

City of Milwaukee
Organics Collection Pilot Program Conclusion
Report



File #210035

May 12, 2021

CITY OF MILWAUKEE DEPARTMENT OF PUBLIC WORKS

841 N. BROADWAY

MILWAUKEE, WI 53202

City of Milwaukee

Table of Contents

	Page
1	Introduction2
2	Program Timeline and Background.....2
2.1	Pilot Program Establishment.....2
2.2	Pilot Program Household Expansion.....3
2.2.1	Pilot Program Expansions.....4
2.2.2	Compostable Materials Ban.....4
2.3	2020 Request for Proposals5
2.4	Pilot Program Conclusion.....7
2.4.1	Subscriber Transition Plan.....7
2.4.2	Cart Transition Plan.....8
3	Program Results and Feedback9
3.1	Cart Volume.....10
3.2	Interest and Exits.....10
4	Conclusions and Recommendations.....12
4.1	Processing Fee Savings.....12
4.2	Organics Processing Capacity.....13
5	Attachments15
	Attachment 1: Specifications of 65-Gallon Organics Cart.....16
	Attachment 2: Map of Pilot Program Zones.....17
	Attachment 3: Pilot Collection Schedule18
	Attachment 4: Accepted Items List for SSO Pilot Program.....19

1 Introduction

In September of 2015, the Common Council adopted resolution 150196 which instructed the Department of Public Works (DPW) to implement a 1-year pilot program of curbside residential collection of compostable materials encompassing the neighborhoods of Bay View and the East Side of the City of Milwaukee. The City of Milwaukee has established a goal known as “40 by 2020” – to achieve annual diversion of 40% of the municipal solid waste stream from landfills by the year 2020. The main elements of the City plan to achieve this diversion goal are:

1. Implementing variable rate pricing for garbage services
2. Increasing recycling; and,
3. Increasing recovery of food waste and yard waste

The pilot was intended to support the third element of this plan and provide additional opportunities for residents to divert food and yard waste, also referred to as Source Separated Organics (SSO). Participation would be voluntary and opt-in, i.e., a subscription based service. Households would be charged for the service, excluding cart costs, and the City would acquire a private hauler and processor through a Request for Proposals process.

As a result, DPW Sanitation staff planned, designed, and implemented a Source Separated Organics (compostable food and yard waste separated from other discards) Pilot Collection Program, more commonly known as the Compost Pilot. The City recruited interested participants and the first 500 “early adopter” households began receiving service in November 2016. The pilot program continued service in the pilot neighborhoods until closing in September 2020. A review of the pilot program and organics collection opportunities in the City are the subject of this report.

2 Program Timeline and Background

2.1 Pilot Program Establishment

In April of 2016, the City of Milwaukee Department of Public Works released a Request for Proposals to Conduct a Pilot Organics Collection Study. Proposals were accepted for 1) organics including yard waste or 2) organics not including yard waste to be delivered to a composting facility or anaerobic digester. Compost Crusader was awarded a one-year contract through the RFP to provide collection services and delivery to Blue Ribbon Organics for processing. The pilot program provided for the collection and composting of food waste and yard debris from a City-owned and provided 64-gallon brown cart. See Attachment 1 of this report for the organics cart specification. Subscribing residents received a starter kit that included a kitchen caddy, BioBag samples, welcome letter, schedule and setout instructions, acceptable material list, coupon book, and window cling.

The monthly fee paid to Compost Crusader was \$13.75 per subscriber per month. Program participants paid a monthly fee of \$12.75 for this additional, optional service and the City paid the contractor the full monthly fee, reducing each household’s rate by \$12/year. This reduction was assumed to be roughly the household savings in landfill tipping fees by diverting organics from landfill. The pilot program included a maximum of 500 participating 1-4 unit households.

DPW Sanitation managed the program's billing and mailed quarterly invoices to residents for a total of \$38.75 per quarter. Sanitation received weekly reports from the Treasurer's Office documenting payments received, allowing for tracking within an internal program and reminder correspondence for non-payment as necessary. Residents received non-payment reminders and after two instances of non-payment (two quarters), residents were issued a final warning and then carts were removed. Collectively, 12 participants were removed from the program due to non-payment during 2019 and 2020.

The pilot was limited to a geographic region that encompassed the Bay View, East Side, Riverwest, and surrounding neighborhoods living in 1 - 4 unit buildings or condos receiving City garbage and recycling collection. See Attachment 2 for a map of the pilot program zones. The pilot zone was divided into four routes service by Compost Crusader. Residents received weekly collection in the summer (April – November) and every other week collection in the winter (December – March). Routes were collected on a specific day of the week and only experienced shifts if their typical collection day fell on a holiday. An example of the annual collection schedule is included in Attachment 3. A variety of yard and food wastes as well as biodegradable materials were accepted. As it is classified as a solid waste, food waste was required to be bagged before being placed for collection in the cart, similar to the process for trash collection. Residents could choose to bag food waste in compostable bags or paper bags.

The Department of Public Works created a compost pilot website with information for pilot subscribers as well as those interested in joining the program. The website included resources such as current collection schedules, the accepted materials list, and composting how-to videos. The website also included a link to the online interest form, open to the public, where residents residing within the pilot zones could place themselves on a waiting list for entry to the program and those outside of the pilot zones could express their interest to help the department gauge interest. A private, optional Facebook group was also created for pilot subscribers to ask questions and share advice within the community. The group grew from 253 members in 2018 to 310 by the program close in 2020. Residents were sent quarterly email newsletters with program updates, service and billing reminders, and guidance for home composting. Tips included how to reduce odors in kitchen collectors, clean carts, compost Christmas trees, and set out following COVID-19 guidelines.

