



2019 Multiunit Recycling Evaluation

*Evaluation of communication methods and
increased program participation*

October 8, 2019

Minneapolis Department of Public Works
Division of Solid Waste & Recycling

Thank you to the following project funding partners:

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2019 Multiunit Recycling Evaluation

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Introduction & background

Solid Waste & Recycling staff piloted new picture-based educational tags for recycling carts in the summer of 2018. While out in the field, staff noticed multiunit properties that had City collection services but did not have recycling. Staff recorded these addresses and looked them up in the Solid Waste Information System (SWIS). Many of the properties they looked at had not had recycling carts for several years.



It was assumed that tenants of these properties may not be aware that they could request recycling carts at no extra charge. To combat this issue, Solid Waste & Recycling (SW&R) developed a plan to evaluate whether reaching out to properties without recycling would result in the diversion of more recyclables from the waste stream or if it would result in extra staff time and energy to deliver recycling carts only to pick them up several weeks later for continued contamination.

As part of the project, SW&R staff recorded resources and time required to contact the utility bill payers, tax payers, and residents at each of the 278 multiunit buildings with 4 or more units who did not have recycling carts as of May 2019. The following items were tracked:

- Who requested to have recycling carts delivered to the property
- The quality and quantity of recyclables set out by the property for at least three collection periods following the delivery of recycling carts
- Knowledge and behaviors of residents at properties who received recycling carts back

To help facilitate the diversion of clean recyclables, properties who requested recycling carts back were offered recycling educational materials. Recycling carts were removed if they repeatedly contained high contamination. The project was intended to last 14 weeks, however, due to not hearing back from some properties for over a month from the first point of contact utilizing a direct mailing, the project lasted a little over 17 weeks.

Timeline

Initial contact: Letters mailed	Tuesday June 4, 2019
Second contact: Cart hangers left	Monday July 1-Wednesday July 3, 2019
Cart checking	Monday June 10 – Monday September 16, 2019
Door-knocking	Wednesday June 26-Monday August 12, 2019
Survey mail and return date	Tuesday July 6 – Friday August 30, 2019

Project funding

The project was partially funded by a mini-grant from The Recycling Partnership. The Recycling Partnership and the Minnesota Pollution Control Agency applied for a grant from the US Environmental Protection Agency for standardizing recycling messaging in Minnesota. The remainder of the funds were from Solid Waste & Recycling's enterprise fund.

Methods

Several methods were used to try to engage residents at the properties, the utility bill payer and taxpayer for each property. These included direct mail, notices left on garbage and/or recycling carts, door-knocking, and a resident survey. Each of these methods is briefly described in this section.

First contact: Direct mail

On June 3, 2019, a total of 1,149 letters were mailed to each unit and the utility bill payer and taxpayer of the 278 buildings with four or more units that did not have recycling. The letters promoted the benefits of recycling, shared that there was no extra cost to have recycling at the property and encouraged residents and utility bill payers or taxpayers to contact Solid Waste & Recycling's to request a recycling cart.

Resident letter

The resident letter was kept short and simple in hopes residents would read the entire letter. It was also translated into Spanish, Hmong, and Somali. The front included English and Spanish text and the back included Hmong and Somali text. Each resident letter included an insert with the recycling calendar for the property, how to prepare recycling for pickup, a guide of what can be put in the recycling cart, and information on items that cannot be recycled and why. The envelope also included a label with "Order a recycling cart at no extra cost today!" in English, Spanish, Hmong, and Somali to encourage residents to open the letter. A total of 1,149 letters were sent out to each unit in the 278 targeted properties.

Resident letter

Front: English (shown below) and Spanish; Back: Hmong and Somali



Resident letter insert - front (recycling calendar, set out information and materials accepted)

Preparing your recycling

Your regular collection day is Tuesday

Below are your collection days for January 2019 – March 2020.
Garbage and organics are collected weekly. Recycling is collected every other week.

☐ = garbage and organics are collected
 ☒ = recycling, garbage and organics are collected

2019															
Jan	2	9	16	23	29	Feb	5	12	19	26	Mar	5	12	19	26
Apr	2	9	16	23	30	May	7	14	21	29	Jun	4	11	18	25
Jul	2	9	16	23	30	Aug	6	13	20	27	Sep	4	10	17	24
Oct	1	8	15	22	29	Nov	5	12	19	26	Dec	3	10	17	24
2020															
Jan	7	14	21	28	Feb	4	11	18	25	Mar	3	10	17	24	

*Collection delayed one day due to a holiday **Tuesday ABE**

Recycling guide

Paper

- Mail, office and school papers
- Magazines, newspaper and inserts
- Phone books
- Shredded paper in closed paper bags
- Books

NO: Paper plates, ice cream tubs or coffee cups

Plastics

Keep caps on.

Bottles and jugs:

- Water, soda and juice bottles
- Milk and juice jugs
- Ketchup and salad dressing bottles
- Dishwashing and laundry soap bottles and jugs
- Shampoo, soap and lotion bottles

Cups and containers:

- Yogurt, pudding and fruit cups
- Margarine, cottage cheese, and other tubs and lids
- Produce, deli and takeout containers

NO: Plastic bags or film, bubble wrap, Styrofoam™, #6 plastics, black plastics, or containers that held hazardous substances

Glass

- Food and beverage bottles and jars

NO: Drinking glasses, window glass, ceramics or mirrors

Boxes

- Cardboard
- Cereal, cracker, shoe and gift boxes
- Refrigerated food and beverage boxes
- Toothpaste, medication and other toiletry boxes

Metal

- Food and beverage cans
- Aluminum foil and trays
- Decorative tins and pie tins

NO: Paint cans, propane cylinders, helium tanks, or containers that held hazardous substances

Cartons

Do not flatten.

- Milk cartons
- Juice boxes
- Soup, broth and wine cartons

NO: Paper or Styrofoam™ egg cartons or ice cream tubs

Cardboard cans

- Chips, nuts and other snacks
- Frozen juices and refrigerated dough
- Powdered drink mixes
- Powdered cleaners

NO: Automotive grease or wax containers

For more information, visit minneapolismn.gov/recycling

Place recycling loose in your cart

Recycling is easier to sort at the recycling facility when it is loose in the cart. Collect recycling in a reusable container or bag and empty it into your cart. If using paper bags, empty the contents of the bags into your recycling cart, then place the paper bag separately in the cart. If collecting in plastic bags, empty the recyclables into the cart, but do not place plastic bags in your recycling cart.

Place recycling loose in your recycling cart.

Do not put plastic bags in your recycling cart.

What To Do List
A guide to getting rid of stuff

If you have questions on how to dispose of an item, check the What to Do List available at minneapolismn.gov/solid-waste. This list is customized for Minneapolis Solid Waste & Recycling customers. If you can't find an item, contact Solid Waste & Recycling.

City of Minneapolis Division of Solid Waste and Recycling minneapolismn.gov/recycling | 612-673-2917

Resident letter insert - back (items not accepted in recycling and why)

Recycle right: leave these out

At some point, we've all probably put something in our recycling cart that we weren't sure was actually recyclable. Although you may want to recycle everything, the best thing you can do to support recycling is to recycle right by only recycling the items listed on the recycling guide. These items can be sorted properly at recycling facilities and made into new products.

Avoid "wish-cycling"

The items listed here are commonly "wish-cycled," which means people put them in their recycling carts hoping they can be recycled. However, these items can damage equipment at recycling facilities, harm employees at recycling facilities, or do not have strong markets to be turned into new products.

You can still recycle some of these items at drop-off locations. And for all of these items, think about ways you could avoid them – purchase high-quality items, buy used items, and find durable, reusable, or compostable alternatives.

Batteries

Place batteries in a clear plastic bag and place on top of your recycling cart. Tape the positive (+) terminal of lithium and lithium-ion batteries to prevent fires.

Paper coffee cups, plates, and take-out containers

Paper food and beverage containers, ice cream tubs, and some take-out containers are lined with a thin layer of plastic or wax coating that makes them difficult to recycle. At recycling facilities, they commonly get mixed in with bales of recyclable paper, lowering the quality of the paper recycling stream. Note, that these items also cannot go in your organics recycling cart unless they are certified compostable.

