

# Yard Waste Pilot

*Testing “Off-season” Collection*



*Example of City of Evanston 95- gallon Yard Waste Cart*

# Introduction

In 2018 the City of Evanston signed its Climate Action and Resilience Plan (CARP), within that plan were goals looking to address issues related to waste. One area where waste is a primary contributor to Climate change is food waste in our society. The United States Environmental Protection Agency estimates that in 2019, 66 million tons of waste food was sent to landfills. When food is sent to landfills it enters into an anaerobic environment. In such environments, food doesn't break down in its typical aerobic processes creating only carbon dioxide, in anaerobic conditions the microbes that break down food end up releasing methane which is a twenty-five times more potent greenhouse gas than carbon dioxide. Food entering into landfills also deprives of utilizing those nutrients into more productive outlets such as feeding people and animals, to create compost that helps to fertilize plants and agricultural systems naturally. In knowing this the City of Evanston is seeking means to help further reduce the generation of food waste as well as divert the material to as productive outlets as possible

# Current Program

One such opportunity is evaluating the current services that the City currently has in place for collecting food waste in our community. By evaluating these services gaps or potential hurdles that need to be overcome can be more effectively addressed.

## Yard Waste Cart Program

The current Yard Waste program is serviced by external hauler Groot Industries. Groot has held the collection and disposal contract since the agreement went out for competitive bidding in 2017. A change to the program was made during that competitive bidding period. The change was to allow for the commingling of food scraps in the yard waste carts. This was to create an outlet for food scraps that had not existed in Evanston before then. Evanston residents continued to have the option of a cart or using kraft paper bags and stickers to dispose of their yard waste. Food Scraps were only allowed in the carts.

While this service offering has been around for six years the increase in the amount of material collected through this program hasn't necessarily increased by a significant amount. In comparing average monthly totals before commingling and since there has only been about a 10% increase in monthly material collected that is hard to have that increase bear out in reviewing annual totals (Table 1). In 2022, the City issued a survey to current yard waste cart users. Out of 933 survey responses around 50% of responses said they use their cart to dispose of food scraps. Those households also estimated how much food waste makes up their cart's materials. Approximately 70% of households that responded stated that between 0-10% of the material in their cart was made up of food scraps. The 0-10% answer could help confirm some of the slight increase but it's noteworthy that is only based on about 50% of the users using the cart for food scraps.

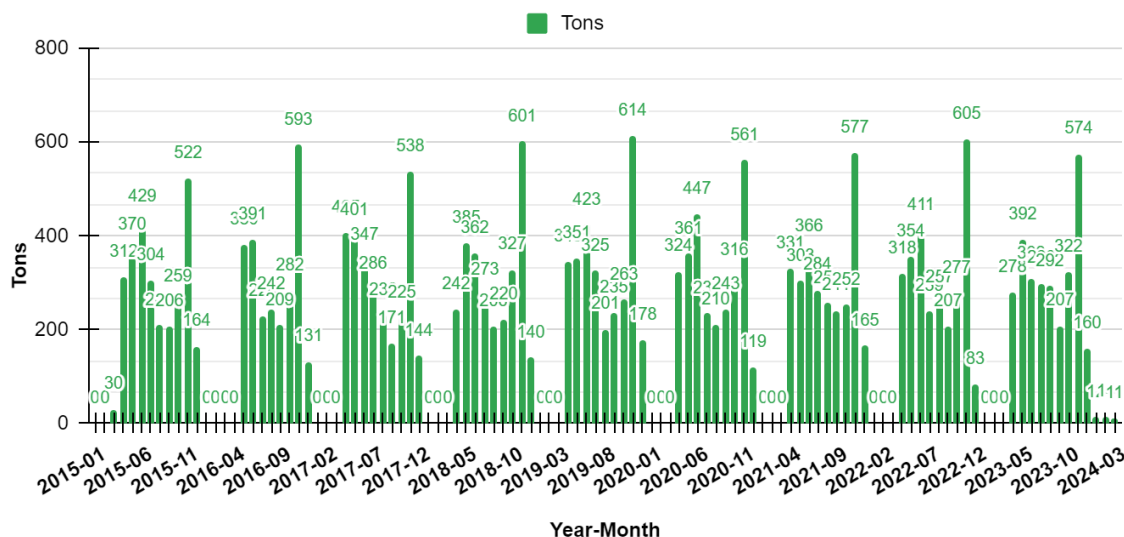
Table 1. Tonnage Totals for Yard Waste Collected

| Year  | Tons     |
|-------|----------|
| 2015  | 2,805.71 |
| 2016  | 2,456.54 |
| 2017* | 2,745.52 |
| 2018  | 2,756.22 |
| 2019  | 2,934.61 |

|      |          |
|------|----------|
| 2020 | 2,814.07 |
| 2021 | 2,773.39 |
| 2022 | 2,752.34 |
| 2023 | 2,831.77 |

\*Food Waste was allowed to be commingled in yard waste carts starting in November 2017

