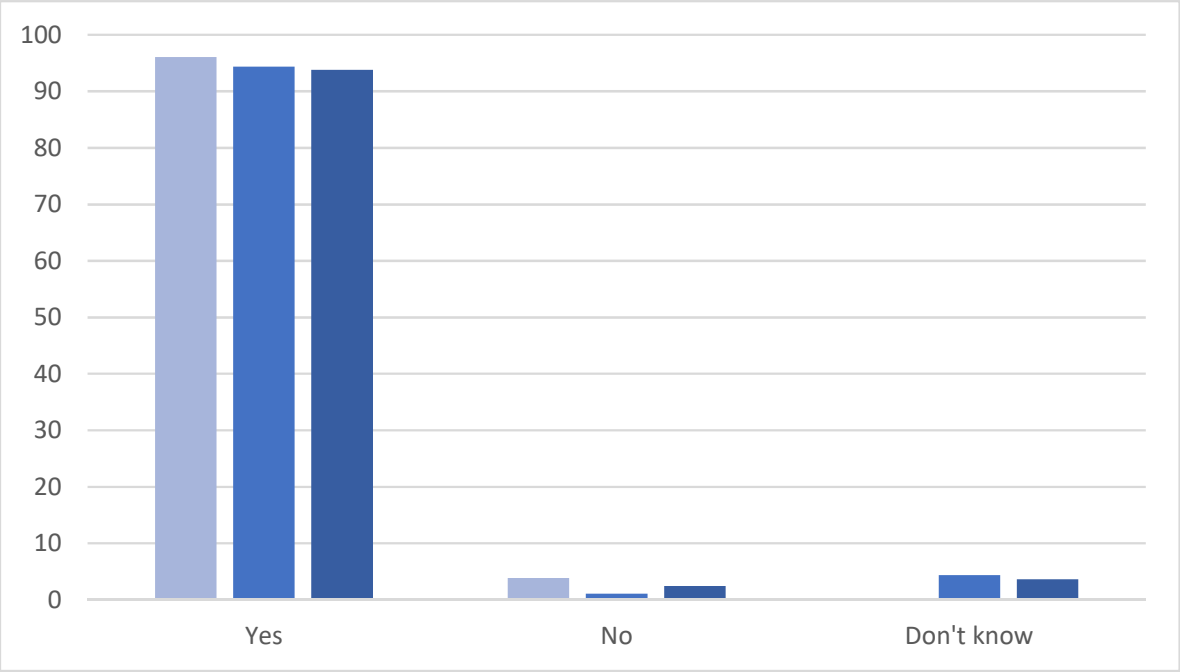
Broken Arrow Waste & Refuse Analysis

Q23. Do you have a FAVORABLE or UNFAVORABLE opinion of the recycling cart? [RECYCLE CART ONLY]	n=76 Weeks 3-4	n=90 Weeks 11-12	n=81 Post-Project Completion
Very favorable	48.7	64.4	56.8
Somewhat favorable	30.3	17.8	19.8
Combined favorable	**79.0**	**82.2**	**76.6**
DK/Neutral	7.9	4.4	8.6
Somewhat unfavorable	9.2	8.9	8.6
Very unfavorable	3.9	4.4	6.2
Combined unfavorable	**13.1**	**13.3**	**14.8**



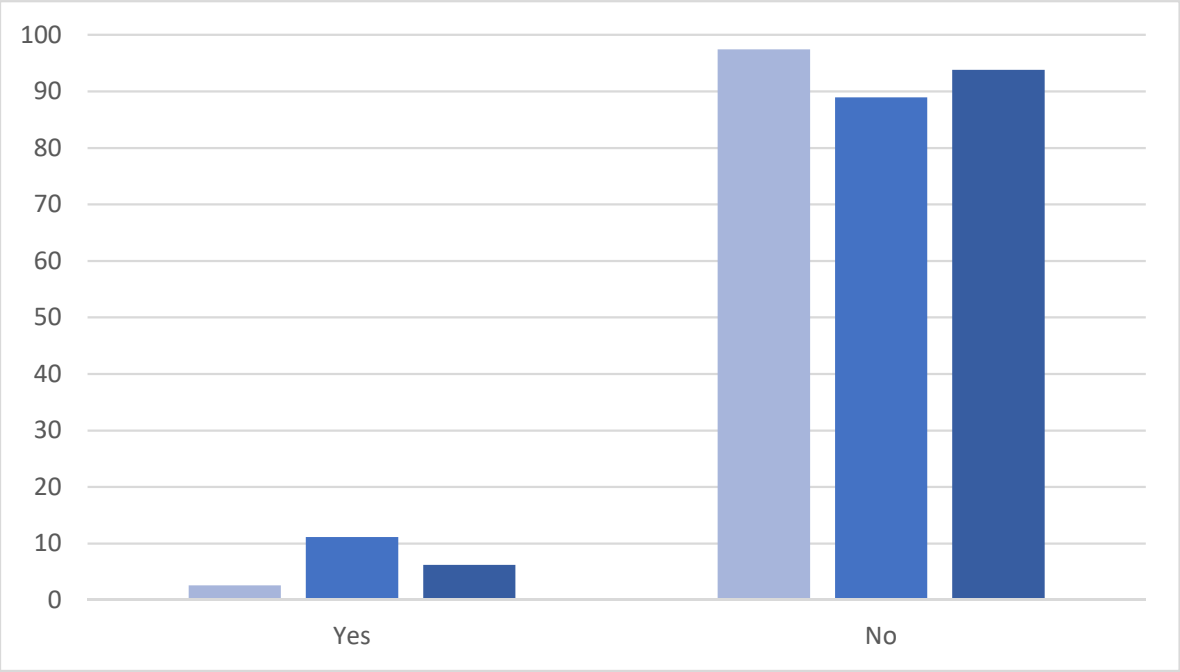
Broken Arrow Waste & Refuse Analysis

Q24. Do you feel like one RECYCLING cart is enough to meet your trash needs for an average week? [RECYCLE CART ONLY]	n=76 Weeks 3-4	n=90 Weeks 11-12	n=81 Post-Project Completion
Yes	96.1	94.4	93.8
No	3.9	1.1	2.5
Don't know	0.0	4.4	3.7



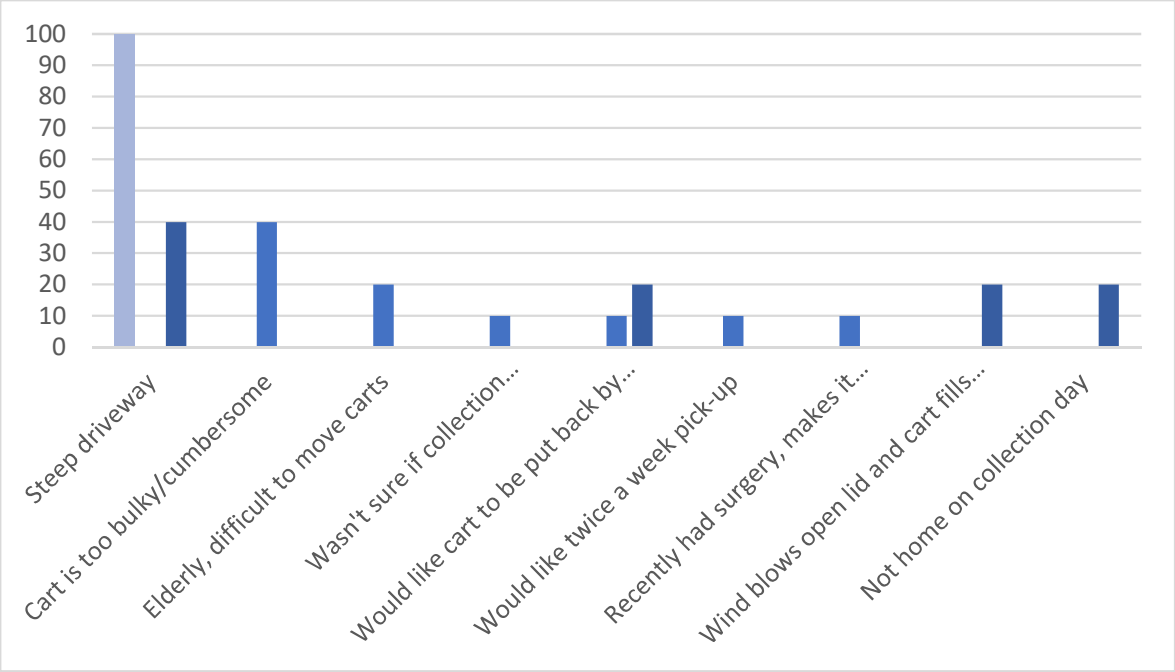
Broken Arrow Waste & Refuse Analysis

Q25. Did you have any problems this week getting the cart to the curb on collection day and then back to the house after it had been empited? [RECYCLE CART ONLY]	n=76 Weeks 3-4	n=90 Weeks 11-12	n=81 Post-Project Completion
Yes	2.6	11.1	6.2
No	97.4	88.9	93.8



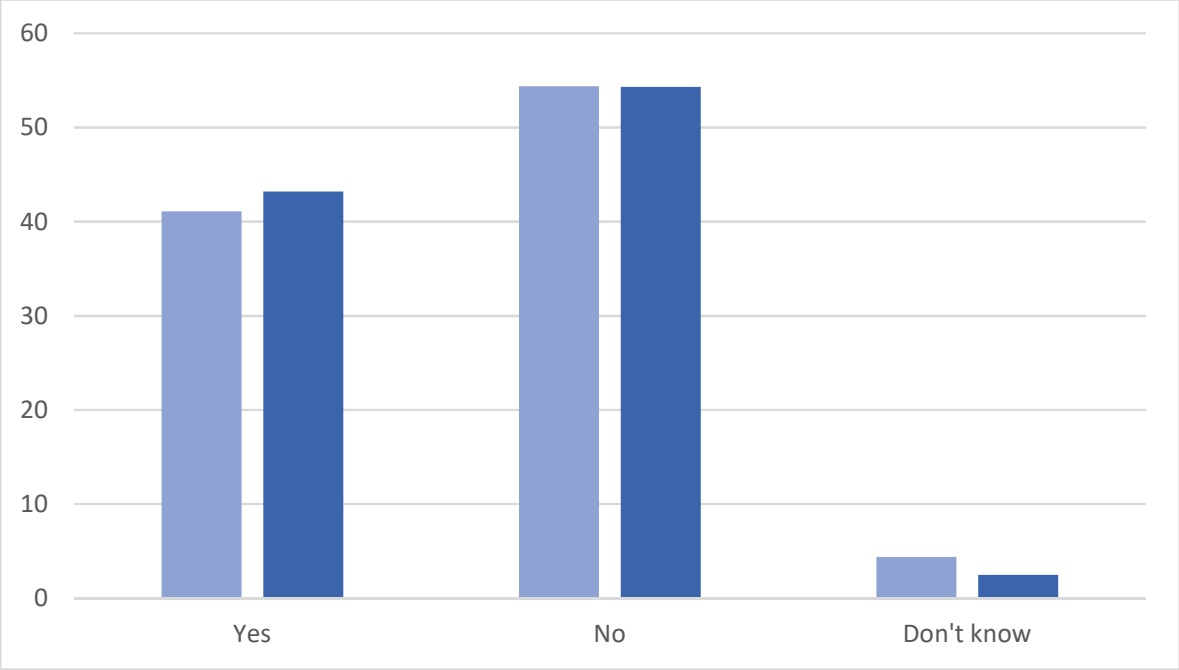
Broken Arrow Waste & Refuse Analysis

Q26. [IF YES IN Q25] What problems did you have moving the cart? [RECORD VERBATIM] [RECYCLE CART ONLY]	n=2 Weeks 3-4	n=10 Weeks 11-12	n=5 Post-Project Completion
Steep driveway	100.0	0.0	40.0
Cart is too bulky/cumbersome	0.0	40.0	0.0
Elderly, difficult to move carts	0.0	20.0	0.0
Wasn't sure if collection available on holidays	0.0	10.0	0.0
Would like cart to be put back by house after colle	0.0	10.0	20.0
Would like twice a week pick-up	0.0	10.0	0.0
Recently had surgery, makes it difficult	0.0	10.0	0.0
Wind blows open lid and cart fills with water	0.0	0.0	20.0
Not home on collection day	0.0	0.0	20.0



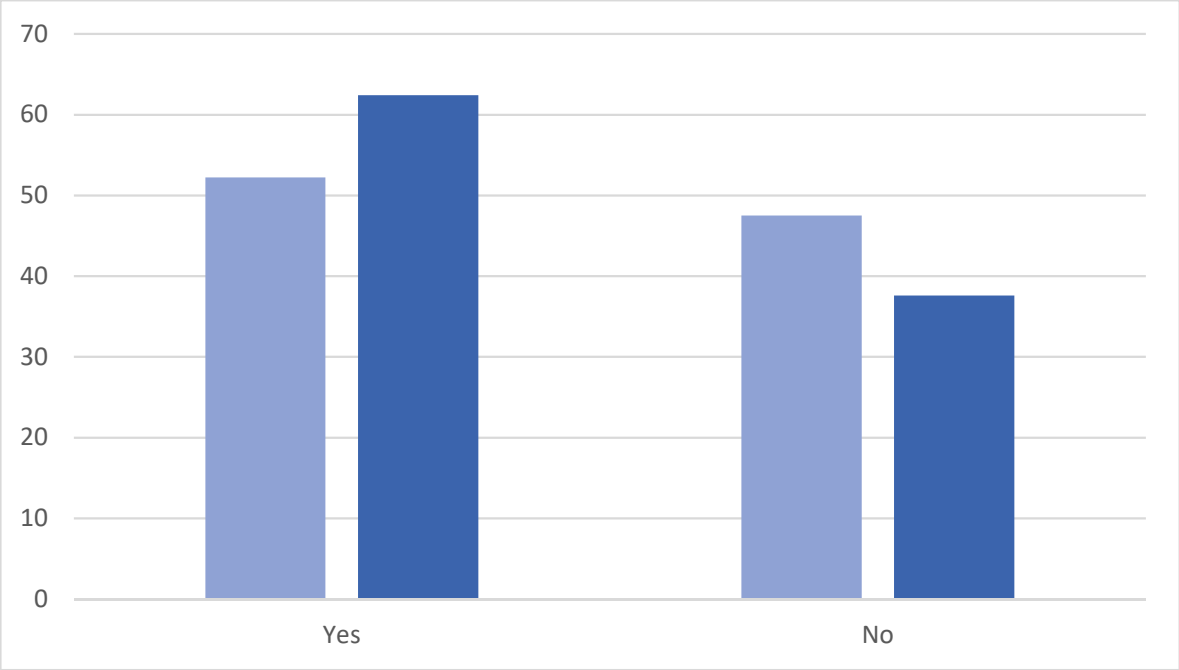
Broken Arrow Waste & Refuse Analysis

Q27. Now that you've had a recycling cart, do you think you would like to have a trash cart as well?	n=90 Weeks 11-12	n=81 Post-Project Completion
Yes	41.1	43.2
No	54.4	54.3
Don't know	4.4	2.5



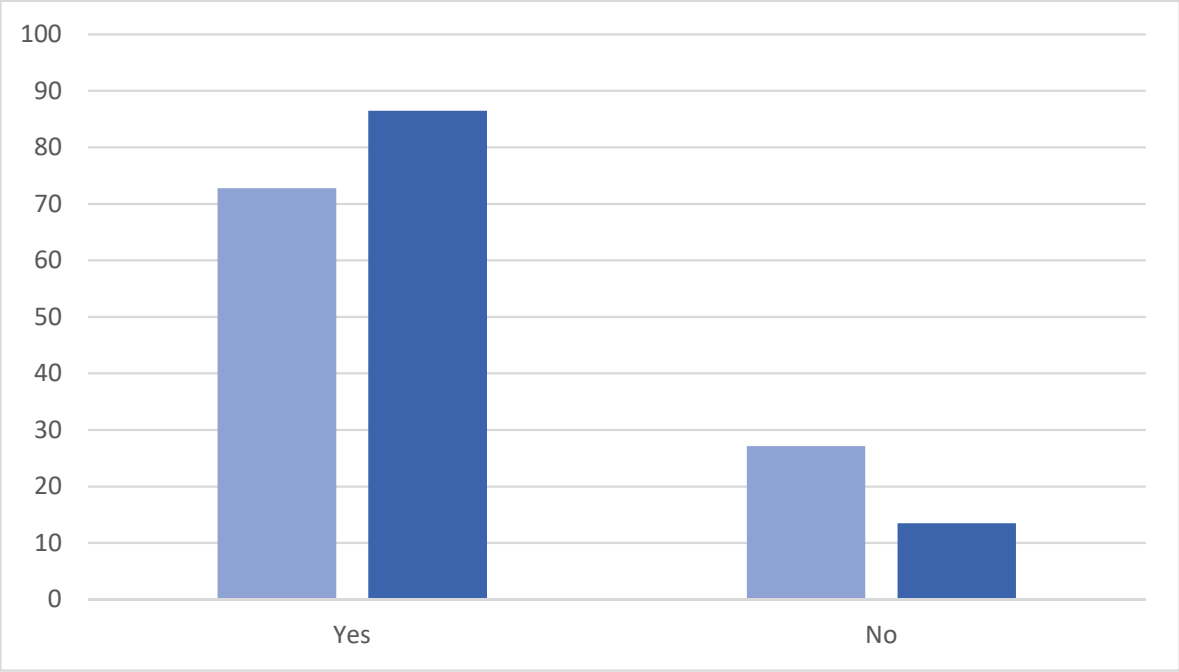
Broken Arrow Waste & Refuse Analysis

Q31. Have you used the reusable B.A. tote bag?	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	52.2	62.4
No	47.5	37.6



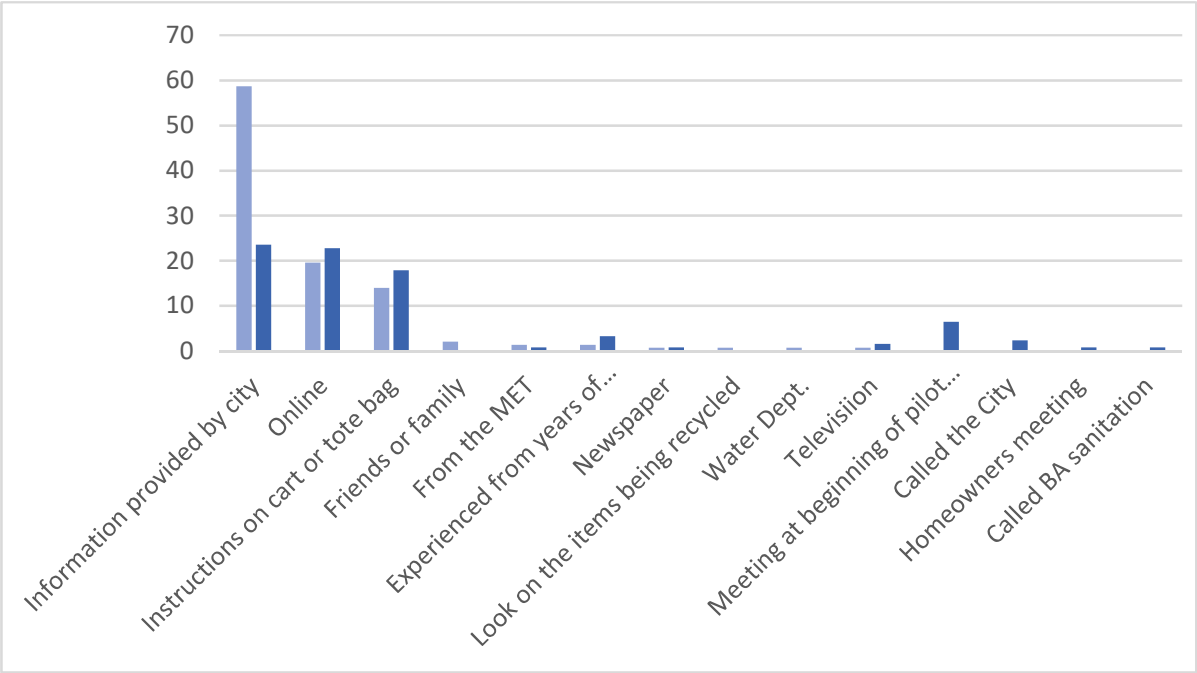
Broken Arrow Waste & Refuse Analysis

Q32. Did you know that plastic items such as re-sealable bags, and the overwrap on plastic soda and water bottles is not recyclable?	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	72.8	86.5
No	27.2	13.5