2.2 Pilot Program Household Expansion

The online interest form remained open to anyone who wanted to subscribe, though it specifically encouraged those within the pilot neighborhoods who were applicable to subscribe. When onboarding a new group of pilot zone residents to the program, DPW manually reviewed the interest form responses to identify any duplicate entries, confirm addresses provided were within one of the four pilot zones, and if so, confirm if the property utilized a curbside or alley collection point. Once applicability was confirmed, residents received an email notifying them of the opportunity to subscribe to the program and requested they complete an online authorization form provided within the email which provided details of the service and confirmed their receipt and acknowledgement of a desire for service.

Once authorization forms were signed, DPW Sanitation created new accounts for each subscriber in an internal invoice system including contact information, billing and service address, route

number, curbside or alley cart collection location, and program start date. Account numbers and collection location and address were then sent to Compost Crusader and Sanitation Central's Special Services team. Compost Crusader ensured Sanitation crews had enough starter kits available and added new subscribers to their routing system. Sanitation crews deployed a cart and starter kit to each new subscriber to begin service in the nearest following month.

2.2.1 Pilot Program Expansions

In the interest of growing the residential SSO infrastructure in Milwaukee, 207 additional organics carts were donated to the City for use in 2019. These were comprised of 144 carts provided by donation from BioBag and 63 carts provided by donation from the City of Milwaukee's Environmental Collaboration Office. In May 2019, DPW Sanitation met with Compost Crusader to receive their input on a strategy for deployment of these additional carts. Options included increasing density of existing routes in the pilot zones or expanding into additional neighborhoods. Residents of Washington Heights and Story Hill had expressed particular interest in the organics program and were the most heavily represented neighborhoods outside of the pilot zones to have signed the online interest form. After discussing scenarios, DPW Sanitation and Compost Crusader collectively agreed to attempt to preserve and build route density in the current pilot area through the additional room for subscribers rather than expand to a new area.

In April and May 2019, DPW Sanitation authorized two additional groups of residents from the pilot zones according to their position in the online interest form, restoring the pilot program to 500 participating subscribers as some cancellations had occurred during the program administration. In June, the entire interest form was exhausted with all 125 residents on the form who resided within the pilot zones sent an invitation to join the pilot program and create program expansion and route density with the use of the donated carts. In early August, a second expansion group of residents within the pilot zone was onboarded, once again exhausting the interest form of the 32 residents who either missed their initial authorization emails or had newly signed the form through word of mouth advertisement. The pilot program had grown to 577 subscribers.

2.2.2 Compostable Materials Ban

In mid-August 2019, DPW received notification from Compost Crusader and the organics processor, Blue Ribbon Organics, that immediate changes were required regarding compostable products in the compost pilot program. Compost Crusader worked with Blue Ribbon Organics to process compost, and as composting programs continued to grow, the Blue Ribbon site began reaching capacity and finding it difficult to move final compost product that contains manufactured compostable items. As a result Compost Crusader would need to implement a compostable products ban for all customers.

The material ban included compostable "plastic" bags (i.e. BioBag, NaturBag, EcoSafe, etc.) and compostable products (i.e. Greenware, PLA cups, cutlery, pressed fiber plates/bowls, etc.) which would no longer be accepted. During the initial pilot approval in 2016, one required guideline by the Department of Neighborhood Services included the bagging of food waste due to it being putrescible solid waste. Subscribers could bag their waste in paper bags or BPI-certified bags

such as BioBag products. With the elimination of compostable bags as an accepted material, food waste was required to be contained in paper bags prior to placement in the cart.

Blue Ribbon discussed the need for this material ban further on their [Facebook account](#) in mid-August: “As recent research has come to light highlighting potential health and environmental hazards of ingredients in [manufactured compostable] items (i.e. cups, bags, cutlery, plates), we will no longer include them in any of our products. Evidence of potential environmental and health concerns [are] still emerging, but the health of our customers and our planet is not worth risking.” The most concerning ingredients found in manufactured compostable materials is Perfluoroalkyl and polyfluoroalkyl substances also known as PFAS.

According to the [Wisconsin Department of Natural Resources \(DNR\)](#), PFAS are human-made chemicals used in industry and consumer products that can be found in the environment and humans’ bodies and do not break down easily. Exposure to PFAS may have harmful effects on health such as certain types of cancers, developmental delays, thyroid and heart issues, and infertility and low birth weight. Therefore, PFAS generated the most concern when finished compost containing manufactured compostable materials was used in organic brands and food growing applications such as the products created and distributed by Blue Ribbon Organics.

Municipalities with similar programs such as Wauwatosa and Shorewood were to discontinue allowing these materials on August 31st. Due to the timing of the notice to the City of Milwaukee, pilot subscribers were informed of the change with an extended deadline of September 30th to fully implement the compostable materials phase out, allowing for material to be removed from the system by Blue Ribbon’s imposed deadline of November 1, 2019 to no longer accept manufactured compostable items. The change was communicated via website updates, discussion within the pilot program’s private social media group, and two direct subscriber emails. Emails provided residents with notice of the change and deadline as well as responses to frequently asked questions experienced by residents as they made the requested changes.