Plastic bags, bubble wrap, and plastic film

Plastic bags and wrap get caught in the spinning gears at recycling facilities. Facilities often spend up to two hours a day cutting plastic bags out of the machinery. Clean and dry plastic bags can be brought to participating grocery and retail stores for recycling.

Bring dry, clean plastic bags to participating grocery and retail stores.

Do not put plastic bags in your recycling cart.

Recycle right: leave these out

#6 plastics – both plastic foam and rigid polystyrene

There are not good markets for recycling these items, and they are difficult to sort at recycling facilities. Plastic foam, commonly known as Styrofoam™, is used for disposable cups, containers, egg cartons, and packing (including foam blocks and packing peanuts). Rigid polystyrene is used for some cold plastic beverage cups, lids for paper coffee cups, and deli containers. Check these items to see what type of plastic they are.

Large plastic items

Large plastic items include storage totes, laundry baskets, lawn furniture, children's toys, and outdoor play equipment. Recycling facilities are not designed to handle and process items larger than a 5 gallon pail. Purchase high-quality items, and donate items that are in good condition.

Black plastic

Black plastics don't get sorted properly at recycling facilities. Optical sorters are used at recycling facilities to identify and sort different types of plastics, but they cannot properly read black plastic for what it is. It is also not cost-effective to have black plastics sorted out by hand, and there are weak markets for recycling black plastics.

Metal pots and pans and other scrap metal

Recycling facilities aren't designed to sort metal items like pots and pans, shelving, pipes, hangers, fencing, electronics, and appliances. These items can damage equipment at the recycling facility by tearing conveyor belts and jamming machines. They also have the potential to injure employees as they pull them off the sorting line.

Place scrap metal in a box labeled "for Solid Waste" next to your recycling cart, and it will be collected for recycling on the business day after your recycling pickup. Other drop-off recycling options exist as well.

Paper egg cartons, napkins, and paper towels

The fibers in these items have already been recycled several times and are too short to be made into new paper products. These items can go in your green organics recycling cart to be composted.

Utility bill payer and taxpayer letter

The utility bill payer and taxpayer letter was more detailed than the resident letter and was not translated into multiple languages. It not only informed them that carts are available at no additional cost but also promoted that they could reduce garbage service (saving money) by adding recycling for their tenants and they would be in compliance with the newly adopted Hennepin County ordinance that becomes effective on January 1, 2020. Free educational materials were also promoted in the letter.

After deleting duplicates, a total of 297 letters were sent to utility bill payers or taxpayers for the properties.

Utility Bill Payer / Taxpayer letter



Returned mail

Nine percent (140) of the 1,446 letters mailed were returned to sender; 129 of those returned were from the resident mailing. Reasons for letters being returned included:

- Attempted
- No such number
- Not deliverable
- Vacant

In some instances, the resident letters were returned due to the City's Solid Waste Information System listing the addresses as unit 1, 2, 3, etc. when the units should have been listed as A, B, C, etc.

Signing up to get recycling

When a request was made for recycling carts, a customer service representative recorded who made the request (resident, utility bill payer or taxpayer), how best to contact them (email or phone) to discuss free educational materials available, and entered in an ASAP work order for the carts to be delivered to the property.

Each day a report was run that captured every work order entered into SWIS for any of the 278 target properties. When one of the properties signed up for recycling, a separate tracking form was started that included the contact information, the date the cart was requested, the day the cart was delivered, contact information and educational materials requested. This form was also used during site-visits to evaluate the quantity and quality of recyclables diverted.

Second contact: Notices on garbage carts

One month after the initial letter was sent and recycling cart requests began to decline, SW&R staff discussed mechanisms to reach out to target properties to again let them know they could request recycling carts at no additional cost. At this point, 45 properties requested recycling carts; (16.2%) of the original 278 multifamily properties without recycling.

Through regular business and past experience, SW&R has found that leaving messages on carts is an effective low-cost way to connect with and educate residents. The team decided to develop and leave a cart hanger on the garbage carts for target properties that had not yet contacted SW&R to request recycling carts.

Two different cart hangers were developed to encourage residents to sign up for recycling. One design used an image of a child in a field and focused on recycling for the benefit of future generations.

The second cart tag included an image of a glass facility worker and focused on recycling as a means of creating jobs and strengthening the local economy. Both tags stated, "Order a recycling cart at no extra cost today!", which was also translated into Spanish, Hmong, and Somali. The cart tags also included a basic visual guide on what items are recyclable, along with contact information to order a recycling cart.

Recycle.
Your grandchildren will thank you.
Recycling reduces the pollution that leads to climate change.

Minneapolis
City of Lakes
Recycle these
Bottles — Cans — Cartons

Paper — Boxes

Order a recycling cart at no extra cost today!
Jordene hoy an contenedor de reciclaje costo alguno!
Daboo caagga buluugga ah ee qash inka dib loo warshadeeyo maanta adigoo laag dheert ah kicinayn!
Xaaj ibi lub theeb too khoom rom row los siv yam uas bils raug nuj nqis ntax hubab no!

Call for a free recycling cart:
612-673-2917
minneapolismn.gov/recycling

Thank you to our project partners:
THE RECYCLING PARTNERSHIP MPCA

The cart hangers were left at 178 properties on July 2nd, July 3rd, and July 8th, 2019. Properties with curb collections may not have received cart hangers due to the carts being stored out of view from staff. Staff made sure to leave one or more of both cart hanger designs per property to provide multiple motivations as to why one should recycle. Multiple hangers were left to help ensure it was seen by more than one tenant at the property.

R



While leaving the cart hangers, staff spoke with residents they encountered which resulted in 5 properties (1.8%) signing up without receiving the cart hanger. Staff also found that 35 of the target properties (12.5% of 278 targeted properties) had shared collection points with another property. Residents in these homes may not know they did not technically have recycling as they were using the recycling carts that appeared to be theirs but technically belonged to the neighboring house. In this instance, staff noted which properties were sharing collection points and at least one recycling cart was assigned to the property that did not previously register as having recycling. These properties are now listed as having recycling in SWIS.

Any requests for recycling carts that were received after leaving the cart hanger was accredited to the cart hanger. Any requests prior were associated with the mailed letter. An additional 9 properties (3.2% of targeted properties) signed up after the cart hanger was placed.

Education and Outreach

After the work order to deliver recycling carts was entered, staff contacted the individuals to offer educational materials and assistance needed to make the recycling program successful. Materials that were offered included recycling guides of what could go into recycling and guides on what not to put in the recycling carts. Both recycling guides were offered in English, Spanish, Hmong, and Somali. Recycling, organics and trash interior container labels were also offered. Other materials, provided by Hennepin County's Department of Environment and Energy, included reusable recycling tote bags, recycling and organics cart labels. Educational materials were requested by 43.2% (29 of 67) properties.

Recycling Guide (English)	139
Recycling Guide (Spanish)	43
Recycling Guide (Somali)	4
Recycling Guide (Hmong)	1
Nos guide English/Spanish)	169
Nos guide (English/Somali)	4
Nos guide (English/Hmong)	1
Reusable tote bag	77
Recycling container labels	29
Trash container labels	34
Organics container labels	3
Recycling poster	3

Cart Checking

ASAP work orders were entered when someone from the property called to request recycling carts. Because all buildings had at least 4 units, unless another number was requested, two 95-gallon recycling carts were delivered. Carts were to be checked for three collections in a row to evaluate the quality and quantity of recyclables diverted from the trash. Cart checking occurred the day before the regular collection day, with the exception of Monday collection day properties. Properties with Monday collection days were checked first thing Monday morning in an effort to beat the recycling collection crew to the cart. If staff were not able to make it to the cart before the crew on a Monday, a work order was entered asking the crew how full the carts were and if they were clean or contaminated.

Evaluating the contents of recycling carts was performed in the same manner as in 2018. Items inside the cart were not moved or touched, but rather ranked only by what was visible. For consistency and time management, carts were ranked only from the most accessible side rather than looking in from every angle. The rankings of each cart were on a tracking sheet that was created for each property after they called in to request recycling. Categories of contamination were indicated on the tracking sheet, and additional notes were recorded.