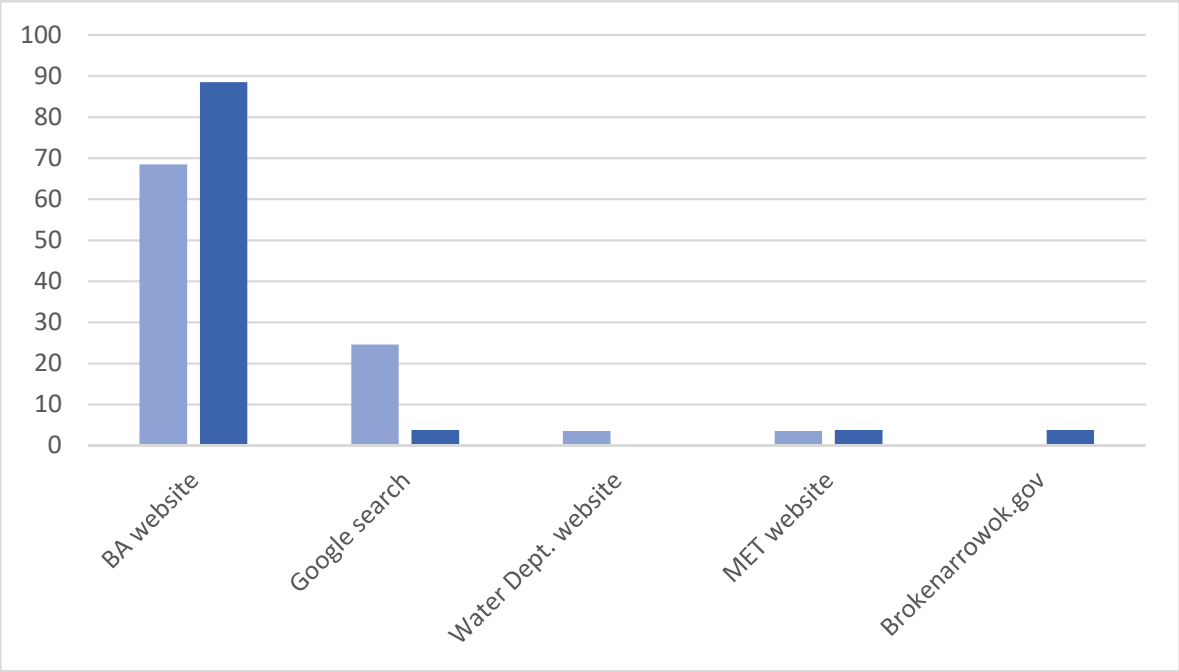
Broken Arrow Waste & Refuse Analysis

Q33. Where in your community do you get information on what items are recyclable?	n=143 Weeks 11-12	n=121 Post-Project Completion
Information provided by city	58.7	23.6
Online	19.6	22.8
Instructions on cart or tote bag	14.0	17.9
Friends or family	2.1	0.0
From the MET	1.4	0.8
Experienced from years of recycling	1.4	3.3
Newspaper	0.7	0.8
Look on the items being recycled	0.7	0.0
Water Dept.	0.7	0.0
Televisiion	0.7	1.6
Meeting at beginning of pilot program	0.0	6.5
Called the City	0.0	2.4
Homeowners meeting	0.0	0.8
Called BA sanitation	0.0	0.8



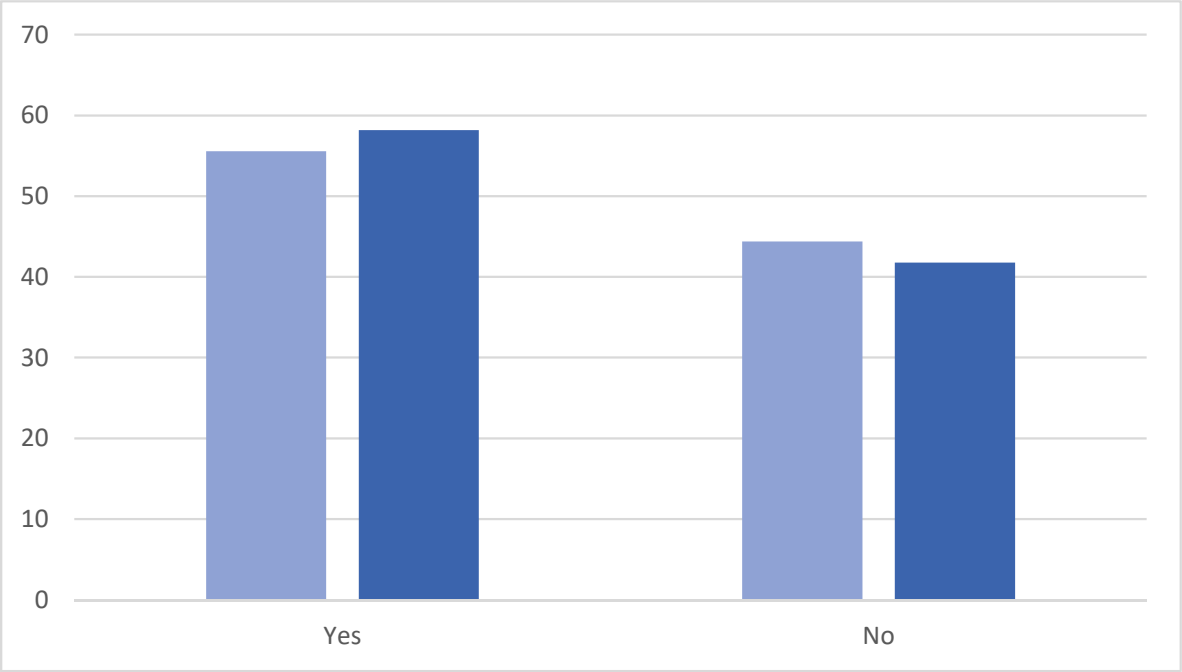
Broken Arrow Waste & Refuse Analysis

Q34. Where online would you get information on what items are recyclable?	n=48 Weeks 11-12	n=52 Post-Project Completion
BA website	68.4	88.5
Google search	24.6	3.8
Water Dept. website	3.5	0.0
MET website	3.5	3.8
Brokenarrowok.gov	0.0	3.8



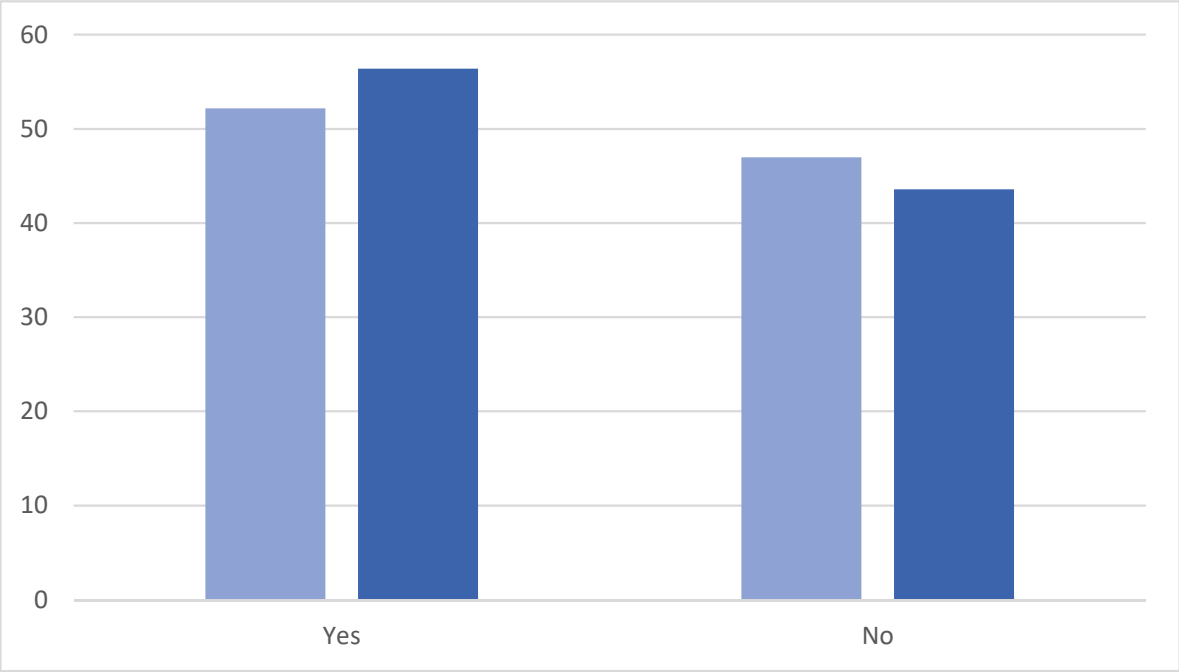
Broken Arrow Waste & Refuse Analysis

Q35. Are you aware of the recycling website Broken Arrow has, recycleba.com?	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	55.6	58.2
No	44.4	41.8



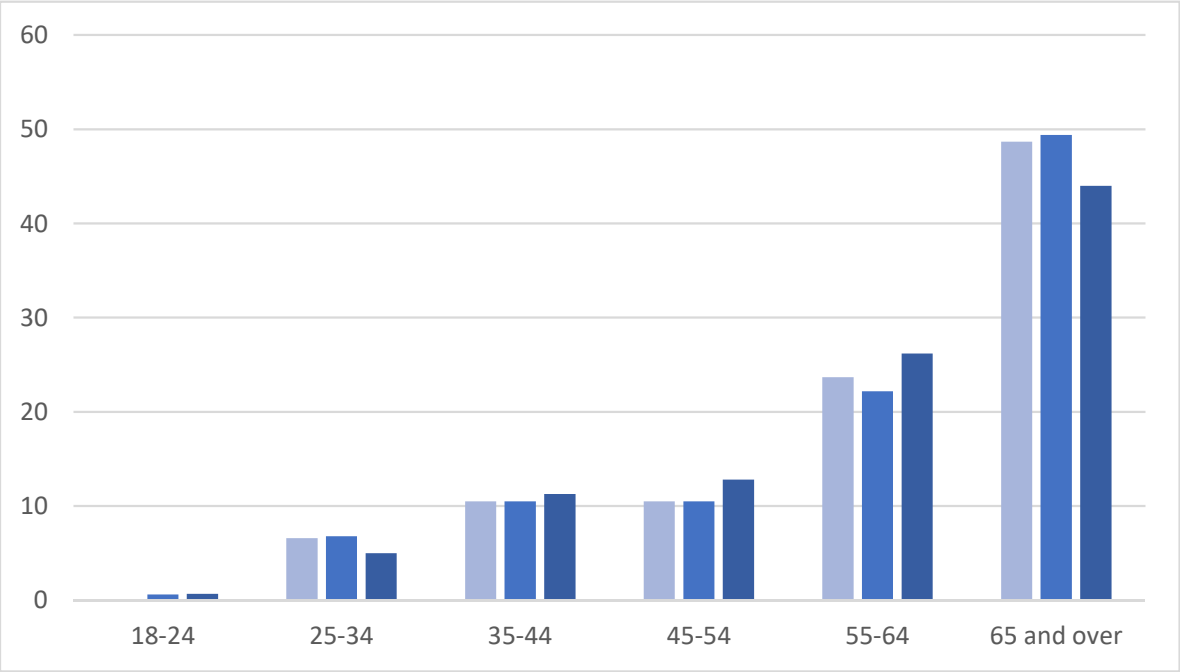
Broken Arrow Waste & Refuse Analysis

Q36. Have you ever visited recycleba.com	n=90 Weeks 11-12	n=94 Post-Project Completion
Yes	52.2	56.4
No	47.0	43.6



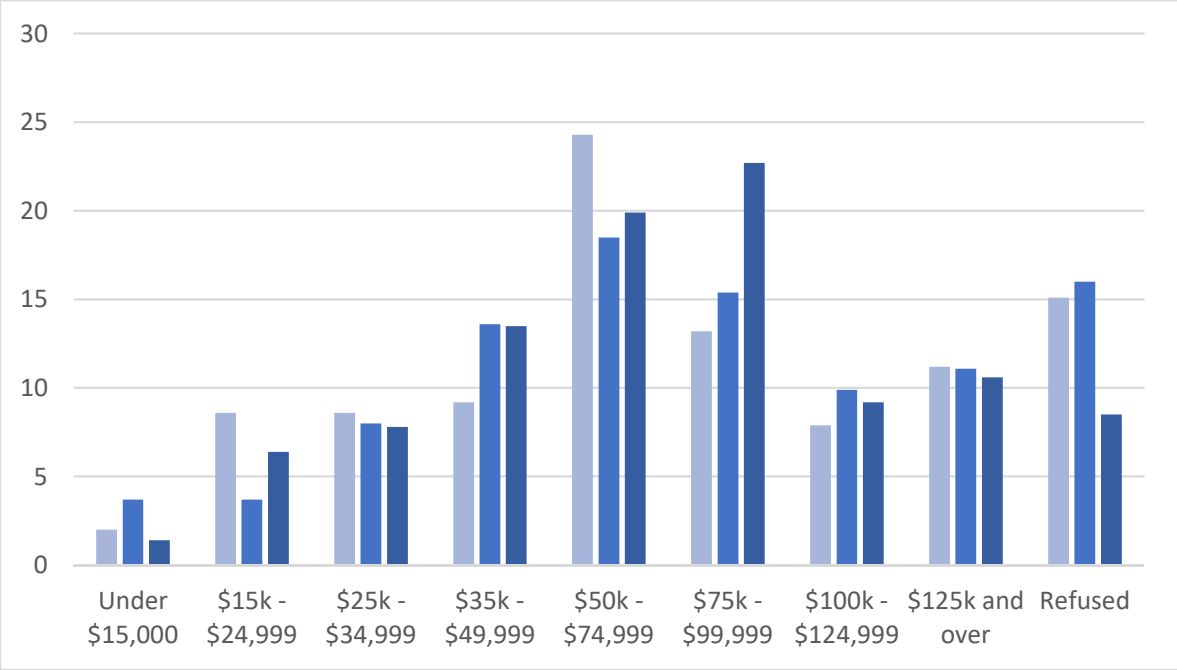
Broken Arrow Waste & Refuse Analysis

D1. Into which of the following categories does your age fall?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
18-24	0.0	0.6	0.7
25-34	6.6	6.8	5.0
35-44	10.5	10.5	11.3
45-54	10.5	10.5	12.8
55-64	23.7	22.2	26.2
65 and over	48.7	49.4	44.0



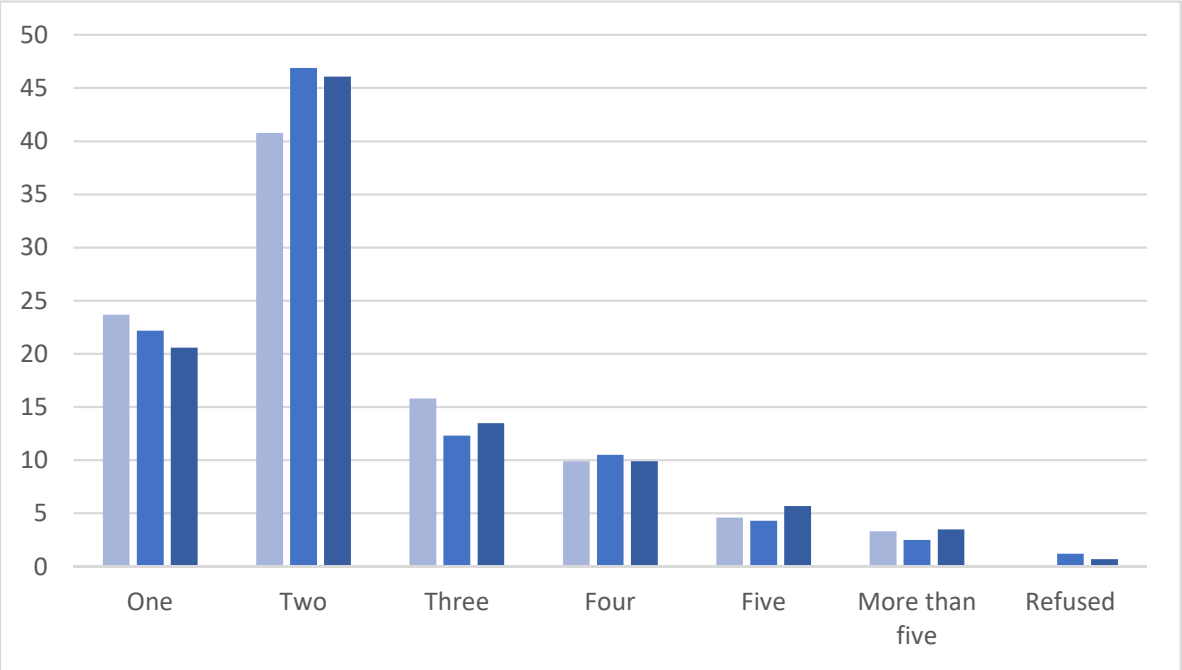
Broken Arrow Waste & Refuse Analysis

D2. Which of the following broad categories best dest describes your annual household	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Under $15,000	2.0	3.7	1.4
$15k - $24,999	8.6	3.7	6.4
$25k - $34,999	8.6	8.0	7.8
$35k - $49,999	9.2	13.6	13.5
$50k - $74,999	24.3	18.5	19.9
$75k - $99,999	13.2	15.4	22.7
$100k - $124,999	7.9	9.9	9.2
$125k and over	11.2	11.1	10.6
Refused	15.1	16.0	8.5



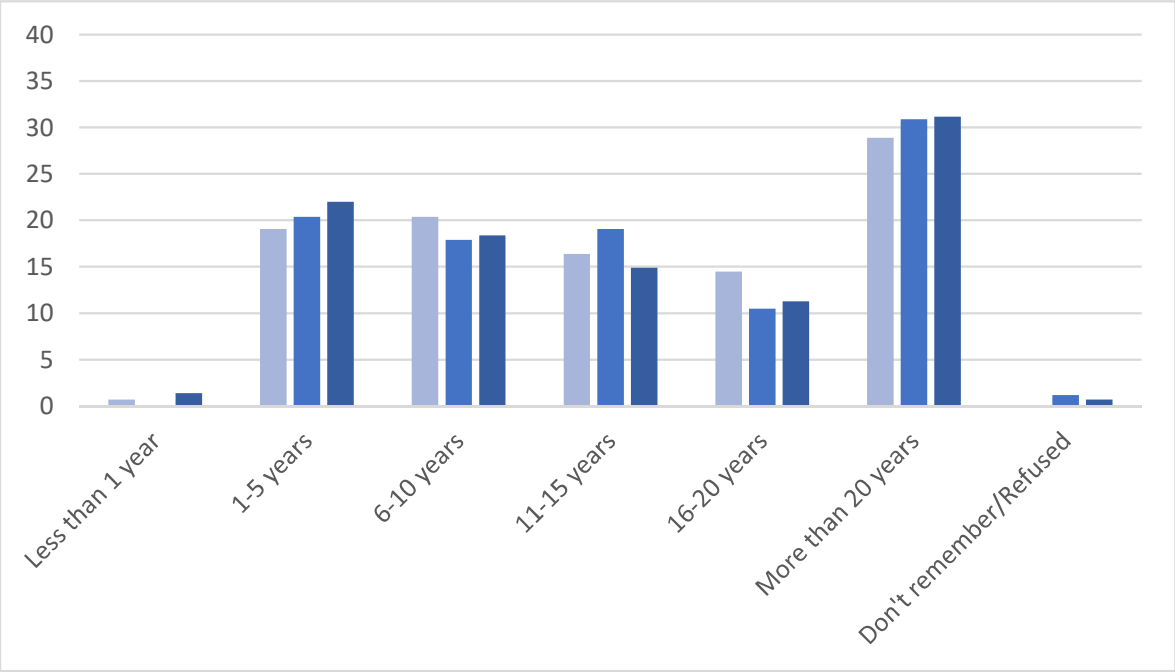
Broken Arrow Waste & Refuse Analysis

D3. Including you, how many people are currently living in your household?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
One	23.7	22.2	20.6
Two	40.8	46.9	46.1
Three	15.8	12.3	13.5
Four	9.9	10.5	9.9
Five	4.6	4.3	5.7
More than five	3.3	2.5	3.5
Refused	0.0	1.2	0.7



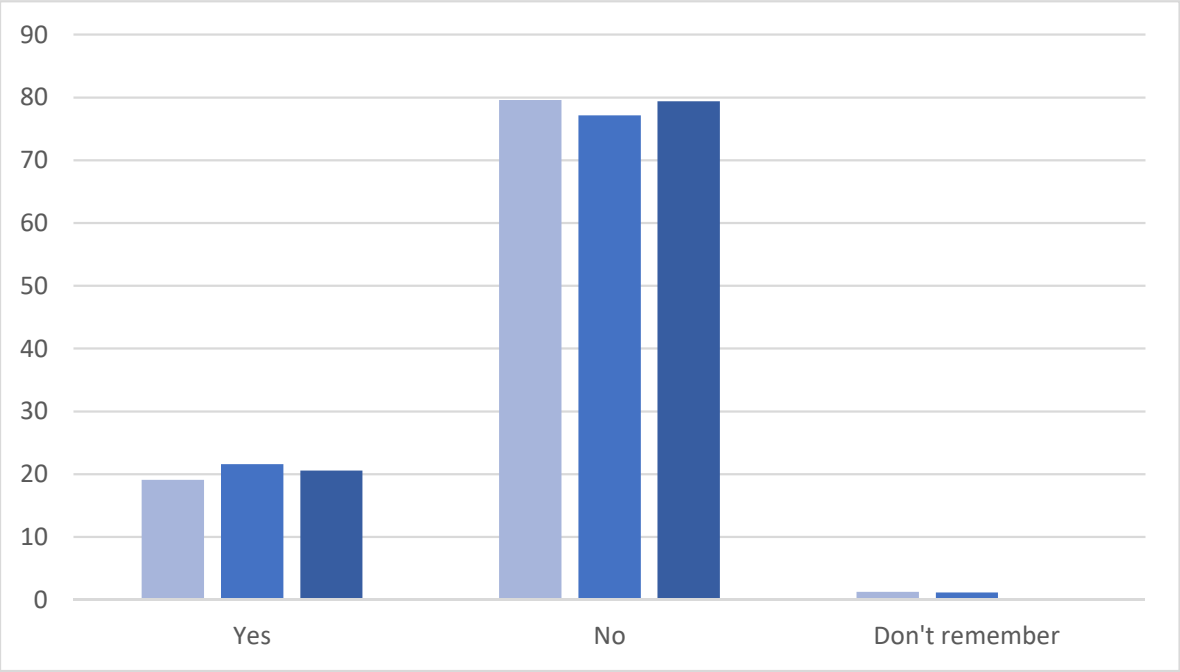
Broken Arrow Waste & Refuse Analysis

D4. How long have you lived at this address?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Less than 1 year	0.7	0.0	1.4
1-5 years	19.1	20.4	22.0
6-10 years	20.4	17.9	18.4
11-15 years	16.4	19.1	14.9
16-20 years	14.5	10.5	11.3
More than 20 years	28.9	30.9	31.2
Don't remember/Refused	0.0	1.2	0.7



