

Multifamily Composting and Organics Diversion Pilot

Austin Resource Recovery
July 2022

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I. Background

A Community Diversion Study conducted by Austin Resource Recovery (ARR) found that 37% of material landfilled in 2015 was compostable¹. To help meet Austin's goal of achieving Zero Waste by 2040, the City has been exploring opportunities to divert compostable materials like food waste and soiled paper.

Nationwide, more than 100 billion pounds of food are wasted annually.² In financial terms, that wasted food costs Americans more than \$160 billion a year.³ The U.S. residential sector alone generated an estimated 25 million tons of wasted food in 2018, of which 66% was landfilled and only 3% was composted.⁴ In addition to contributing to landfills, wasted food also squanders the resources that go into the production of food, including feed, energy, water, land, and labor.

The City of Austin provides curbside trash, recycling, and compost services to all residences with four or fewer dwelling units. Residential properties with five or more units (multifamily) contract for services with their choice of private, licensed service providers. Austin's Universal Recycling Ordinance (URO) requires multifamily properties to provide recycling service to residents. The URO also requires food-permitted businesses to provide access to organics diversion.

About 55% of Austin households live in multifamily communities (apartments, condominiums, dormitories, townhomes, mobile homes), and 95.4% of multifamily households are renters⁵. Industry publications indicate that resident turnover is higher in multifamily communities than single family. The Austin area saw a 35% increase in apartment rent prices between January 2021 and January 2022⁶. Multifamily property managers face challenges educating residents who move frequently and keeping down costs in a volatile market.

At this time, the URO does not address composting nor organics diversion at multifamily properties. A review of Annual Diversion Plans submitted by Austin's multifamily properties in 2018 found 2% of properties reported offering compost service⁷. ARR contacted those properties to gather more information about the compost services provided. Of the 10 properties that responded to the information request, eight provided composting to residents, and two provided access only to employees. Many of the properties are dormitories and have food permits, meaning the URO requires them to provide access to organics diversion.

In recognition of the impact of wasted food and the diversion opportunity represented by multifamily properties in Austin, City Council passed [Resolution 20191017-028](#) directing the City Manager to make recommendations on adding organics collection for multifamily properties to the Universal Recycling Ordinance following a pilot.

To inform its recommendations, ARR staff studied existing multifamily composting policies, reports, and pilots in other cities. The information collected guided the pilot, but this research alone was insufficient to provide well-informed recommendations for Austin. Austin's hauling market (with an open market for multifamily and commercial properties but a closed market for single family) is uncommon, making it difficult to assume the outcome of pilots and programs in other cities would be replicable in Austin.

¹ Austin's 2015 Community Diversion Study, CB&I

² https://www.epa.gov/sites/default/files/2020-11/documents/2018_wasted_food_report.pdf

³ USDA, Food Waste FAQs, <https://www.usda.gov/foodwaste/faqs>

⁴ https://www.epa.gov/sites/default/files/2020-11/documents/2018_wasted_food_report.pdf

⁵ U.S. Census, Occupied housing units 2013-2017 American Community Survey 5-Year Estimates

⁶ Redfin Rental Report January 2022, <https://www.redfin.com/news/redfin-rental-report-january-2022/>

⁷ Out of 1838 total properties reporting

The Multifamily Compost Pilot was scheduled to begin in March of 2020 with 10 participating properties, but ARR put the launch on hold due to the start of the COVID-19 pandemic. Staff planned to re-launch the pilot in March of 2021, although some properties decided to withdraw due to staff turnover or changing priorities. In February 2021, Winter Storm Uri caused further delays and additional properties to drop out to focus on repairing property damage. Staff conducted additional recruitment for the pilot with eight properties ultimately participating.

II. Pilot Structure

The purpose of the pilot is to understand best practices, challenges, and costs of implementing an organics diversion program at multifamily properties in Austin. To simulate real-world practices, properties were given a list of service providers in the area that offered compost service, and the properties selected and contracted directly with the provider of their choice. ARR reimbursed all service fees incurred during the pilot period. Properties started service on a rolling basis beginning in March of 2021.

Property Recruitment

Staff recruited properties to participate in the pilot through the Austin Apartment Association and Community Associations Institute, social media posts, and direct emails and phone calls to property managers. Staff aimed to include properties representative of all the City's geographic areas, property types and sizes, and rent cost. After initial interest in participating was limited, staff conducted targeted outreach to achieve as representative a sample as possible. Final participating properties can be found in Table 1.

Table 1 – Participating Properties

Property Name	Property Type	Dwelling Units	Council District	Zip Code	Average Rent ⁸
Chamonix	Condominium / Midrise	130	3	78741	\$1700
College Courts	Apartment / Student	38	9	78705	\$498
Eight Hundred Banister	Condominium / Townhome	32	3	78704	\$1500
Lakeline Station	Apartment / Midrise	132	6	78717	\$775
Riverwalk	Condominium / Midrise	142	9	78704	\$2000
Springhollow	Condominium / Midrise	63	5	78704	\$1800
1601 Stassney	Condominium / Detached	114	2	78745	\$2500
St. Edwards Legacy Apartments	Apartment / Student	178	3	78745	\$575

⁸ The average rent for a 1 bedroom or smallest unit was provided by properties when they applied to participate in 2019, 2020, or 2021.

Service Delivery

Participating properties requested quotes from composting and organics collection service providers and selected one that suited their needs. Property management chose the level of service, with recommendations and guidance from City staff. Local service providers offer two types of service: shared community compost bins and valet service. Shared community service works the same as multifamily trash and recycling service with one or a few large collection points in centralized areas in the property. Seven properties chose community collection service from Break It Down (six properties) and Waste Connections (one property). Companies offering valet service provide a small container to each unit and collect door-to-door. One property used Grubtubs valet service.



An example of a community collection compost bin located next to the trash dumpster. Photo from College Courts.