Cart tracking sheet

Building and garbage cart observations:

Cart Checking

Collection 1

Date: 6/11/19

Cart #	Not out	Rank	SWIS Tag	Stickers	In bags	Plastic bags	Durable Goods	Cords, elect, app	Plastic-lined paper	Comp. Items	HHW	Textiles	Black Plastic	Trash (not rec or comp)
019925		5												

Notes:

Cart Checking

Collection 2

Date: 6/26/19

Cart #	Not out	Rank	SWIS Tag	Stickers	In bags	Plastic bags	Durable Goods	Cords, elect, app	Plastic-lined paper	Comp. Items	HHW	Textiles	Black Plastic	Trash (not rec or comp)
1/2 019925		2							1					1

Notes:

Cart Checking

Collection 3

Date: 7/10/19

Cart #	Not out	Rank	SWIS Tag	Stickers	In bags	Plastic bags	Durable Goods	Cords, elect, app	Plastic-lined paper	Comp. Items	HHW	Textiles	Black Plastic	Trash (not rec or comp)
1/2 019925		1											1	

Notes:

Additional cart check would be helpful

Observations and recommendations:

Date: 7/24/19

Cart # Rank

Full 019925

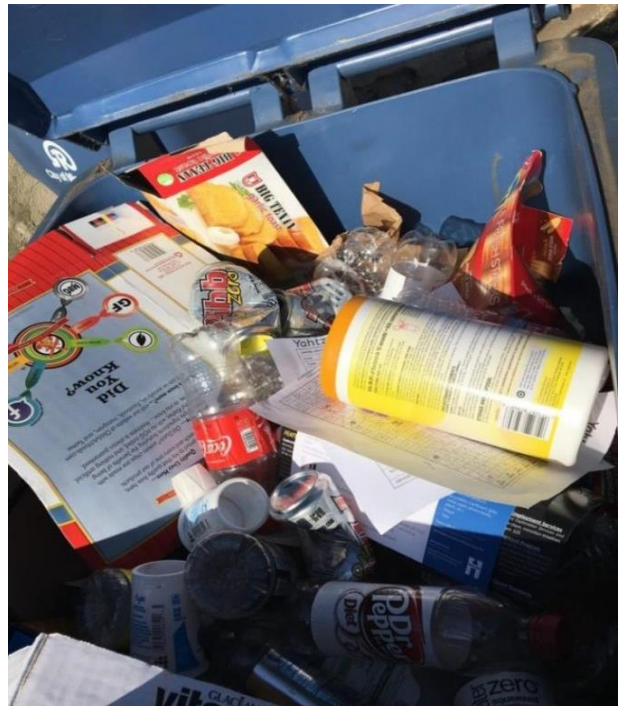
1

Cart Ranking

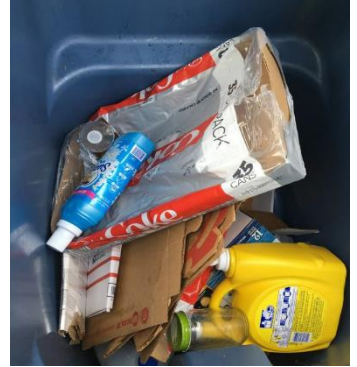
Carts were ranked as follows: not out, empty or on a scale of 1-4 based on the cleanliness of recyclables inside the cart.

E: Carts were designated as “empty” if less than or equal to two items were found in the cart. Carts with more than two items inside stuck to the cart and not able to be easily dumped were also included in the “empty” category.

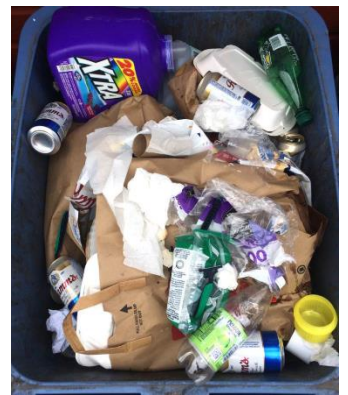
1: Carts were designated as “1” if they contained clean recycling and no non-recyclable items or only one small non-recyclable item (two inches or less) was visible in the cart.



2: Carts were designated as “2” if one to three non-recyclable items were found in the cart. Small items (two inches or less) were included in the count of one to three items, as long as a small item was not the only piece of contamination. Multiple of the same piece of contamination were counted as separate items.



3: Carts were designated as “3” if there was more than three non-recyclable items found, but less than fifty percent (50%) of the items in the cart were non-recyclable, meaning the resident was trying.



4: Carts were designated as “4” if greater than or equal to fifty percent (50%) of visible items were non-recyclable and the resident wasn’t trying to properly recycle.



Tracking of Contamination by Type

Staff also tracked contamination by type to be able to compare to 2018 findings. New in 2019 to the tracking sheet was the ability to track plastic-lined paper and black plastics separate from the general trash category. A brief description of what items were included in each category is below.

- **Plastic bags:** Carts were marked “Plastic bags” if they contained items such as Ziploc™ styled bags; bubble wrap; plastic grocery shopping bags; empty trash bags; fruit/lettuce bags; plastic wrap; and plastic case wrap around items like single use beverages, food and other household goods.
- **In bags:** Carts were marked as “In bags” if full or partially-full plastic bags were seen inside. If bags were clear, items that could be seen were counted in the ranking process.
- **Black plastic:** Carts were marked as containing “black plastics” if they contained black plastic items like to-go containers and hair care product containers.
- **Compostable items:** Carts were marked as containing “compostable items” if they contained items such as food, certified compostable food-service items, napkins, paper towels, and food waste.
- **Cords, elect, app:** Carts were marked as containing “cords, electronics, or appliances” if they contained items such as fans.
- **Durable goods:** Carts were marked as containing “durable goods” if they contained items such as treated wood, large plastic items (such as a storage tote), scrap metal, appliances, and furniture.
- **HHW:** Carts containing household items such as chemicals, polishes, paints, yard and garden supplies, automotive and recreational products, batteries, and light bulbs were marked “HHW.”
- **Plastic lined-paper:** If materials such as paper cups, plates, and to-go boxes were found in the cart, “Plastic-Lined Paper” was marked. These items are lined with a thin plastic that make the paper non-recyclable (and non-compostable).
- **Textiles:** Carts were marked as containing “textiles” if they contained items such as clothing, rugs, shoes, or towels.
- **Trash:** This category was used for other items that were not recyclable or compostable and can be placed in the trash – excluding plastic-lined paper and black plastic items that were tracked separately.

Response to Contamination

Educational “Oops” tags were left on all carts containing contamination. The educational tag indicated what contaminants were found in the recycling cart. A “Thank you for recycling” tag was used when a cart was full or almost full and ranked 1-2 to inform people on the property that they could order an additional recycling cart at no additional cost.

New recycling labels were placed on the lid of recycling carts if the in-molded image was no longer visible. Staff placed “No plastic bags” stickers on the two most visible sides of the recycling cart if plastic bags were found in recycling carts. “No plastic bags” stickers were put on recycling carts at 54 properties (80.6% of properties who received recycling carts back). A reduction of plastic bags was observed at the majority of carts who received the no plastic bag stickers. A reduction was more common when stickers were placed along with an “Oops” tag.

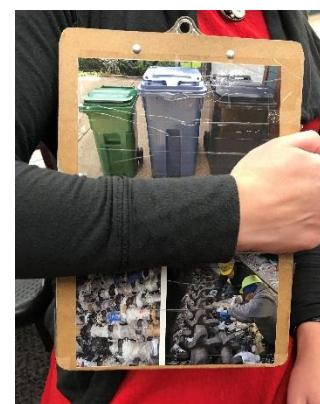


Door-to-Door Education

Staff door-knocked target properties in addition to all other properties on the block. Multiunit buildings, particularly our target buildings with four or more units, are a challenge to door-knock effectively because they almost always have a controlled entry. Another challenge with door-knocking in general is knocking in the early afternoon when many people may not be home.