Figure 1. Tonnage Totals for Yard Waste Collected by Month



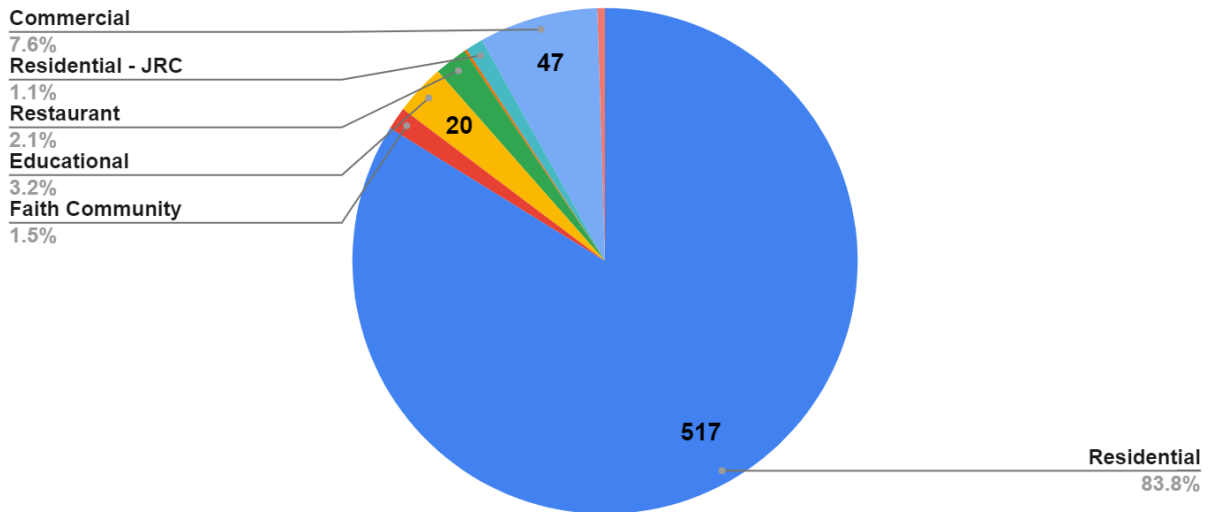
## Collective Resources Compost Program

Collective Resource Compost's exclusive service offering was created at the same time as the commingled yard waste program in 2017. The exclusive service was the first time the City of Evanston created an exclusivity for these types of services. The agreement was the same length as the other franchise agreements that were also structured in the Request for Proposal. Where this service differs is that it extends across the entire city for residents, commercial providers, and institutions for any container swap model. The proposed benefit was to be able to offer more preferred pricing for a newer service to incentivize more people to compost.

The program itself has seen several different users in Evanston utilize this program. The primary number of accounts is skewed towards individual residents. Typically these are 5-gallon bucket services that are exchanged from a resident's doorstep once a week or once every other week

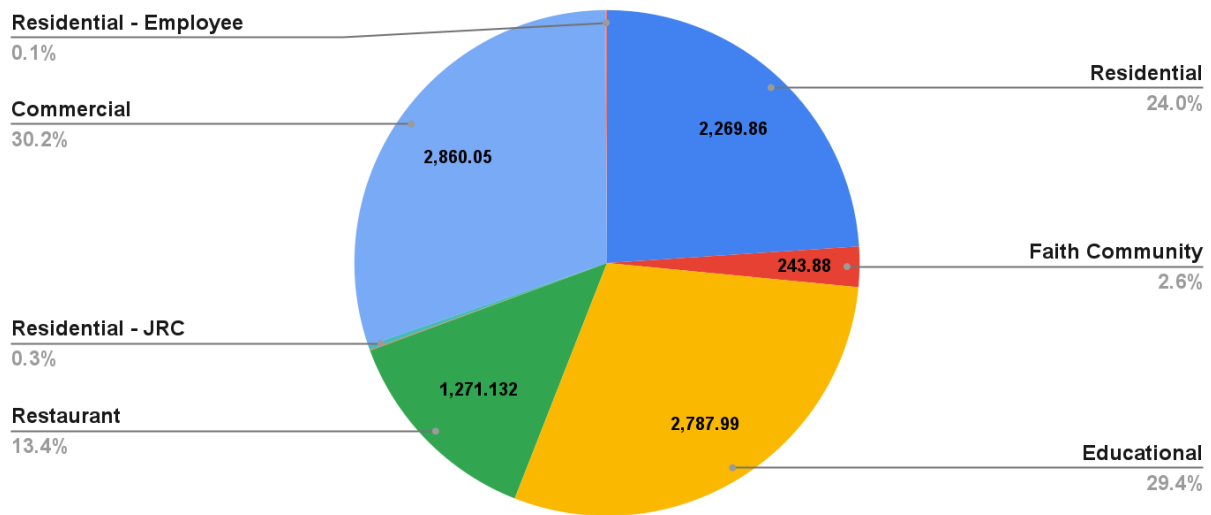
depending on the size of the household. In 2023, over 80% of all accounts in Evanston were residential households (Figure 1).

Figure 2. Number of Accounts by Customer Type for 2023 in Collective Resources Compost Program



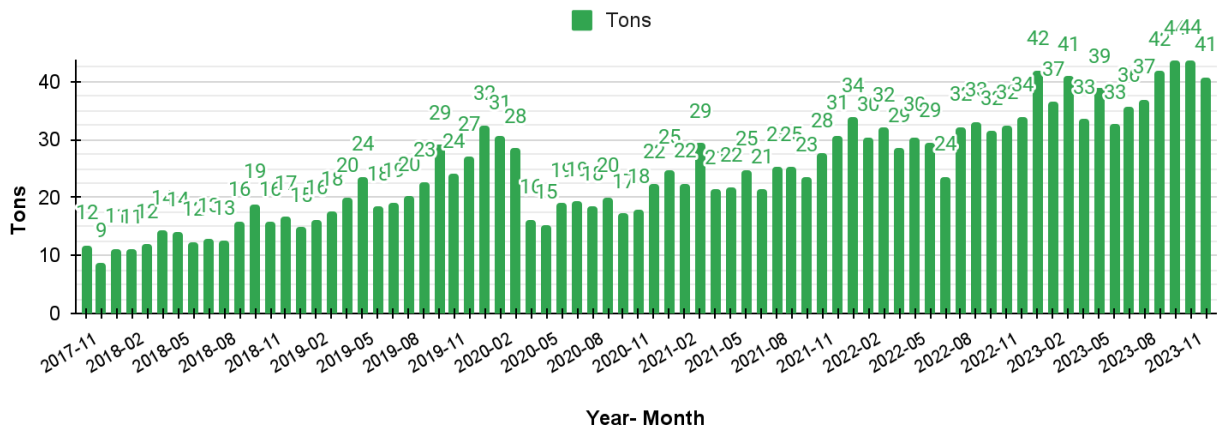
While the number of accounts skew heavily towards residential service accounts, the amount of volume that is serviced sees a more equal distribution. When adjusting for service parameters like size of containers (32-gal vs. 5-gal) as well as number of containers and service frequency the amount of service is more equally shared with the biggest groups being residential, commercial, and educational. Educational accounts are primarily District 65 and District 202 lunchroom compost programs. These two school districts tend to have multiple 32-gal containers onsite that are serviced weekly. Restaurants also become a larger portion of the volume serviced monthly but still lag for being a considerable generator group for food waste, indicating there are not enough restaurant accounts for composting (Figure 2).