Education

Staff offered a virtual information session for residents at each property, which included a prepared presentation by staff and a live question-and-answer session. ARR hosted one session for each property and provided a recording for later viewing. Live interpretation services were offered for all sessions, and one property chose to include Arabic interpretation.

Kitchen collector bins and compostable bags were offered to residents of properties taking part in the pilot. The valet service used by one property provided their own bins and did not accept compostable bags. All residents were also provided a paper information guide in either English and Spanish or English and Arabic. A website was created with information about the pilot and how to use the compost service. Service providers reviewed all information to ensure accuracy.



DE TU COCINA AL COMPOSTAJE

Los desechos de comida y ciertos materiales que provienen de tu cocina no tienen que ir directamente al bote de basura. ¡Se convierten en un recurso natural!

1

Tu proveedor de servicios de recolección recoge el material para compostaje recogido de tu comunidad y lo transporta a un centro de compostaje comercial local.

2

El material se coloca en una pila grande en donde los microorganismos comienzan a descomponerse y a calentarse a temperaturas muy altas.

3

Después de más o menos 12 meses, el material se descompone y transforma en un material parecido a la tierra que se llama compost.

4

La composta es un abono natural que se utiliza para fertilizar las plantas, jardines y otros áreas exteriores.

COMO EVITAR OLORES EN EL COLECTOR DE COMPOSTA DE TU COCINA

Estos consejos pueden ayudar a reducir los olores:

- Utilizar una bolsa de composta certificada por el Instituto de Productos Biodegradables (BPI). Bolsa de papel o periódicos de papel para absorber la humedad del colector de cocina.*
- También puedes juntar los restos de comida en una caja de cereal o en una caja de pañuelos de papel. Asíquela de plástico en el fondo de plástico.
- Agrega bicarbonato de sodio dentro del colector de cocina.

RECOLECCIÓN DE RESTOS DE COMIDA

Aparte del colector de composta de cocina, se pueden utilizar latas de café o envases de plástico como colectores de composta.

PASO 1

Mantén el colector en un lugar conveniente en tu cocina, como en el mostrador, debajo del lavaplatos o en el congelador.

PASO 2

Mientras cocinas o limpias, coloca los restos de alimentos y el papel sucio con comida en el colector de la cocina.

PASO 3

Vacía el colector de cocina en el recipiente de compostaje de tu comunidad.

BOLSAS COMPOSTABLES CERTIFICADAS POR EL BPI

A diferencia del plástico tradicional, las bolsas compostables han sido verificadas por el Instituto de Productos Biodegradables (BPI) y son compostables. Pueden ser compostadas por tu proveedor de servicios de recolección de residuos orgánicos y están hechas de materiales de descomposición completamente y rápidamente de manera segura de acuerdo al programa de compostaje. Busca el logo del BPI en la bolsa cuando compres las bolsas para compostar.

BPI

*Las propiedades con servicio de recolección de desperdicios deben colocar los materiales compostables en una bolsa sellada certificada por el BPI.

Sample educational material in Arabic, English, and Spanish

Data Collection

ARR gathered feedback and results for the pilot through audits and surveys. Properties conducted weekly audits of the containers to identify materials being composted, visible contamination, and how much the containers were being used. Property managers also completed a survey at the halfway point and at the end of the pilot. Residents completed a survey at the end of the pilot. A sample audit form and surveys can be found in the Appendix.

ARR also collected service invoices for the duration of the pilot to understand costs of the service.

Pilot Budget

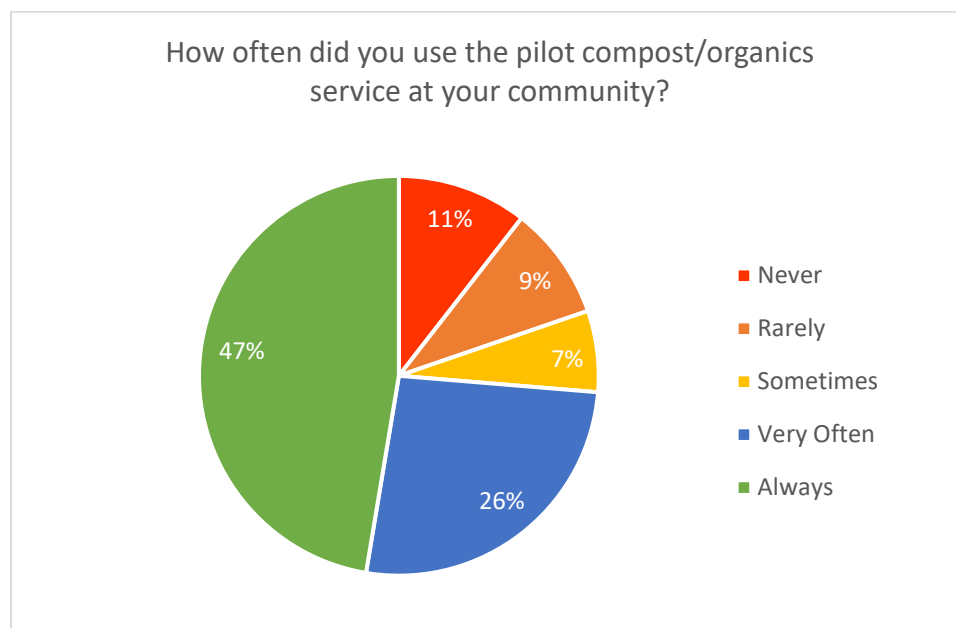
The budget for the project covered costs for reimbursements for services, educational materials including how-to guides, letters to residents, kitchen collectors, compostable bags, translations of written materials, and interpretation services for information sessions. Total costs for reimbursed services were \$20,255.75. Total costs for educational materials were \$8,079.48. This includes costs of kitchen collectors and compostable bags that were repurposed from left over supplies from other department programs. The total cost for the pilot was \$28,335.23.