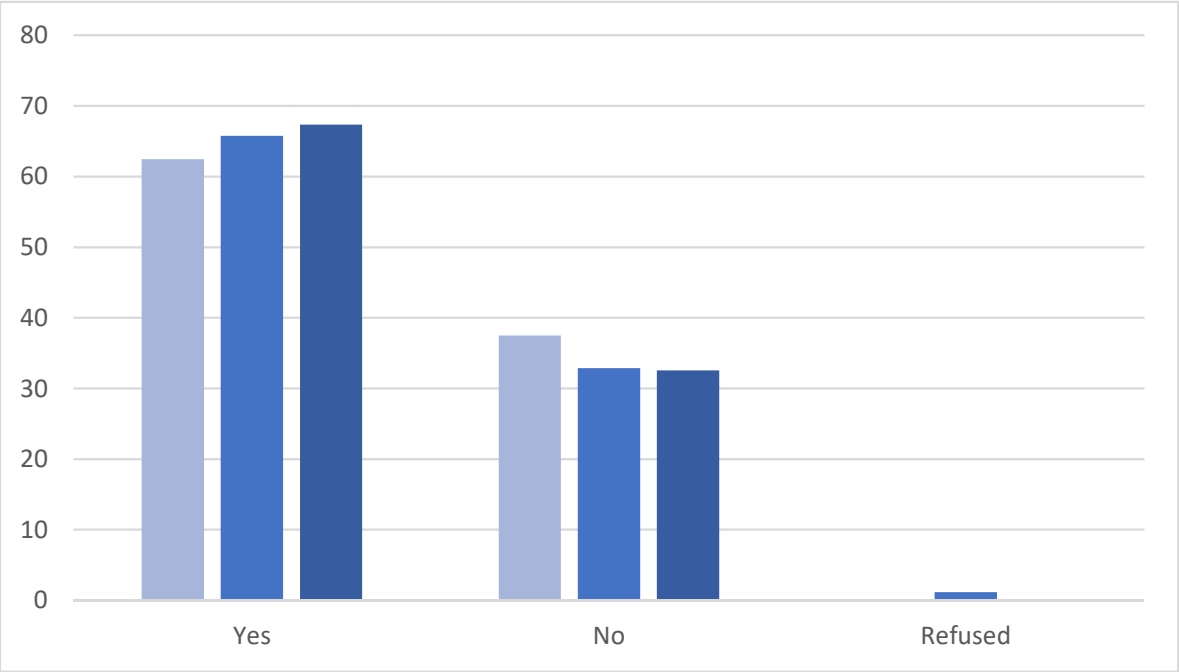
Broken Arrow Waste & Refuse Analysis

D5. Have you ever previously lived in an area that offered curbside recycling?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	19.1	21.6	20.6
No	79.6	77.2	79.4
Don't remember	1.3	1.2	0.0



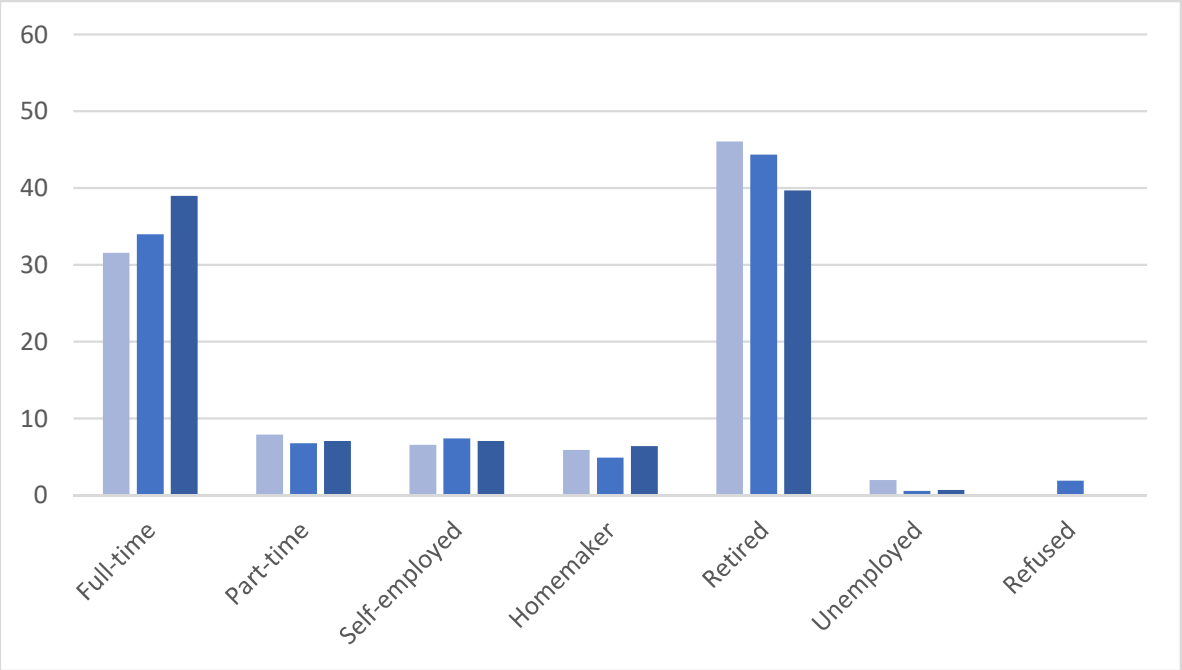
Broken Arrow Waste & Refuse Analysis

D6. Are you married	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Yes	62.5	65.8	67.4
No	37.5	32.9	32.6
Refused	0.0	1.2	0.0



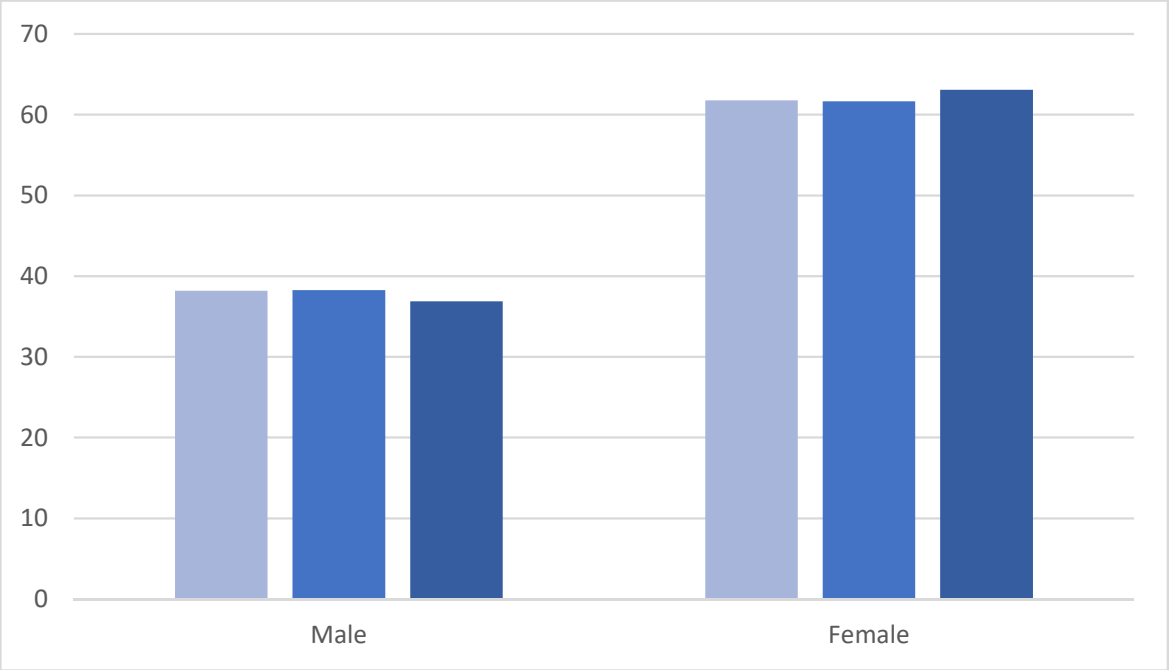
Broken Arrow Waste & Refuse Analysis

D7. Which of the following categories best describes your work status?	n=152 Weeks 3-4	n=162 Weeks 11-12	n=141 Post-Project Completion
Full-time	31.6	34.0	39.0
Part-time	7.9	6.8	7.1
Self-employed	6.6	7.4	7.1
Homemaker	5.9	4.9	6.4
Retired	46.1	44.4	39.7
Unemployed	2.0	0.6	0.7
Refused	0.0	1.9	0.0



Broken Arrow Waste & Refuse Analysis

	n=152	n=162	n=141
D8. Are you:	**Weeks 3-4**	**Weeks 11-12**	**Post-Project Completion**
Male	38.2	38.3	36.9
Female	61.8	61.7	63.1



Q37. One more question before we get some quick demographics information. Now that the evaluation period has concluded, the City will be preparing a report on the pilot project. Is there anything else you would like to add about your experience using the recycling system, changing your set-outs, having the carts etc.? [RECORD VERBATIM]

I much prefer this pilot system than just having plastic bags at our curb twice a week.

I love it. Please don't take it away!

It's great

Recycling program is great and much welcomed. Seems to have been embraced by entire neighborhood. May be beneficial to outline more items that are commonly but incorrectly put into recycling.

HATE the carts. Bring back bags and 2x trash pick up. Take away these awful carts. We were promised they would be picked up after pilot program. Come get them!!

There is not enough information on what can be recycled. There is a number on most plastics but the number system is not used on the Cities website. It should be used uniformly for information on recycling. I know not every article can be listed but I'm even unsure what paper products can be used.

Only problem i have seen is where the collectors leave carts sometimes too far out in the street. Otherwise i love recycling.

I am recycling more items because I have a recycle trash can in kitchen so it is easy to recycle.

Just give us the trash carts.

I think it was awesome and it would be very popular throughout the city

I absolutely love, love, love this program!!!! The cart is awesome, the tote bag is awesome, the trash cart is soooooo much better than having bags on the curb

I love the program.

WE LOVE IT!!!!!

The current system works well for us. I doubt we would do it without this service

I think it's a good thing.

I would like to know just how the recyclables are handled, where they go. I have read that plastic is not being recycled in may cities now in that China will no long import. Some cities are now incinerating which can be much worse for the environment. Also, if the city is using this program to go to a once at week collection of trash why not be truthful and just state the fact.

Today the recycle is much later (if it has even come yet) than the trash pick up. I like it better when they are close to the same time. I can adjust where I set them if this is going to now be the norm though. Thank you.

I live alone and smaller carts would be easier for me to handle; also, I keep my recycling cart in my garage, so a smaller one would be more convenient.

Q37. One more question before we get some quick demographics information. Now that the evaluation period has concluded, the City will be preparing a report on the pilot project. Is there anything else you would like to add about your experience using the recycling system, changing your set-outs, having the carts etc.? [RECORD VERBATIM]

The carts are awkward and unwieldy, and more so as they get heavier. I really dislike the bright blue on the recycling cart. It takes away from the looks of the property. The trash cart can get really foul-smelling after four or five days.

Think In summer and warm weather months should have 2 trash pick up days

smaller carts

I love the bins. Without them we didn't recycle. We have the tote next to the trash can in the kitchen, it's really convenient.

Leave it at bags. We like our city looking good.

I think the program is very beneficial for those not recycling. The only issue I have is that the current cart is too big. One about half their size would probably be better for me.

We greatly appreciate the recycling program. We want to keep it. This has reduced the volume and frequency of trips to MET for the items BA does not accept.

Really need a smaller cart as well as a full size trash cart

I love the carts instead of hauling bags to the curb. A little smaller containers would work. Once a week pickup is great. I now recycle since the program started.

I'm sure it's already decided, but I would rather NOT have a trash cart, and keep using the heavy duty black trash bags with the recycling cart. ðŸ˜Š

Need 2 times a week pickup for trash

I love everything about the program! The only thing I've wondered with the change to once a week trash pickup is if our neighborhoods will get smelly with the trash sitting in 110 degree heat for a week. But that might not be a reason to change anything--we might just have to freeze raw chicken parts instead of trash them right away! :-)

I don't care for the carts. Too clumsy to move and streets too narrow to leave in streets.

Like the pilot project as is, no changes needed.

Love the recycling, hate that you tell people to throw away items that you don't recycle but other places do.

Don't want two carts. Everything else is good.

PLEASE KEEP THE PROGRAM

1. Do not like once a week trash pickup. 2. Totally unfair having to pay full price and getting only once a week trash pickup vs those not in the pilot program. 3. Since two trucks come by one day per week how is that saving City money vs 1 truck twice a week?

Q37. One more question before we get some quick demographics information. Now that the evaluation period has concluded, the City will be preparing a report on the pilot project. Is there anything else you would like to add about your experience using the recycling system, changing your set-outs, having the carts etc.? [RECORD VERBATIM]

A few points of clarification first. Question 4, I wanted to mark 0 weeks, but that was not given as an option. Question 12, when I say we set out 9 bags of trash, I mean 9 13-gallon kitchen-sized bags. Questions 15, 16, 17 make assumptions about us that are not true, mostly that we like and participate in and wish to continue recycling. We do not. On to our experience: Though our family never requested a recycling program and we were put off by the city's ill-informed and condescending moralizing over the benefits of recycling, we gave it our best for several weeks. We posted the info on our fridge, mulled over every act of disposal, and cleaned out our cans and glass bottles. Then one day upon retrieving our recycling cart from the curb, we found a note communicating to us, "Oops!" we had put improper items in the recycling cart. No indication of what the offending items were, just a general, "You're terrible at recycling. Do better." That is the moment we decided no longer to participate in the program. It had been a burden to participate in the first place, and the notice made it clear to us it was not worth it to expend the effort since it wouldn't be accepted. We have five children, two of which still wear diapers, and although we've adopted a minimalist lifestyle, our trash piles up all week, stinking up our garage. But at least we no longer expend our time and mental resources pondering each disposal decision and cleaning our trash in preparation to recycle. Let me be absolutely clear, WE WANT BROKEN ARROW TO DISCONTINUE THE RECYCLING PROGRAM. The bad communication is one thing, but we have since found information that city recycling is a waste of taxpayer money. It may even be more wasteful for the environment to recycle than to simply throw out all trash and create new items entirely from raw materials. Other cities have found their recycling programs so financially unsustainable, they have had to eliminate them. Unless subsidized it is cheaper and more efficient for those cities to throw all disposed items in the landfill or burn them. Recycling is not cost-neutral for our family or anyone since it requires we give our time and mental energy to deciding what should be recycled and prepping items to go in the bin. We pay more of our money for the hot water we use to clean recyclable items, and we expect to spend more in the form of taxes since similar programs have proven financially inefficient. Furthermore, once-a-week pick-up is a hardship for our family since it requires us to devote more space on our property to accumulating trash, and the smell grows worse over the longer waiting period.

Carts need better lids. They do not shut tightly

I love the program

Want twice a week pickup for garbage back.

Miss twice a week trash pickup

Cart for trash would b awesome!!

I had to get a physician report, as I am handicapped and cannot haul the carts to the curb. I have been pleased with the workers being able to come up my driveway to get and return my carts to the front of my garage door. However, last week, they happened to return the carts to the opposite side than I keep them, thus blocking my path when trying to drive my car out of the garage. It presented quite a problem, but I finally got them moved to the proper spot. It will always help if they return the carts to exactly from where they retrieved them! This was a one-time incident, so perhaps they were just in a hurry, etc. I do appreciate the handicap permit, as I would not be able to participate in the cart program without it!

Pick up trash twice a week and recyclables every other week.

Would prefer smaller carts, though love the program!

Q37. One more question before we get some quick demographics information. Now that the evaluation period has concluded, the City will be preparing a report on the pilot project. Is there anything else you would like to add about your experience using the recycling system, changing your set-outs, having the carts etc.? [RECORD VERBATIM]

I think it was good. We recycled before so this saves us time. Once a week is OK too. The cart works for about 2 weeks of recyclables for our household.

I do not like the once a week pickup. Thus far the pilot program was in cold or cool weather. When the weather gets really hot the odor from the trash bin sitting in the garage will be very disagreeable.

I love that the Broken Arrow community sees a need to recycle and is using the curbside system!!! It is so much more convenient and I find my entire family recycles more as a result!!! The reusable tote has been a huge help! We are able to place it near our trash can and take it out to dump when we take out the trash! Super convenient and helpful!!! I am proud to be apart of a community that cares about our environment!!! ðŸ˜ŠðŸŒŽ

No changes. PLEASE CONTINUE THE PROGRAM.

Like it, but occasionally. Too much trash accumulates by Thursfay trash day, especially over holiday weekends, etc

I do not like the trash pickup. It needs to be picked up more than once a week

I miss twice a week trash pickup, especially in hot weather. I'm in poor health & unable to pull the cart down my very long driveway, so I'm not participating in the recycling pilot program at all.

My only complaint is where the workers put the carts when they are done. The rules are very specific about where we put cart (on the curb) but the workers are not careful to put them back on the curb which causes problems.

I did have a scare as bins were missing.

plz plz plz keep it!!!