The elimination of compostable bags for containing food waste was the primary inconvenience expressed by pilot subscribers during the materials transition, and over the following two months, approximately 5% of subscribers cancelled their service. During this period of transition, DPW determined to put further program expansion on hold while developing a Request for Proposals to determine the next phase toward a more robust, inclusive City-wide organics program.

2.3 2020 Request for Proposals

In February 2020, DPW released an RFP for a Source Separated Organics Collection and Processing Service with the purpose of expanding organics collection City-wide and providing equitable access to all 1-4 unit households by 2025. This service would provide an opportunity to participate in another form of organics diversion from landfill, complementing the tools of waste prevention, food donation, backyard composting, and in-sink disposer units. Four scenario groups were defined in the RFP which allowed for combining various service characteristics. The scenarios were as follows:

Scenario 1 –Yard Waste Only, Haul to City Transfer Station:

Includes cost of collection service with direct haul to City of Milwaukee transfer stations.

- a. Service in cart, provided by Contractor
- b. Service in bags or bin, provided by subscriber

Scenario 2 –Yard Waste Only, Haul to Third Party:

Includes cost of collection service and processing fees.

- a. Service in cart, provided by Contractor
- b. Service in bags or bin, provided by subscriber

Scenario 3 –Yard Waste with Food Waste, Haul to Third Party:

Includes cost of collection service and processing fees.

- a. Service in cart, provided by Contractor

Scenario 4 –Food Waste Only, Haul to Third Party:

Includes cost of collection service and processing fees.

- a. Service in cart, provided by Contractor

Third party processors could include composting sites or anaerobic digesters. Scenario 1 allowed for a yard-waste only option utilizing the City’s existing transfer stations operated under contract by Waste Management. That contract provides in part for hauling and composting of yard waste, and the City would factor those contracted processing costs for any Scenario 1 proposals received. Respondents were encouraged to propose on multiple scenarios.

In the RFP, the current, pre-existing pilot zone would be the first with access to the city-wide program, with current subscribers given the opportunity to opt into a program if one was implemented as a result of the RFP process. The wait list remained open during the RFP process. At the time of RFP writing in Q4 2019, approximately 230 residents were on the interest list from a variety of pilot and non-pilot neighborhoods. The list would serve to gauge interest for growth as well as inform new marketing efforts to ensure City-wide expansion by year five.

Areas of the City to be onboarded in each year of the program would be developed as part of a contract negotiation. As part of their proposal, RFP respondents were to provide detail on which areas of the City beyond the pilot zone would be targeted for expansion through each year building to City-wide access by year five. Nine proposals were received from three companies. All proposals were considered complete and responsive and were reviewed over a two-phase evaluation process. This process included a one-month postponement to provide respondents with additional time to respond to evaluation questions during the initial months of the COVID 19 pandemic. Final scores were compiled and the evaluation committee recommended contract negotiations be pursued with the responsive, responsible vendor that scored the highest total on the evaluation criteria in May of 2020.

The City of Milwaukee Department of Public Works released a notice of intent to award and held three contract negotiation sessions. Ultimately, contract negotiations were unsuccessful and the RFP process concluded with no contract awarded. Proposals received were deemed unable to

provide all of the desired criteria laid out in the scope of work in order to create an equitable, far-reaching program as illustrated through two primary concerns: cost-prohibitive subscription fees and limited regional capacity for food waste processing.

2.4 Pilot Program Conclusion

In July 2020, near the end of RFP contract negotiation discussions, the pilot program's vendor noticed the City of their intent to discontinue service in 30 days. With the RFP process nearing a conclusion of no contract awarded and the City unable to offer an immediate internal collection program, DPW negotiated with the program hauler to extend service and conclude the pilot program on September 30th, 2020. This date provided ample time for DPW to establish and communicate a transition plan for subscribers that would continue to support organics diversion as well as the local companies providing organics curbside collection services.

2.4.1 Subscriber Transition Plan

Communication to pilot subscribers released in early August 2020 addressed the RFP conclusion and sunset date for the pilot, as well as transition options residents could review over the last two months of the pilot program. These included options for several local curbside organics collection services, information about community composting, and resources for home composting.

For subscribers who wished to continue participating in a curbside organics collection service after the pilot conclusion, information was gathered from three local companies providing service in the pilot zone as well as to other Milwaukee neighborhoods. The provider list included Compost Crusader, Curby's Compost, and Waste Not. Compost Crusader provided collection in rolling carts while Curby's Compost and Waste Not provided collection in buckets. Company contact information, collection container type and size, billing options, and any unique account features such as online bill pay were provided in the email along with informational flyers. A Google form was created to provide a unique subscription link for any subscribers who wished to sign up with Compost Crusader directly. This would allow previous pilot subscribers to avoid a start-up fee, typical for new subscriptions to cover the cost of cart and starter kit delivery as well as account and routing administration. This also provided subscribers with an opportunity for increased service continuity by keeping their brown organics cart which could be purchased from the City by Compost Crusader as part of the existing pilot agreement. In late August, a letter was mailed to all pilot subscribers for whom DPW had not received confirmation of a chosen transition plan to ensure that all subscribers were aware of the program conclusion.