If no one answered the door, an educational door hanger was left on the handle or slid inside the door. The door hanger outlined items often found that do not belong in recycling carts, and includes the information in English, Spanish, Hmong and Somali.

When door-knocking, residents were first asked if they had a recycling cart and then shared information on why plastic bags cannot go in recycling was given. Each staff person had images taped on the back of the clipboard that showed the three different cart types and issues with plastic bags in recycling. The images were used to provide residents with a visual of the way plastic bags get tangled in the sorting equipment at the recycling facility and how workers must climb inside the equipment to remove plastic. The images of the carts was used to help better understand which cart an item belongs in and also aided in addressing any language barriers. Residents were also offered educational materials for their home and asked if they had any other questions about recycling or waste in general.



Below is an example script staff were asked to follow when door knocking:

"Hi, my name is ____, and I work for the City. I'm in the neighborhood checking in with residents about recycling. Do you have a recycling cart?"

If yes -- "That's great to hear! We've been seeing a lot of plastic bag in recycling carts, and we want to make sure people understand that plastic bags cannot be put in carts. They get tangled in our sorting machines, and workers actually spend up to two hours a day pulling plastic bags out of the machines."

If no or unsure -- "Ok. Would you be interested in getting a recycling cart for your house?"
"Are you interested in taking a guide or a "No sheet" to help you know what you can and can't put in your recycling cart?"

"Thank you for your time and for recycling. Please share with others that plastic bags and wrap cannot go in your recycling and don't hesitate to call us if you have any questions."

Depending on the level of interest from the resident who opened the door, a conversation could be very brief or may have lasted several minutes. If a resident seemed to be struggling to follow the conversation at the door or called one of their kids or housemates to help translate, they were offered resources in Spanish, Hmong, or Somali.


In addition to door-knocking, residents were also often encountered in alleys while carts were being checked. When this occurred, staff would use the same script as with regular door knocking and offered

a recycling guide and a “No-sheet.” The data does not differentiate between these conversations and typical conversations carried out while door-knocking.

Follow up Survey

To evaluate behaviors, knowledge, and perceptions, SW&R mailed a quick 8 question survey to each unit of the 67 properties who requested recycling carts. The goal of the survey was to help understand how residents found out they could request recycling at no additional cost, how and why they recycle, what they have recycled or not recycled since getting the cart, and how they get their information on recycling. The survey cover letter included a reminder that free educational materials are available upon request. A chance to win one of five \$20 Target gift cards were used as an incentive to fill out and return the survey. A total of 18 surveys were received.

Survey cover letter



Public Works - Solid Waste and Recycling
309 Second Ave. S., Room 210
Minneapolis, MN 55401
TEL 612.673.2917
www.minneapolismn.gov

August 5, 2019

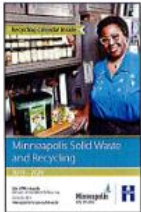


Dear Resident,

Solid Waste & Recycling delivered a recycling cart to your building this summer. Please take this short survey so we can learn what has changed since recycling carts arrived at your building. The information will be used to help other buildings get started with recycling.

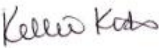
Return your completed survey by Friday August 30, 2019 and you'll be entered into a drawing for one of five \$20 Target gift cards.

Thank you in advance for your input. Please call our office if you have any questions or would like any educational items.

Free educational items:

Solid Waste & Recycling services guide	Recycling guide (multiple languages)	Reusable tote bag to collect recycling in your unit
		

Sincerely,



Kellie Kish
Recycling Coordinator
City of Minneapolis
612-673-2917
SWRcustomer@minneapolismn.gov

For reasonable accommodations or alternative formats please contact Solid Waste & Recycling at 612-673-2917.
People who are deaf or hard of hearing can use a relay service to call 311 at 612-673-3000.
TTY users call 612-673-2157 or 612-673-2626.
Para asistencia 612-673-2700 - Rau kev pab 612-673-2800 - Hadii aad Caawimaad u baahantahay 612-673-3500.

Solid Waste & Recycling – Summer 2019 Survey

How have you received recycling information in the past 3 months? (check all that apply)

- | | |
|---|---|
| <input type="checkbox"/> In the mail | <input type="checkbox"/> Tag left on my cart |
| <input type="checkbox"/> Utility bill insert | <input type="checkbox"/> Friend/family/neighbor |
| <input type="checkbox"/> From someone door-knocking | <input type="checkbox"/> Neighborhood event |
| <input type="checkbox"/> On the bus | <input type="checkbox"/> Social media |
| <input type="checkbox"/> From the news | <input type="checkbox"/> Other: _____ |

How did you find out you could get recycling carts at no extra cost? (pick 1)

- ☐ From a letter I got in the mail
☐ From a notice on my garbage cart
☐ From a friend, family member or neighbor
☐ I didn't know I had a recycling cart
☐ Other: _____

How do you store recycling inside your house before bringing it out to your cart? (pick 1)

- ☐ Paper bag
☐ Reusable container (basket, bin or box)
☐ Reusable bag from Solid Waste & Recycling
☐ Plastic bag that I put into my recycling cart
☐ Plastic bag that I empty into my recycling cart
☐ I do not recycle

All of these items are recyclable. How often do you recycle the following items?
(check one box per row)

Item	I do not recycle this item	I did not know these items were recyclable	Rarely	Sometimes	Always
Aluminum cans					
Aluminum pie tins and foil					
Cardboard boxes					
Cardboard cans (pringles, mixed nuts, frozen juice)					
Cartons (milk, juice, soup, broth)					
Cracker and cereal boxes					
Glass bottles and jars					
Junk mail					
Newspapers and magazines					
Plastic berry cartons and clamshells					
Plastic bottles and jars					
Plastic bottles from laundry detergent and shampoo					
Tin and steel cans					

These items should NOT be placed in your blue recycling cart. Have you placed these items in your cart in the past 3 months? (pick Yes or No for each row)

Item	Yes, I have put this in my recycling cart	No, I have not put this in my recycling cart
Plastic bags		
Paper cups and ice cream tubs		
Napkins and paper towels		
Paper plates		
Scrap metal (pots and pans, pipes, gutters, etc.)		
Electronics (TVs, computers, radios, window fan, phones, etc.)		
Garden hoses		
Drinking glasses and plates		
Propane cylinders		
Foam (egg cartons, container, peanuts, and packaging material)		
Clothing, shoes, and textiles		
Clothes hangers (plastic, metal, and wood)		

What challenges do you have with recycling? (check all that apply)

- ☐ I do not have any concerns about recycling
- ☐ My neighbors put things into my cart that don't belong
- ☐ I don't know what goes in the cart
- ☐ I don't care about recycling
- ☐ Others in my household don't care about recycling
- ☐ I don't have enough space to store recycling inside
- ☐ I don't have enough space for recycling carts outside
- ☐ I don't have time
- ☐ Other: _____

What is the #1 reason you recycle? (pick 1)

- ☐ For future generations
- ☐ Because my family makes me
- ☐ Recycling creates jobs
- ☐ It's good for the environment
- ☐ It's the right thing to do
- ☐ Other: _____

What questions do you have or is there any way we could help you with recycling?

Contact Information: (for Target gift card drawing only)

Name: _____

Address: _____

Phone: _____ Email: _____

Thank you for taking this survey. Remember, if you return it by **Friday August 30**, you will be entered into a drawing for 1 of 5 \$20 Target gift cards.

Results

The goal of the project was to find out if reaching out to multiunit properties who do not have recycling would result in an increase of clean recyclables diverted from the trash or simply a lot of staff time to deliver recycling carts only to pick them up again in a couple months due to continued contamination. The project also provided the opportunity to evaluate who would be the person to request recycling at the property – a resident, or the utility bill payer or taxpayer – and the opportunity to evaluate outreach methods and knowledge and behaviors of residents who have just recently received the opportunity to recycle. This section goes through the results of all aspects of this project.