III. Results

Resident and Management Survey Results

At the end of the pilot period, ARR sent residents a survey with questions about their experience using the compost or organics service. Residents were encouraged to complete the survey whether they used the service or not. Surveys were provided in English and Arabic (languages identified by property managers as the most commonly spoken by residents of these properties) and could be completed on a phone, tablet, or computer. A total of 76 residents responded to the survey. This is about a 9% survey response rate. This low response rate indicates the potential for the results to have non-response bias⁹. Because of this bias, it is likely that interest in the program is overrepresented because those who chose to respond to the survey are likely more interested in the topic than those who did not respond. Additionally, those who responded were disproportionately female and white compared to the demographics of Austin. These biases should be considered when analyzing the results of the resident survey. Property managers and representatives were also surveyed about their experiences implementing the service at their property.

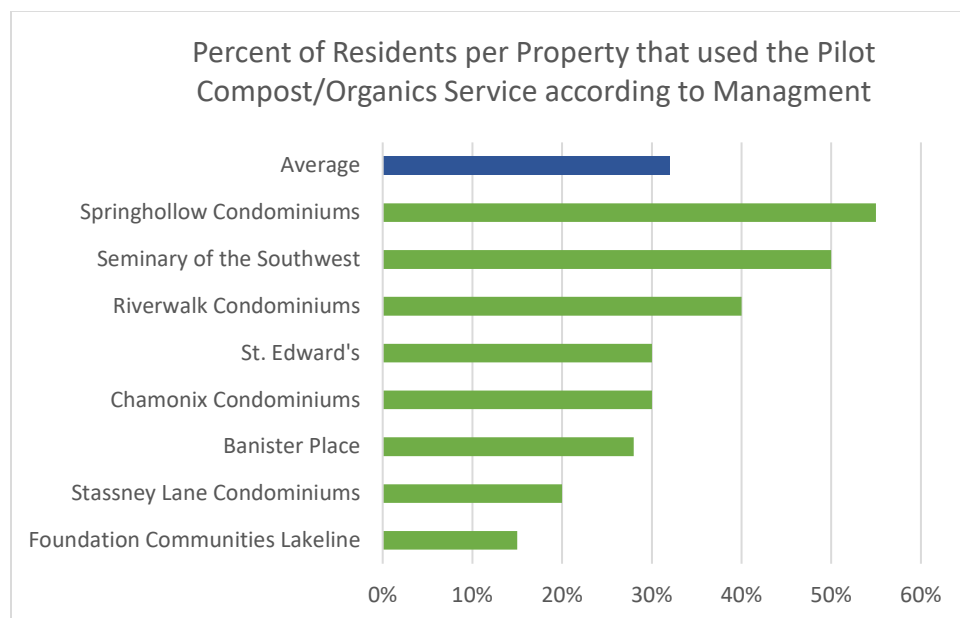
Figure 1



⁹ <https://catalogofbias.org/biases/non-response-bias/>

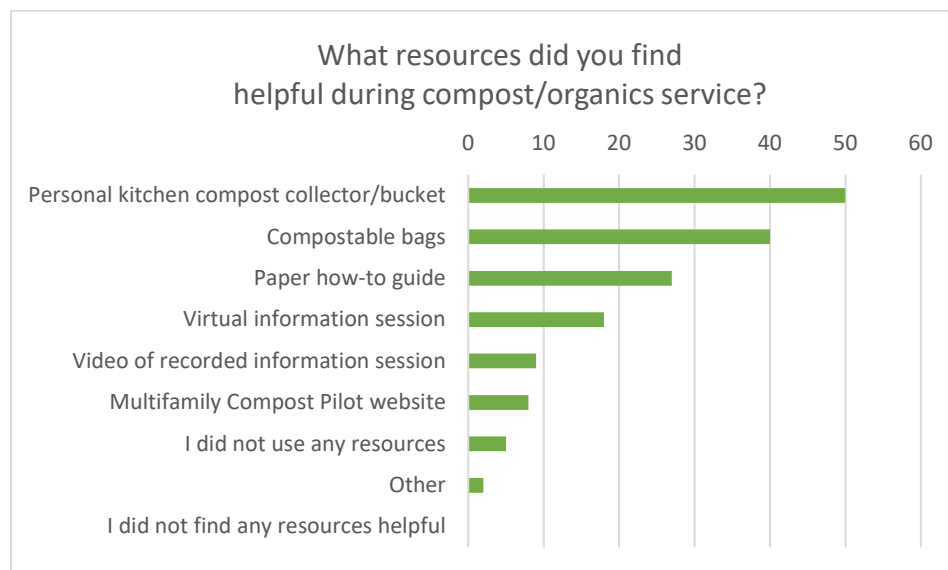
Of the respondents, almost 75% reported “Always” using the service or using it “Very Often” (Figure 1). The residents who answered “Never” were only required to answer one additional question (“I would use a compost/organics service in the future at my community”); all other residents were required to answer additional questions.

Figure 2



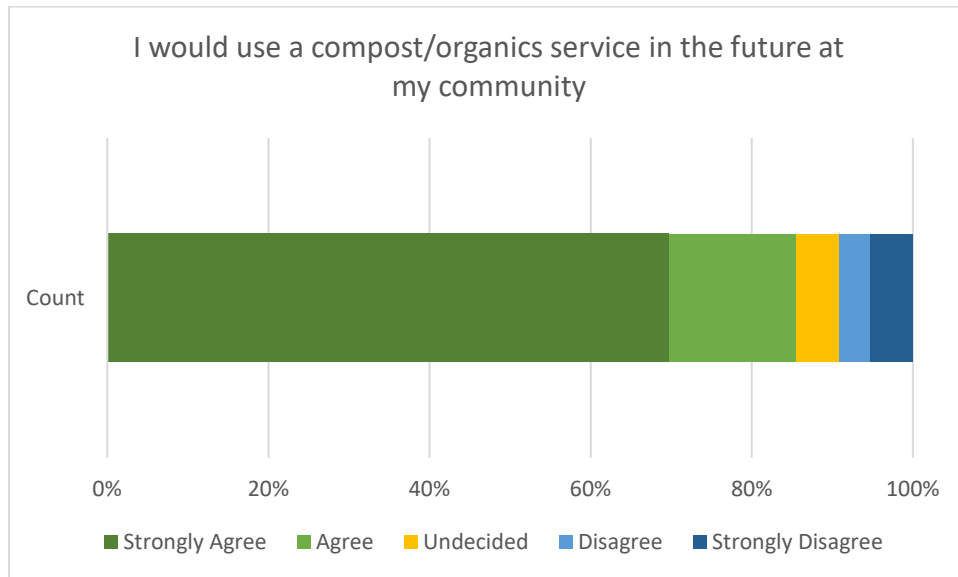
Managers estimated an average of 32% of residents used the composting or organics service, with resident participation ranging from 15 to 80%. This is comparable to ARR’s average set-out rate of about 30% for curbside composting service.