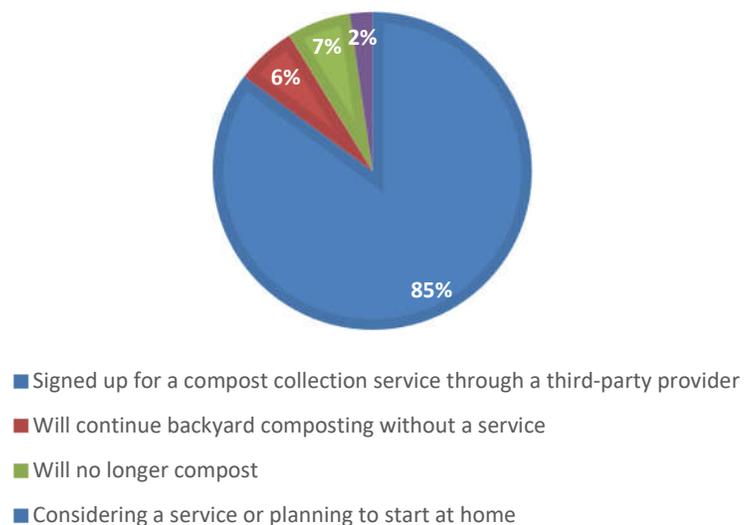
For subscribers who wished to continue composting on their own, a variety of resources were outlined. These included information about where to purchase compost bins (including detail on DPW's annual compost bin sale) and Kompost Kids, a local organization that hosted two community compost drop off sites which are currently in transition. In addition, links were provided for two Keep Greater Milwaukee Beautiful webinars. In 2019, DPW Sanitation, Keep Greater Milwaukee Beautiful, and the Milwaukee Public Library partnered to bring a new basic backyard composting class to six locations around the City. Due to its popularity, this class as well as a new small space composting class were planned for 2020. Due to the pandemic, these in-person classes were cancelled, but were hosted and recorded as webinars for public viewing.

As the pilot program had gathered interest from other City of Milwaukee neighborhoods who were able to sign the waiting list, a similar communication as described above was also distributed via email to all residents who had signed the pilot program waiting list at the time of the announcement in early August. Through the final months of the program and into the end of the year, DPW Sanitation provided content for Aldermanic district communications by request, attended a virtual town hall to answer any resident questions, and included information on the pilot close and composting resources in the annual fall mailer distributed to all 1-4 unit households. Local compost collection service provider information is now included on the DPW Sanitation Home Composting website along with resources for composting at home.

490 subscribers remained at the time of program close on Sept. 30 2020 and all three service providers advertised reported an increase in subscription requests during the transition period. Over 300 pilot subscribers chose to continue carted organics collection service directly with Compost Crusader.

In early November, a closing survey was distributed to all subscribers who were within the program as of August 2020 to gather feedback on the program experience and thoughts on organics diversion programming for the future. Over half of subscribers responded. Of the 53% of pilot subscribers who completed DPW's pilot program close out survey, 93% of respondents stated they had signed up for a composting service, were composting in their backyard, or still consider one of these options while 7% stated they would no longer compost.

HOW WILL YOU BE COMPOSTING IN THE FUTURE?



2.4.2 Cart Transition Plan

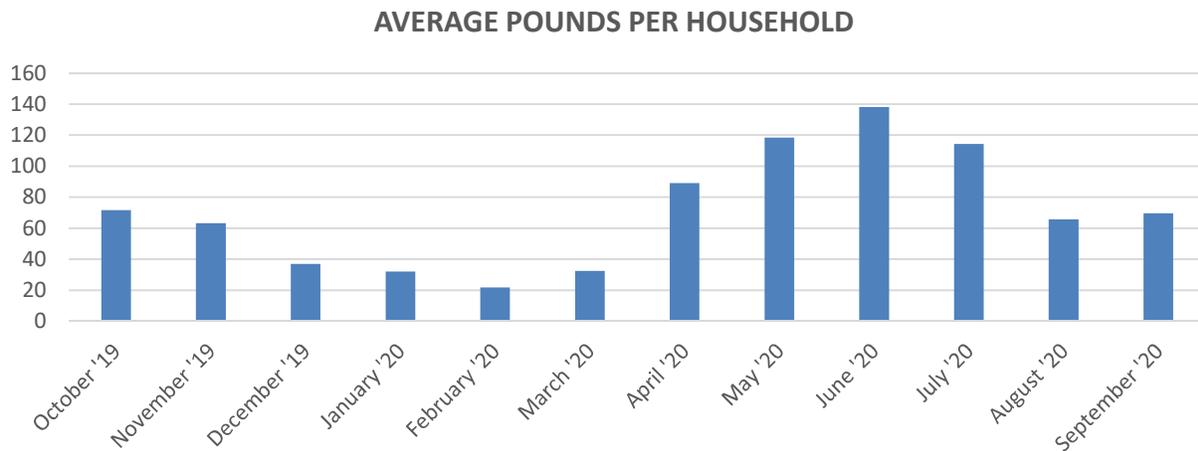
In the interest of facilitating a smooth transition of Milwaukee pilot program residents to direct Compost Crusader customers for those residents who choose to sign up directly to continue to divert food scraps and yard waste to composting with this provider, the 207 organics carts donated to the City were in turn donated to Compost Crusader at the time of pilot close. As the carts were specifically intended to grow the residential SSO infrastructure in Milwaukee and Compost Crusader was the only company offering cart based residential SSO services in the Milwaukee area, DPW felt this donation would honor the spirit of the initial donors' gift. The Vice President of Marketing for BioBag also expressed their support of the cart transfer.