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
Put recyclabes out this week	Yes	0	0.0%	6	85.7%	15	93.8%	17	94.4%	33	89.2%	51	82.3%
	No	1	100.0%	1	14.3%	1	6.3%	1	5.6%	4	10.8%	11	17.7%
Set out recycling cart this week	Yes	0	0.0%	6	85.7%	14	87.5%	14	77.8%	26	70.3%	45	72.6%
	No	1	100.0%	1	14.3%	2	12.5%	4	22.2%	11	29.7%	17	27.4%
Times per week set out recycling	1 week out of month	1	100.0%	1	14.3%	1	6.3%	0	0.0%	5	13.5%	15	24.2%
	2 weeks out of month	0	0.0%	2	28.6%	1	6.3%	5	27.8%	10	27.0%	18	29.0%
	3 weeks out of month	0	0.0%	0	0.0%	3	18.8%	5	27.8%	9	24.3%	7	11.3%
	4 months out of month	0	0.0%	4	57.1%	11	68.8%	8	44.4%	13	35.1%	20	32.3%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	3.2%
Smaller recycling cart preferable	Yes	1	100.0%	3	42.9%	1	6.3%	2	11.1%	15	40.5%	32	51.6%
	No	0	0.0%	4	57.1%	11	68.8%	14	77.8%	20	54.1%	24	38.7%
	Don't know	0	0.0%	0	0.0%	4	25.0%	2	11.1%	2	5.4%	6	9.7%
Household has less trash now	Yes	0	0.0%	5	71.4%	13	81.3%	16	88.9%	26	70.3%	36	58.1%
	No	1	100.0%	1	14.3%	2	12.5%	2	11.1%	8	21.6%	23	37.1%
	Don't know	0	0.0%	1	14.3%	1	6.3%	0	0.0%	3	8.1%	3	4.8%
Recycling importance	Very important	1	100.0%	4	57.1%	12	75.0%	18	100.0%	28	75.7%	44	71.0%
	Somewhat important	0	0.0%	3	42.9%	2	12.5%	0	0.0%	5	13.5%	8	12.9%
	DK/Neutral	0	0.0%	0	0.0%	1	6.3%	0	0.0%	0	0.0%	6	9.7%
	Somewhat unimportant	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.7%	2	3.2%
	Very unimportant	0	0.0%	0	0.0%	1	6.3%	0	0.0%	3	8.1%	2	3.2%
Recycling service satisfaction	Very satisfied	1	100.0%	6	85.7%	14	87.5%	17	94.4%	26	70.3%	42	67.7%
	Somewhat satisfied	0	0.0%	1	14.3%	0	0.0%	1	5.6%	6	16.2%	8	12.9%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
	DK/Neutral	0	0.0%	0	0.0%	1	6.3%	0	0.0%	2	5.4%	7	11.3%
	Somewhat unsatisfied	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	3.2%
	Very unsatisfied	0	0.0%	0	0.0%	1	6.3%	0	0.0%	3	8.1%	3	4.8%
Time per week spend on recycling	Less than 30 minutes	1	100.0%	6	85.7%	12	75.0%	15	83.3%	26	70.3%	48	77.4%
	30 - 60 minutes	0	0.0%	1	14.3%	4	25.0%	3	16.7%	9	24.3%	12	19.4%
	60 - 90 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.7%	0	0.0%
	90 - 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.7%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	3.2%
Questions about recycling cart	Yes	0	0.0%	0	0.0%	2	12.5%	0	0.0%	4	10.8%	6	9.7%
	No	1	100.0%	7	100.0%	14	87.5%	18	100.0%	33	89.2%	56	90.3%
Recyclables to MET before curbside	0	0	0.0%	7	100.0%	13	81.3%	10	55.6%	29	78.4%	40	64.5%
	1 - 2	1	100.0%	0	0.0%	3	18.8%	8	44.4%	7	18.9%	22	35.5%
	3 - 4	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.7%	0	0.0%
	5 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycle more now	Yes	0	0.0%	0	0.0%	1	33.3%	7	87.5%	7	87.5%	11	50.0%
	No	1	100.0%	0	0.0%	2	66.7%	1	12.5%	1	12.5%	11	50.0%
How much more recycling	About 10 additional items a week	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	3	27.3%
	About 20 additional items a week	0	0.0%	0	0.0%	1	100.0%	3	42.9%	3	42.9%	3	27.3%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
	About 30 additional items a week	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	1	9.1%
	About 40 additional items a week	0	0.0%	0	0.0%	0	0.0%	2	28.6%	0	0.0%	2	18.2%
	About 50 additional items a week	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%
	More than 50 additional items a week	0	0.0%	0	0.0%	0	0.0%	2	28.6%	1	14.3%	2	18.2%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average number of bags set out (RO)	1	0	0.0%	2	40.0%	0	0.0%	2	25.0%	7	30.4%	13	34.2%
	2	0	0.0%	1	20.0%	3	50.0%	2	25.0%	9	39.1%	17	44.7%
	3	0	0.0%	2	40.0%	0	0.0%	2	25.0%	3	13.0%	3	7.9%
	4	1	100.0%	0	0.0%	0	0.0%	0	0.0%	2	8.7%	2	5.3%
	5	0	0.0%	0	0.0%	0	0.0%	2	25.0%	1	4.3%	2	5.3%
	6	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	1	2.6%
	7	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	0	0.0%
	9	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	0	0.0%
	10	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	0	0.0%
More or less than before (RO)	More	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	1	2.6%
	Less	0	0.0%	5	100.0%	2	33.3%	5	62.5%	17	73.9%	20	52.6%
	About the same amount	1	100.0%	0	0.0%	3	50.0%	3	37.5%	6	26.1%	17	44.7%
How full is cart upon setout (TAR)	Quarter full	0	0.0%	0	0.0%	2	20.0%	0	0.0%	2	14.3%	4	16.7%
	Half full	0	0.0%	2	100.0%	2	20.0%	5	50.0%	2	14.3%	7	29.2%
	Three quarters full	0	0.0%	0	0.0%	5	50.0%	3	30.0%	4	28.6%	8	33.3%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
	Full	0	0.0%	0	0.0%	0	0.0%	1	10.0%	6	42.9%	4	16.7%
	Full cart and then some more bags of trash	0	0.0%	0	0.0%	1	10.0%	1	10.0%	0	0.0%	1	4.2%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (TAR)	More	0	0.0%	0	0.0%	0	0.0%	1	10.0%	1	7.1%	3	12.5%
	Less	0	0.0%	1	50.0%	6	60.0%	8	80.0%	8	57.1%	10	41.7%
	About the same	0	0.0%	1	50.0%	4	40.0%	1	10.0%	5	35.7%	11	45.8%
Bags or cart preference (TAR)	Greatly prefer carts	0	0.0%	1	50.0%	9	90.0%	7	70.0%	7	50.0%	7	29.2%
	Somewhat prefer carts	0	0.0%	0	0.0%	0	0.0%	1	10.0%	3	21.4%	3	12.5%
	DK/Neutral	0	0.0%	0	0.0%	0	0.0%	2	20.0%	0	0.0%	0	0.0%
	Somewhat prefer bags	0	0.0%	1	50.0%	1	10.0%	0	0.0%	2	14.3%	6	25.0%
	Greatly prefer bags	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	14.3%	8	33.3%
One recycle cart enough (TAR)	Yes	0	0.0%	2	100.0%	9	90.0%	10	100.0%	14	100.0%	24	100.0%
	No	0	0.0%	0	0.0%	1	10.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
One trash cart enough (TAR)	Yes	0	0.0%	2	100.0%	10	100.0%	10	100.0%	14	100.0%	22	91.7%
	No	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	8.3%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller trash cart preferable (TAR)	Yes	0	0.0%	1	50.0%	0	0.0%	1	10.0%	3	21.4%	11	45.8%
	No	0	0.0%	1	50.0%	10	100.0%	9	90.0%	10	71.4%	11	45.8%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	7.1%	2	8.3%
Problmes this week (TAR)	Yes	0	0.0%	0	0.0%	1	10.0%	0	0.0%	1	7.1%	3	12.5%
	No	0	0.0%	2	100.0%	9	90.0%	10	100.0%	13	92.9%	21	87.5%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
What problems	Carts too big/Cumbersome	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%	3	100.0%
	Workers leave carts in the street	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
Recycling cart favorablity (RO)	Very favorable	0	0.0%	3	60.0%	4	66.7%	8	100.0%	13	56.5%	18	47.4%
	Somewhat favorable	0	0.0%	2	40.0%	1	16.7%	0	0.0%	3	13.0%	10	26.3%
	DK/Neutral	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	13.0%	4	10.5%
	Somewhat unfavorable	1	100.0%	0	0.0%	0	0.0%	0	0.0%	3	13.0%	3	7.9%
	Very unfavorable	0	0.0%	0	0.0%	1	16.7%	0	0.0%	1	4.3%	3	7.9%
One recycling cart enough (RO)	Yes	1	100.0%	5	100.0%	5	83.3%	8	100.0%	22	95.7%	35	92.1%
	No	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	1	2.6%
	Don't know	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	2	5.3%
Problems this week (RO)	Yes	1	100.0%	0	0.0%	0	0.0%	0	0.0%	2	8.7%	2	5.3%
	No	0	0.0%	5	100.0%	6	100.0%	8	100.0%	21	91.3%	36	94.7%
What problems	Steep driveway makes it difficult	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100.0%
	Workers leave cart in street	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%
	Storm blew open lid and cart filled with water	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Not home on collection day	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
Like a trash cart as well (RO)	Yes	0	0.0%	3	60.0%	4	66.7%	7	87.5%	9	39.1%	12	31.6%
	No	1	100.0%	1	20.0%	2	33.3%	1	12.5%	14	60.9%	25	65.8%
	Don't know	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%	1	2.6%
Why do you want a trash cart (RO)	Only have to make 1 trip to the curb	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	10.0%
	Helps keep trash contained/Cleaner/Away from animals	0	0.0%	2	66.7%	2	50.0%	4	57.1%	3	33.3%	6	60.0%
	Wheels make it easier to haul trash to curb	0	0.0%	1	33.3%	0	0.0%	2	28.6%	3	33.3%	2	20.0%
	Gives somewhere to store trash until collection	0	0.0%	0	0.0%	2	50.0%	1	14.3%	3	33.3%	0	0.0%
	Would save on plastic bags	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	10.0%
Why do you not want a trash cart (RO)	No room to store it	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%	8	32.0%
	Carts are difficult to move	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	23.1%	5	20.0%
	Residents leave on curb for extended periods of time	1	100.0%	0	0.0%	0	0.0%	0	0.0%	2	15.4%	0	0.0%
	Already purchased a trash cart	0	0.0%	1	100.0%	1	50.0%	0	0.0%	1	7.7%	3	12.0%
	Don't produce enough trash to need a cart	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	15.4%	2	8.0%
	Like the bags	0	0.0%	0	0.0%	1	50.0%	0	0.0%	5	38.5%	5	20.0%
	Produce too much yard waste to fit in a cart	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	8.0%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
Discontinue distribution of bags	Yes	0	0.0%	1	100.0%	0	0.0%	0	0.0%	2	14.3%	8	32.0%
	No	0	0.0%	0	0.0%	2	100.0%	1	100.0%	12	85.7%	14	56.0%
	Don't know	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	12.0%
Used reusable BA tote bag	Yes	0	0.0%	5	71.4%	10	62.5%	15	83.3%	22	59.5%	36	58.1%
	No	1	100.0%	2	28.6%	6	37.5%	3	16.7%	15	40.5%	26	41.9%
Know that some plastics not recyclable	Yes	1	100.0%	6	85.7%	13	81.3%	15	83.3%	33	89.2%	54	87.1%
	No	0	0.0%	1	14.3%	3	18.8%	3	16.7%	4	10.8%	8	12.9%
Where in community do you get your info	Info provided by the city	0	0.0%	0	0.0%	4	26.7%	2	14.3%	6	17.6%	17	31.5%
	Homeowners meeting	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.9%
	Online	0	0.0%	1	20.0%	6	40.0%	3	21.4%	12	35.3%	6	11.1%
	Flyers/Mailers	0	0.0%	3	60.0%	2	13.3%	4	28.6%	4	11.8%	8	14.8%
	From past recycling experience	0	0.0%	0	0.0%	0	0.0%	1	7.1%	1	2.9%	2	3.7%
	On TV	0	0.0%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	1	1.9%
	On the cart on tote bag	1	100.0%	1	20.0%	0	0.0%	3	21.4%	8	23.5%	9	16.7%
	Meeting at beginning of pilot program	0	0.0%	0	0.0%	1	6.7%	0	0.0%	1	2.9%	6	11.1%
	Call BA sanitation	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.9%	0	0.0%
	Newspaper	0	0.0%	0	0.0%	1	6.7%	0	0.0%	0	0.0%	0	0.0%
	From the MET	0	0.0%	0	0.0%	0	0.0%	1	7.1%	1	2.9%	0	0.0%
	Word of mouth	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.9%
	Called the city	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	5.6%

		Age											
		18 - 24		25 - 34		35 - 44		45 - 54		55 - 64		65 and over	
Where online do you get your info	recycleba.org	0	0.0%	2	100.0%	4	57.1%	6	75.0%	16	94.1%	18	100.0%
	MET website	0	0.0%	0	0.0%	2	28.6%	0	0.0%	0	0.0%	0	0.0%
	brokenarrowok.gov	0	0.0%	0	0.0%	1	14.3%	1	12.5%	0	0.0%	0	0.0%
	Google	0	0.0%	0	0.0%	0	0.0%	1	12.5%	1	5.9%	0	0.0%
Aware of recycleba.com	Yes	0	0.0%	3	42.9%	11	68.8%	9	50.0%	23	62.2%	36	58.1%
	No	1	100.0%	4	57.1%	5	31.3%	9	50.0%	14	37.8%	26	41.9%
Used recycleba.com	Yes	0	0.0%	2	66.7%	10	90.9%	6	60.0%	18	72.0%	17	37.8%
	No	0	0.0%	1	33.3%	1	9.1%	4	40.0%	7	28.0%	28	62.2%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
Put recyclabes out this week	Yes	8	72.7%	9	81.8%	19	100.0%	26	92.9%	28	87.5%	11	84.6%	14	93.3%
	No	3	27.3%	2	18.2%	0	0.0%	2	7.1%	4	12.5%	2	15.4%	1	6.7%
Set out recycling cart this week	Yes	7	63.6%	9	81.8%	17	89.5%	23	82.1%	22	68.8%	9	69.2%	12	80.0%
	No	4	36.4%	2	18.2%	2	10.5%	5	17.9%	10	31.3%	4	30.8%	3	20.0%
Times per week set out recycling	1 week out of month	4	36.4%	3	27.3%	2	10.5%	2	7.1%	6	18.8%	3	23.1%	1	6.7%
	2 weeks out of month	3	27.3%	1	9.1%	7	36.8%	8	28.6%	9	28.1%	2	15.4%	2	13.3%
	3 weeks out of month	1	9.1%	3	27.3%	4	21.1%	2	7.1%	5	15.6%	3	23.1%	5	33.3%
	4 months out of month	3	27.3%	4	36.4%	6	31.6%	16	57.1%	12	37.5%	5	38.5%	7	46.7%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller recycling cart preferable	Yes	5	45.5%	6	54.5%	9	47.4%	10	35.7%	9	28.1%	5	38.5%	3	20.0%
	No	5	45.5%	4	36.4%	8	42.1%	14	50.0%	20	62.5%	6	46.2%	11	73.3%
	Don't know	1	9.1%	1	9.1%	2	10.5%	4	14.3%	3	9.4%	2	15.4%	1	6.7%
Household has less trash now	Yes	6	54.5%	6	54.5%	16	84.2%	25	89.3%	21	65.6%	8	61.5%	10	66.7%
	No	5	45.5%	4	36.4%	2	10.5%	2	7.1%	8	25.0%	4	30.8%	4	26.7%
	Don't know	0	0.0%	1	9.1%	1	5.3%	1	3.6%	3	9.4%	1	7.7%	1	6.7%
Recycling importance	Very important	9	81.8%	9	81.8%	18	94.7%	23	82.1%	21	65.6%	8	61.5%	12	80.0%
	Somewhat important	1	9.1%	1	9.1%	1	5.3%	1	3.6%	5	15.6%	3	23.1%	2	13.3%
	DK/Neutral	0	0.0%	1	9.1%	0	0.0%	2	7.1%	2	6.3%	1	7.7%	0	0.0%
	Somewhat unimportant	0	0.0%	0	0.0%	0	0.0%	1	3.6%	2	6.3%	0	0.0%	0	0.0%
	Very unimportant	1	9.1%	0	0.0%	0	0.0%	1	3.6%	2	6.3%	1	7.7%	1	6.7%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
Recycling service satisfaction	Very satisfied	8	72.7%	9	81.8%	17	89.5%	26	92.9%	22	68.8%	9	69.2%	10	66.7%
	Somewhat satisfied	3	27.3%	0	0.0%	1	5.3%	0	0.0%	4	12.5%	2	15.4%	3	20.0%
	DK/Neutral	0	0.0%	2	18.2%	1	5.3%	1	3.6%	4	12.5%	1	7.7%	0	0.0%
	Somewhat unsatisfied	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.1%	0	0.0%	1	6.7%
	Very unsatisfied	0	0.0%	0	0.0%	0	0.0%	1	3.6%	1	3.1%	1	7.7%	1	6.7%
Time per week spend on recycling	Less than 30 minutes	8	72.7%	8	72.7%	15	78.9%	22	78.6%	21	65.6%	12	92.3%	13	86.7%
	30 - 60 minutes	3	27.3%	3	27.3%	4	21.1%	6	21.4%	9	28.1%	1	7.7%	2	13.3%
	60 - 90 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.1%	0	0.0%	0	0.0%
	90 - 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.1%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Questions about recycling cart	Yes	0	0.0%	0	0.0%	4	21.1%	4	14.3%	2	6.3%	1	7.7%	1	6.7%
	No	11	100%	11	100%	15	78.9%	24	85.7%	30	93.8%	12	92.3%	14	93.3%
Recyclables to MET before curbside	0	8	72.7%	8	72.7%	12	63.2%	20	71.4%	27	84.4%	11	84.6%	8	53.3%
	1 - 2	3	27.3%	3	27.3%	7	36.8%	8	28.6%	4	12.5%	2	15.4%	7	46.7%
	3 - 4	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	3.1%	0	0.0%	0	0.0%
	5 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycle more now	Yes	2	66.7%	3	100%	5	71.4%	3	37.5%	5	100%	0	0.0%	4	57.1%
	No	1	33.3%	0	0.0%	2	28.6%	5	62.5%	0	0.0%	2	100.0%	3	42.9%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
How much more recycling	About 10 additional items a week	1	50.0%	1	33.3%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%
	About 20 additional items a week	0	0.0%	0	0.0%	4	80.0%	2	66.7%	0	0.0%	0	0.0%	3	75.0%
	About 30 additional items a week	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%
	About 40 additional items a week	1	50.0%	1	33.3%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%
	About 50 additional items a week	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 50 additional items a week	0	0.0%	1	33.3%	0	0.0%	1	33.3%	2	40.0%	0	0.0%	1	25.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average number of bags set out (RO)	1	1	33.3%	4	80.0%	4	36.4%	4	33.3%	5	21.7%	1	16.7%	2	18.2%
	2	2	66.7%	1	20.0%	5	45.5%	6	50.0%	8	34.8%	1	16.7%	5	45.5%
	3	0	0.0%	0	0.0%	0	0.0%	2	16.7%	4	17.4%	1	16.7%	3	27.3%
	4	0	0.0%	0	0.0%	1	9.1%	0	0.0%	1	4.3%	0	0.0%	0	0.0%
	5	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	13.0%	1	16.7%	1	9.1%
	6	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	1	16.7%	0	0.0%
	7	0	0.0%	0	0.0%	1	9.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	9	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	16.7%	0	0.0%
	10	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	0	0.0%	0	0.0%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
More or less than before (RO)	More	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	1	16.7%	0	0.0%
	Less	2	66.7%	4	80.0%	8	72.7%	8	66.7%	15	65.2%	3	50.0%	5	45.5%
	About the same amount	1	33.3%	1	20.0%	3	27.3%	4	33.3%	7	30.4%	2	33.3%	6	54.5%
How full is cart upon setout (TAR)	Quarter full	1	12.5%	1	16.7%	0	0.0%	3	18.8%	1	11.1%	2	28.6%	0	0.0%
	Half full	4	50.0%	2	33.3%	2	25.0%	5	31.3%	2	22.2%	1	14.3%	1	25.0%
	Three quarters full	1	12.5%	2	33.3%	5	62.5%	4	25.0%	3	33.3%	2	28.6%	2	50.0%
	Full	2	25.0%	1	16.7%	1	12.5%	3	18.8%	2	22.2%	1	14.3%	1	25.0%
	Full cart and then some more bags of trash	0	0.0%	0	0.0%	0	0.0%	1	6.3%	1	11.1%	1	14.3%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (TAR)	More	1	12.5%	0	0.0%	1	12.5%	0	0.0%	2	22.2%	0	0.0%	1	25.0%
	Less	2	25.0%	4	66.7%	5	62.5%	11	68.8%	5	55.6%	2	28.6%	3	75.0%
	About the same	5	62.5%	2	33.3%	2	25.0%	5	31.3%	2	22.2%	5	71.4%	0	0.0%
Bags or cart preference (TAR)	Greatly prefer carts	5	62.5%	3	50.0%	6	75.0%	6	37.5%	5	55.6%	3	42.9%	2	50.0%
	Somewhat prefer carts	1	12.5%	1	16.7%	0	0.0%	2	12.5%	0	0.0%	2	28.6%	1	25.0%
	DK/Neutral	0	0.0%	0	0.0%	0	0.0%	1	6.3%	1	11.1%	0	0.0%	0	0.0%
	Somewhat prefer bags	1	12.5%	0	0.0%	2	25.0%	3	18.8%	2	22.2%	2	28.6%	0	0.0%
	Greatly prefer bags	1	12.5%	2	33.3%	0	0.0%	4	25.0%	1	11.1%	0	0.0%	1	25.0%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
One recycle cart enough (TAR)	Yes	8	100%	5	83.3%	8	100.0%	16	100.0%	9	100%	7	100.0%	4	100.0%
	No	0	0.0%	1	16.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
One trash cart enough (TAR)	Yes	8	100%	6	100%	8	100.0%	16	100.0%	8	88.9%	7	100.0%	3	75.0%
	No	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	11.1%	0	0.0%	1	25.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller trash cart preferable (TAR)	Yes	2	25.0%	1	16.7%	2	25.0%	7	43.8%	2	22.2%	2	28.6%	0	0.0%
	No	6	75.0%	5	83.3%	6	75.0%	9	56.3%	6	66.7%	5	71.4%	3	75.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	11.1%	0	0.0%	1	25.0%
Problmes this week (TAR)	Yes	0	0.0%	1	16.7%	0	0.0%	2	12.5%	1	11.1%	1	14.3%	0	0.0%
	No	8	100%	5	83.3%	8	100.0%	14	87.5%	8	88.9%	6	85.7%	4	100.0%
What problems	Carts too big/Cumbersome	0	0.0%	1	100%	0	0.0%	1	50.0%	1	100%	1	100.0%	0	0.0%
	Workers leave carts in the street	0	0.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%
Recycling cart favorablity (RO)	Very favorable	1	33.3%	2	40.0%	7	63.6%	8	66.7%	15	65.2%	2	33.3%	8	72.7%
	Somewhat favorable	0	0.0%	2	40.0%	4	36.4%	3	25.0%	3	13.0%	2	33.3%	1	9.1%
	DK/Neutral	0	0.0%	1	20.0%	0	0.0%	0	0.0%	3	13.0%	1	16.7%	1	9.1%
	Somewhat unfavorable	1	33.3%	0	0.0%	0	0.0%	1	8.3%	2	8.7%	0	0.0%	0	0.0%
	Very unfavorable	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	16.7%	1	9.1%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
One recycling cart enough (RO)	Yes	3	100%	5	100%	11	100.0%	11	91.7%	23	100%	5	83.3%	10	90.9%
	No	0	0.0%	0	0.0%	0	0.0%	1	8.3%	0	0.0%	0	0.0%	1	9.1%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	16.7%	0	0.0%
Problems this week (RO)	Yes	0	0.0%	0	0.0%	1	9.1%	0	0.0%	1	4.3%	0	0.0%	0	0.0%
	No	3	100%	5	100%	10	90.9%	12	100.0%	22	95.7%	6	100.0%	11	100.0%
What problems	Steep driveway makes it difficult	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Workers leave cart in street	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100%	0	0.0%	0	0.0%
	Storm blew open lid and cart filled with water	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Not home on collection day	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Like a trash cart as well (RO)	Yes	2	66.7%	1	20.0%	5	45.5%	4	33.3%	12	52.2%	2	33.3%	7	63.6%
	No	1	33.3%	4	80.0%	6	54.5%	8	66.7%	10	43.5%	4	66.7%	4	36.4%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	0	0.0%	0	0.0%
Why do you want a trash cart (RO)	Only have to make 1 trip to the curb	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	8.3%	0	0.0%	0	0.0%
	Helps keep trash contained/Cleaner/Away from animals	1	100%	0	0.0%	2	40.0%	3	75.0%	4	33.3%	1	50.0%	6	85.7%
	Wheels make it easier to haul trash to curb	0	0.0%	1	100%	2	40.0%	0	0.0%	4	33.3%	0	0.0%	1	14.3%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
Why do you not want a trash cart (RO)	Gives somewhere to store trash until collection	0	0.0%	0	0.0%	1	20.0%	1	25.0%	3	25.0%	1	50.0%	0	0.0%
	Would save on plastic bags	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	No room to store it	0	0.0%	2	50.0%	2	33.3%	2	25.0%	2	22.2%	0	0.0%	0	0.0%
	Carts are difficult to move	0	0.0%	1	25.0%	1	16.7%	1	12.5%	2	22.2%	0	0.0%	1	25.0%
	Residents leave on curb for extended periods of time	0	0.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%	0	0.0%	1	25.0%
	Already purchased a trash cart	0	0.0%	0	0.0%	2	33.3%	0	0.0%	2	22.2%	1	25.0%	0	0.0%
	Don't produce enough trash to need a cart	1	100%	1	25.0%	0	0.0%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	Like the bags	0	0.0%	0	0.0%	1	16.7%	2	25.0%	3	33.3%	2	50.0%	2	50.0%
	Produce too much yard waste to fit in a cart	0	0.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%	1	25.0%	0	0.0%
Discontinue distribution of bags	Yes	0	0.0%	1	25.0%	1	16.7%	4	50.0%	3	30.0%	1	25.0%	1	25.0%
	No	1	100%	2	50.0%	5	83.3%	4	50.0%	7	70.0%	2	50.0%	3	75.0%
	Don't know	0	0.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%
Used reusable BA tote bag	Yes	7	63.6%	8	72.7%	11	57.9%	17	60.7%	20	62.5%	6	46.2%	12	80.0%
	No	4	36.4%	3	27.3%	8	42.1%	11	39.3%	12	37.5%	7	53.8%	3	20.0%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
Know that some plastics not recyclable	Yes	7	63.6%	10	90.9%	18	94.7%	25	89.3%	27	84.4%	11	84.6%	14	93.3%
	No	4	36.4%	1	9.1%	1	5.3%	3	10.7%	5	15.6%	2	15.4%	1	6.7%
Where in community do you get your info	Info provided by the city	1	11.1%	4	36.4%	5	27.8%	4	16.7%	7	28.0%	3	27.3%	4	28.6%
	Homeowners meeting	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.0%	0	0.0%	0	0.0%
	Online	3	33.3%	1	9.1%	7	38.9%	5	20.8%	5	20.0%	3	27.3%	2	14.3%
	Flyers/Mailers	1	11.1%	2	18.2%	3	16.7%	6	25.0%	2	8.0%	1	9.1%	2	14.3%
	From past recycling experience	0	0.0%	1	9.1%	0	0.0%	1	4.2%	1	4.0%	1	9.1%	0	0.0%
	On TV	0	0.0%	1	9.1%	0	0.0%	0	0.0%	1	4.0%	0	0.0%	0	0.0%
	On the cart on tote bag	2	22.2%	1	9.1%	1	5.6%	6	25.0%	4	16.0%	1	9.1%	4	28.6%
	Meeting at beginning of pilot program	1	11.1%	1	9.1%	1	5.6%	1	4.2%	3	12.0%	0	0.0%	1	7.1%
	Call BA sanitation	1	11.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Newspaper	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	9.1%	0	0.0%
	From the MET	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	9.1%	1	7.1%
	Word of mouth	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	4.0%	0	0.0%	0	0.0%
	Called the city	0	0.0%	0	0.0%	1	5.6%	1	4.2%	0	0.0%	0	0.0%	0	0.0%
Where online do you get your info	recycleba.org	5	83.3%	2	100%	12	100.0%	8	100.0%	11	100%	3	60.0%	2	50.0%
	MET website	1	16.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%