Summary of sign up methods

The direct mail resulted in the highest number of signups followed by the cart hanger and lastly from in-person interactions. This makes sense as the direct mail was the first point of contact and direct mail ensures each

Sign up method	# of properties signed up	% of total signups	% of targeted properties
Direct mail	47	70.1%	16.9%
Cart hanger	13	19.4%	4.7%
In person	7	10.4%	2.5%
Total signups	67		24.1%

household (except those that were returned) receives the information. Cart hangers would have reached the next highest amount of residents, however it's possible the cart hangers were all removed by one person in the building and not all tenants saw them. In person interactions occurred when leaving cart hangers or when cart checking.

Summary of who signed up

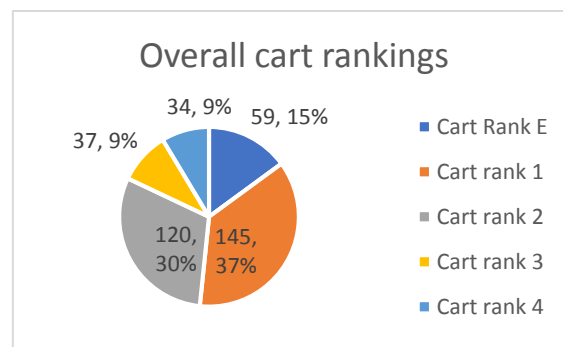
SW&R staff were surprised that utility bill payers or taxpayers signed up their properties more so than the residents themselves. This could be due to the fact that the utility bill payer and taxpayer letter references that providing recycling would bring the properties in compliance with City ordinance and/or that it mentioned the potential to save costs by adjusting garbage service levels.

Who signed up	#	%
Utility bill payer / taxpayer*	36	53.7%
Resident	30	44.8%
Other (mgmt. co.)	1	1.5%
Total	67	100%

*Utility bill payer = 34, Taxpayer = 12, 10 of requestors were both the utility bill payer and taxpayer for the property.

Cart checking findings

A total of 395 recycling carts were checked throughout the project. There were 19 instances in which carts could not be checked because they were not set out at the collection point (were locked behind a gate, etc.). Of carts that were set out and contained recyclables, 78.9% of carts (265 of 336) were ranked 1-2 meaning they contained less than 3 pieces of contamination.



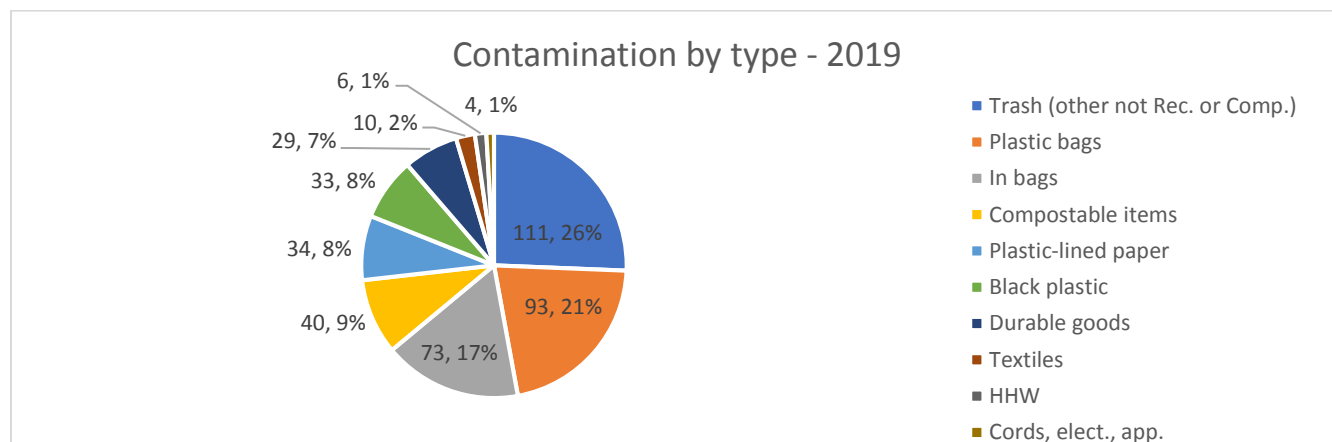
Shortly after the project began, staff realized they should be reporting how full the recycling carts are that they are checking. Due to the lack of data for the first couple of days of cart checking, the numbers used to report the amount of recyclables diverted should be considered a conservative amount.

Rank	How full				Total	# carts of recycling
	25%	50%	75%	100%		
1	31	17	8	29	85	51.25
2	18	14	8	48	88	66.5
3	18	10	11	46	85	63.75
4	4	5	3	11	23	16.75
Empty					59	197.25

Over the course of the project 197.25 full carts of recycling were pulled from the 67 properties who received recycling carts. Removing those that were ranked a 4, a total of 180.5 95-gallon carts of clean recycling. This equates to 3,945 pounds total (assuming a full 95-gallon carts = 20 pounds) or 58.9 lbs per building for the 6 weeks carts were checked. If this level of diversion is maintained by the 62 properties who have maintained their recycling system since the pilot, they would each divert at least 608 pounds each year for a total increased annual diversion of 31,638.5 pounds (15.82 Tons).

No plastic bag stickers were left on 54 properties (80.6% of properties who received recycling carts back). Staff noticed a significant reduction in the amount of plastic bags at properties who received no plastic bag stickers.

Staff also identified contamination by category when checking recycling carts throughout the project.



Results from 2019 (multifamily properties checked) versus 2018 when all properties on designated blocks were checked. In 2019 Trash (items that were not recyclable or compostable) made up the largest component and plastic bags came second. This is reversed in 2018's data. In 2019 plastic-lined paper items that were not compostable (ex. Paper cups, ice cream tubs, etc.) and black plastic items were counted separately. Plastic-lined paper was counted as trash, non-recyclable or compostable category, in 2018 and black plastics were not identified in the 2018 evaluation.

Bagged recyclables and compostable items were also flip-flopped in the 2019 vs 2018 results.

Material	2018	2019
Trash	26%	26% (42%*)
Plastic bags, wrap and film	30%	21%
Bagged recyclables	10%	17%
Compostable items	19%	9%
Durable goods	7%	7%

*Trash total in 2019 increases to 42% of contaminants found when plastic-lined paper and black plastics are incorporated into the trash total.

In spring 2019, the City partnered with the City of St. Paul and Hennepin County on a Recycle Smart campaign. In Minneapolis, transit advertising (back of bus, inside bus, lightrail platforms), social media, and the use of the City's website and neighborhood communications were prioritized to educate residents on items that should not be placed in recycling carts. Plastics bags, large plastic items and random metal items were the three priority categories that were featured on the transit ads. It's possible the ad campaign assisted in the decrease in plastic bags found in recycling carts.



Educational materials distributed

Educational materials were requested by 43.2% (29 of 67) properties. The majority of requests came from the Utility Bill payer or Taxpayer (70%). While 44% of signups were from residents, residents only made up 30% of educational material requests. Those who staff were not able to connect with to offer educational items were a fairly even split between the utility bill payer/taxpayers and residents. It can be presumed that while people do want the opportunity to recycle, they may not want to take on the role of recycling leader/educator for their building.

Recycling Guide (English)	139	Nos guide (English/Spanish)	169	Reusable tote bag	77
Recycling Guide (Spanish)	43	Nos guide (English/Somali)	4	Recycling container labels	29
Recycling Guide (Somali)	4	Nos guide (English/Hmong)	1	Trash container labels	34
Recycling Guide (Hmong)	1	Recycling Poster	3	Organics container labels	3

There was also a pretty even split between educational materials that were mailed (45%) or delivered to the building (55%). Of those mailed, 10 were requests from Utility Bill payers or taxpayers and 3 were from residents. Of those delivered, 10 deliveries were requested by Utility Bill payers or taxpayers and 6

deliveries were requested by residents. Deliveries often were larger orders or included the reusable tote bags that didn't have an easy way to be mailed. Deliveries to residents were often the result of speaking with a resident while cart checking or leaving cart hangers. This shows the importance of having some educational material on you at all times when cart checking.