Figure 3



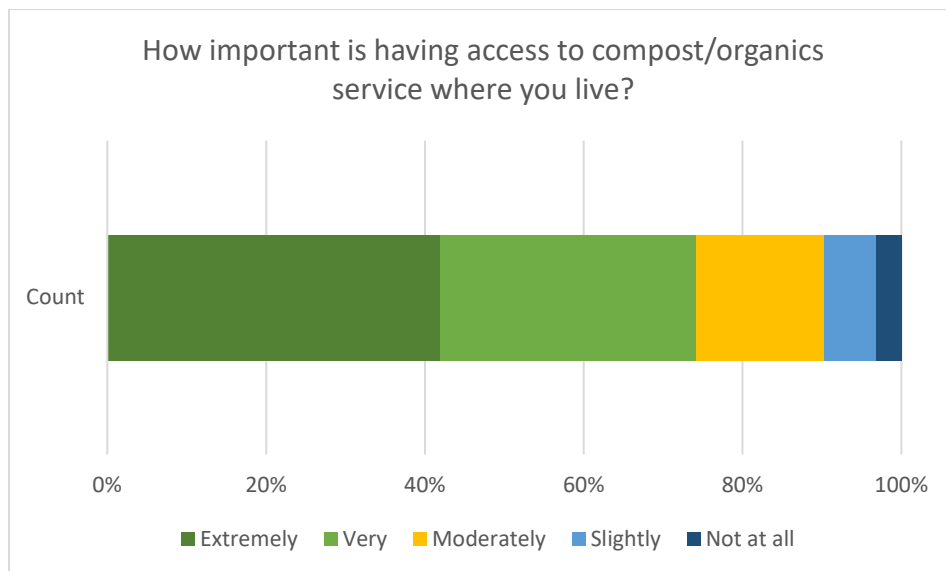
Residents found the personal kitchen compost collector to be the most helpful resource, followed by compostable bags and the paper how-to guide. Residents indicated they found the Multifamily Compost Pilot website to be the least helpful resource overall.

Figure 4



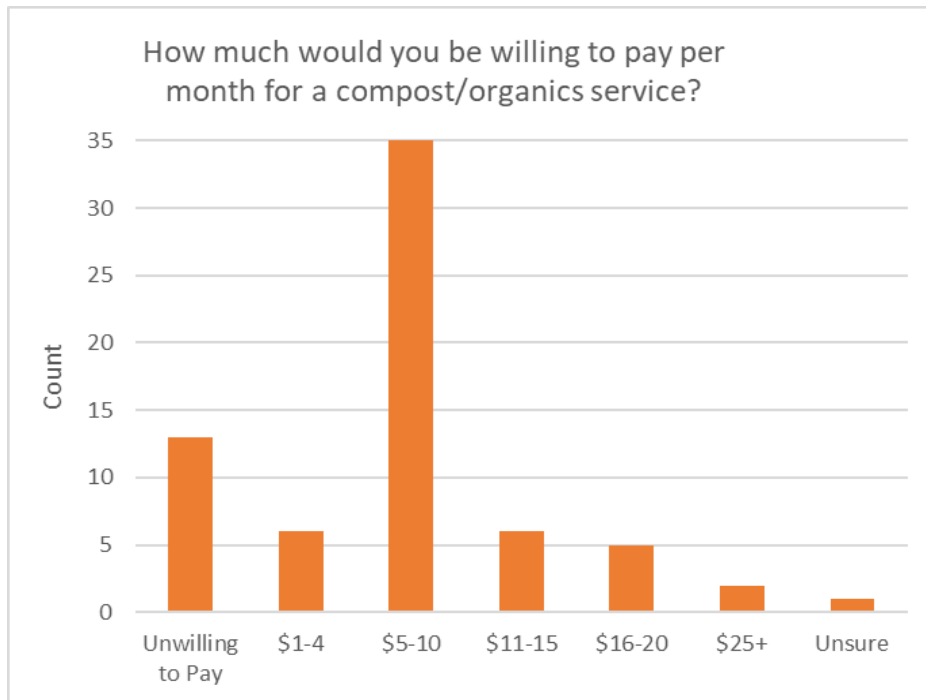
Most residents agreed that they would use a compost/organics service if available at their community in the future. Residents who answered “Undecided”, “Disagree”, and “Strongly Disagree” explained that they would not use a compost or organics service in the future because they are uninterested, not familiar enough with the composting or organics program to use it correctly, or they do not want problems with odor or contamination.

Figure 5



Most residents report that having access to compost or organics service is “Extremely” or “Very” important to them. Notably, only residents who reported using the compost or organics service were asked this survey question.

Figure 6



Residents who used the compost service during the pilot said they were willing to pay \$5-10 per month on average for compost or organics service at their community. Approximately 15% reported that they are unwilling to pay for service; some residents believe organics are valuable material, and therefore they should not have to pay to generate it.