		Income													
		Under $25k		$25k - $34,999		$35k - $49,999		$50k - $74,999		$75k - $99,999		$100k - $124,999		$125k and over	
	brokenarrowok.gov	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	1	25.0%
	Google	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%
Aware of recycleba.com	Yes	6	54.5%	7	63.6%	14	73.7%	14	50.0%	20	62.5%	7	53.8%	9	60.0%
	No	5	45.5%	4	36.4%	5	26.3%	14	50.0%	12	37.5%	6	46.2%	6	40.0%
Used recycleba.com	Yes	4	50.0%	3	33.3%	10	66.7%	9	52.9%	12	57.1%	6	75.0%	6	60.0%
	No	4	50.0%	6	66.7%	5	33.3%	8	47.1%	9	42.9%	2	25.0%	4	40.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
Put recyclabes out this week	Yes	23	79.3%	54	83.1%	19	100%	14	100%	8	100%	4	80.0%	0	0.0%
	No	6	20.7%	11	16.9%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	1	100%
Set out recycling cart this week	Yes	18	62.1%	44	67.7%	17	89.5%	14	100%	8	100%	4	80.0%	0	0.0%
	No	11	37.9%	21	32.3%	2	10.5%	0	0.0%	0	0.0%	1	20.0%	1	100%
Times per week set out recycling	1 week out of month	6	20.7%	12	18.5%	3	15.8%	0	0.0%	0	0.0%	1	20.0%	1	100%
	2 weeks out of month	12	41.4%	15	23.1%	5	26.3%	3	21.4%	0	0.0%	1	20.0%	0	0.0%
	3 weeks out of month	6	20.7%	8	12.3%	4	21.1%	4	28.6%	2	25.0%	0	0.0%	0	0.0%
	4 months out of month	4	13.8%	29	44.6%	7	36.8%	7	50.0%	6	75.0%	3	60.0%	0	0.0%
	Don't remember	1	3.4%	1	1.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller recycling cart preferable	Yes	14	48.3%	29	44.6%	7	36.8%	2	14.3%	1	12.5%	0	0.0%	1	100%
	No	11	37.9%	33	50.8%	10	52.6%	9	64.3%	7	87.5%	3	60.0%	0	0.0%
	Don't know	4	13.8%	3	4.6%	2	10.5%	3	21.4%	0	0.0%	2	40.0%	0	0.0%
Household has less trash now	Yes	19	65.5%	41	63.1%	16	84.2%	11	78.6%	6	75.0%	3	60.0%	0	0.0%
	No	9	31.0%	20	30.8%	3	15.8%	2	14.3%	1	12.5%	1	20.0%	1	100%
	Don't know	1	3.4%	4	6.2%	0	0.0%	1	7.1%	1	12.5%	1	20.0%	0	0.0%
Recycling importance	Very important	23	79.3%	47	72.3%	14	73.7%	12	85.7%	8	100%	2	40.0%	1	100%
	Somewhat important	3	10.3%	9	13.8%	4	21.1%	1	7.1%	0	0.0%	1	20.0%	0	0.0%
	DK/Neutral	2	6.9%	4	6.2%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%
	Somewhat unimportant	0	0.0%	2	3.1%	1	5.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Very unimportant	1	3.4%	3	4.6%	0	0.0%	1	7.1%	0	0.0%	1	20.0%	0	0.0%
Recycling service satisfaction	Very satisfied	21	72.4%	46	70.8%	14	73.7%	13	92.9%	8	100%	3	60.0%	1	100%
	Somewhat satisfied	5	17.2%	6	9.2%	5	26.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
	DK/Neutral	3	10.3%	6	9.2%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%
	Somewhat unsatisfied	0	0.0%	2	3.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Very unsatisfied	0	0.0%	5	7.7%	0	0.0%	1	7.1%	0	0.0%	1	20.0%	0	0.0%
Time per week spend on recycling	Less than 30 minutes	23	79.3%	48	73.8%	13	68.4%	10	71.4%	8	100%	5	100%	1	100%
	30 - 60 minutes	5	17.2%	15	23.1%	5	26.3%	4	28.6%	0	0.0%	0	0.0%	0	0.0%
	60 - 90 minutes	0	0.0%	1	1.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	90 - 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 120 minutes	0	0.0%	0	0.0%	1	5.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	1	3.4%	1	1.5%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Questions about recycling cart	Yes	3	10.3%	7	10.8%	0	0.0%	1	7.1%	0	0.0%	1	20.0%	0	0.0%
	No	26	89.7%	58	89.2%	19	100%	13	92.9%	8	100%	4	80.0%	1	100%
Recyclables to MET before curbside	0	23	79.3%	44	67.7%	14	73.7%	7	50.0%	6	75.0%	5	100%	0	0.0%
	1 - 2	6	20.7%	21	32.3%	4	21.1%	7	50.0%	2	25.0%	0	0.0%	1	100%
	3 - 4	0	0.0%	0	0.0%	1	5.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	5 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycle more now	Yes	5	83.3%	10	47.6%	3	60.0%	6	85.7%	2	100%	0	0.0%	0	0.0%
	No	1	16.7%	11	52.4%	2	40.0%	1	14.3%	0	0.0%	0	0.0%	1	100%
How much more recycling	About 10 additional items a week	1	20.0%	3	30.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	About 20 additional items a week	1	20.0%	3	30.0%	0	0.0%	4	66.7%	2	100%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
	About 30 additional items a week	0	0.0%	2	20.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	About 40 additional items a week	1	20.0%	1	10.0%	1	33.3%	1	16.7%	0	0.0%	0	0.0%	0	0.0%
	About 50 additional items a week	0	0.0%	1	10.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 50 additional items a week	2	40.0%	0	0.0%	2	66.7%	1	16.7%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average number of bags set out (RO)	1	5	41.7%	12	28.6%	3	25.0%	2	33.3%	2	40.0%	0	0.0%	0	0.0%
	2	6	50.0%	15	35.7%	6	50.0%	2	33.3%	1	20.0%	2	66.7%	0	0.0%
	3	1	8.3%	6	14.3%	3	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	4	0	0.0%	3	7.1%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	1	100%
	5	0	0.0%	4	9.5%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	0	0.0%
	6	0	0.0%	1	2.4%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%
	7	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%
	9	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	0	0.0%
	10	0	0.0%	1	2.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (RO)	More	0	0.0%	1	2.4%	0	0.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%
	Less	8	66.7%	25	59.5%	8	66.7%	4	66.7%	2	40.0%	2	66.7%	0	0.0%
	About the same amount	4	33.3%	16	38.1%	4	33.3%	2	33.3%	2	40.0%	1	33.3%	1	100%
How full is cart upon setout (TAR)	Quarter full	3	17.6%	5	21.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Half full	8	47.1%	6	26.1%	3	42.9%	0	0.0%	1	33.3%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
	Three quarters full	2	11.8%	6	26.1%	3	42.9%	6	75.0%	2	66.7%	1	50.0%	0	0.0%
	Full	4	23.5%	5	21.7%	1	14.3%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	Full cart and then some more bags of trash	0	0.0%	1	4.3%	0	0.0%	1	12.5%	0	0.0%	1	50.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (TAR)	More	0	0.0%	3	13.0%	0	0.0%	2	25.0%	0	0.0%	0	0.0%	0	0.0%
	Less	10	58.8%	11	47.8%	4	57.1%	5	62.5%	2	66.7%	1	50.0%	0	0.0%
	About the same	7	41.2%	9	39.1%	3	42.9%	1	12.5%	1	33.3%	1	50.0%	0	0.0%
Bags or cart preference (TAR)	Greatly prefer carts	8	47.1%	10	43.5%	4	57.1%	5	62.5%	3	100%	1	50.0%	0	0.0%
	Somewhat prefer carts	2	11.8%	2	8.7%	2	28.6%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	DK/Neutral	0	0.0%	0	0.0%	1	14.3%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	Somewhat prefer bags	3	17.6%	6	26.1%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%
	Greatly prefer bags	4	23.5%	5	21.7%	0	0.0%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
One recycle cart enough (TAR)	Yes	16	94.1%	23	100%	7	100%	8	100%	3	100%	2	100%	0	0.0%
	No	1	5.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
One trash cart enough (TAR)	Yes	17	100%	21	91.3%	7	100%	8	100%	3	100%	2	100%	0	0.0%
	No	0	0.0%	2	8.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller trash cart preferable (TAR)	Yes	4	23.5%	10	43.5%	1	14.3%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	No	13	76.5%	11	47.8%	6	85.7%	7	87.5%	2	66.7%	2	100%	0	0.0%
	Don't know	0	0.0%	2	8.7%	0	0.0%	0	0.0%	1	33.3%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
Problmes this week (TAR)	Yes	1	5.9%	2	8.7%	2	28.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	No	16	94.1%	21	91.3%	5	71.4%	8	100%	3	100%	2	100%	0	0.0%
What problems	Carts too big/Cumbersome	1	100%	2	100%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Workers leave carts in the street	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycling cart favorablity (RO)	Very favorable	4	33.3%	24	57.1%	8	66.7%	5	83.3%	4	80.0%	1	33.3%	0	0.0%
	Somewhat favorable	4	33.3%	8	19.0%	2	16.7%	0	0.0%	1	20.0%	1	33.3%	0	0.0%
	DK/Neutral	1	8.3%	5	11.9%	1	8.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Somewhat unfavorable	1	8.3%	3	7.1%	1	8.3%	1	16.7%	0	0.0%	0	0.0%	1	100%
	Very unfavorable	2	16.7%	2	4.8%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	0	0.0%
One recycling cart enough (RO)	Yes	11	91.7%	39	92.9%	12	100%	6	100%	5	100%	2	66.7%	1	100%
	No	0	0.0%	2	4.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	1	8.3%	1	2.4%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	0	0.0%
Problems this week (RO)	Yes	0	0.0%	3	7.1%	1	8.3%	0	0.0%	0	0.0%	0	0.0%	1	100%
	No	12	100%	39	92.9%	11	91.7%	6	100%	5	100%	3	100%	0	0.0%
What problems	Steep driveway makes it difficult	0	0.0%	2	66.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Workers leave cart in street	0	0.0%	0	0.0%	1	100%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Storm blew open lid and cart filled with water	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100%
	Not home on collection day	0	0.0%	1	33.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
Like a trash cart as well (RO)	Yes	5	41.7%	18	42.9%	3	25.0%	3	50.0%	5	100%	1	33.3%	0	0.0%
	No	6	50.0%	24	57.1%	9	75.0%	2	33.3%	0	0.0%	2	66.7%	1	100%
	Don't know	1	8.3%	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%	0	0.0%
Why do you want a trash cart (RO)	Only have to make 1 trip to the curb	0	0.0%	1	5.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Helps keep trash contained/Cleaner/Away from animals	3	75.0%	10	58.8%	1	33.3%	0	0.0%	3	60.0%	0	0.0%	0	0.0%
	Wheels make it easier to haul trash to curb	0	0.0%	3	17.6%	2	66.7%	1	33.3%	1	20.0%	1	100%	0	0.0%
	Gives somewhere to store trash until collection	1	25.0%	2	11.8%	0	0.0%	2	66.7%	1	20.0%	0	0.0%	0	0.0%
	Would save on plastic bags	0	0.0%	1	5.9%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Why do you not want a trash cart (RO)	No room to store it	5	83.3%	4	17.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Carts are difficult to move	0	0.0%	7	30.4%	1	11.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
	Residents leave on curb for extended periods of time	0	0.0%	1	4.3%	0	0.0%	1	50.0%	0	0.0%	0	0.0%	1	100%
	Already purchased a trash cart	0	0.0%	2	8.7%	2	22.2%	1	50.0%	0	0.0%	1	50.0%	0	0.0%
	Don't produce enough trash to need a cart	1	16.7%	2	8.7%	1	11.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Like the bags	0	0.0%	6	26.1%	4	44.4%	0	0.0%	0	0.0%	1	50.0%	0	0.0%
	Produce too much yard waste to fit in a cart	0	0.0%	1	4.3%	1	11.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Discontinue distribution of bags	Yes	0	0.0%	7	29.2%	4	44.4%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	No	5	83.3%	15	62.5%	5	55.6%	2	100%	0	0.0%	2	100%	0	0.0%
	Don't know	1	16.7%	2	8.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100%
Used reusable BA tote bag	Yes	18	62.1%	40	61.5%	13	68.4%	9	64.3%	4	50.0%	4	80.0%	0	0.0%
	No	11	37.9%	25	38.5%	6	31.6%	5	35.7%	4	50.0%	1	20.0%	1	100%
Know that some plastics not recyclable	Yes	24	82.8%	58	89.2%	16	84.2%	13	92.9%	6	75.0%	4	80.0%	1	100%
	No	5	17.2%	7	10.8%	3	15.8%	1	7.1%	2	25.0%	1	20.0%	0	0.0%
Where in community do you get your info	Info provided by the city	9	33.3%	15	26.3%	1	7.1%	1	9.1%	1	12.5%	2	40.0%	0	0.0%
	Homeowners meeting	1	3.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Online	4	14.8%	12	21.1%	5	35.7%	3	27.3%	3	37.5%	1	20.0%	0	0.0%
	Flyers/Mailers	3	11.1%	9	15.8%	3	21.4%	5	45.5%	0	0.0%	1	20.0%	0	0.0%
	From past recycling experience	1	3.7%	1	1.8%	1	7.1%	0	0.0%	1	12.5%	0	0.0%	0	0.0%
	On TV	0	0.0%	1	1.8%	0	0.0%	1	9.1%	0	0.0%	0	0.0%	0	0.0%