Figure 3. Monthly Volume (gals) Serviced by Customer Type for 2023 in Collective Resources Compost Program



The number of accounts and size of service under this program has continued to grow year over year. In 2023, the total amount of material collected to be composted through this service was over 450 tons of material. The program would likely have more sign-ups since its inception had there not been a significant disruption due to the COVID-19 pandemic. Since that time the program has regained momentum and has seen some significant gains in the program since that time to where the monthly totals are starting to consistently reach over 40 tons of material collected per month (Figure 3).

Figure 4. Monthly Tons Collected from Collective Resources Compost Program



# Pilot Details

During contract extension talks in 2022, the City discussed a desire to test year-round collection with their current waste hauler Groot. During initial conversations around the topic, Groot noted issues around routing density and locations being available for them to dispose of the material collected.

The City and Groot were also seeking means to keep the offering as cost-effective for both parties to complete as possible. What was able to be created was a contract extension program built on flexible unit pricing. Unit pricing was determined by the number of households that signed up for the pilot. Groot provided the City with a table of tiers that would detail a variable unit rate structure and equate the monthly cost that would be charged to the City (Table 2.). If there were over 2,560 households that signed up for this pilot the City would shift to a monthly cost based on the total number of units instead of a tiered.

Also, conditions in the extension agreement were made that if certain circumstances outside of the hauler's control happened they would be given outs from meeting requirements as long as the City was notified prior. Such conditions were around the disposal of locations, Groot was able to secure a disposal location for the material before the extension was signed but didn't want to be exposed if the disposal location changed their mind or ran into financial issues causing disruptions in the disposal.

Table 2. Extension Tiered Pricing Model for Offseason Collection

| Tier | Unit Count | Monthly Unit Rate | Monthly Cost |
|------|------------|-------------------|--------------|
| 8    | 2,560+     | \$9               | -            |
| 7    | 2,560      | \$9               | \$23,040     |
| 6    | 1,920      | \$10              | \$19,200     |
| 5    | 1,600      | \$12              | \$19,200     |
| 4    | 1,280      | \$14              | \$17,920     |
| 3    | 960        | \$16              | \$15,360     |
| 2    | 640        | \$18              | \$11,520     |
| 1*   | 320        | \$20              | \$6,400      |

\*Tier that was reached for Pilot Program

Another challenge that had to be worked out between the City and the Hauler was how to identify carts in the pilot. Because the City of Evanston's households in residential programs are serviced

from alleyways, most households leave their carts out to always be accessible. In most suburban Cook County communities households have their waste containers serviced from the curb and require a “set-out” to receive service. Households in these communities tend to store their containers away from the curblines so it is easier to note. Due to this factor, the City needed to come up with a measure to provide awareness to Groot drivers on which households are a part of the pilot. The City reviewed a few different options from tags to stickers. Due to the temporary nature of the program, the City opted to go with tags that could be affixed to the lid of the yard waste carts (Figure 4.).

*Figure 5. Example of Green Tag to Signify Signed Up Households*

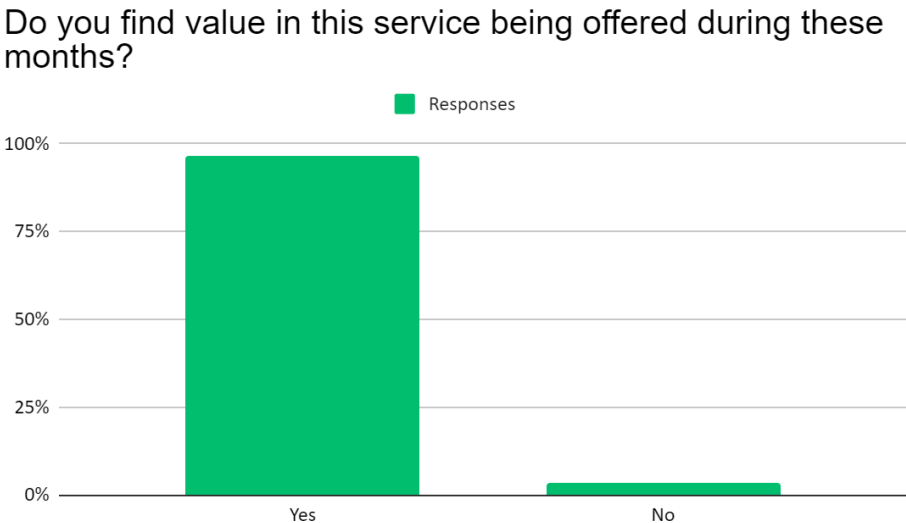




# Pilot Findings

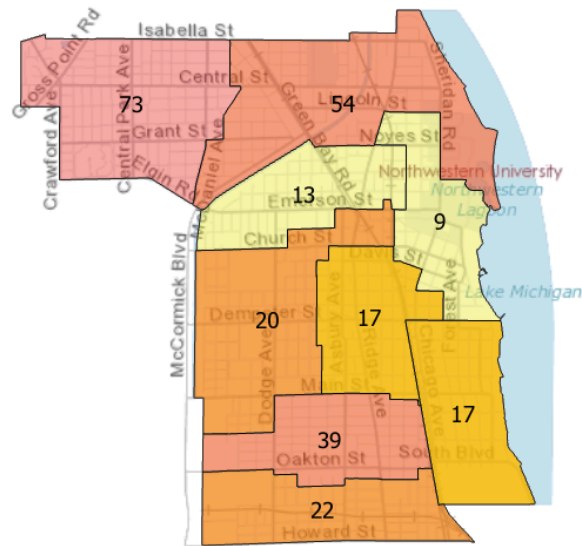
One of the largest reasons to conduct a pilot is to be able to establish findings to properly assess if the service was deemed a value to consider permanently. Also, use those findings to best inform how to adjust the terms of the service if continued permanently. In the last month of the pilot, the City issued an electronic survey to households that signed up for the survey. Out of 262 sign-ups, there were 122 responses (47% response rate) received. Eight total questions were issued asking about different elements of the pilot program. One of the last questions in the survey was if the responders felt this type of service was valuable during the winter months. 96% of respondents said yes to that survey question, providing a clear indication those who were in this pilot likely found the service useful.