Overall satisfaction

Managers expressed high overall satisfaction with the service. All but two properties plan to continue the service after the pilot period ends. At one property that planned to discontinue the service, some residents expressed their intention to use an opt-in service from a different provider for individual service outside of the HOA. Of those who plan to continue the service, most said they were satisfied with the service level, and one said they planned to increase the level of service.

Service Level

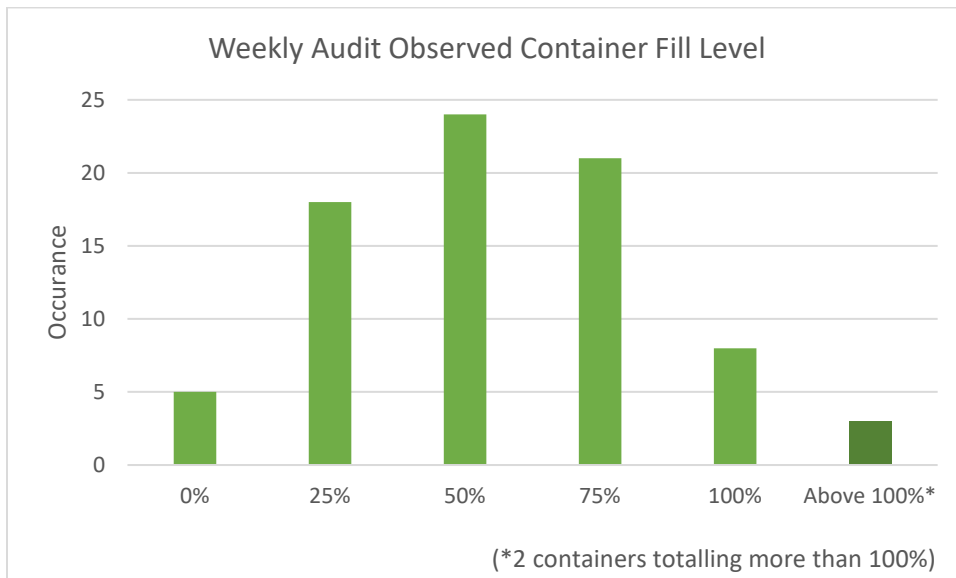
Table 2 - Service Level

Property Name	Dwelling Units	Number of containers	Container size (gallons)	Gallons / week service level	Gallons / Unit / Week
Chamonix	130	4	64	256	1.97
College Courts	38	1	64	64	1.68
Eight Hundred Banister	32	1	65	65	2.03
Lakeline Station	132	2	64	128	0.97
Riverwalk	142	2	64	128	0.9
Springhollow	63	3	64	192	3

1601 Stassney ¹⁰	114	104	5	520	4.56
St. Edwards Legacy Apartments	178	2	64	128	0.72

Table 2 shows the service level for each property. Property managers chose their own service level based on advice from their selected hauler and City staff. Property managers were given the option to change service level at any point during the pilot period. One property (Lakeline Station) did increase service, and their final service level is shown in the table.

Figure 7



Weekly audits showed containers were most often about half full the day before collection and often $\frac{3}{4}$ or $\frac{1}{4}$ full. Containers were occasionally full and overflowing. Lakeline Station experienced overflowing containers before increasing their service level. These audits show that the final level of service provided at each property was adequate for the residents.

¹⁰ 1601 Stassney used a valet collection service.



Container audit pictures from Lakeline Station

Challenges

The primary challenge expressed by managers was lack of resident participation. Half of managers reported that resident participation was low, and it was a challenge to maintain engagement with the program. One property even incentivized participation with giveaways with little success. Managers also reported issues with contamination and bins being used for trash and recycling.

Costs

The monthly cost for compost service averaged around \$1.75 per unit. One valet-style service was a significant outlier, at \$36 per unit, and therefore was not included in this average or the calculations displayed in Table 3. Costs vary based on the level of service provided and the number of carts at a property. Larger properties with more carts saw a lower rate per cart. Smaller properties with only one cart saw a higher per-cart rate and therefore a higher per-unit cost.

Valet Collection

The valet-style service offered a five-gallon bucket for each unit. Due to the significantly higher costs of this service, the property that chose the valet-style service only participated in a three-month pilot, while the other seven properties ran their pilots for six months. This service cost about \$50 per unit per month.

Community Collection

The community collection services averaged 1.61 gallons of capacity per unit per week, with a range between 0.72 and 3 gallons per unit. Service providers providing community cart-based services offered 65-gallon carts at a rate of \$51 – 112 per cart per month.

Table 3 - Average Costs and Service Levels: Community Compost Service (Non-Valet)

	Cost / Property / Month	Cost / Unit / Month
Average	\$143	\$1.75
High	\$206	\$2.95
Low	\$65	\$0.80