		Number of residents													
		One		Two		Three		Four		Five		More than five		Refused	
	On the cart on tote bag	5	18.5%	11	19.3%	2	14.3%	1	9.1%	1	12.5%	1	20.0%	1	100%
	Meeting at beginning of pilot program	3	11.1%	3	5.3%	1	7.1%	0	0.0%	1	12.5%	0	0.0%	0	0.0%
	Call BA sanitation	0	0.0%	1	1.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Newspaper	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%	0	0.0%
	From the MET	0	0.0%	1	1.8%	1	7.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Word of mouth	1	3.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Called the city	0	0.0%	3	5.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Where online do you get your info	recycleba.org	12	92.3%	22	91.7%	6	100%	4	100%	1	33.3%	1	50.0%	0	0.0%
	MET website	0	0.0%	2	8.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	brokenarrowok.gov	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	1	50.0%	0	0.0%
	Google	1	7.7%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	0	0.0%	0	0.0%
Aware of recycleba.com	Yes	18	62.1%	39	60.0%	14	73.7%	5	35.7%	5	62.5%	1	20.0%	0	0.0%
	No	11	37.9%	26	40.0%	5	26.3%	9	64.3%	3	37.5%	4	80.0%	1	100%
Used recycleba.com	Yes	11	45.8%	24	57.1%	9	60.0%	4	57.1%	4	80.0%	1	100%	0	0.0%
	No	13	54.2%	18	42.9%	6	40.0%	3	42.9%	1	20.0%	0	0.0%	0	0.0%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
Put recyclabes out this week	Yes	1	50.0%	29	93.5%	22	84.6%	19	90.5%	14	87.5%	37	84.1%
	No	1	50.0%	2	6.5%	4	15.4%	2	9.5%	2	12.5%	7	15.9%
Set out recycling cart this week	Yes	1	50.0%	25	80.6%	19	73.1%	16	76.2%	8	50.0%	36	81.8%
	No	1	50.0%	6	19.4%	7	26.9%	5	23.8%	8	50.0%	8	18.2%
Times per week set out recycling	1 week out of month	1	50.0%	1	3.2%	4	15.4%	4	19.0%	2	12.5%	10	22.7%
	2 weeks out of month	0	0.0%	10	32.3%	8	30.8%	2	9.5%	5	31.3%	11	25.0%
	3 weeks out of month	0	0.0%	5	16.1%	5	19.2%	5	23.8%	4	25.0%	5	11.4%
	4 months out of month	1	50.0%	15	48.4%	9	34.6%	10	47.6%	5	31.3%	16	36.4%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	4.5%
Smaller recycling cart preferable	Yes	0	0.0%	9	29.0%	10	38.5%	7	33.3%	6	37.5%	21	47.7%
	No	1	50.0%	18	58.1%	13	50.0%	11	52.4%	9	56.3%	21	47.7%
	Don't know	1	50.0%	4	12.9%	3	11.5%	3	14.3%	1	6.3%	2	4.5%
Household has less trash now	Yes	0	0.0%	24	77.4%	18	69.2%	15	71.4%	10	62.5%	29	65.9%
	No	1	50.0%	4	12.9%	7	26.9%	5	23.8%	5	31.3%	14	31.8%
	Don't know	1	50.0%	3	9.7%	1	3.8%	1	4.8%	1	6.3%	1	2.3%
Recycling importance	Very important	1	50.0%	24	77.4%	20	76.9%	17	81.0%	12	75.0%	32	72.7%
	Somewhat important	0	0.0%	4	12.9%	3	11.5%	1	4.8%	1	6.3%	9	20.5%
	DK/Neutral	0	0.0%	1	3.2%	2	7.7%	1	4.8%	2	12.5%	1	2.3%
	Somewhat unimportant	0	0.0%	1	3.2%	0	0.0%	2	9.5%	0	0.0%	0	0.0%
	Very unimportant	1	50.0%	1	3.2%	1	3.8%	0	0.0%	1	6.3%	2	4.5%
Recycling service satisfaction	Very satisfied	1	50.0%	24	77.4%	19	73.1%	19	90.5%	13	81.3%	29	65.9%
	Somewhat satisfied	0	0.0%	5	16.1%	3	11.5%	0	0.0%	0	0.0%	8	18.2%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
	DK/Neutral	0	0.0%	1	3.2%	1	3.8%	1	4.8%	2	12.5%	5	11.4%
	Somewhat unsatisfied	0	0.0%	0	0.0%	1	3.8%	1	4.8%	0	0.0%	0	0.0%
	Very unsatisfied	1	50.0%	1	3.2%	2	7.7%	0	0.0%	1	6.3%	2	4.5%
Time per week spend on recycling	Less than 30 minutes	2	100.0%	24	77.4%	21	80.8%	18	85.7%	12	75.0%	30	68.2%
	30 - 60 minutes	0	0.0%	7	22.6%	5	19.2%	3	14.3%	3	18.8%	11	25.0%
	60 - 90 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	6.3%	0	0.0%
	90 - 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.3%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	4.5%
Questions about recycling cart	Yes	1	50.0%	3	9.7%	2	7.7%	2	9.5%	1	6.3%	3	6.8%
	No	1	50.0%	28	90.3%	24	92.3%	19	90.5%	15	93.8%	41	93.2%
Recyclables to MET before curbside	0	2	100.0%	26	83.9%	17	65.4%	14	66.7%	10	62.5%	30	68.2%
	1 - 2	0	0.0%	5	16.1%	9	34.6%	7	33.3%	6	37.5%	13	29.5%
	3 - 4	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.3%
	5 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycle more now	Yes	0	0.0%	4	80.0%	5	55.6%	4	57.1%	3	50.0%	10	71.4%
	No	0	0.0%	1	20.0%	4	44.4%	3	42.9%	3	50.0%	4	28.6%
How much more recycling	About 10 additional items a week	0	0.0%	0	0.0%	2	40.0%	0	0.0%	0	0.0%	2	20.0%
	About 20 additional items a week	0	0.0%	1	25.0%	3	60.0%	0	0.0%	2	66.7%	4	40.0%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
	About 30 additional items a week	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	20.0%
	About 40 additional items a week	0	0.0%	3	75.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%
	About 50 additional items a week	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%
	More than 50 additional items a week	0	0.0%	0	0.0%	0	0.0%	2	50.0%	1	33.3%	2	20.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average number of bags set out (RO)	1	0	0.0%	3	16.7%	3	20.0%	0	0.0%	3	60.0%	15	44.1%
	2	0	0.0%	8	44.4%	6	40.0%	4	57.1%	0	0.0%	14	41.2%
	3	0	0.0%	3	16.7%	4	26.7%	0	0.0%	1	20.0%	2	5.9%
	4	0	0.0%	1	5.6%	2	13.3%	0	0.0%	0	0.0%	1	2.9%
	5	0	0.0%	2	11.1%	0	0.0%	2	28.6%	0	0.0%	1	2.9%
	6	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	1	2.9%
	7	0	0.0%	1	5.6%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	9	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	10	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	20.0%	0	0.0%
More or less than before (RO)	More	0	0.0%	0	0.0%	0	0.0%	1	14.3%	0	0.0%	1	2.9%
	Less	0	0.0%	12	66.7%	8	53.3%	3	42.9%	4	80.0%	22	64.7%
	About the same amount	1	100.0%	6	33.3%	7	46.7%	3	42.9%	1	20.0%	11	32.4%
How full is cart upon setout (TAR)	Quarter full	0	0.0%	4	30.8%	0	0.0%	1	7.1%	3	27.3%	0	0.0%
	Half full	0	0.0%	3	23.1%	5	45.5%	6	42.9%	3	27.3%	1	10.0%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
	Three quarters full	1	100.0%	4	30.8%	4	36.4%	6	42.9%	3	27.3%	2	20.0%
	Full	0	0.0%	2	15.4%	1	9.1%	1	7.1%	2	18.2%	5	50.0%
	Full cart and then some more bags of trash	0	0.0%	0	0.0%	1	9.1%	0	0.0%	0	0.0%	2	20.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (TAR)	More	0	0.0%	0	0.0%	2	18.2%	2	14.3%	0	0.0%	1	10.0%
	Less	1	100.0%	11	84.6%	5	45.5%	8	57.1%	5	45.5%	3	30.0%
	About the same	0	0.0%	2	15.4%	4	36.4%	4	28.6%	6	54.5%	6	60.0%
Bags or cart preference (TAR)	Greatly prefer carts	1	100.0%	7	53.8%	5	45.5%	7	50.0%	7	63.6%	4	40.0%
	Somewhat prefer carts	0	0.0%	1	7.7%	2	18.2%	2	14.3%	1	9.1%	1	10.0%
	DK/Neutral	0	0.0%	0	0.0%	0	0.0%	1	7.1%	0	0.0%	1	10.0%
	Somewhat prefer bags	0	0.0%	4	30.8%	2	18.2%	1	7.1%	1	9.1%	2	20.0%
	Greatly prefer bags	0	0.0%	1	7.7%	2	18.2%	3	21.4%	2	18.2%	2	20.0%
One recycle cart enough (TAR)	Yes	1	100.0%	12	92.3%	11	100.0%	14	100.0%	11	100.0%	10	100.0%
	No	0	0.0%	1	7.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
One trash cart enough (TAR)	Yes	1	100.0%	13	100.0%	11	100.0%	13	92.9%	11	100.0%	9	90.0%
	No	0	0.0%	0	0.0%	0	0.0%	1	7.1%	0	0.0%	1	10.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller trash cart preferable (TAR)	Yes	0	0.0%	3	23.1%	5	45.5%	4	28.6%	4	36.4%	0	0.0%
	No	1	100.0%	10	76.9%	6	54.5%	9	64.3%	6	54.5%	9	90.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	1	7.1%	1	9.1%	1	10.0%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
Problmes this week (TAR)	Yes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	18.2%	3	30.0%
	No	1	100.0%	13	100.0%	11	100.0%	14	100.0%	9	81.8%	7	70.0%
What problems	Carts too big/Cumbersome	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	3	100.0%
	Workers leave carts in the street	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%
Recycling cart favorablity (RO)	Very favorable	0	0.0%	12	66.7%	7	46.7%	4	57.1%	3	60.0%	20	58.8%
	Somewhat favorable	0	0.0%	2	11.1%	4	26.7%	2	28.6%	0	0.0%	8	23.5%
	DK/Neutral	0	0.0%	3	16.7%	1	6.7%	0	0.0%	2	40.0%	1	2.9%
	Somewhat unfavorable	0	0.0%	0	0.0%	3	20.0%	1	14.3%	0	0.0%	2	5.9%
	Very unfavorable	1	100.0%	1	5.6%	0	0.0%	0	0.0%	0	0.0%	3	8.8%
One recycling cart enough (RO)	Yes	0	0.0%	17	94.4%	15	100.0%	6	85.7%	5	100.0%	32	94.1%
	No	0	0.0%	1	5.6%	0	0.0%	1	14.3%	0	0.0%	0	0.0%
	Don't know	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	5.9%
Problems this week (RO)	Yes	0	0.0%	1	5.6%	2	13.3%	0	0.0%	1	20.0%	0	0.0%
	No	1	100.0%	17	94.4%	13	86.7%	7	100.0%	4	80.0%	34	100.0%
What problems	Steep driveway makes it difficult	0	0.0%	0	0.0%	2	100.0%	0	0.0%	0	0.0%	0	0.0%
	Workers leave cart in street	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Storm blew open lid and cart filled with water	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Not home on collection day	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100.0%	0	0.0%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
Like a trash cart as well (RO)	Yes	0	0.0%	13	72.2%	7	46.7%	4	57.1%	1	20.0%	10	29.4%
	No	1	100.0%	4	22.2%	8	53.3%	3	42.9%	4	80.0%	23	67.6%
	Don't know	0	0.0%	1	5.6%	0	0.0%	0	0.0%	0	0.0%	1	2.9%
Why do you want a trash cart (RO)	Only have to make 1 trip to the curb	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%
	Helps keep trash contained/Cleaner/Away from animals	0	0.0%	7	58.3%	4	57.1%	2	50.0%	0	0.0%	4	44.4%
	Wheels make it easier to haul trash to curb	0	0.0%	2	16.7%	1	14.3%	0	0.0%	1	100.0%	4	44.4%
	Gives somewhere to store trash until collection	0	0.0%	2	16.7%	2	28.6%	1	25.0%	0	0.0%	1	11.1%
	Would save on plastic bags	0	0.0%	1	8.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Why do you not want a trash cart (RO)	No room to store it	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	33.3%	8	34.8%
	Carts are difficult to move	0	0.0%	0	0.0%	2	25.0%	1	33.3%	1	33.3%	4	17.4%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
	Residents leave on curb for extended periods of time	0	0.0%	1	25.0%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	Already purchased a trash cart	0	0.0%	2	50.0%	1	12.5%	1	33.3%	0	0.0%	2	8.7%
	Don't produce enough trash to need a cart	0	0.0%	0	0.0%	1	12.5%	0	0.0%	0	0.0%	3	13.0%
	Like the bags	1	100.0%	1	25.0%	3	37.5%	1	33.3%	1	33.3%	4	17.4%
	Produce too much yard waste to fit in a cart	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	8.7%
Discontinue distribution of bags	Yes	0	0.0%	0	0.0%	2	25.0%	1	33.3%	1	25.0%	7	30.4%
	No	1	100.0%	3	75.0%	6	75.0%	2	66.7%	3	75.0%	14	60.9%
	Don't know	0	0.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	2	8.7%
Used reusable BA tote bag	Yes	2	100.0%	17	54.8%	21	80.8%	15	71.4%	9	56.3%	24	54.5%
	No	0	0.0%	14	45.2%	5	19.2%	6	28.6%	7	43.8%	20	45.5%
Know that some plastics not recyclable	Yes	2	100.0%	29	93.5%	21	80.8%	16	76.2%	16	100.0%	37	84.1%
	No	0	0.0%	2	6.5%	5	19.2%	5	23.8%	0	0.0%	7	15.9%
Where in community do you get your info	Info provided by the city	1	50.0%	1	3.7%	6	26.1%	8	42.1%	4	26.7%	9	25.0%
	Homeowners meeting	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.8%
	Online	0	0.0%	5	18.5%	5	21.7%	4	21.1%	4	26.7%	10	27.8%
	Flyers/Mailers	0	0.0%	5	18.5%	3	13.0%	3	15.8%	4	26.7%	6	16.7%
	From past recycling experience	1	50.0%	1	3.7%	1	4.3%	0	0.0%	0	0.0%	1	2.8%
	On TV	0	0.0%	1	3.7%	0	0.0%	0	0.0%	0	0.0%	1	2.8%

		Lived at address											
		Less than 1 year		1 - 5 years		6 - 10 years		11 - 15 years		16 - 20 years		Over 20 years	
	On the cart on tote bag	0	0.0%	7	25.9%	5	21.7%	1	5.3%	2	13.3%	6	16.7%
	Meeting at beginning of pilot program	0	0.0%	5	18.5%	0	0.0%	1	5.3%	0	0.0%	2	5.6%
	Call BA sanitation	0	0.0%	0	0.0%	1	4.3%	0	0.0%	0	0.0%	0	0.0%
	Newspaper	0	0.0%	0	0.0%	0	0.0%	1	5.3%	0	0.0%	0	0.0%
	From the MET	0	0.0%	1	3.7%	0	0.0%	0	0.0%	1	6.7%	0	0.0%
	Word of mouth	0	0.0%	1	3.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Called the city	0	0.0%	0	0.0%	2	8.7%	1	5.3%	0	0.0%	0	0.0%
Where online do you get your info	recycleba.org	0	0.0%	9	90.0%	11	91.7%	7	87.5%	6	75.0%	13	92.9%
	MET website	0	0.0%	0	0.0%	0	0.0%	1	12.5%	1	12.5%	0	0.0%
	brokenarrowok.gov	0	0.0%	0	0.0%	1	8.3%	0	0.0%	0	0.0%	1	7.1%
	Google	0	0.0%	1	10.0%	0	0.0%	0	0.0%	1	12.5%	0	0.0%
Aware of recycleba.com	Yes	0	0.0%	20	64.5%	14	53.8%	11	52.4%	10	62.5%	27	61.4%
	No	2	100.0%	11	35.5%	12	46.2%	10	47.6%	6	37.5%	17	38.6%
Used recycleba.com	Yes	0	0.0%	11	50.0%	10	58.8%	9	64.3%	8	72.7%	15	50.0%
	No	0	0.0%	11	50.0%	7	41.2%	5	35.7%	3	27.3%	15	50.0%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
Put recyclabes out this week	Yes	27	93.1%	95	84.8%	84	88.4%	38	82.6%	44	84.6%	78	87.6%
	No	2	6.9%	17	15.2%	11	11.6%	8	17.4%	8	15.4%	11	12.4%
Set out recycling cart this week	Yes	21	72.4%	84	75.0%	75	78.9%	30	65.2%	38	73.1%	67	75.3%
	No	8	27.6%	28	25.0%	20	21.1%	16	34.8%	14	26.9%	22	24.7%
Times per week set out recycling	1 week out of month	2	6.9%	21	18.8%	15	15.8%	8	17.4%	9	17.3%	14	15.7%
	2 weeks out of month	7	24.1%	29	25.9%	20	21.1%	16	34.8%	13	25.0%	23	25.8%
	3 weeks out of month	6	20.7%	18	16.1%	14	14.7%	10	21.7%	10	19.2%	14	15.7%
	4 months out of month	14	48.3%	42	37.5%	45	47.4%	11	23.9%	19	36.5%	37	41.6%
	Don't remember	0	0.0%	2	1.8%	1	1.1%	1	2.2%	1	1.9%	1	1.1%
Smaller recycling cart preferable	Yes	12	41.4%	42	37.5%	35	36.8%	19	41.3%	23	44.2%	31	34.8%
	No	15	51.7%	58	51.8%	53	55.8%	20	43.5%	27	51.9%	46	51.7%
	Don't know	2	6.9%	12	10.7%	7	7.4%	7	15.2%	2	3.8%	12	13.5%
Household has less trash now	Yes	20	69.0%	76	67.9%	65	68.4%	31	67.4%	31	59.6%	65	73.0%
	No	8	27.6%	29	25.9%	24	25.3%	13	28.3%	17	32.7%	20	22.5%
	Don't know	1	3.4%	7	6.3%	6	6.3%	2	4.3%	4	7.7%	4	4.5%
Recycling importance	Very important	24	82.8%	83	74.1%	68	71.6%	39	84.8%	33	63.5%	74	83.1%
	Somewhat important	2	6.9%	16	14.3%	14	14.7%	4	8.7%	10	19.2%	8	9.0%
	DK/Neutral	0	0.0%	7	6.3%	5	5.3%	2	4.3%	3	5.8%	4	4.5%
	Somewhat unimportant	2	6.9%	1	0.9%	3	3.2%	0	0.0%	2	3.8%	1	1.1%
	Very unimportant	1	3.4%	5	4.5%	5	5.3%	1	2.2%	4	7.7%	2	2.2%
Recycling service satisfaction	Very satisfied	22	75.9%	84	75.0%	71	74.7%	35	76.1%	32	61.5%	74	83.1%
	Somewhat satisfied	5	17.2%	11	9.8%	9	9.5%	7	15.2%	9	17.3%	7	7.9%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
	DK/Neutral	1	3.4%	9	8.0%	6	6.3%	4	8.7%	4	7.7%	6	6.7%
	Somewhat unsatisfied	1	3.4%	1	0.9%	2	2.1%	0	0.0%	1	1.9%	1	1.1%
	Very unsatisfied	0	0.0%	7	6.3%	7	7.4%	0	0.0%	6	11.5%	1	1.1%
Time per week spend on recycling	Less than 30 minutes	19	65.5%	89	79.5%	72	75.8%	36	78.3%	39	75.0%	69	77.5%
	30 - 60 minutes	9	31.0%	20	17.9%	20	21.1%	9	19.6%	11	21.2%	18	20.2%
	60 - 90 minutes	1	3.4%	0	0.0%	1	1.1%	0	0.0%	1	1.9%	0	0.0%
	90 - 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 120 minutes	0	0.0%	1	0.9%	1	1.1%	0	0.0%	0	0.0%	1	1.1%
	Don't remember	0	0.0%	2	1.8%	1	1.1%	1	2.2%	1	1.9%	1	1.1%
Questions about recycling cart	Yes	2	6.9%	10	8.9%	10	10.5%	2	4.3%	1	1.9%	11	12.4%
	No	27	93.1%	102	91.1%	85	89.5%	44	95.7%	51	98.1%	78	87.6%
Recyclables to MET before curbside	0	22	75.9%	77	68.8%	65	68.4%	34	73.9%	39	75.0%	60	67.4%
	1 - 2	7	24.1%	34	30.4%	29	30.5%	12	26.1%	13	25.0%	28	31.5%
	3 - 4	0	0.0%	1	0.9%	1	1.1%	0	0.0%	0	0.0%	1	1.1%
	5 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycle more now	Yes	3	42.9%	23	65.7%	18	60.0%	8	66.7%	6	46.2%	20	69.0%
	No	4	57.1%	12	34.3%	12	40.0%	4	33.3%	7	53.8%	9	31.0%
How much more recycling	About 10 additional items a week	0	0.0%	4	17.4%	2	11.1%	2	25.0%	1	16.7%	3	15.0%
	About 20 additional items a week	2	66.7%	8	34.8%	9	50.0%	1	12.5%	5	83.3%	5	25.0%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
	About 30 additional items a week	1	33.3%	1	4.3%	1	5.6%	1	12.5%	0	0.0%	2	10.0%
	About 40 additional items a week	0	0.0%	4	17.4%	2	11.1%	2	25.0%	0	0.0%	4	20.0%
	About 50 additional items a week	0	0.0%	1	4.3%	1	5.6%	0	0.0%	0	0.0%	1	5.0%
	More than 50 additional items a week	0	0.0%	5	21.7%	3	16.7%	2	25.0%	0	0.0%	5	25.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average number of bags set out (RO)	1	3	14.3%	21	35.0%	17	28.3%	7	33.3%	8	23.5%	16	34.0%
	2	9	42.9%	23	38.3%	23	38.3%	9	42.9%	15	44.1%	17	36.2%
	3	3	14.3%	7	11.7%	9	15.0%	1	4.8%	5	14.7%	5	10.6%
	4	2	9.5%	3	5.0%	4	6.7%	1	4.8%	2	5.9%	3	6.4%
	5	3	14.3%	2	3.3%	3	5.0%	2	9.5%	1	2.9%	4	8.5%
	6	0	0.0%	2	3.3%	2	3.3%	0	0.0%	1	2.9%	1	2.1%
	7	0	0.0%	1	1.7%	0	0.0%	1	4.8%	1	2.9%	0	0.0%
	9	0	0.0%	1	1.7%	1	1.7%	0	0.0%	0	0.0%	1	2.1%
	10	1	4.8%	0	0.0%	1	1.7%	0	0.0%	1	2.9%	0	0.0%
More or less than before (RO)	More	0	0.0%	2	3.3%	2	3.3%	0	0.0%	0	0.0%	2	4.3%
	Less	12	57.1%	37	61.7%	36	60.0%	13	61.9%	19	55.9%	30	63.8%
	About the same amount	9	42.9%	21	35.0%	22	36.7%	8	38.1%	15	44.1%	15	31.9%
How full is cart upon setout (TAR)	Quarter full	1	12.5%	7	13.5%	5	14.3%	3	12.0%	5	27.8%	3	7.1%
	Half full	1	12.5%	17	32.7%	8	22.9%	10	40.0%	6	33.3%	12	28.6%
	Three quarters full	4	50.0%	16	30.8%	14	40.0%	6	24.0%	4	22.2%	16	38.1%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
	Full	2	25.0%	9	17.3%	5	14.3%	6	24.0%	2	11.1%	9	21.4%
	Full cart and then some more bags of trash	0	0.0%	3	5.8%	3	8.6%	0	0.0%	1	5.6%	2	4.8%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (TAR)	More	1	12.5%	4	7.7%	4	11.4%	1	4.0%	3	16.7%	2	4.8%
	Less	4	50.0%	29	55.8%	17	48.6%	16	64.0%	7	38.9%	26	61.9%
	About the same	3	37.5%	19	36.5%	14	40.0%	8	32.0%	8	44.4%	14	33.3%
Bags or cart preference (TAR)	Greatly prefer carts	4	50.0%	27	51.9%	18	51.4%	13	52.0%	7	38.9%	24	57.1%
	Somewhat prefer carts	1	12.5%	6	11.5%	4	11.4%	3	12.0%	0	0.0%	7	16.7%
	DK/Neutral	0	0.0%	2	3.8%	1	2.9%	1	4.0%	0	0.0%	2	4.8%
	Somewhat prefer bags	2	25.0%	8	15.4%	7	20.0%	3	12.0%	7	38.9%	3	7.1%
	Greatly prefer bags	1	12.5%	9	17.3%	5	14.3%	5	20.0%	4	22.2%	6	14.3%
One recycle cart enough (TAR)	Yes	8	100%	51	98.1%	35	100%	24	96.0%	17	94.4%	42	100%
	No	0	0.0%	1	1.9%	0	0.0%	1	4.0%	1	5.6%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
One trash cart enough (TAR)	Yes	8	100%	50	96.2%	33	94.3%	25	100.0%	16	88.9%	42	100%
	No	0	0.0%	2	3.8%	2	5.7%	0	0.0%	2	11.1%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller trash cart preferable (TAR)	Yes	2	25.0%	14	26.9%	11	31.4%	5	20.0%	8	44.4%	8	19.0%
	No	6	75.0%	35	67.3%	21	60.0%	20	80.0%	7	38.9%	34	81.0%
	Don't know	0	0.0%	3	5.8%	3	8.6%	0	0.0%	3	16.7%	0	0.0%
Problmes this week (TAR)	Yes	0	0.0%	5	9.6%	4	11.4%	1	4.0%	3	16.7%	2	4.8%
	No	8	100%	47	90.4%	31	88.6%	24	96.0%	15	83.3%	40	95.2%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
What problems	Carts too big/Cumbersome	0	0.0%	4	80.0%	3	75.0%	1	100.0%	2	66.7%	2	100%
	Workers leave carts in the street	0	0.0%	1	20.0%	1	25.0%	0	0.0%	1	33.3%	0	0.0%
Recycling cart favorablity (RO)	Very favorable	12	57.1%	34	56.7%	36	60.0%	10	47.6%	17	50.0%	29	61.7%
	Somewhat favorable	5	23.8%	11	18.3%	11	18.3%	5	23.8%	7	20.6%	9	19.1%
	DK/Neutral	3	14.3%	4	6.7%	5	8.3%	2	9.5%	3	8.8%	4	8.5%
	Somewhat unfavorable	1	4.8%	6	10.0%	5	8.3%	2	9.5%	4	11.8%	3	6.4%
	Very unfavorable	0	0.0%	5	8.3%	3	5.0%	2	9.5%	3	8.8%	2	4.3%
One recycling cart enough (RO)	Yes	20	95.2%	56	93.3%	56	93.3%	20	95.2%	32	94.1%	44	93.6%
	No	1	4.8%	1	1.7%	2	3.3%	0	0.0%	1	2.9%	1	2.1%
	Don't know	0	0.0%	3	5.0%	2	3.3%	1	4.8%	1	2.9%	2	4.3%
Problems this week (RO)	Yes	1	4.8%	4	6.7%	4	6.7%	1	4.8%	2	5.9%	3	6.4%
	No	20	95.2%	56	93.3%	56	93.3%	20	95.2%	32	94.1%	44	93.6%
What problems	Steep driveway makes it difficult	0	0.0%	2	50.0%	2	50.0%	0	0.0%	0	0.0%	2	66.7%
	Workers leave cart in street	1	100%	0	0.0%	1	25.0%	0	0.0%	1	50.0%	0	0.0%
	Storm blew open lid and cart filled with water	0	0.0%	1	25.0%	0	0.0%	1	100.0%	0	0.0%	1	33.3%
	Not home on collection day	0	0.0%	1	25.0%	1	25.0%	0	0.0%	1	50.0%	0	0.0%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
Like a trash cart as well (RO)	Yes	13	61.9%	22	36.7%	23	38.3%	12	57.1%	13	38.2%	22	46.8%
	No	8	38.1%	36	60.0%	36	60.0%	8	38.1%	20	58.8%	24	51.1%
	Don't know	0	0.0%	2	3.3%	1	1.7%	1	4.8%	1	2.9%	1	2.1%
Why do you want a trash cart (RO)	Only have to make 1 trip to the curb	1	8.3%	0	0.0%	1	4.5%	0	0.0%	1	7.7%	0	0.0%
	Helps keep trash contained/Cleaner/Away from animals	7	58.3%	10	47.6%	9	40.9%	8	72.7%	5	38.5%	12	60.0%
	Wheels make it easier to haul trash to curb	2	16.7%	6	28.6%	6	27.3%	2	18.2%	4	30.8%	4	20.0%
	Gives somewhere to store trash until collection	2	16.7%	4	19.0%	5	22.7%	1	9.1%	3	23.1%	3	15.0%
	Would save on plastic bags	0	0.0%	1	4.8%	1	4.5%	0	0.0%	0	0.0%	1	5.0%
Why do you not want a trash cart (RO)	No room to store it	1	14.3%	8	22.2%	5	14.3%	4	50.0%	4	21.1%	5	20.8%
	Carts are difficult to move	0	0.0%	8	22.2%	8	22.9%	0	0.0%	4	21.1%	4	16.7%
	Residents leave on curb for extended periods of time	0	0.0%	3	8.3%	2	5.7%	1	12.5%	2	10.5%	1	4.2%
	Already purchased a trash cart	2	28.6%	4	11.1%	4	11.4%	2	25.0%	1	5.3%	5	20.8%
	Don't produce enough trash to need a cart	1	14.3%	3	8.3%	3	8.6%	1	12.5%	1	5.3%	3	12.5%
	Like the bags	3	42.9%	8	22.2%	11	31.4%	0	0.0%	5	26.3%	6	25.0%
	Produce too much yard waste to fit in a cart	0	0.0%	2	5.6%	2	5.7%	0	0.0%	2	10.5%	0	0.0%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
Discontinue distribution of bags	Yes	1	12.5%	10	27.8%	10	27.8%	1	12.5%	4	20.0%	7	29.2%
	No	6	75.0%	23	63.9%	25	69.4%	4	50.0%	15	75.0%	14	58.3%
	Don't know	1	12.5%	3	8.3%	1	2.8%	3	37.5%	1	5.0%	3	12.5%
Used reusable BA tote bag	Yes	18	62.1%	70	62.5%	62	65.3%	26	56.5%	30	57.7%	58	65.2%
	No	11	37.9%	42	37.5%	33	34.7%	20	43.5%	22	42.3%	31	34.8%
Know that some plastics not recyclable	Yes	27	93.1%	95	84.8%	82	86.3%	40	87.0%	49	94.2%	73	82.0%
	No	2	6.9%	17	15.2%	13	13.7%	6	13.0%	3	5.8%	16	18.0%
Where in community do you get your info	Info provided by the city	3	11.5%	26	26.8%	20	24.7%	9	21.4%	8	19.0%	21	25.9%
	Homeowners meeting	0	0.0%	1	1.0%	1	1.2%	0	0.0%	1	2.4%	0	0.0%
	Online	5	19.2%	23	23.7%	21	25.9%	7	16.7%	9	21.4%	19	23.5%
	Flyers/Mailers	6	23.1%	15	15.5%	15	18.5%	6	14.3%	8	19.0%	13	16.0%
	From past recycling experience	3	11.5%	1	1.0%	1	1.2%	3	7.1%	1	2.4%	3	3.7%
	On TV	1	3.8%	1	1.0%	2	2.5%	0	0.0%	0	0.0%	2	2.5%
	On the cart on tote bag	4	15.4%	18	18.6%	12	14.8%	10	23.8%	10	23.8%	12	14.8%
	Meeting at beginning of pilot program	1	3.8%	7	7.2%	4	4.9%	4	9.5%	3	7.1%	5	6.2%
	Call BA sanitation	0	0.0%	1	1.0%	0	0.0%	1	2.4%	0	0.0%	1	1.2%
	Newspaper	0	0.0%	1	1.0%	1	1.2%	0	0.0%	0	0.0%	1	1.2%
	From the MET	2	7.7%	0	0.0%	1	1.2%	1	2.4%	2	4.8%	0	0.0%
	Word of mouth	0	0.0%	1	1.0%	0	0.0%	1	2.4%	0	0.0%	1	1.2%
	Called the city	1	3.8%	2	2.1%	3	3.7%	0	0.0%	0	0.0%	3	3.7%