Figure 6. Pilot Participant Survey Question Regarding the Cost of the Pilot



One consideration is the distribution of sign-ups across the City of Evanston for this pilot. This is important to consider as the profile of which households these opinions and experiences correlate to more is important when weighing feedback. When noting the households by wards, we see a large representation of pilot households from the 6th and 7th wards (Figure 6.). Almost half (48%) of the sign-ups come from those two wards alone. The number of households from Ward 6 alone makes up more than Wards 5, 1, 2, and 4 together.

Figure 7. Pilot Participant Households by Ward



## Pilot Setup

One of the more taxing elements of this pilot program was the setup of services. The City has billing and service information that exists for this program, so establishing services wasn't necessarily difficult. The real taxing part for staff was around vetting sign-ups as well as applying the green tags signifying to drivers who had signed up. Staff stopped sign-ups for the program at the start of November to allow time to make sure all carts were properly tagged. Getting to all carts required multiple afternoons a week for staff to get to all households in different areas of the City. Due to the lack of density of sign-ups traversing the City was time-consuming for staff even when utilizing routing software like Rubicon to help identify and do turn-by-turn directions. Access to carts also became a challenge. A few households didn't have their carts readily available for staff to tag, requiring multiple trips or leaving tags for the residents to apply themselves.

Staff also had to use alternate communication methods to communicate with those who signed up throughout the program. Due to the optional nature of the program and requiring households to already have a yard waste cart to participate in the pilot communication had to be selective. Staff relied on awareness building of the pilot through typical City communication channels such as the eNewsletter or web pages, but for more detail or answering questions required typically directly emailing residents. Most communication was conducted through staff emailing and blind carbon copying all sign-ups, but if residents had questions or concerns it typically required responses to be given which is time-consuming to handle for staff. This is likely given the optional nature of the

program. A more formal program that is known and available to more households would likely not require as much hand-holding or time spent answering questions.

## Communication Tools Used for Building Awareness of Pilot

- City Weekly eNewsletter
- Waste Services Webpage
- Web Flier
- Direct Emails to Current Yard Waste Cart Households

## Service Cost

Cost is one of the largest considerations when offering different waste services. Collecting different materials from households usually requires additional staffing and equipment to facilitate those costs as well as disposal costs. For our normal in-season yard waste collection the City pays Groot two monthly costs. One is a per unit rate cost for the number of households that have a cart. The City also pays a bulk collection fee for all the stickered yard waste bags that are collected by Groot. The cost for the pilot was adjusted from that typical model to allow Groot to effectively charge for those services (Table 2.).

In reviewing the proposed tiered rates that Groot provided during the discussion on extensions and the pilot, the City believed that the lowest tier having its unit rate be equivalent to Collective Resources Compost's typical Winter Gap pricing structure for weekly service at least provided a cost-neutral option for those who have participated in that Winter Gap program. One piece of feedback that was received by those who ultimately didn't sign up but noted this point, the sliding scale of the tiered model makes budgeting of the service more difficult. More stable rates were preferred for this specific resident, but it's likely a common sentiment that more stable rate structures are preferred for residents.

In the survey, those who participated in the pilot were asked to reflect on the price of the program. Most felt that it was appropriately priced while the next largest group of respondents felt that it was a little overpriced (Figure 6.). One important consideration to keep in mind is that if more people signed up and participated there is the ability to have the unit cost come down. If there are enough users the cost of the program becomes near the same as what the City is charged by Groot during the in-season months (\$9 per unit vs. \$9.76).

Similar to the in-season program the City issued the cost of the pilot program onto households' water bill after the season. It was a tad arduous for staff to apply this fee during the pilot as the season's charges had to be added to each household's bill. In the future that wouldn't likely be the case as the fee structure would ideally be set up to be re-occurring.

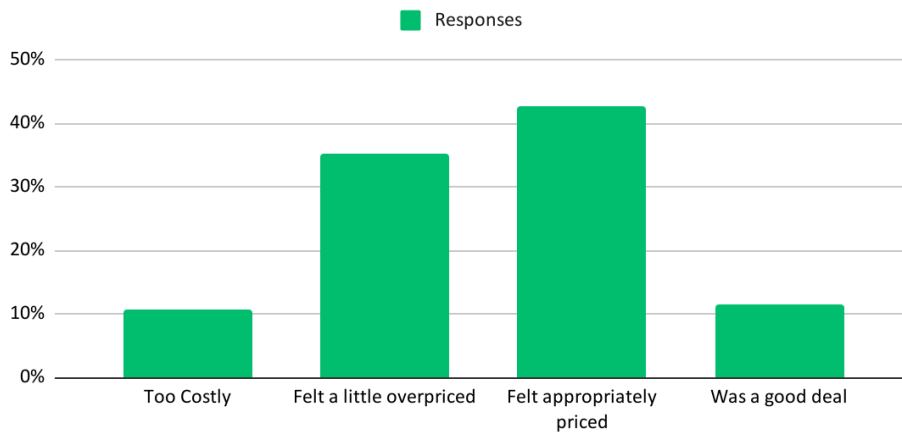
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*“What I’ve liked about other composting services is that others accept paper products and meat products. However, that composting service is significantly more costly. I really appreciate the service!”*  
*-Feedback from Resident on Pilot Survey*

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Figure 8. Pilot Participant Survey Question Regarding the Cost of the Pilot

What is your sentiment around the cost of the pilot? (\$20 per month, \$80 for 4 month season)



## Use of Service

One of the biggest insights the City was hoping to gain from this pilot was to understand how much material is present during the off-season months. Out of any of the waste streams that the City of Evanston collects from residents, the one that has the highest level of seasonality is the yard waste program. Typically there are two months of high generation and the rest of the time the amount of material collected is generally uniform. Usually, lawn care and landscaping projects cease in the

midwest during the winter months, so being able to understand just how much material is present can help better assess what types of programs are necessary, especially for food scrap diversion.