Per the existing pilot agreement, at the conclusion of the pilot program, the City could grant the contractor the option to purchase the organics carts at a market price for used carts. An additional 104 City organics carts were purchased by Compost Crusader and remained in place with

previous pilot subscribers. Some residents signed up to continue receiving a 64-gallon carted service while others would have their carts replaced with 32-gallon versions after their new enrollment. Residents who would keep their brown cart received an email detailing this path, while those that would have their carts collected received an email confirming that the cart would be collected after their final scheduled organics collection. DPW Sanitation worked with Compost Crusader to confirm all addresses for which carts would need to be collected and Sanitation crews retrieved all remaining organics carts.

3 Program Results and Feedback

Over the course of the pilot program from late 2016 through September 30, 2020 over 1.4 million pounds of food and yard waste were diverted from landfill. The average pounds per household per month from January through September rose from 67 in 2019 to approximately 75 in 2020.

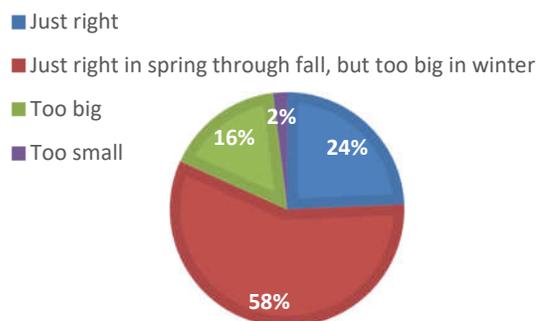


During high yard waste production, a peak of 138 pounds per household was reached in June, and February saw a low of 21 pounds per household with chiefly food waste collected. These were consistent with 2019 in which June and February were also the respective high and low volume months.

3.1 Cart Volume

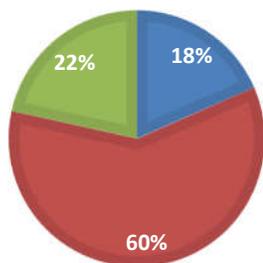
When surveyed in 2017, 42% of participants believed that the cart was the correct size during the summer collection months of April through November though too large during the winter months, while 15% believed the cart was always too large, and 2% believed the cart to be too small. When surveyed in 2020, results remained consistent with the exception of those believing the cart was the right size only during the summer months rising from 42% to 58%, with only 24% of survey respondents believing the 64-gallon cart was the right size year-round compared to 43% in 2017. These survey results throughout program years consistently reflect the high demand for the service during summer months to collect high volumes of yard waste with reduced volume demand in the winter.

HOW WAS THE SIZE OF THE BROWN ORGANICS CART?



CURRENTLY, COULD A GARBAGE CART SMALLER THAN YOUR 96 GALLON FIT YOUR HOUSEHOLD'S NEEDS?

- No, it's typically close to full
- Our garbage cart could be about 1/3 smaller in size
- Our garbage cart could be about 2/3 smaller in size



A 2017 survey of pilot subscribers found that 74% of residents reported that the volume of waste in their garbage carts each week had shrunk during the program by at least one-third of the 96-gallon garbage cart. In 2020, this number rose to 87%.

According to the same 2017 survey, 88% of respondents indicated that a garbage cart smaller than the current 96-gallon would suit their household's needs. In 2020, this number remained steady with 82% of respondents stating they could utilize a smaller garbage cart.

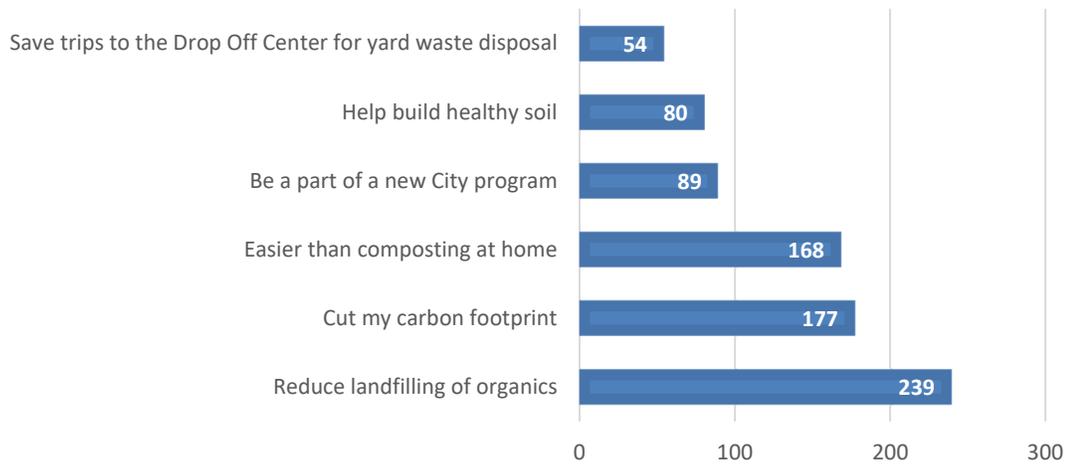
These results indicate the opportunity for a variable rate pricing structure for garbage

collection as suggested in the City of Milwaukee's 40 by 2020 waste diversion goal, particularly when residents have access to an organics collection program or participate in backyard composting.