		Lived in area with curbside				Marriage				Gender			
		Yes		No		Yes		No		Male		Female	
Where online do you get your info	recycleba.org	12	100%	34	85.0%	31	86.1%	15	93.8%	16	94.1%	30	85.7%
	MET website	0	0.0%	2	5.0%	2	5.6%	0	0.0%	0	0.0%	2	5.7%
	brokenarrowok.gov	0	0.0%	2	5.0%	2	5.6%	0	0.0%	0	0.0%	2	5.7%
	Google	0	0.0%	2	5.0%	1	2.8%	1	6.3%	1	5.9%	1	2.9%
Aware of recycleba.com	Yes	15	51.7%	67	59.8%	55	57.9%	27	58.7%	32	61.5%	50	56.2%
	No	14	48.3%	45	40.2%	40	42.1%	19	41.3%	20	38.5%	39	43.8%
Used recycleba.com	Yes	9	56.3%	44	56.4%	39	65.0%	14	41.2%	19	55.9%	34	56.7%
	No	7	43.8%	34	43.6%	21	35.0%	20	58.8%	15	44.1%	26	43.3%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
Put recyclabes out this week	Yes	52	94.5%	10	100.0%	9	90.0%	8	88.9%	42	75.0%	1	100.0%
	No	3	5.5%	0	0.0%	1	10.0%	1	11.1%	14	25.0%	0	0.0%
Set out recycling cart this week	Yes	45	81.8%	7	70.0%	9	90.0%	7	77.8%	36	64.3%	1	100.0%
	No	10	18.2%	3	30.0%	1	10.0%	2	22.2%	20	35.7%	0	0.0%
Times per week set out recycling	1 week out of month	4	7.3%	1	10.0%	0	0.0%	2	22.2%	16	28.6%	0	0.0%
	2 weeks out of month	13	23.6%	4	40.0%	4	40.0%	2	22.2%	13	23.2%	0	0.0%
	3 weeks out of month	13	23.6%	3	30.0%	3	30.0%	0	0.0%	5	8.9%	0	0.0%
	4 months out of month	25	45.5%	2	20.0%	3	30.0%	5	55.6%	20	35.7%	1	100.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	3.6%	0	0.0%
Smaller recycling cart preferable	Yes	15	27.3%	5	50.0%	5	50.0%	3	33.3%	26	46.4%	0	0.0%
	No	36	65.5%	4	40.0%	4	40.0%	4	44.4%	25	44.6%	0	0.0%
	Don't know	4	7.3%	1	10.0%	1	10.0%	2	22.2%	5	8.9%	1	100.0%
Household has less trash now	Yes	42	76.4%	9	90.0%	8	80.0%	5	55.6%	31	55.4%	1	100.0%
	No	10	18.2%	1	10.0%	2	20.0%	2	22.2%	22	39.3%	0	0.0%
	Don't know	3	5.5%	0	0.0%	0	0.0%	2	22.2%	3	5.4%	0	0.0%
Recycling importance	Very important	49	89.1%	9	90.0%	8	80.0%	4	44.4%	36	64.3%	1	100.0%
	Somewhat important	4	7.3%	0	0.0%	0	0.0%	3	33.3%	11	19.6%	0	0.0%
	DK/Neutral	0	0.0%	0	0.0%	0	0.0%	1	11.1%	6	10.7%	0	0.0%
	Somewhat unimportant	0	0.0%	1	10.0%	1	10.0%	0	0.0%	1	1.8%	0	0.0%
	Very unimportant	2	3.6%	0	0.0%	1	10.0%	1	11.1%	2	3.6%	0	0.0%
Recycling service satisfaction	Very satisfied	47	85.5%	10	100.0%	7	70.0%	7	77.8%	34	60.7%	1	100.0%
	Somewhat satisfied	6	10.9%	0	0.0%	1	10.0%	0	0.0%	9	16.1%	0	0.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
	DK/Neutral	0	0.0%	0	0.0%	1	10.0%	1	11.1%	8	14.3%	0	0.0%
	Somewhat unsatisfied	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	3.6%	0	0.0%
	Very unsatisfied	2	3.6%	0	0.0%	1	10.0%	1	11.1%	3	5.4%	0	0.0%
Time per week spend on recycling	Less than 30 minutes	41	74.5%	8	80.0%	7	70.0%	8	88.9%	43	76.8%	1	100.0%
	30 - 60 minutes	13	23.6%	2	20.0%	3	30.0%	1	11.1%	10	17.9%	0	0.0%
	60 - 90 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	1.8%	0	0.0%
	90 - 120 minutes	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	More than 120 minutes	1	1.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	3.6%	0	0.0%
Questions about recycling cart	Yes	1	1.8%	0	0.0%	0	0.0%	2	22.2%	9	16.1%	0	0.0%
	No	54	98.2%	10	100.0%	10	100.0%	7	77.8%	47	83.9%	1	100.0%
Recyclables to MET before curbside	0	40	72.7%	8	80.0%	6	60.0%	7	77.8%	37	66.1%	1	100.0%
	1 - 2	14	25.5%	2	20.0%	4	40.0%	2	22.2%	19	33.9%	0	0.0%
	3 - 4	1	1.8%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	5 or more	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't remember	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycle more now	Yes	10	66.7%	2	100.0%	3	75.0%	2	100.0%	9	47.4%	0	0.0%
	No	5	33.3%	0	0.0%	1	25.0%	0	0.0%	10	52.6%	0	0.0%
How much more recycling	About 10 additional items a week	0	0.0%	1	50.0%	1	33.3%	0	0.0%	2	22.2%	0	0.0%
	About 20 additional items a week	6	60.0%	0	0.0%	1	33.3%	1	50.0%	2	22.2%	0	0.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
	About 30 additional items a week	1	10.0%	0	0.0%	0	0.0%	1	50.0%	0	0.0%	0	0.0%
	About 40 additional items a week	1	10.0%	0	0.0%	1	33.3%	0	0.0%	2	22.2%	0	0.0%
	About 50 additional items a week	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	11.1%	0	0.0%
	More than 50 additional items a week	2	20.0%	1	50.0%	0	0.0%	0	0.0%	2	22.2%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Average number of bags set out (RO)	1	8	26.7%	1	50.0%	0	0.0%	1	16.7%	14	36.8%	0	0.0%
	2	11	36.7%	1	50.0%	3	60.0%	3	50.0%	14	36.8%	0	0.0%
	3	6	20.0%	0	0.0%	1	20.0%	1	16.7%	2	5.3%	0	0.0%
	4	1	3.3%	0	0.0%	0	0.0%	0	0.0%	4	10.5%	0	0.0%
	5	2	6.7%	0	0.0%	1	20.0%	0	0.0%	2	5.3%	0	0.0%
	6	1	3.3%	0	0.0%	0	0.0%	0	0.0%	1	2.6%	0	0.0%
	7	1	3.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	9	0	0.0%	0	0.0%	0	0.0%	1	16.7%	0	0.0%	0	0.0%
	10	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.6%	0	0.0%
More or less than before (RO)	More	1	3.3%	0	0.0%	0	0.0%	0	0.0%	1	2.6%	0	0.0%
	Less	20	66.7%	2	100.0%	3	60.0%	4	66.7%	20	52.6%	0	0.0%
	About the same amount	9	30.0%	0	0.0%	2	40.0%	2	33.3%	17	44.7%	0	0.0%
How full is cart upon setout (TAR)	Quarter full	4	16.0%	1	12.5%	0	0.0%	0	0.0%	3	16.7%	0	0.0%
	Half full	9	36.0%	0	0.0%	1	20.0%	0	0.0%	7	38.9%	1	100.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
	Three quarters full	8	32.0%	5	62.5%	2	40.0%	1	33.3%	4	22.2%	0	0.0%
	Full	3	12.0%	2	25.0%	1	20.0%	1	33.3%	4	22.2%	0	0.0%
	Full cart and then some more bags of trash	1	4.0%	0	0.0%	1	20.0%	1	33.3%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
More or less than before (TAR)	More	1	4.0%	0	0.0%	4	80.0%	0	0.0%	0	0.0%	0	0.0%
	Less	16	64.0%	7	87.5%	1	20.0%	2	66.7%	7	38.9%	0	0.0%
	About the same	8	32.0%	1	12.5%	0	0.0%	1	33.3%	11	61.1%	1	100.0%
Bags or cart preference (TAR)	Greatly prefer carts	18	72.0%	5	62.5%	2	40.0%	1	33.3%	4	22.2%	1	100.0%
	Somewhat prefer carts	1	4.0%	1	12.5%	1	20.0%	0	0.0%	4	22.2%	0	0.0%
	DK/Neutral	1	4.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%
	Somewhat prefer bags	3	12.0%	0	0.0%	0	0.0%	1	33.3%	6	33.3%	0	0.0%
	Greatly prefer bags	2	8.0%	2	25.0%	1	20.0%	1	33.3%	4	22.2%	0	0.0%
One recycle cart enough (TAR)	Yes	24	96.0%	8	100.0%	5	100.0%	3	100.0%	18	100.0%	1	100.0%
	No	1	4.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
One trash cart enough (TAR)	Yes	24	96.0%	8	100.0%	4	80.0%	3	100.0%	18	100.0%	1	100.0%
	No	1	4.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Smaller trash cart preferable (TAR)	Yes	3	12.0%	4	50.0%	2	40.0%	1	33.3%	6	33.3%	0	0.0%
	No	20	80.0%	4	50.0%	2	40.0%	2	66.7%	12	66.7%	1	100.0%
	Don't know	2	8.0%	0	0.0%	1	20.0%	0	0.0%	0	0.0%	0	0.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
Problmes this week (TAR)	Yes	2	8.0%	0	0.0%	0	0.0%	0	0.0%	3	16.7%	0	0.0%
	No	23	92.0%	8	100.0%	5	100.0%	3	100.0%	15	83.3%	1	100.0%
What problems	Carts too big/Cumbersome	1	50.0%	0	0.0%	0	0.0%	0	0.0%	3	100.0%	0	0.0%
	Workers leave carts in the street	1	50.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Recycling cart favorablity (RO)	Very favorable	23	76.7%	0	0.0%	3	60.0%	4	66.7%	16	42.1%	0	0.0%
	Somewhat favorable	4	13.3%	1	50.0%	0	0.0%	1	16.7%	10	26.3%	0	0.0%
	DK/Neutral	0	0.0%	0	0.0%	1	20.0%	0	0.0%	6	15.8%	0	0.0%
	Somewhat unfavorable	2	6.7%	1	50.0%	1	20.0%	0	0.0%	3	7.9%	0	0.0%
	Very unfavorable	1	3.3%	0	0.0%	0	0.0%	1	16.7%	3	7.9%	0	0.0%
One recycling cart enough (RO)	Yes	29	96.7%	2	100.0%	5	100.0%	5	83.3%	35	92.1%	0	0.0%
	No	1	3.3%	0	0.0%	0	0.0%	0	0.0%	1	2.6%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	1	16.7%	2	5.3%	0	0.0%
Problems this week (RO)	Yes	0	0.0%	0	0.0%	1	20.0%	0	0.0%	4	10.5%	0	0.0%
	No	30	100.0%	2	100.0%	4	80.0%	6	100.0%	34	89.5%	0	0.0%
What problems	Steep driveway makes it difficult	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	50.0%	0	0.0%
	Workers leave cart in street	0	0.0%	0	0.0%	1	100.0%	0	0.0%	0	0.0%	0	0.0%
	Storm blew open lid and cart filled with water	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%
	Not home on collection day	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	25.0%	0	0.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
Like a trash cart as well (RO)	Yes	16	53.3%	1	50.0%	2	40.0%	3	50.0%	13	34.2%	0	0.0%
	No	14	46.7%	1	50.0%	3	60.0%	2	33.3%	24	63.2%	0	0.0%
	Don't know	0	0.0%	0	0.0%	0	0.0%	1	16.7%	1	2.6%	0	0.0%
Why do you want a trash cart (RO)	Only have to make 1 trip to the curb	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	8.3%	0	0.0%
	Helps keep trash contained/Cleaner/Away from animals	9	56.3%	1	100.0%	0	0.0%	0	0.0%	7	58.3%	0	0.0%
	Wheels make it easier to haul trash to curb	3	18.8%	0	0.0%	2	100.0%	1	50.0%	2	16.7%	0	0.0%
	Gives somewhere to store trash until collection	4	25.0%	0	0.0%	0	0.0%	1	50.0%	1	8.3%	0	0.0%
	Would save on plastic bags	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	8.3%	0	0.0%
Why do you not want a trash cart (RO)	No room to store it	3	21.4%	1	100.0%	0	0.0%	0	0.0%	5	21.7%	0	0.0%
	Carts are difficult to move	2	14.3%	0	0.0%	0	0.0%	0	0.0%	6	26.1%	0	0.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
	Residents leave on curb for extended periods of time	1	7.1%	0	0.0%	1	33.3%	0	0.0%	1	4.3%	0	0.0%
	Already purchased a trash cart	1	7.1%	0	0.0%	1	33.3%	1	50.0%	3	13.0%	0	0.0%
	Don't produce enough trash to need a cart	2	14.3%	0	0.0%	0	0.0%	0	0.0%	2	8.7%	0	0.0%
	Like the bags	4	28.6%	0	0.0%	1	33.3%	1	50.0%	5	21.7%	0	0.0%
	Produce too much yard waste to fit in a cart	1	7.1%	0	0.0%	0	0.0%	0	0.0%	1	4.3%	0	0.0%
Discontinue distribution of bags	Yes	3	21.4%	0	0.0%	0	0.0%	1	50.0%	7	29.2%	0	0.0%
	No	10	71.4%	1	100.0%	3	100.0%	1	50.0%	14	58.3%	0	0.0%
	Don't know	1	7.1%	0	0.0%	0	0.0%	0	0.0%	3	12.5%	0	0.0%
Used reusable BA tote bag	Yes	36	65.5%	7	70.0%	8	80.0%	7	77.8%	29	51.8%	1	100.0%
	No	19	34.5%	3	30.0%	2	20.0%	2	22.2%	27	48.2%	0	0.0%
Know that some plastics not recyclable	Yes	50	90.9%	10	100.0%	9	90.0%	7	77.8%	46	82.1%	0	0.0%
	No	5	9.1%	0	0.0%	1	10.0%	2	22.2%	10	17.9%	1	100.0%
Where in community do you get your info	Info provided by the city	9	18.8%	4	44.4%	1	12.5%	2	25.0%	13	26.5%	0	0.0%
	Homeowners meeting	1	2.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Online	12	25.0%	2	22.2%	2	25.0%	3	37.5%	9	18.4%	0	0.0%
	Flyers/Mailers	10	20.8%	1	11.1%	1	12.5%	2	25.0%	6	12.2%	1	100.0%
	From past recycling experience	3	6.3%	0	0.0%	0	0.0%	0	0.0%	1	2.0%	0	0.0%
	On TV	1	2.1%	0	0.0%	0	0.0%	0	0.0%	1	2.0%	0	0.0%