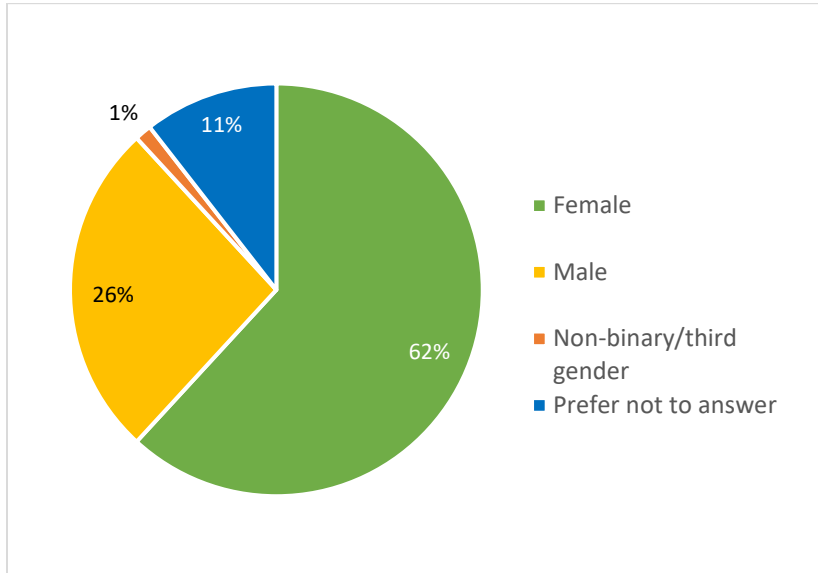
IV. Conclusion

This pilot aimed to demonstrate real-world experiences of implementing composting at multifamily properties in Austin. The conclusions of this pilot are limited by a small sample size that is not representative of the City's multifamily property community. Survey responses were limited, and demographics of survey participants were not representative of Austin's demographics. Participation was low but similar to the level of participation in ARR's curbside compost program but with smaller per-household volumes due to the lack of yard trimmings. Contamination was very low and educational material was found to be helpful to those who used the service. Those who did participate were not in the majority but were enthusiastic about the program. Management largely chose to continue the service despite concerns about low participation. Monthly costs ranged from \$51 – 112 per 65-gallon cart for community cart-based service and \$50 per unit for valet-style service. Costs for community cart-based service averaged about \$1.75 per unit but were higher per unit in smaller properties.