The 2023-2024 winter season was unusually warm with minimal snowfall as well. The mean temperature for the Chicago area this past winter was 40.7 degrees Fahrenheit which was 4.9 degrees above normal. Chicago area's winter season total for snowfall was 22.2 inches which was 16.2 inches below normal. With little snowfall covering the ground and unusually warm temperatures, this likely allowed households to potentially handle their end-of-year landscaping needs as well as potentially get a jumpstart on spring maintenance in addition to providing an outlet for residents to dispose of food waste.

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*“I get a lot of leaves and debris on my front and back lawn so this service was extremely helpful. I hope you can continue to offer this service next winter. Thanks so much.”*

*-Feedback from Resident on Pilot Survey*

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It is one thing though to have access to a service and another to utilize the service. In the survey, responders noted that generally they found the use of the cart every week service was allowed but most were not filling up the container more than 25% in a given week (Figure 8. and Figure 9.). Most households also noted no real change in how they used the program from one month to the next. One consideration staff was interested in noting was to see if households only found the service useful for a single month and the adjustment for said service would be to extend the normal yard waste season to better accommodate. While most survey responses indicated they used the service the same throughout the four-month pilot period there was approximately 30% of responses indicated they found themselves using the service more during December or March (Figure 7.).

In reviewing the tonnage numbers during those months staff can contextualize a bit more of the use elements. To properly review data, staff pulled all monthly tons reported by Groot since the calendar year of 2015. Staff reorganized the tons reported by their winter seasons. Almost 200 tons of material was collected during the 2023-2024 winter season which was approximately a 34% increase when compared to the average season totals before the pilot was conducted (Table 3.). An increase was generally expected as normally there are three months in a calendar year where no collection was done at all. For December, the yard waste program typically extends two extra collection weeks to allow households to get up the rest of their leaves before the program suspends for the season. It is harder to gauge the impact during the pilot for that specific month due to the fluctuation in the total

tons collected during that month in previous years, but compared to the monthly average collected in December there was a 13.72% increase compared to that average.

Table 3. Tons of Material Collected from Yard Waste Program During Winter Months

| Winter Season     | December | January | February | March | Total  |
|-------------------|----------|---------|----------|-------|--------|
| 2015-2016         | 164.12   | 0       | 0        | 0     | 164.12 |
| 2016-2017         | 131.16   | 0       | 0        | 0     | 131.16 |
| 2017-2018         | 143.58   | 0       | 0        | 0     | 143.58 |
| 2018-2019         | 139.58   | 0       | 0        | 0     | 139.58 |
| 2019-2020         | 177.63   | 0       | 0        | 0     | 177.63 |
| 2020-2021         | 118.62   | 0       | 0        | 0     | 118.62 |
| 2021-2022         | 165.38   | 0       | 0        | 0     | 165.38 |
| 2022-2023         | 83.03    | 0       | 0        | 0     | 83.03  |
| 2023-2024         | 159.65   | 12.37   | 13.70    | 10.68 | 196.40 |
| Avg. Before Pilot | 140.39   | 0.00    | 0.00     | 0.00  | 146.61 |
| 23-24 % of Avg.   | 13.72%   | -       | -        | -     | 33.96% |

Another important consideration is to contextualize the user per household that was seen during the pilot. In reviewing the monthly totals for each month staff divided the tons collected by the number of sign-ups and converted them to a pounds per household metric. For December, staff took the projected 13.72% increase in material collected during that month compared to the average and calculated what that difference would be in tons to compute an estimate of how much pilot households generated. On average, households were generating 114 lbs. of material per month (Table 4.). If that generation estimate is applied to all single-family household accounts that have a yard waste cart (6,846) it would be estimated that if everyone participated 1,563 additional tons of material could be diverted during those winter months. While that is a large opportunity for progress, the true amount of material is dependent on the type of winter season as well as how households use the service. The pilot program was populated by households that found this service valuable, others that have a cart might not find the same utility, and applying similar generation logic to them might be a bit presumptuous.

Table 4. Pounds of Material Collected by Household from Yard Waste Pilot Program During Winter Months

| Winter Season | December | January | February | March | Total  |
|---------------|----------|---------|----------|-------|--------|
| Lbs. per HH   | 167.22   | 94.43   | 104.58   | 81.53 | 114.19 |

One common concern about food waste disposal during the winter is the freezing of material in the carts. This pilot wasn't able to test this concern greatly given the unusually warm temperatures this

winter season. There was one spell of cold weather and snow that caused a delay in service in the middle of January. During that time it was reported a few instances by the hauler that food had frozen to the bottom of the cart. Depending on how frequently freezing temperatures are in the region this issue could be more of a problem.