		Employed											
		Full-time		Part-time		Self employed		Homemaker		Retired		Unemployed	
	On the cart on tote bag	8	16.7%	1	11.1%	3	37.5%	1	12.5%	9	18.4%	0	0.0%
	Meeting at beginning of pilot program	1	2.1%	1	11.1%	0	0.0%	0	0.0%	6	12.2%	0	0.0%
	Call BA sanitation	0	0.0%	0	0.0%	1	12.5%	0	0.0%	0	0.0%	0	0.0%
	Newspaper	1	2.1%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	From the MET	2	4.2%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	Word of mouth	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	2.0%	0	0.0%
	Called the city	0	0.0%	0	0.0%	0	0.0%	0	0.0%	3	6.1%	0	0.0%
Where online do you get your info	recycleba.org	18	78.3%	4	100.0%	3	100.0%	3	75.0%	17	100.0%	1	100.0%
	MET website	2	8.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	brokenarrowok.gov	1	4.3%	0	0.0%	0	0.0%	1	25.0%	0	0.0%	0	0.0%
	Google	2	8.7%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Aware of recycleba.com	Yes	34	61.8%	5	50.0%	6	60.0%	4	44.4%	33	58.9%	0	0.0%
	No	21	38.2%	5	50.0%	4	40.0%	5	55.6%	23	41.1%	1	100.0%
Used recycleba.com	Yes	25	69.4%	4	57.1%	3	42.9%	4	100.0%	17	42.5%	0	0.0%
	No	11	30.6%	3	42.9%	4	57.1%	0	0.0%	23	57.5%	0	0.0%

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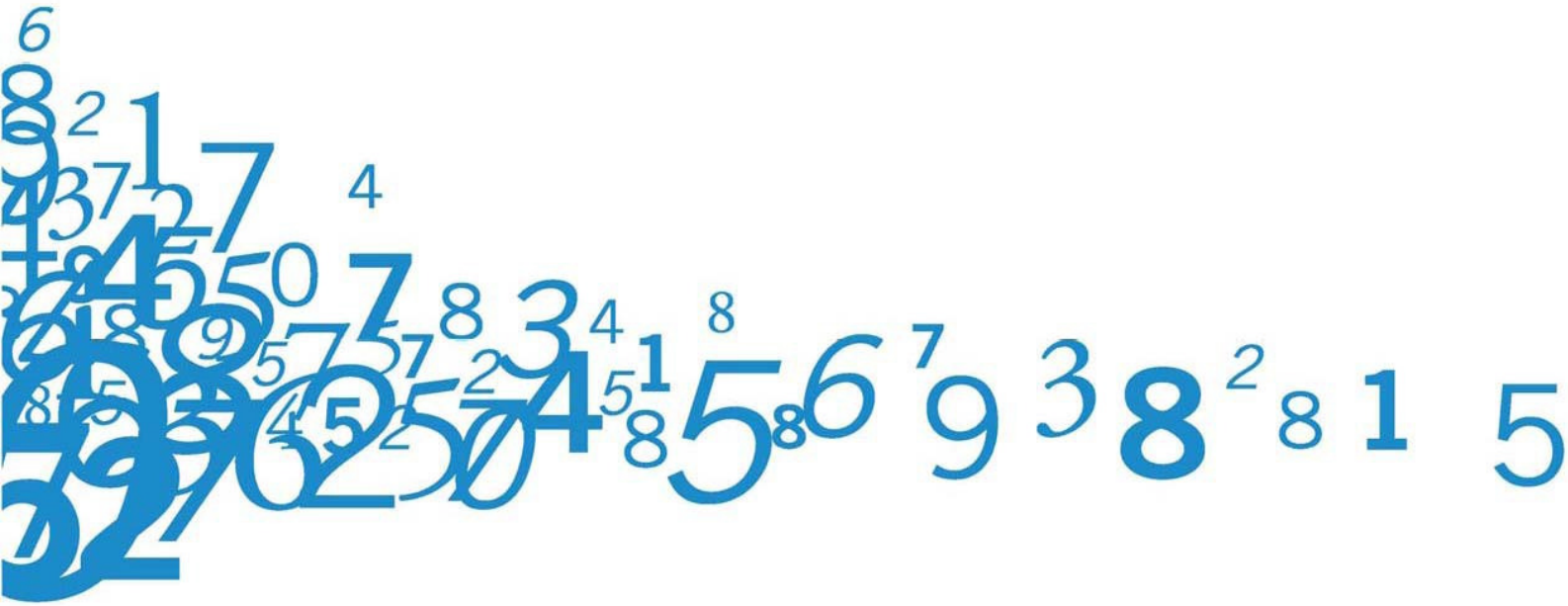

3-year transition plan for Broken Arrow Recycling	FY20 Planning year: Fall 2019 - Fall 2020	FY21 Year 1: Fall 2020 - Fall 2021
	Re-route entire city to once weekly and single-side service	All customers receive recycling cart
	Services continue status quo during planning year	All 8 garbage routes serviced by REL trucks (8 drivers, 8 helpers) 5 recycling routes are serviced by REL trucks (5 drivers, 5 helpers)
	2 pick-up trucks are purchased for Field Supervisors (this is a revision to FY20 budget)	3 recycling routes are serviced by ASL trucks (3 drivers, 0 helpers)
	3 ASL trucks are ordered (paid for next year)	2 ASL trucks are ordered (paid for next year; brings fleet to 5)
	3 new REL trucks ordered with tippers; 9 additional REL trucks are retrofitted with lifts; 0 new additional new trucks ordered beyond 36,000 recycling carts are ordered	1 REL truck is ordered (paid for next year)

COLLECTION OPERATIONS	Budgeted FY20	1 Cart Recycling Collection: Bags + Recycle Cart
Salaries, Wages & Benefits for Collection, Manager/Superintendent, and Dispatcher	**$ 2,969,700.00**	$ 2,294,543.68
Salaries, Wages & Benefits for new Field Supervisors (2) and Area Manager (1)	**$ -**	$ 258,654.24
Total Prof & Tech Services	**$ 159,900.00**	$ 50,000.00
Total Property Services LESS Disposal or Processing	**$ 102,300.00**	$ 102,300.00
Contract Landfill Services (includes Covanta)	$ 589,600.00	
Covanta only	$ -	$ 480,978.62
WM Landfill only	$ -	$ 32,897.56
Contract MRF Recycling Processing Services @$69.50 per ton	$ -	$ 555,445.35
Total Other Services LESS Temporary Services	$ 669,000.00	$ 133,350.00
Temporary Services	$ 353,000.00	all labor included above
Uniforms	$ 10,800.00	$ 11,340.00
Tires & Tubes	$ 213,900.00	
Vehicle Repair Parts	$ 134,000.00	
Fuel & Lubricants	$ 250,000.00	
Material & Supplies	$ 6,000.00	$ 402,383.15
Operations costs for pick-ups and grapple trucks		$ 6,746.25
Other Equipment	11,500.00	$ 12,075.00
Sanitation Trash Bags	$ 620,000.00	$ 318,301.46
Trash Containers	$ 2,400.00	$ 2,520.00
Radio Maintenance	$ 1,000.00	$ 1,000.00
Recycle Center Maint	$ 1,000.00	$ 1,000.00
Motor Vehicle (Budgeted)	$ 577,000.00	$ 900,000.00
Construction (Budgeted)	$ 20,000.00	$ -
Misc Capital Outlay (Budgeted)	$ -	$ 50,000.00
Communication Equipment (Budgeted)	$ 15,000.00	$ 15,000.00
Office Equipment	$ -	$ 4,000.00
Operations	**$ 6,094,100.00**	**$ 4,663,535.32**
Plus Budgeted Amounts for Motor Vehicle, Misc Cap, and Comm	**$ 613,000.00**	$ 969,000.00
Minus Pilot consulting	**$ (159,900.00)**	
Total Operations and Capital Cost	**$ 6,547,200.00**	**$ 5,632,535.32**

3-year transition plan for Broken Arrow Recycling	FY20 Planning year: Fall 2019 - Fall 2020	FY21 Year 1: Fall 2020 - Fall 2021
Additional Costs	**Budgeted FY2020**	**1 Cart Recycling Collection: Bags + Recycle Cart**
Annual Amortization of Carts	$ -	$ 173,772.00
Annual Maintenance of Carts	$ -	$ 109,725.00
Annual Interest Expenses on Cart Purchase	$ -	$ 6,516.45
Annual Amortization of Tippers	$ 25,200.00	$ 25,200.00
Annual Interest Expenses on Tipper Purchase	$ 945.00	$ 945.00
Recycling Outreach and Education	$ -	$ 113,016.75
Total Additional Costs	**$ 60,000.00**	**$ 429,175.20**
Additional Revenues	**Budgeted FY2020**	**1 Cart Recycling Collection: Bags + Recycle Cart**
Recycling Rebate	$ -	$ -
Total Costs	**Budgeted FY2020**	**1 Cart Recycling Collection: Bags + Recycle Cart**
Current Operations	6,607,200.00	
Operations Costs with Recycling		$ 6,061,710.52
Per Household Costs, Per Month	**Budgeted FY2020**	**1 Cart Recycling Collection: Bags + Recycle Cart**
Current Operations	15.73	
Operations Costs with Recycling		$ 14.01

3-year transition plan for Broken Arrow Recycling	FY22 Year 2: Fall 2021 - Fall 2022	FY23 Year 3: Fall 2022 - 2023	FY24
	All customers continue with recycling cart	All customers transition to 2-cart system	All customers on 2-cart system
	All 8 garbage routes serviced by REL trucks (8 drivers, 8 helpers)	All 8 garbage routes serviced by REL trucks (8 drivers, 8 helpers)	All garbage serviced by REL trucks
	3 recycling routes are serviced by REL trucks (3 drivers, 3 helpers)	0 recycling routes are serviced by REL trucks	
	5 recycling route is serviced by ASL trucks (5 drivers, 0 helpers)	All 8 recycling routes are serviced by ASL trucks (8 drivers, 0 helpers)	All recycling serviced by ASL trucks
	3 ASL trucks are ordered (paid for next year; brings fleet to 8)	1 ASL truck is ordered (paid for next year; creates back-up)	
	0 REL trucks are ordered	1 REL truck is ordered	Review fleet condition to determine purchases for this year
	36,000 garbage carts are ordered		

COLLECTION OPERATIONS	1 Cart Recycling Collection: Bags + Recycle Cart	2 Cart Recycling Collection: Cart + Cart
Salaries, Wages & Benefits for Collection, Manager/Superintendent, and Dispatcher	$ 2,208,639.00	$ 2,043,580.02
Salaries, Wages & Benefits for new Field Supervisors (2) and Area Manager (1)	$ 265,120.60	$ 271,748.61
Total Prof & Tech Services	$ 50,000.00	$ 50,000.00
Total Property Services LESS Disposal or Processing	$ 107,415.00	$ 112,785.75
Contract Landfill Services (includes Covanta)		
Covanta only	$ 517,701.34	$ 557,227.84
WM Landfill only	$ 35,409.29	$ 38,112.79
Contract MRF Recycling Processing Services @$69.50 per ton	$ 572,108.71	$ 589,271.97
Total Other Services LESS Temporary Services	$ 140,017.50	$ 147,018.38
Temporary Services	all labor included above	all labor included above
Uniforms	$ 11,907.00	$ 12,502.35
Tires & Tubes	$ 422,502.31	$ 443,627.43
Vehicle Repair Parts		
Fuel & Lubricants		
Material & Supplies		
Operations costs for pick-ups and grapple trucks	$ 7,083.56	$ 7,437.74
Other Equipment	$ 12,678.75	$ 13,312.69
Sanitation Trash Bags	$ 318,301.46	$ 159,150.73
Trash Containers	$ 2,646.00	$ 2,778.30
Radio Maintenance	$ 1,000.00	$ 1,000.00
Recycle Center Maint	$ 1,000.00	$ 1,000.00
Motor Vehicle (Budgeted)	$ 800,000.00	$ 900,000.00
Construction (Budgeted)	$ -	$ -
Misc Capital Outlay (Budgeted)	$ 50,000.00	$ 50,000.00
Communication Equipment (Budgeted)	$ 15,000.00	$ 15,000.00
Office Equipment	$ 1,000.00	$ 1,000.00
Operations	**$ 4,673,530.52**	**$ 4,450,554.58**
Plus Budgeted Amounts for Motor Vehicle, Misc Cap, and Comm	$ 866,000.00	$ 966,000.00
Minus Pilot consulting		
Total Operations and Capital Cost	**$ 5,539,530.52**	**$ 5,416,554.58**

3-year transition plan for Broken Arrow Recycling	FY22 Year 2: Fall 2021 - Fall 2022	FY23 Year 3: Fall 2022 - 2023	FY24
Additional Costs	**1 Cart Recycling Collection: Bags + Recycle Cart**	**2 Cart Recycling Collection: Cart + Cart**	
Annual Amortization of Carts	$ 173,772.00	$ 347,544.00	
Annual Maintenance of Carts	$ 114,662.63	$ 119,822.44	
Annual Interest Expenses on Cart Purchase	$ 6,516.45	$ 13,032.90	
Annual Amortization of Tippers	$ 14,700.00	$ 7,700.00	
Annual Interest Expenses on Tipper Purchase	$ 551.25	$ 288.75	
Recycling Outreach and Education	$ 121,645.58	$ 130,933.22	
Total Additional Costs	**$ 431,847.90**	**$ 619,321.31**	
Additional Revenues	**1 Cart Recycling Collection: Bags + Recycle Cart**	**2 Cart Recycling Collection: Cart + Cart**	
Recycling Rebate		$ -	
Total Costs	**1 Cart Recycling Collection: Bags + Recycle Cart**	**2 Cart Recycling Collection: Cart + Cart**	
Current Operations			
Operations Costs with Recycling	$ 5,971,378.43	$ 6,035,875.90	
Per Household Costs, Per Month	**1 Cart Recycling Collection: Bags + Recycle Cart**	**2 Cart Recycling Collection: Cart + Cart**	
Current Operations			
Operations Costs with Recycling	$ 13.40	$ 13.15	

Assumption	Value	Source	Year 1 increase	Year 2 increase	Year 3 increase
Annual Tonnage Increase, trendline over time	1.03	City of Broken Arrow data			
Number of customers	35,000	Summer 2019 figure, City of Broken Arrow	36,050.00	37,131.50	38,245.45
Cart purchase FOB	$ 48.27	2018 cart purchase from RP			
Cart maintenance: annual, per cart	$ 3.00	Baton Rouge, LA, current contract is $2.64	$ 3.14	$ 3.28	$ 3.42
Recycling Carts	36,000	1 cart per household, plus 1000 spare			
Interest on purchases	3.75%	City of Broken Arrow			
Outreach expenditures: annual, per household	$ 3.00	GBB	$ 3.00	$ 3.00	$ 3.00
Solid Waste Disposal at Covanta $ per ton	$ 12.93	City of Broken Arrow FY19, includes tip fee of $11.68 plus $1.25 DEQ fee	$ 13.51	$ 14.12	$ 14.76
Solid Waste Disposal at WM $ per ton	$ 25.47	City of Broken Arrow FY19, includes tip fee of $24.22 plus $1.25 DEQ fee	$ 26.62	$ 27.81	$ 29.07
Solid Waste Diversion %	20.0%	2019 Broken Arrow Pilot			
FY19 Tons MSW Disposed at Covanta	39,000.00	City of Broken Arrow FY19 data	$ 40,170.00	$ 41,375.10	$ 42,616.35
FY19 Tons MSW Disposed at WM	4,200.00	City of Broken Arrow FY19 data	$ 4,326.00	$ 4,455.78	$ 4,589.45
Solid Waste Potential Diversion TPY	8,640.00	20% of 2019 Broken Arrow combined MSW tons disposed, rounded off	$ 8,899.20	$ 9,166.18	$ 9,441.16
Solid Waste Potential Disposal	34,560.00	80% of 2019 Broken Arrow combined MSW tons disposed, rounded off	$ 35,596.80	$ 36,664.70	$ 37,764.65
Residential Bulky tons to WM	600	City of Broken Arrow	$ 618.00	$ 636.54	$ 655.64
Street Spoils tons to WM	600	City of Broken Arrow	$ 618.00	$ 636.54	$ 655.64
Maintenance Center Open-tops - Annual Cost (budgeted)	$ 8,000.00	City of Broken Arrow	$ 8,400.00	$ 8,820.00	$ 9,261.00
Free Dump Days - Annual Cost (budgeted)	$ 26,000.00	City of Broken Arrow	$ 27,300.00	$ 28,665.00	$ 30,098.25
Net Recyclables Processing Cost per Ton	$ (62.42)	2019 Broken Arrow Pilot	$ (62.42)	$ (62.42)	$ (62.42)
Annual maintenance on half-ton pick-up truck	$ 700.00	City of Broken Arrow	$ 735.00	$ 771.75	$ 810.34
Annual maintenance on three-quarter-ton pick-up truck	$ 700.00	City of Broken Arrow	$ 735.00	$ 771.75	$ 810.34
Annual maintenance on smaller grapple truck	$ 1,700.00	City of Broken Arrow	$ 1,785.00	$ 1,874.25	$ 1,967.96
Annual maintenance on 2017 grapple truck (smaller + 20%)	$ 2,040.00	City of Broken Arrow	$ 2,142.00	$ 2,249.10	$ 2,361.56
1-cart recycling: Routes per Day: Recycling	8	C2Logix Resource Estimator			
1-cart recycling: Routes per Day: Garbage	7	C2Logix Resource Estimator			
1-cart recycling: Combined # Routes per Day	15	C2Logix Resource Estimator			
2-cart recycling: Routes per Day: Recycling	8	C2Logix Resource Estimator			
2-cart recycling: Routes per Day: Garbage	10	C2Logix Resource Estimator			
2-cart recycling: Combined # Routes per Day	18	C2Logix Resource Estimator			
Cost to retrofit trucks	$ 7,000.00	City of Broken Arrow			
2-cart garbage Fleet: Prime Trucks (need to retrofit)	6	City of Broken Arrow			
Sanitation Truck Maintenance Operations per mile (Average	$ 1.54				
			Year 1 wage increase	Year 2 wage increase	Year 3 wage increase
Field Supervisor (at least 2)	$ 27.82		$ 28.52	$ 29.23	$ 29.96
with 40% for benefits	$ 38.95	Broken Arrow, Sanitation Supervisor	$ 39.92	$ 40.92	$ 41.94
Annual	$ 81,016.00		$ 83,041.40	$ 85,117.44	$ 87,245.37
Area Manager (1 position)	$ 31.01		$ 31.79	$ 32.58	$ 33.40
with 40% for benefits	$ 43.42	Broken Arrow, Assistant Sanitation Manager	$ 44.51	$ 45.62	$ 46.76
Annual	$ 90,313.60		$ 92,571.44	$ 94,885.73	$ 97,257.87
Dispatcher (1 position)	$ 25.94	City of Broken Arrow	$ 26.58	$ 27.25	$ 27.93
with 40% for benefits	$ 36.31		$ 37.22	$ 38.15	$ 39.10
Annual	$ 75,524.80		$ 77,412.92	$ 79,348.24	$ 81,331.95
Superintendent (1 position)	$ 37.51	City of Broken Arrow	$ 38.44	$ 39.41	$ 40.39
with 40% for benefits	$ 52.51	Broken Arrow, Sanitation Manager	$ 53.82	$ 55.17	$ 56.55
Annual	$ 109,220.80		$ 111,951.32	$ 114,750.10	$ 117,618.86
Refuse Collection Driver	$ 25.06	City of Broken Arrow	$ 25.68	$ 26.33	$ 26.98
Annual	$ 35.08		$ 35.96	$ 36.86	$ 37.78
	$ 72,966.40		$ 74,790.56	$ 76,660.32	$ 78,576.83
Refuse Collector (helper)	$ 23.41	City of Broken Arrow	$ 24.00	$ 24.60	$ 25.21
Annual	$ 32.78		$ 33.60	$ 34.44	$ 35.30
	$ 68,182.40		$ 69,886.96	$ 71,634.13	$ 73,424.99
New Automated Side loader					
	$ 300,000.00				