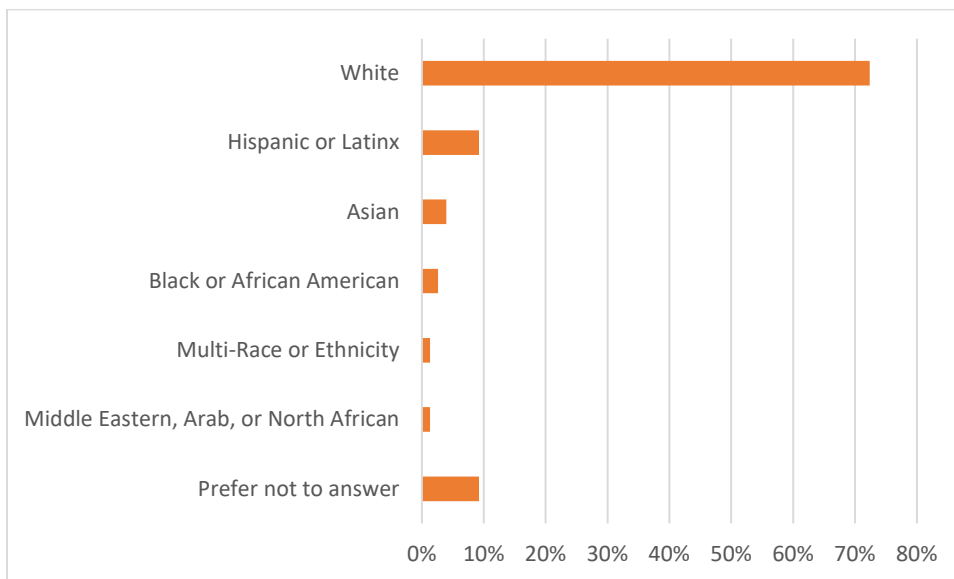
Appendices

A. Resident Survey Results

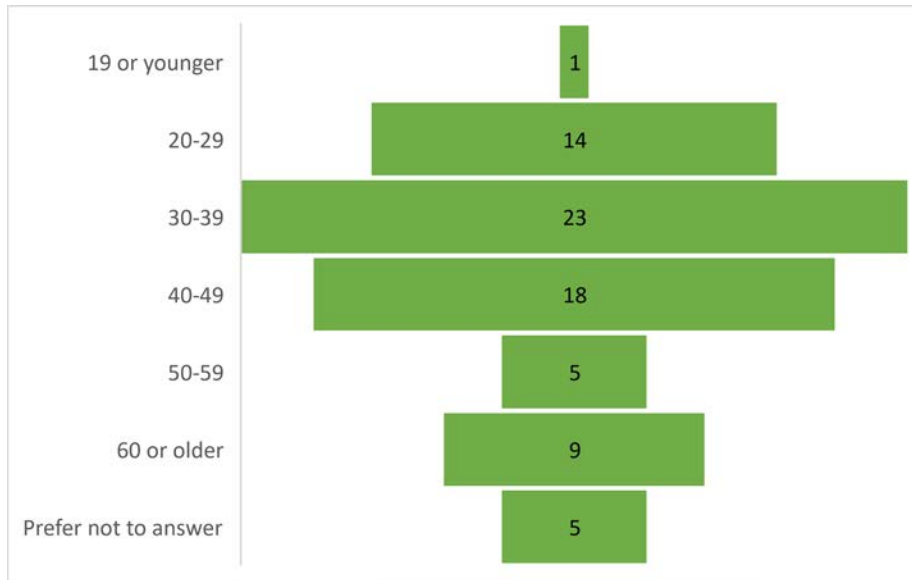
Gender Identity



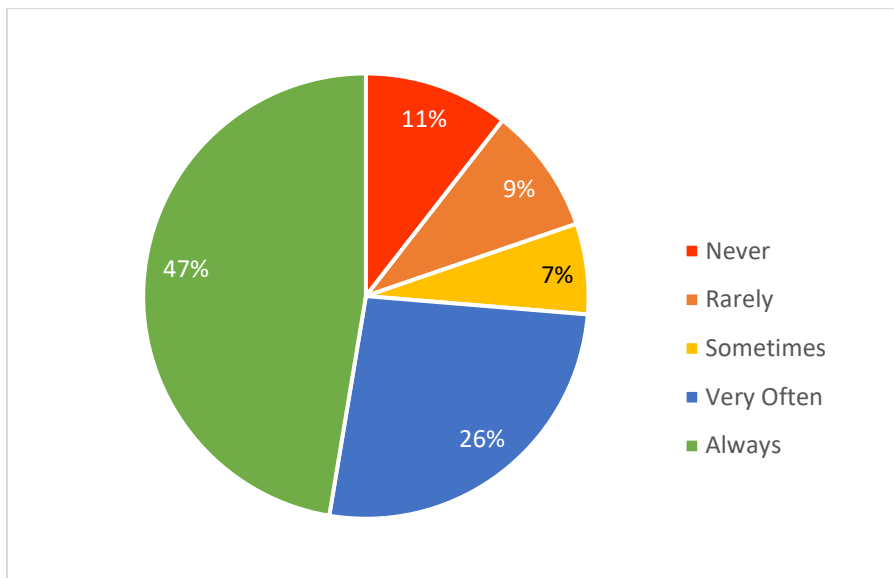
Race/Ethnicity



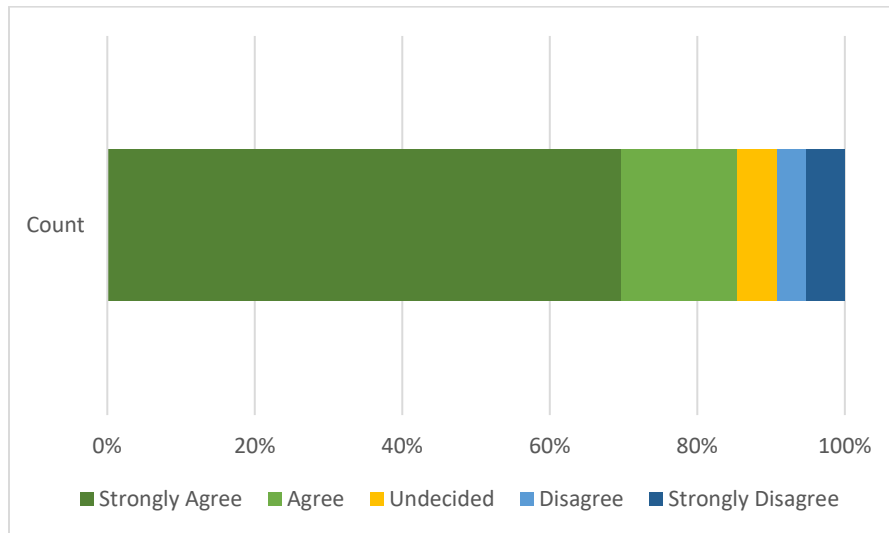
What is your age?



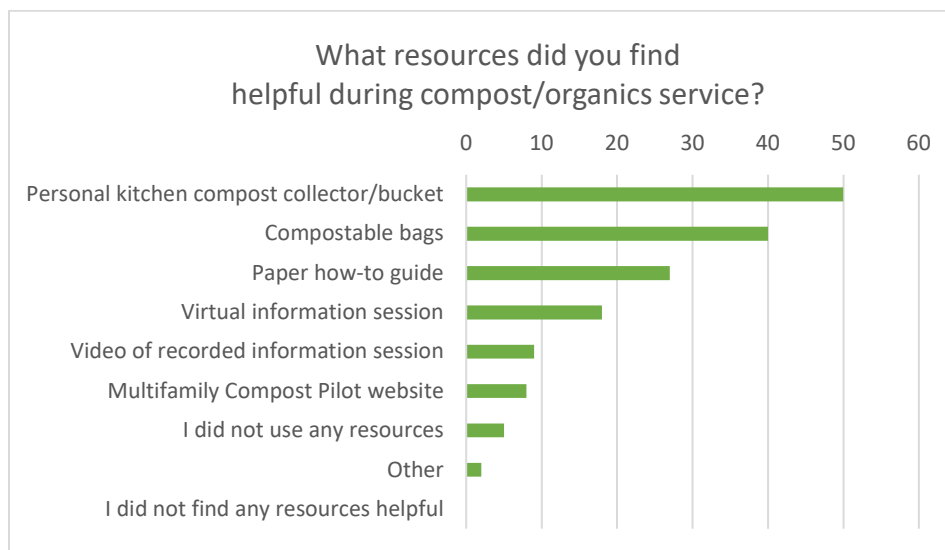
How often did you use the pilot compost/organics service at your community?



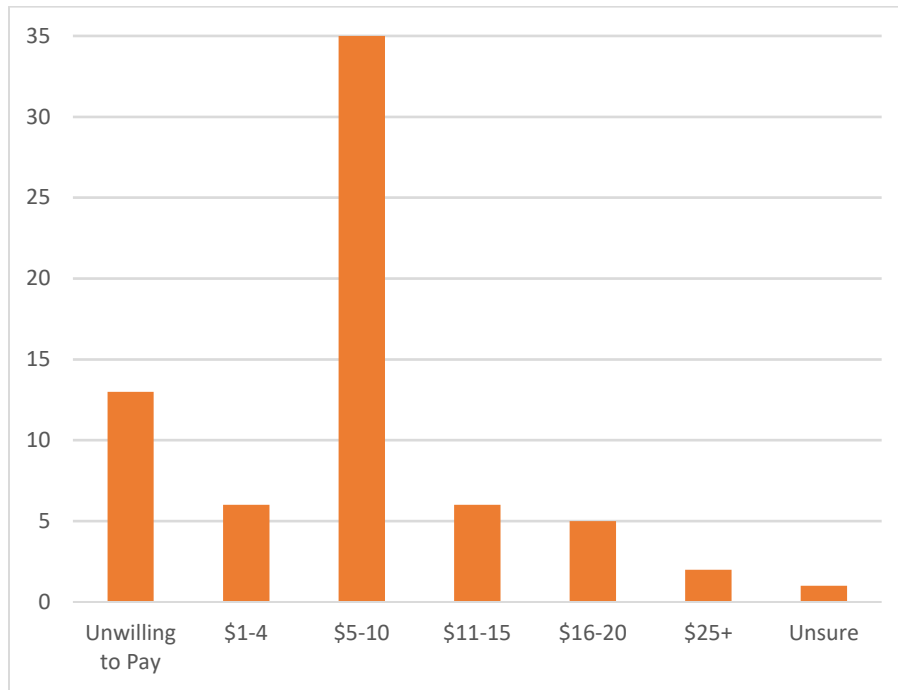
How strongly do you agree or disagree with the following statement? I would use a compost/organics service in the future at my community.