Door-to-door summary

Door-knocking at multiunit properties is more challenging than single-family homes. Not only is it difficult to get someone to open the door, leaving educational materials after a door-knock attempt is also more challenging, as it is unlikely all tenants will receive the information. Overall, people seemed to have an awareness that recycling is a community matter and hoped to have their neighbors participate. Additionally, people were receptive to the education materials that were handed out and the images on the clipboards were helpful in overcoming language barriers.

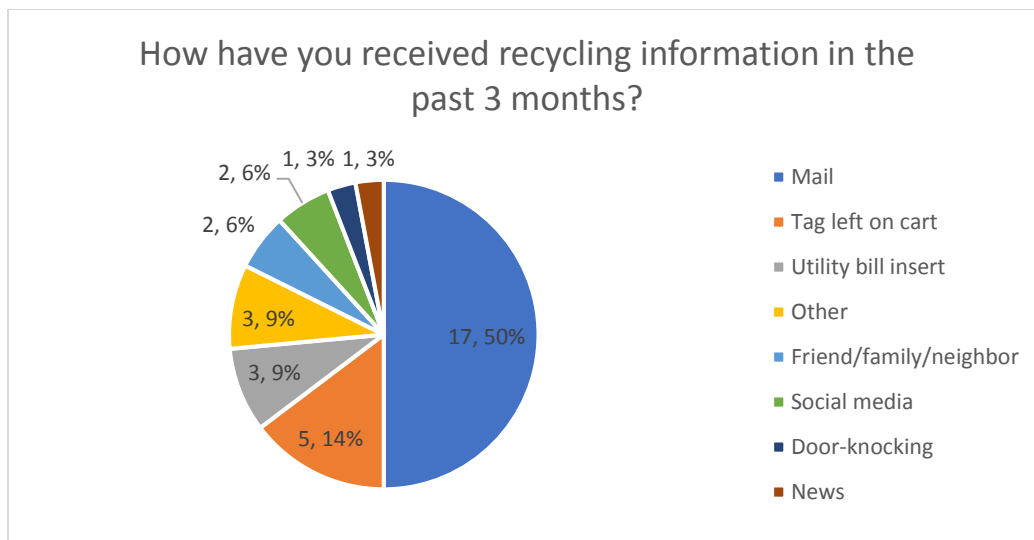
The biggest complaint received while talking with people in the community was their frustration with others placing items into their recycling bins. They commonly said they appreciate the information provided, that they follow information given to them and are frustrated when they get educational tags when others contaminate their recycling. This occurred more in areas where there was a mix of residential and commercial properties. Similarly, these areas often had more litter along the alleyways and boulevards. A future project could help evaluate methods to decrease contamination in areas where the general public has access to residential recycling carts.

Residents also had specific recyclability questions and about proper disposal for other items such as paint cans. Staff support continued efforts to connect with resident's one-on-one to help educate on the benefits of recycling and to answer questions on what is recyclable or not.

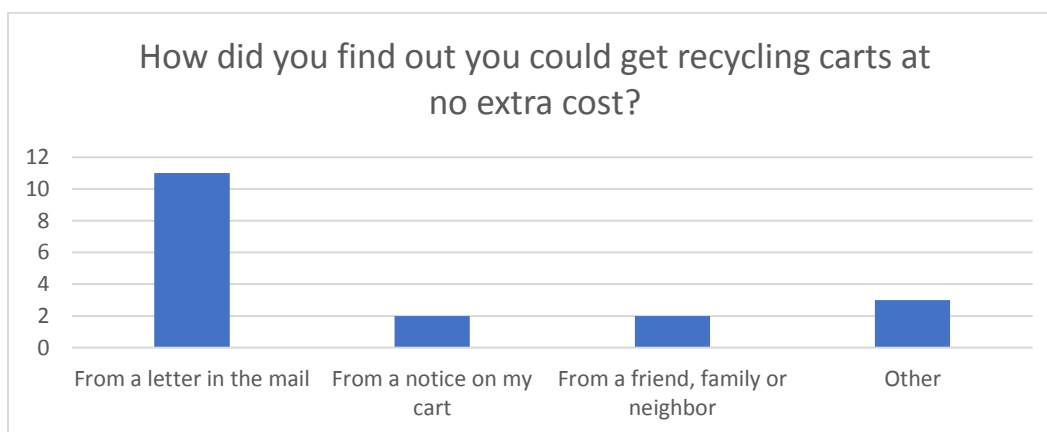
Follow-up survey results

Surveys were mailed to all 264 units in the 67 households who received recycling carts on August 5, 2019. They were asked to respond by August 30, 2019 to be eligible for the chance to win one of five \$20 Target gift cards. A total of 18 surveys (6.8%) were completed and returned.

While several questions only asked for one selection, respondents sometimes selected more than one option leading to a total count for several questions that equals more than the total survey respondents. Results from the survey are on the following pages.