3.2 Interest and Exits

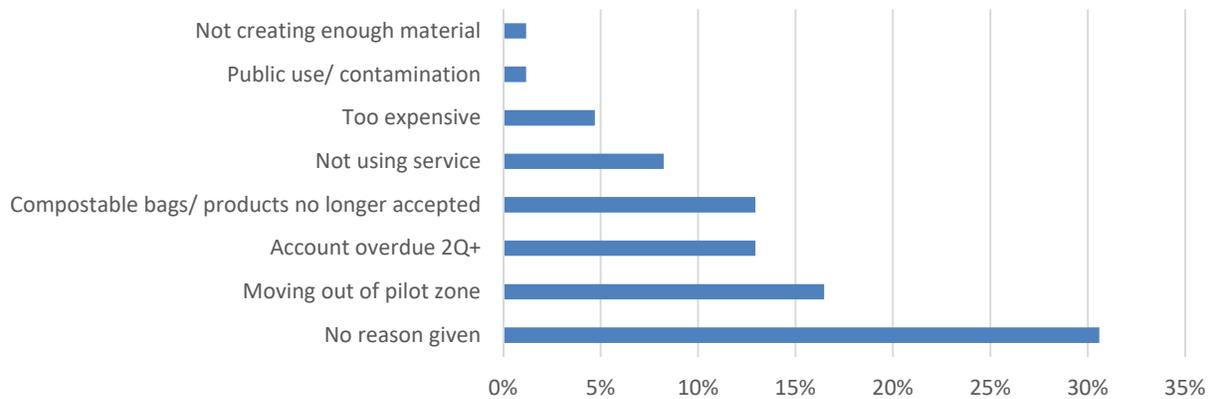
In 2017, individuals who were interested in and eventually participated in the pilot program were asked to identify their top three reasons for joining the program. The top three responses were to reduce landfilling of food waste, due to the ease of a collection service compared to composting at home, and to cut their carbon footprint. In 2020, the same motivations held true with 92% of participants selecting "reduce landfilling of organics," 67% selecting "cut my carbon footprint," and 64% selecting that it was "easier than composting at home." Saving trips to the Drop Off Centers remained the least concerning item for subscribers in both surveys.

WHY DID YOU CHOOSE TO PARTICIPATE IN THIS PROGRAM? (CHOOSE UP TO 3)



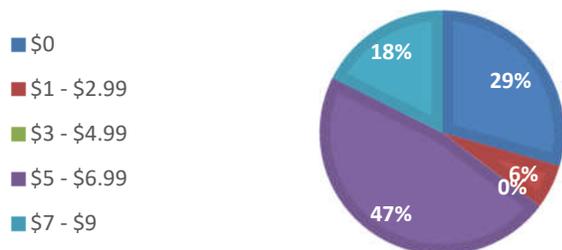
Subscribers were also surveyed upon leaving the program. From 2019 through 2020, the most common reason residents left the program was due to a move outside of the pilot program followed by the removal of compostable bags and products from the accepted items list.

WHY DID YOU LEAVE THE PROGRAM?



When onboarding additional residents to the pilot program in 2019, any interested residents that did not complete the authorization form were sent a non-participant survey to gather information

WHAT MONTHLY COST WOULD YOU FIND REASONABLE FOR THIS SERVICE?



on why they subsequently chose not to subscribe. Individuals who visited the website to find more information were also able to complete this survey if they decided not to pursue joining the program. 41% of respondents stated that the program cost was too high, while 26% said they were already composting at home. 2017 saw similarly the same top two responses at 67% and 27% respectively. Those who indicated that the

cost was too high were asked what monthly cost they would find reasonable for this type of service. The most common response at 47% of responses was between \$5 and \$6.99 per month. The second most common selection was free at 29% of responses.

4 Conclusions and Recommendations

According to the Wisconsin’s Department of Natural Resources’ 2009 Wisconsin State-Wide Waste Characterization Study, organics represented 23.2% of the aggregate statewide waste stream. This included residential, industrial/commercial/institutional, and construction and demolition sources of waste. In the statewide residential waste stream, organics was the most prevalent waste material category at 37.3% with 536,848 tons disposed. Yard materials with a diameter of six inches or less, a sub-category of organics and a material banned from landfill per state law, was the third most prevalent material type at 6.5% of the stream and 93,431 tons disposed. Based on this report, food scraps diversion remains the greatest potential for reducing future landfill volumes as this sub-category of organics was the single most prevalent material type in the statewide residential waste stream at 17.5% of the stream and 251,423 tons disposed.

4.1 Processing Fee Savings

The initial pilot program study found that approximately 59% of the material diverted through the pilot program was food waste and 41% was yard waste and the average household was diverting approximately 780 pounds of organic material through the program each year.

For this type of household, if the average 780 pounds of organics diverted through composting were sent to landfill, this would result in processing fees of \$17.34 per residential unit per year as shown in Table 1 below.

Table 1: Organics Cost by Management Method & Applicable Processing Fees

Pilot Program Volume Per Year	If All Landfilled (\$44.36/ton)	If Food Waste Landfilled & Yard Waste Composted (\$16.73/ton)	If Food and Yard Waste all to Organics Processing (\$30.00/ton)
460 lbs of Food Waste	\$ 10.19	\$ 10.19	\$ 6.89
320 lbs of Yard Waste	\$ 7.15	\$ 2.70	\$ 4.84
Total cost - 780 lbs	\$ 17.34	\$ 12.88	\$ 11.73

The City currently offers two sites for year-round drop off of all yard waste, but the City does not collect yard waste in neighborhoods other than through seasonal bulk collection of leaves in the fall and of brush piles by request from April through November. If yard waste is appropriately disposed of through the Drop Off Centers or seasonal collection programs and food waste was sent to landfill, the 780 average household tons of organics per year would result in processing fees of \$12.88 per residential

WHAT CURBSIDE COLLECTION SERVICE OFFERINGS WOULD YOU LIKE TO SEE THE CITY PROVIDE IN THE FUTURE?



unit per year. If all materials were diverted through a mixed food and yard waste collection service similar to the pilot program, the 780 tons would result in processing fees of \$11.73 per year.