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*“Our yard waste cart is so large compared to the amount of food waste our household of 2 generates. So we only needed one pick up. Seemed wasteful having a giant garbage truck pick up our small amount. Could you use smaller carts (and smaller trucks)?”*

*-Feedback from Resident Survey*

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Figure 9. Pilot Participant Survey Question Regarding Use of Cart by Month

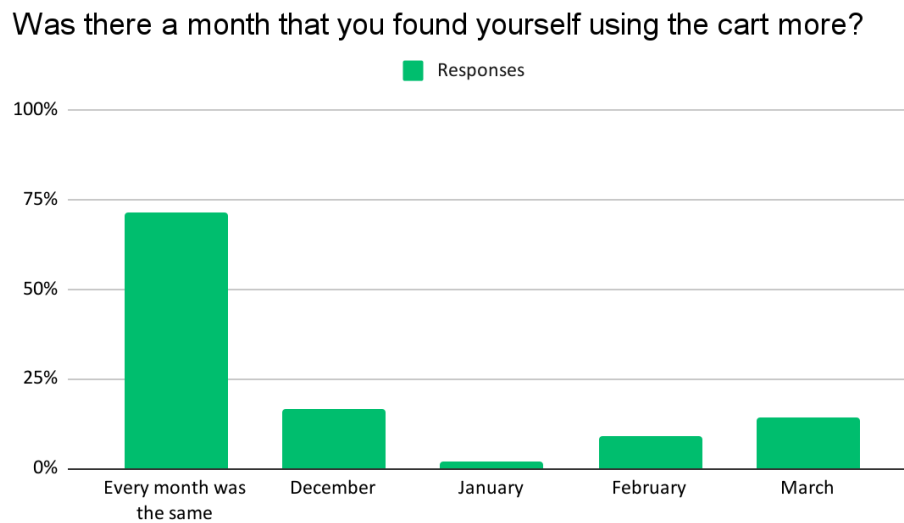
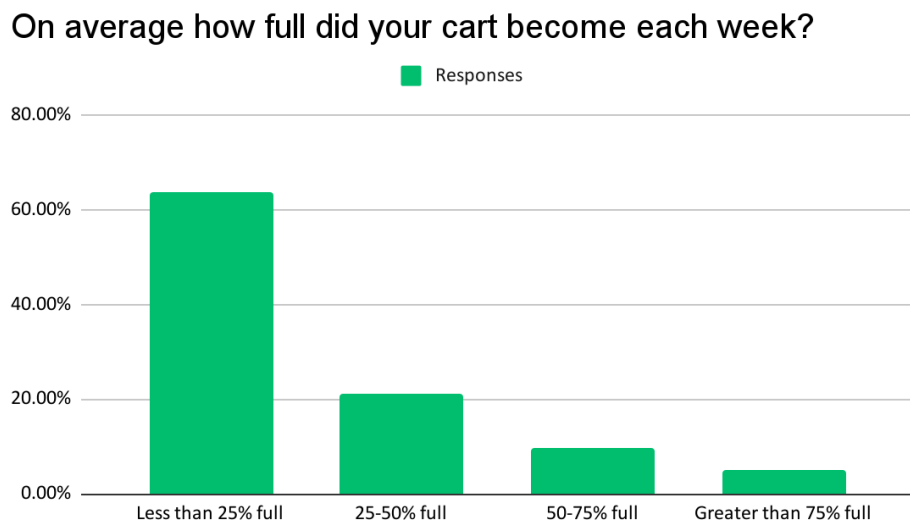


Figure 10. Pilot Participant Survey Question Regarding Frequency of Use



Figure 11. Pilot Participant Survey Question Regarding Cart Fill Levels per Week



## New Service Days

One of the biggest adjustments to the pilot was the change in service days. As alluded to earlier in this report, the City agreed to allow Groot to adjust routing to create efficiencies depending on sign-ups. Changing service days causes multiple findings. One was that households were accustomed to a different service day. Most households have one day for their waste collection, and during this pilot period they had a new day they had to make sure carts or material were accessible to be



serviced. Households that signed up for the pilot agreed that this was a challenging change as 30% of the 120 survey responses received noted the change in service days as the most challenging part of the pilot (Figure).

It was also clear that Groot's drivers also needed time to adjust to the new routes. Typically drivers get accustomed to running a route the same way. With this pilot, they had to adjust to learning a new path as the density in households wasn't great enough to keep similar routing and drivers had to be on the lookout for a green tag.

With the number of sign-ups during the pilot, Groot ended up creating one single route for each day of service in the week (Monday through Thursday). They roughly distributed the number of households equally by those days based on the day of collection by their geographic position in the City (Table 3.).

Table 4. Routing Distribution of Households During Pilot

| Day of Week of Service | # of Households | Percent of Households |
|------------------------|-----------------|-----------------------|
| Monday                 | 69              | 26.30%                |
| Tuesday                | 56              | 21.40%                |
| Wednesday              | 63              | 24.00%                |
| Thursday               | 74              | 28.20%                |

While the household distribution was approximately equal, one noticeable stat was that every household had to adjust to a new service day. There was not a single household during this pilot that ended up having the same day of collection for the pilot as they did for their refuse and recycling. Providing this detail to Groot during the review of the pilot they indicated there is the ability to put more focus on overlapping those services in the future.

Another adjustment was the number of holidays that happened during the pilot period. Normally, during collection periods that overlap with a city-recognized holiday service is suspended by a day. Groot still operated under that direction for the pilot, but it was likely a harder adjustment for residents to juggle a new service day as well as accounting for a holiday.

## Recognized Holidays During Pilot

- Christmas Day: Monday, December 25th, 2023

- New Year's Day: Monday, January 1st, 2024
- Martin Luther King Jr. Day: Monday, January 15th, 2024

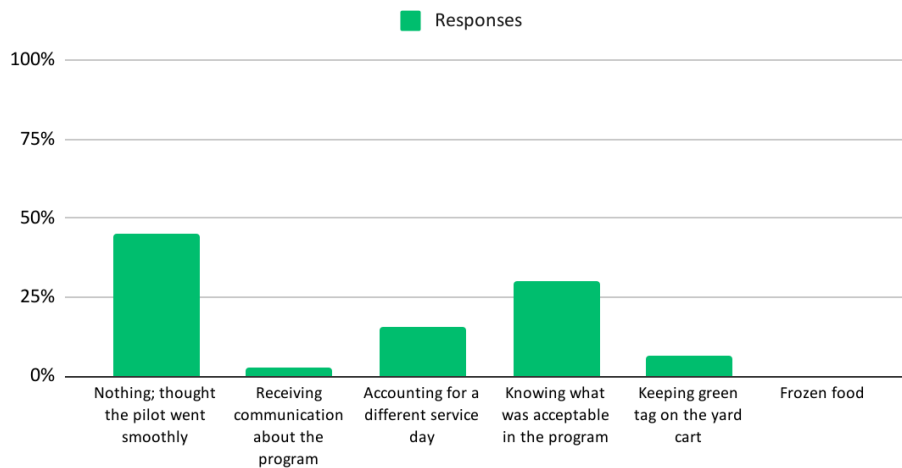
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*“..yeah, having this on a day other than normal trash pickup was a pain.”  
-Feedback from Resident on Pilot Survey*