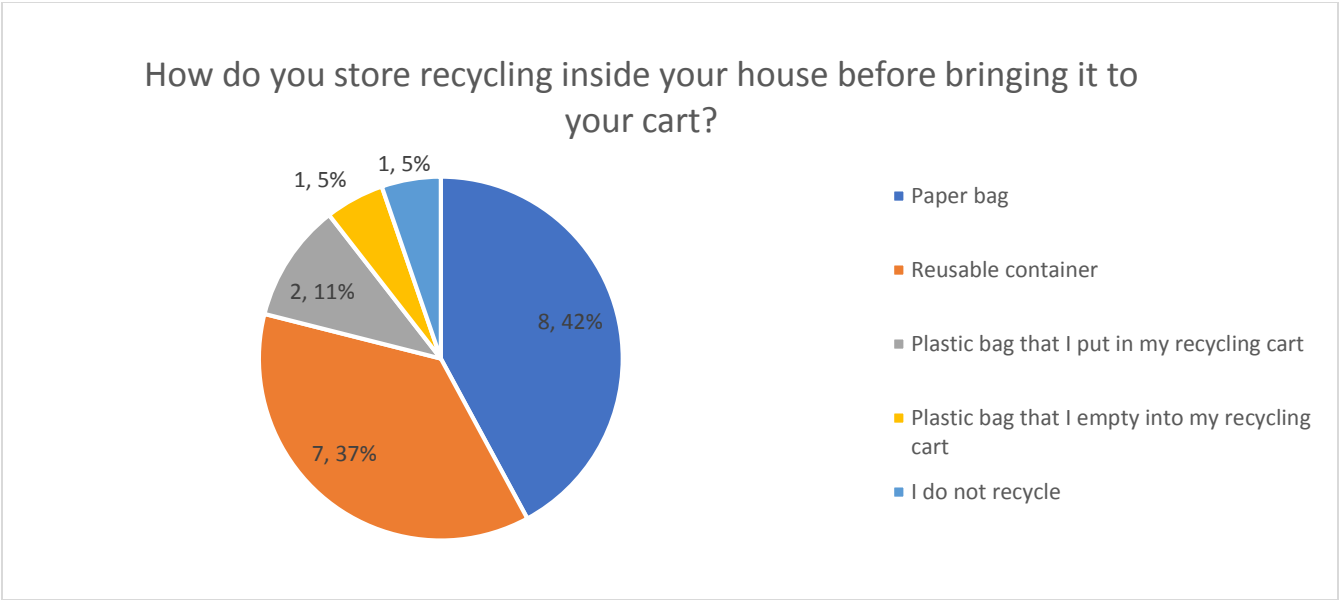


Other included: reusable bag at apartment and cart checking

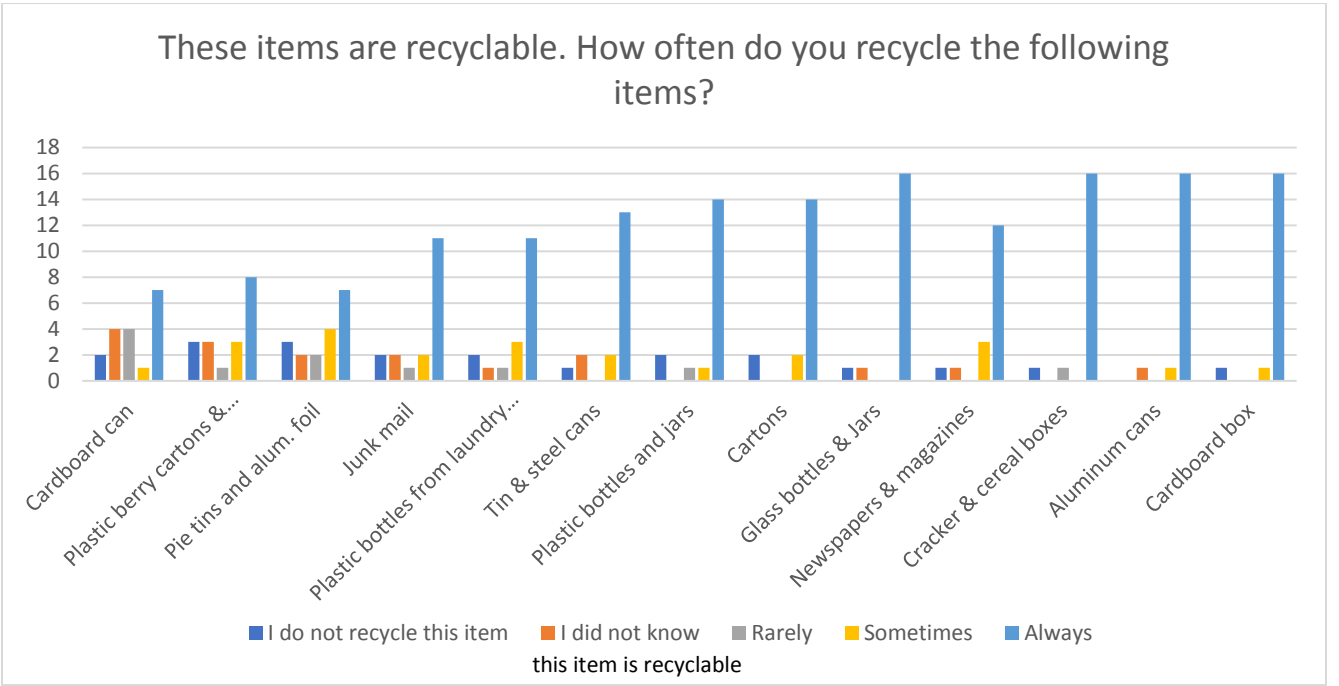


Other included: We live in an apartment complex, just knew, and my landlord

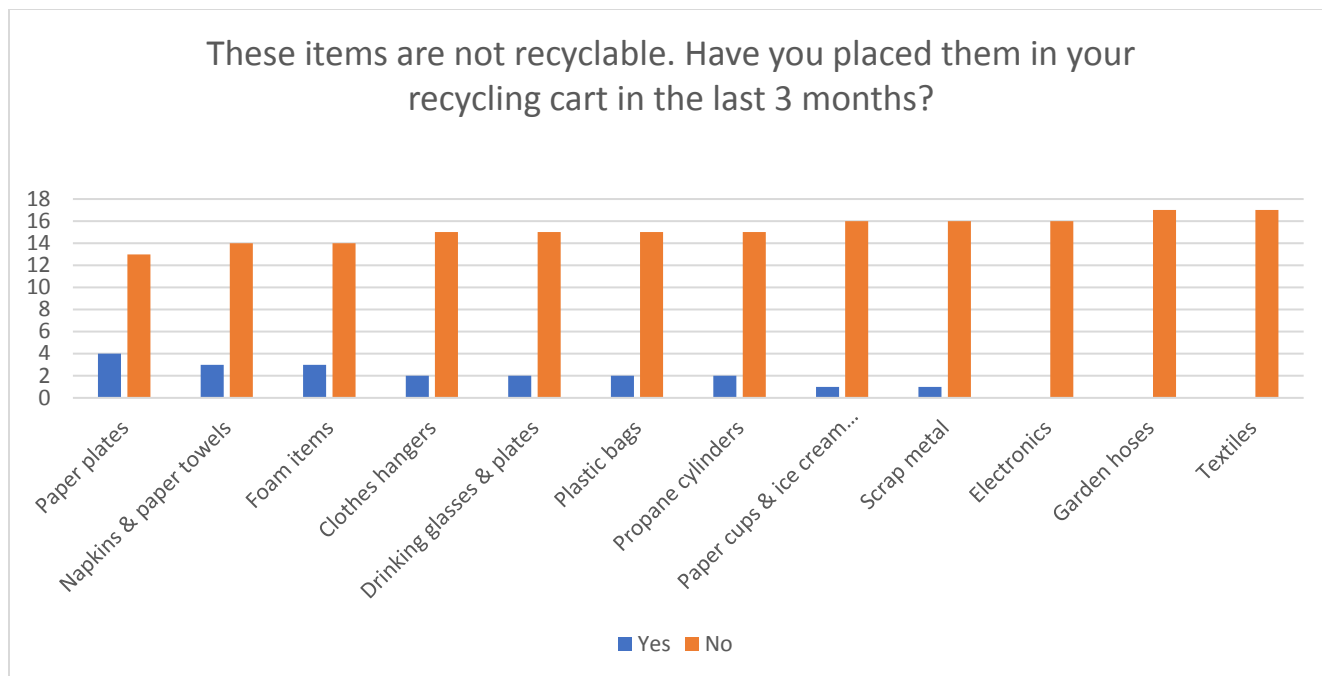
Responses to the two questions above continue to prove the value and effectiveness of direct mail pieces and cart hangers or educational tags.



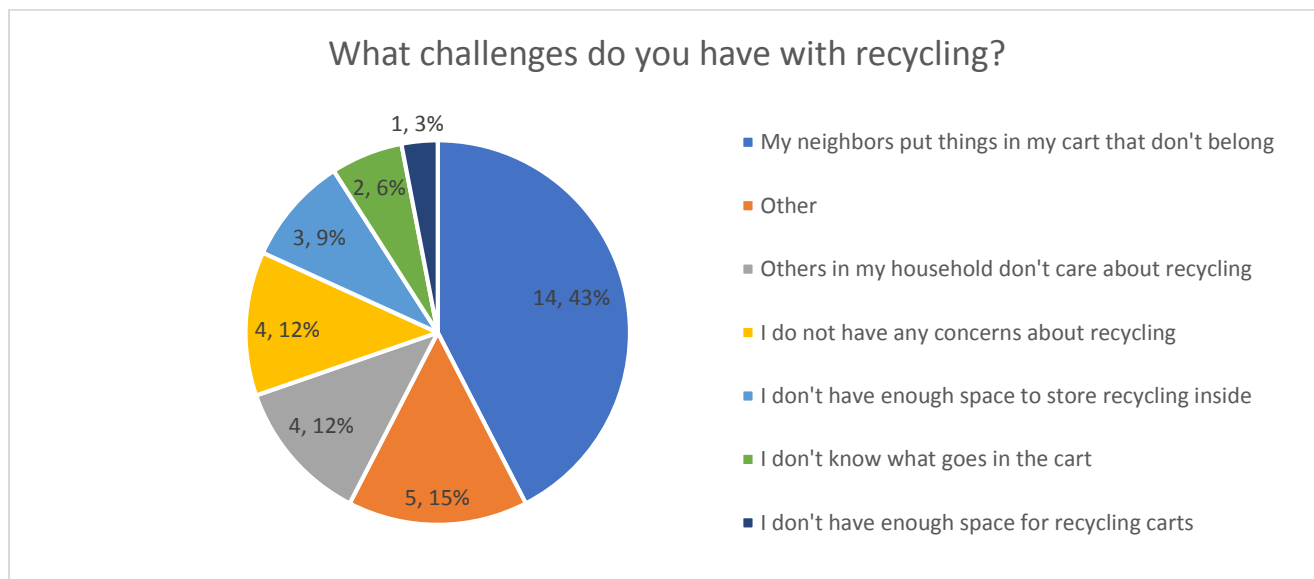
The results of this question are good to see that 84% of residents are not using plastic bags to collect their recycling in. Hopefully after finishing the survey, the two respondents who reported placing plastic bags in their recycling cart will no longer do so and will use one of the other methods listed in this question to collect recycling in in their house.