When surveyed in 2020, pilot subscribers showed the most interest in a future City program that collected both food and yard waste, reflective of the accepted materials in the organics pilot program, while a smaller portion of respondents wanted to see a yard waste only or food waste only program at 11% and 9% of responses respectively. In previous pilot zone surveys, 25% of residents highly motivated to participate in a compost program self-reported that they were regularly disposing of landfill-banned yard debris in their garbage cart, illustrating the potential for increased composting tons if additional yard waste collection programs were implemented beyond the current fall leaves and brush collection programs.

What these contracted rates during the final months of the pilot program illustrate is that food waste has significant potential for landfill tipping fee reductions as compost processing fees were approximately 48% less than those required for landfilling. However, the fees also illustrate that yard waste, when separate from food waste and composted through existing City infrastructure is 62% less expensive than when it is illegally disposed of via landfill and 44% less expensive than when processed through a mixed food and yard waste composting site.

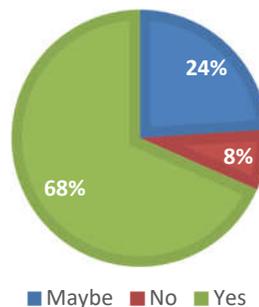
4.2 Organics Processing Capacity

Limited processing capacity for organics in the Milwaukee metro area continues to be a major barrier to a City-wide composting program as only one major player processes food with yard waste. In a 2020 letter from Blue Ribbon Organics, the current sole processor of mixed food and yard waste near Milwaukee, current processing is approximately 275 tons per month with the potential to increase incoming tonnage by 50-60% per month. Based on metrics from the original pilot program's 500 households, this capacity could afford an expansion to a program of only 2,500 total households. Even if the City of Milwaukee could reserve all of Blue Ribbon's remaining available capacity, at best it could offer this food and yard waste organics collection service to less than 1.5% of the 180,000 households serviced with residential garbage and recycling collection.

Additional processors of food and yard waste or programs that separate food from yard waste in order to take advantage of robust, existing yard waste processing could assist with some of the existing capacity concerns.

When surveyed in 2020, 68% of pilot subscribers felt that a yard waste only collection program would prove valuable given the current capacity limitations for food waste in the region.

WITH LIMITED FOOD WASTE PROCESSING CAPACITY IN OUR REGION, DO YOU SEE VALUE IN A SEASONAL YARD WASTE ONLY COLLECTION SERVICE?



Yard waste is an accessible introduction to organics diversion. Food waste, unlike yard waste, has more detailed requirements for disposal as it is classified as a solid waste. For the residential generator, these include guidelines for storage in the home to ensure cleanliness and limit odors and specific bagging of material to be placed in the cart. For the processor, additional regulatory and permitting requirements necessary for composters to accept substantial quantities of food waste result in only a small percentage of compost sites accepting food waste. The Wisconsin DNR has worked to ease some regulatory barriers in previous years to accommodate greater recovery of food scraps through composting, yet the state has not seen additional processing of residential food scraps. Anaerobic digestion facilities serve as additional opportunities for processing of organics though they typically require higher capital and operating costs than composting sites. Anaerobic processing typically excludes yard waste, creating the need for separate collection methods for food scraps and yard materials. In Milwaukee, both the Milwaukee Metropolitan Sewerage District and Potawatomi Hotel & Casino operate anaerobic digestion systems, however, neither are currently equipped to receive household organics in solid form.

While food waste programs can have limitations, yard waste processing is widely-available, with stable markets, and has a broad base of customer support. Many municipalities, including regional examples such as Minneapolis, MN, have first established a robust, seasonal yard waste collection program and later expanded organics diversion to include food waste only collection services. If Milwaukee were to operate a seasonal yard waste collection service, the staff and equipment's winter availability potentially could be utilized in service of DPW's snow and ice control operations. Yard waste collection services would provide equitable opportunities for organics diversion to all City of Milwaukee residents, including those residents with less mobility and transportation options for utilizing the City's Drop Off Centers as well as more cost-efficient program costs through economies of scale by servicing all 1-4 unit households.

Dependent on budget considerations, hauling options, and processing capacity developments as the City moves forward, future phases of organics services may once again combine food and yard waste or consist of new, stand-alone yard waste only and/or food waste only collection services. These distinct program options allow for the possible development of both traditional composting sites and anaerobic digestion facilities. With any collection and processing service that may develop, the City will also continue education and promotion of food waste reduction strategies, in-sink garbage disposal use, and backyard composting.