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Figure 12. Pilot Participant Survey Question Regarding Most Challenging Aspect of Pilot

### What was the most challenging part regarding the pilot?



## Tags

The green tags that the pilot utilized to distinguish households that signed up became a challenge to manage during the pilot. Quickly it was found that tags were not as resilient to the general use and abuse carts. Tags were falling off weekly and needing to be replaced throughout the pilot. This required staff to promptly get out to each household and reapply tags as the tags fell off the confidence in receiving service also likely diminished. Around 6% of households that responded to the survey stated that keeping the green tags on the yard cart was the most challenging part of the pilot (Figure .).

Oddly there were a few instances where wildlife tampered with a tag. One specific household had a squirrel on the property that chewed through the tags after a few weeks of being reapplied. This wasn't a factor staff considered when choosing these tags.

The other challenge is at the end of the program these tags no longer have any use. This is preferable to having stickers affixed to a cart and having those items remain for longer. The tags that were used can also be removed by residents and discarded inside their refuse containers if they so desire. It would also be worth noting that if this optional service model persisted, new tags would likely have to be reapplied each year by staff, which would require continual staff hours and labor to upkeep the proper database of those in the program.

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*“We absolutely loved this service and hope that it will continue! The suggestions that have are to make the green tag larger and more explicit (we still had neighbors who used the carts for garbage)..”*  
*-Feedback from Resident on Pilot Survey*

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## Contamination/Education

One of the largest operational issues that arose in this pilot project was the identification of what is acceptable from the hauler versus what the City educates towards. In the most recent list of accepted items for the program that was received in the spring of 2023, staff realized that there was a large disparity between what was noted on that list and what is put on the City’s website and labels that are affixed to carts (Figure .). The largest discrepancy between what is noted in the two lists is the inclusion of food-soiled paper products (napkins, plates, pizza boxes) and meat and bones.

### **Groot’s List of Accepted Items in Yard Cart Program as of 2023**

- Coffee Grounds (No Filters)
- Fruit & Vegetables
- Grass Clippings
- Leaves
- Non-liquid dairy (Cheeses)
- Grains (Bread, Pastas, Cereals)
- Sticks & Twigs
- Tea Leaves (No Bags)

It is worth noting that most of what is acceptable in these programs is based on the permits of the compost facility. The State of Illinois issues these permits dictating conditions like what types of bulking agents and additives can be utilized in the commercial composting of landscape waste (yard waste). A lot of how it is permitted is also based on the types of compost technology that is being used. Facilities that use different means of breaking down material, such as windrows or aerated static piles, see material break down at different rates in these processes. To maintain the amount of material that is coming in and how much end product is leaving the facility there is a conscious effort to have materials that align with those timelines. There are also instances where the composting facilities' preferences can dictate what is acceptable in these programs. Some reasons why they might be permitted to take something but decline from noting it as an accepted item is because of the potential exposure to other contaminants.

Contamination is becoming just as big of a problem for composting facilities as it has been for the last decade for recycling facilities. Facilities are becoming inundated with non-conforming or acceptable items and having to spend more of their operational budgets finding ways to manage that. In some instances, the headache isn't worth it and a facility will stop accepting a certain item altogether.

The realization of this discrepancy between the two lists became obvious when staff were reminding those in the pilot program about what is accepted in the program per Groot's recent communication. This caused a lot of confusion and displeasure from those who signed up. In emails to sign-ups staff received a lot of feedback from households noting their confusion on the change, and their displeasure with the change. The number of sign-ups also recoiled once this discrepancy was highlighted and households that decided to back out from the pilot wanted to maintain the opportunity to compost more material items than what the yard cart program allowed. There were approximately 6 households that backed out of the pilot after initially signing up the cause of the accepted items list.

Figure 13. Label that the City of Evanston has affixed on Carts



To help reinforce how much of an issue this was, households placed this as the biggest challenge with the pilot program. 30% of survey respondents said that not knowing what was truly acceptable in the program was the biggest challenge with the entire pilot program (Figure .). Due to this confusion, there were a handful of instances of contamination being highlighted at certain properties. In the examples below (Figure 14.), some of the contaminants that were documented were items like pizza boxes and plastic film bags. One lesser instance was when a garland after the holidays was disposed of. In this example, the garland isn't acceptable due to the metal wiring that is threaded throughout those materials.

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*“It'd be great if all types of food waste were accepted. I found the exclusions of no coffee filters, no meat, no shells, no brown paper very limiting.”*

*-Feedback from Resident on Pilot Survey*

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Figure 14. Examples of Types of Contamination Seen during the Pilot Program



# Future Considerations

With all this information provided by the City in its first year of offering this service as a pilot, there is the need to contemplate how this service might look or need to be tweaked to be considered as a full service to Evanston households. Below is a list of options to consider for the program.

## Every Other Week Service

The surveyed responses noted a lack of filling up yard waste carts during the off-season months. All carts are 95 gal containers and with the absence of yard waste typically being generated during the off-months it was less likely that households would be able to generate enough material to fill up a cart that easily with food waste. As previously acknowledged, some households were able to fill their cart up more due to finding value in an outlet for their lingering yard waste.

One option to consider is to switch the collection frequency to every other week during the winter months. The service could be staggered where certain routes are collected one week versus another or they have all collections done on the same week and none the next. This would help increase the amount of material inside each cart at the time of collection.