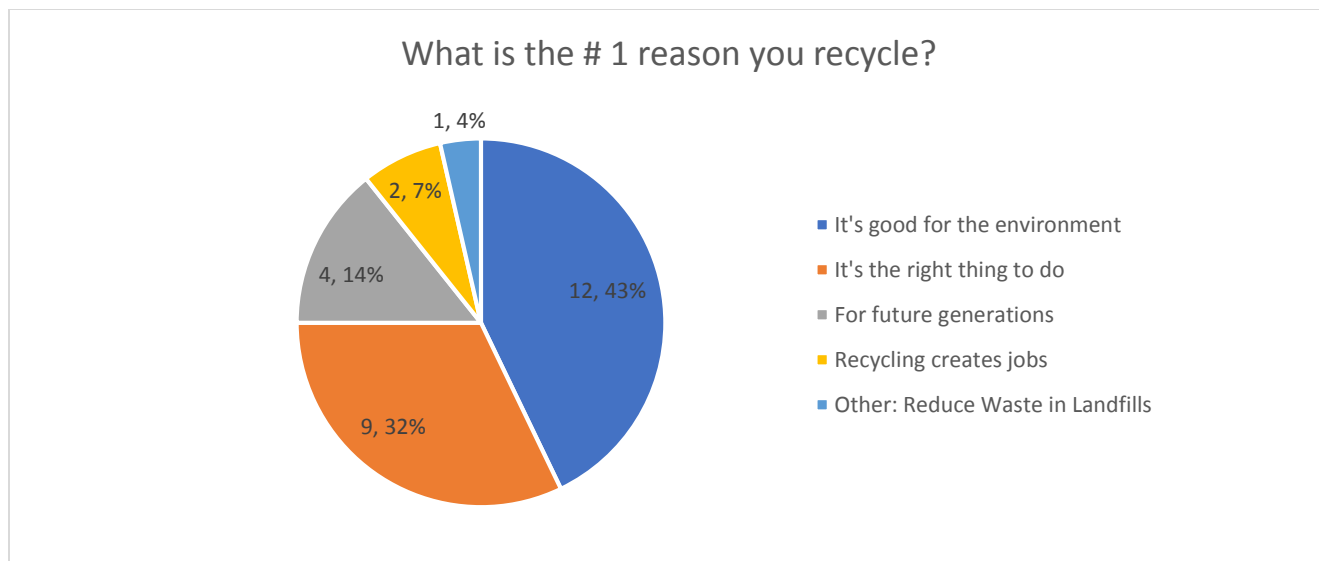
The results above show the top 5 items to remind residents to recycle include: cardboard cans, pie tins and aluminum foil, plastic berry cartons and clamshells, junk mail and plastic bottles from the bathroom and laundry room. These results are fairly similar to the 2018 Resident Survey that surveyed any Solid Waste & Recycling customer who choose to participate in the survey.



This question was also included in the 2018 resident survey. There are greater differences between this multiunit survey and the survey from any customers.



Other included: Don't know how often carts are picked up, I don't have anything to store recycling in in my unit, It became too complicated, Neighbors don't know what to recycle, Other tenants don't recycle.



While respondents were asked to only select one option for this question, many chose more than one. The results help validate the choice of the 'future generations' message on the cart hanger that was used as the second contact method. That message addresses both the environment and youth. The second cart hanger focused on the economy and jobs created by recycling. While this was selected by two people, the environment, future generations and moral obligations in 'it's the right thing to do' appear to be primary motivating factors on why these residents recycle.

The last survey question asked if respondents had any other questions or if there was a way we could help them with recycling. Specific items there were questions about included clothes hangers and egg cartons. There were some compliments given to the continued recycling education given and some complaints about neighbors contaminating the recycling and needing more education. There was even one request for a bin to collect recycling in.

Conclusion

Sign up observations

- 67 properties (286 units) added recycling of the total 278 targeted properties (1,149 units)
 - Only 5 (21 units) properties lost recycling (7.4%) due to continued contamination. One of these was cancelled by the utility bill payer / tax payer before cart checking even resumed.
 - 62 of these properties (92.5%) have maintained the diversion of clean recyclables
 - 2 additional properties have added recycling since the pilot has ended
- 35 properties (149 units) were found to have recycling who were not registered as having recycling.
- 78.9% of carts checked (excludes empty carts from total) contained 0-3 pieces of contamination.
- A fairly even split between resident request (44.8%) and utility bill payer / taxpayer requests (53.7%) show the importance of reaching out to both occupants and owners.

Cart checking and door-knocking observations

- No plastic bag stickers are an effective way at reducing the amount of plastic bags placed in recycling carts.
- Cart tags are also an effective way to address contamination in carts. In multiunit settings, a cart tag without a letter also being mailed is not as effective as only the person who sees the tag receives the education. If the letter is mailed, all residents in the building receive education about the problem item(s) and are given an opportunity to correct the issue.
- Door-knocking at multiunit properties is more challenging than single-family homes. Not only is it difficult to get someone to open the door, leaving educational materials after a door-knock attempt is also more challenging.
- A big frustration/challenge for tenants is that their neighbors (or neighboring properties) place non-recyclable material into the recycling cart(s). This may result in recycling carts being removed for contamination.

Educational observations

- Direct mailing is still identified as an effective way to connect with residents for recycling messages.
- While tenants may want to recycle, many do not want to take the lead on reaching out to their neighbors to share educational materials.
- Residents appreciate recycling service and the guides provided by the City and County. Some people we were able to speak with at their door were already aware of the challenges plastic bags cause in recycling.
- Tenants are frustrated when other residents in their building or non-residents put contamination in their recycling cart.
- The majority of survey respondents (43%) said they recycle because it's good for the environment, followed by 32% of respondents saying it's the right thing to do.
- Educational opportunities on items that are recycled and what are not recyclable (based on survey data) for multiunit properties are similar to the residents as a whole.

Environmental and economic impacts

- Diversion of at least 180.5 95-gallon carts of clean recycling (ranked 1 – 3) throughout the course of this project. This is calculated as 3,945 pounds of recyclables from the 67 homes who requested recycling and will add up to 31,638.5 pounds (15.82 T) per year from the 62 properties who maintained clean recycling. The USEPA's WARM model was used to determine the greenhouse gas (metric tons of CO₂ equivalents), energy (BTU), labor hours, jobs and wages results of the diversion of this material from a waste-to-energy facility to a recycling facility.

Environmental and Economic Impact from 6 week project (1.9725 Tons)			
	WTE	Recycled	Change
MTCO ₂ E	-0.84	-5.62	-4.78
BTU	-13.10	-29.19	-16.09
Labor hours	3	16	13
Wages	91	636	278
Taxes	34	68	34

Environmental and Economic Impact from 1 year of continued diversion from the 62 properties (15.82 tons)			
	WTE	Recycled	Change
MTCO2E	-6.76	-45.07	-38.31
BTU	-105.01	-234.1	-129.06
Labor hours	22	125	103
Wages	930	2956	2226
Taxes	271	545	274

Since project completion

Since cart checking wrapped up seven properties have requested additional recycling carts (1 requested 3 carts, 1 requested 2 additional carts, and 5 requested 1 more cart). This is either due to the thank you tags being left on their carts and/or the recycling crews noting the property continuously has more recycling than can fit in their recycling carts. Two additional properties have requested educational items as well.

Next Steps

The goal of the project was to evaluate if reaching out multiunit properties who do not have recycling would result in an increase of clean recyclables diverted from the trash or would result in added staff time to deliver recycling carts only to pick them up again in a couple months due to continued contamination. The results, 92.5% of properties who received recycling carts back are properly participating in the program, verify that it was worth the effort to reach out to these properties.

To expand on this work and its findings, Solid Waste & Recycling have decided to also reach out to all customers who do not have recycling to remind residents, most of whom are likely renters, that they can also add recycling at no extra cost. That mailing is planned to go out in October 2019 so that residents may receive recycling carts back before the holiday season to divert as many recyclables as possible.