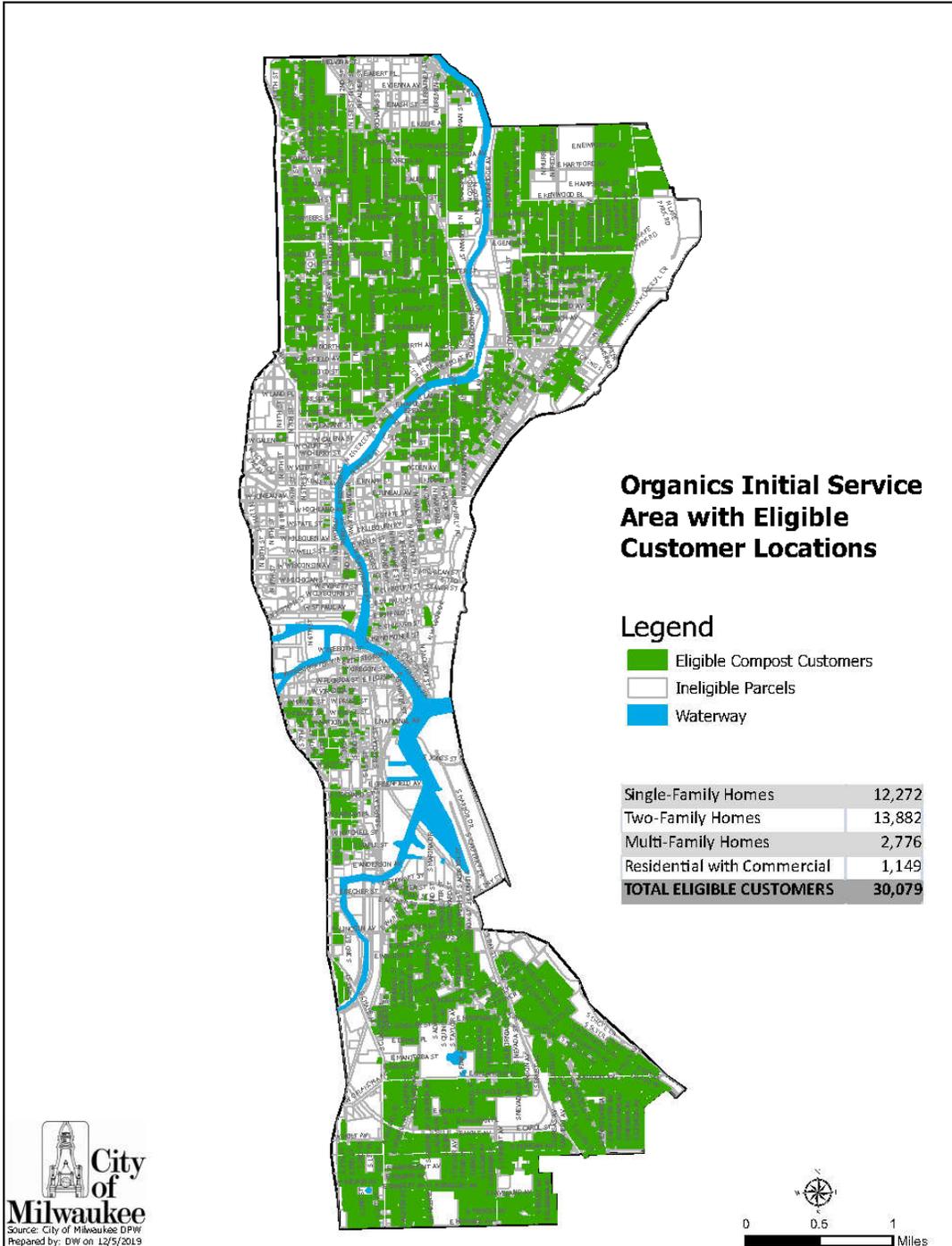
5 Attachments

Attachment 1: Specifications of 65-Gallon Organics Cart

- ◆ 65 gallon Organics cart, nestable
- ◆ Metal Catch Bar for tipping purposes
- ◆ 10” snap on wheels with integrated spacer
- ◆ Cocoa Brown body; Cocoa Brown lid w/ UV protection
- ◆ Brand Plate Stamp on Lid (Organics Only, Food Waste Only, or Yard Waste Only, as applicable)
- ◆ Side Stamp of City of Milwaukee bell tower logo (not pictured below)
- ◆ Current vendor supplying carts – Rehrig Pacific Company



Attachment 2: Map of Pilot Program Zones



Attachment 3: Pilot Collection Schedule



RECYCLING CART SETOUT SCHEDULE

April 2020 - March 2021

Organics Route 1
 Organics Route 2
 Organics Route 3
 Organics Route 4
 Holiday - No Collection



Attachment 4: Accepted Items List for SSO Pilot Program

Items Included

Items Excluded

- ◆ Fruit and Vegetable Scraps
 - Cooked or raw
 - Scraps or whole fruit
 - Seeds and stems
- ◆ Eggs, Protein, and Dairy
 - Eggs - cooked and raw
 - Egg shells
 - Cooked meat and seafood
 - Bones
 - Cheese
 - Nuts and seeds
- ◆ Beverages
 - Coffee grounds and filters
 - Tea leaves and bags
- ◆ Bread and Grains
 - Bread, including spoiled
 - Rolls
 - Cakes and sweet breads
 - Pasta (cooked or raw)
 - Rice and grains
- ◆ Other Food Materials
 - Leftovers
 - Spoiled food
 - Sauces
- ◆ Yard Waste
 - Grass clippings
 - Garden trimmings
 - Weeds
 - Diseased plants
- ◆ Dangerous Waste
 - Diapers
 - Animal carcasses
 - Animal waste
 - Cat litter
 - Medical waste
 - Hazardous waste
- ◆ Other Food Waste
 - Raw meat
 - Fats, oil, and grease
 - Liquids
- ◆ Packaging
 - Plastic bags
 - Twist ties
 - Fruit stickers
 - Aluminum foil
 - Plastic wrap
 - Compostable bags*
 - Compostable containers*
- ◆ Non-Biodegradable Items
 - Recyclables
 - Ceramics
 - Clothing
 - Plastic containers
 - Rocks

*Removed from accepted list effective September 30th, 2019