The likeliest challenge from this option is that material is likely in the cart for longer. Food Waste is a common attractant for rodents and animals like squirrels. This by no means guarantees that more rodents are in the environment but from a logical standpoint, the longer material sits between services the chances it could be increased. Especially during warmer winters, one of the benefits of a winter program is that microbial activity that breaks down food waste causing odors that attract animals is lower, but during this past winter that was warmer, the chances of food starting to smell are greater.

In contrast during colder winters, the likelihood that food freezes inside the cart increases the longer it is in the cart. When food freezes to the bottom of the cart the cart becomes more tedious or impossible to service. One week this winter saw a severe cold spell that also had significant snowfall that delayed service. In those instances, there were a few noted carts that weren't able to receive service due to the contents freezing to the cart. This is not unique to just the yard waste cart program, refuse and recycling carts also see contents freeze to the bottom during cold weather.

In reviewing this suggestion with the Groot, one condition they wanted to make clear that if moving towards an every-other-week model, there would likely not be any savings in that adjustment. The reasoning for that is this service simply being provided requires them to set aside equipment, and

staff to meet the service demands. They have to provide guaranteed hours of work for drivers and it's difficult to allocate drivers to different services that have staff and equipment already budgeted for. If other communities had similar services or if the City had other every-other-week services that were also incorporated in this overlap there might be some savings able to be gleaned for this service in particular, but as of right now, that would not be something to expect.

## Extend Existing Yard Waste Season

If this service was not deemed to be necessary or ready for a full year-round service model, one consideration is to seek to extend the Yard Waste Season through December potentially. As noted in the findings the month of December still saw a 13% estimated increase in the amount of material that had been collected on average during those months. The City could seek to see if Groot or other haulers would be willing to just extend collection through December in upcoming Requests for Proposals on the service. Allowing residents to try and complete any last-minute yard waste disposal as well as work to collect additional food scrap materials can still be viewed as progress in diverting more material from landfills.

This option would still be contingent on Groot or any contracted hauler having the necessary outlet to offer this service during those periods. It is paramount that a disposal outlet be secured as residents who utilize these services expect material to be handled appropriately and if there is no consistent outlet then it becomes difficult to educate residents confidently. There would also likely be higher costs to extend that existing in-season service for longer periods as well.

## Clear and Expanded Accepted Items in the Program

Residents who participated in the pilot and those who backed out made it clear they wanted to be able to put more material into their carts. Some participated cause they felt it was necessary to support this program but suggested they would consider utilizing the Collective Resources Compost program in the future or not join the pilot again with a restrictive list.

City staff at the time of this write-up are working to update the signage and labeling of carts to make the program more consistent with what has been communicated from Groot and the Composting Facility. It is frustrating for residents participating in programs to see education presented one way but directions are being provided that conflict with labels or signage. The City needs to make sure all communication and education are consistent.



If the City is seeking to see more materials accepted in this program both in-season and off-season it will need to dictate that preference to prospective haulers at its next Request for Proposals. That is the time that the City is presented with different service offerings from prospective haulers and has the most ability to use conditions of agreements to strive for more material accepted.

In making this request there could be the potential that the rates of collection change to what has historically been seen for the program as haulers will have to seek out other locations and create new operations to factor in elements like distance or tip fees that are charged by the alternative compost facilities.

## Increase Consistency of Off-Season Program

If the City decides to continue offering off-season collection for residents there should be some consideration to helping stabilize the work each season to note which households are a part of the program. One consideration is to potentially incorporate a more permanent identifier for carts that are signed up for the program. Examples of more permanent identifiers are to identify carts that are part of the year-round program with a different colored lid to make it obvious which households are a part of the program versus aren't. The lid would need to be closer to green than the other lid colors that the City uses for carts to build cohesion and understanding for residents properly. Another option is to affix labels to households that sign up for the year-round program. Labels and stickers on carts are usually a challenge to deal with for staff as they rip, fade, as well as become a pain to remove if someone backs out from the program. One consideration is any educational material that is applied to the cart could have different colors based on the program the household is a part of. This would potentially limit the need for additional labels or stickers to be applied to the carts. One downfall is that it wouldn't be obvious to households that signed up that they are likely part of a specific program. Lastly, the City could continue to utilize tags to identify carts but seek more durable or alternate types of tags than what was utilized in the pilot program. In all three options, there would still be considerable staff time throughout the year changing these items out when needed, especially during the initial rollout period.

Billing is also an avenue where consistency could be improved. Currently, both in-season and off-season pilot programs are typically billed after the season. If this service was formalized there would be a chance to switch to a monthly rate structure. Charging residents by month for the carts would align the service similar to recycling and refuse services as well as create more predictable charges for households to plan for instead of a lump expense on a select month's water bill. The other

element is this would allow staff to more consistently bill for these services over time instead of trying to align set charges for certain times of the year.

The other area of consistency that would have to increase would be communication. As noted in the findings communication was a challenge for staff as they had to communicate directly with sign-ups instead of relying on consistent communication channels that the City often utilizes. If this service were formalized it would allow for easier ability to highlight the program and put communication on the program in the City Services Guide or on the City website without fear of confusing households on the program.

## Mandatory or Opt-Out Service Creation

If the City is seeking more diversion there is some credence to issuing the yard waste program to be a mandatory or opt-out service model for the entire year. There would need buy-in and support from haulers. City Council and households would also have to agree the potential additional costs to their waste service bills are worth the increase of access to this service for everyone.

Mandatory or opt-out service would likely increase the availability of carts for households and potentially reduce the need for sharing containers. Having these options be baked into the normalized service for all households would allow higher transparency for the City to know how much material is being collected and which households are utilizing the program over time.

The unit cost of the cart service would also stabilize more as there are greater economies of scale for haulers to expect guaranteed business for materials. In Table 2. the off-season pilot pricing structure became more cost-effective the more people that participated in the program. By increasing the number of participants that exist in a program there are more scalable costs shared by all in a program.

One important note is that the scale of this service would likely impact the Food Scrap Franchise with Collective Resource Compost. Based on the number of accounts in their program that are residents, any mandatory program would likely disrupt the number of customers that utilize their service (Figure 2.).