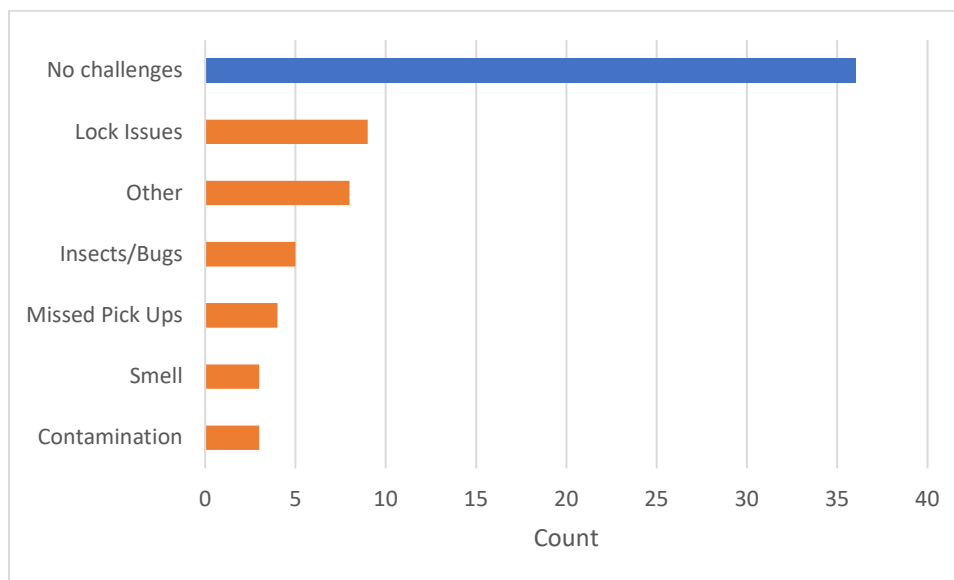
What resources did you find helpful during compost/organics service?



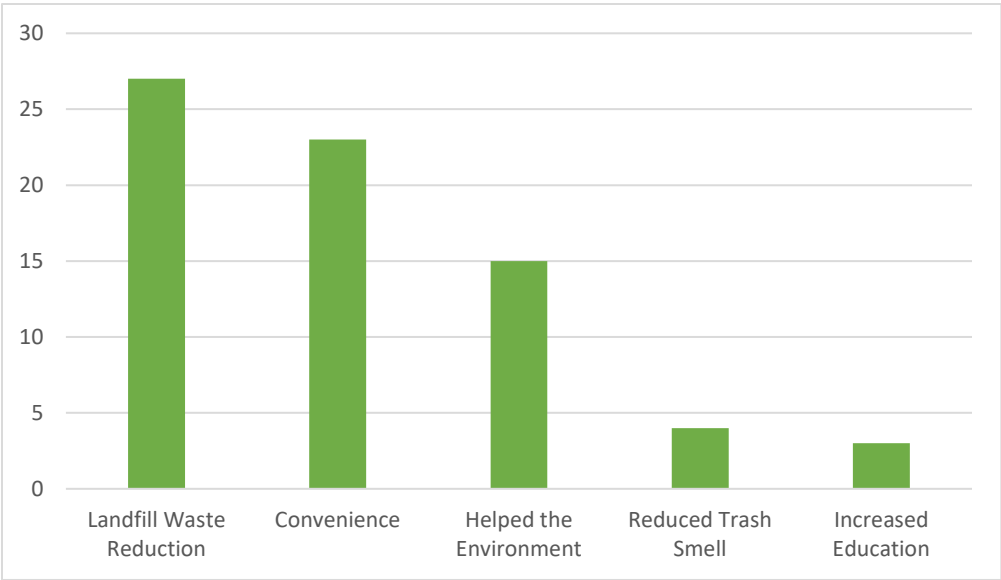
This service was provided at no cost to your community during the pilot period. How much would you be willing to pay per month for a compost/organics service?



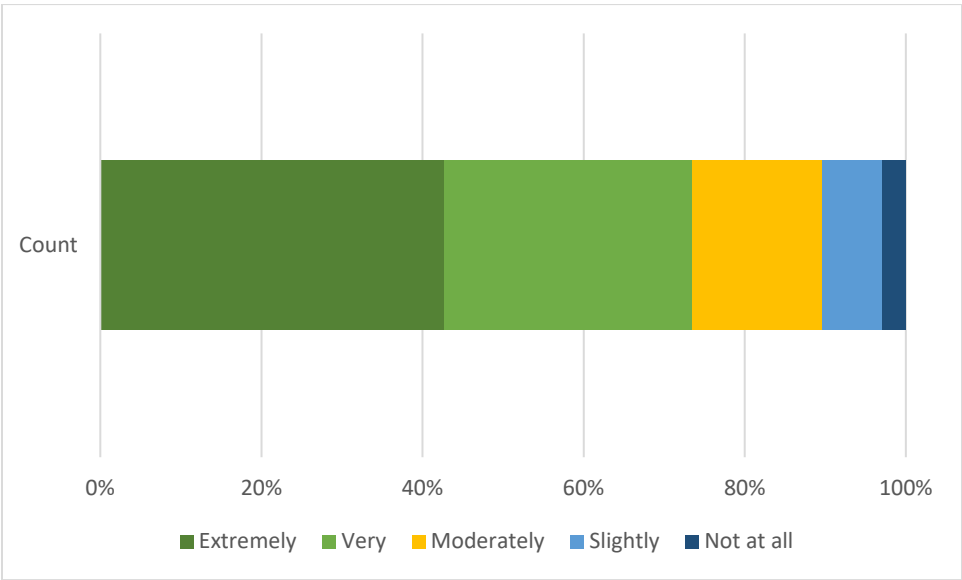
Did you run into any challenges using the pilot compost/organics service? If so, please explain:



What did you like about the compost/organics service?

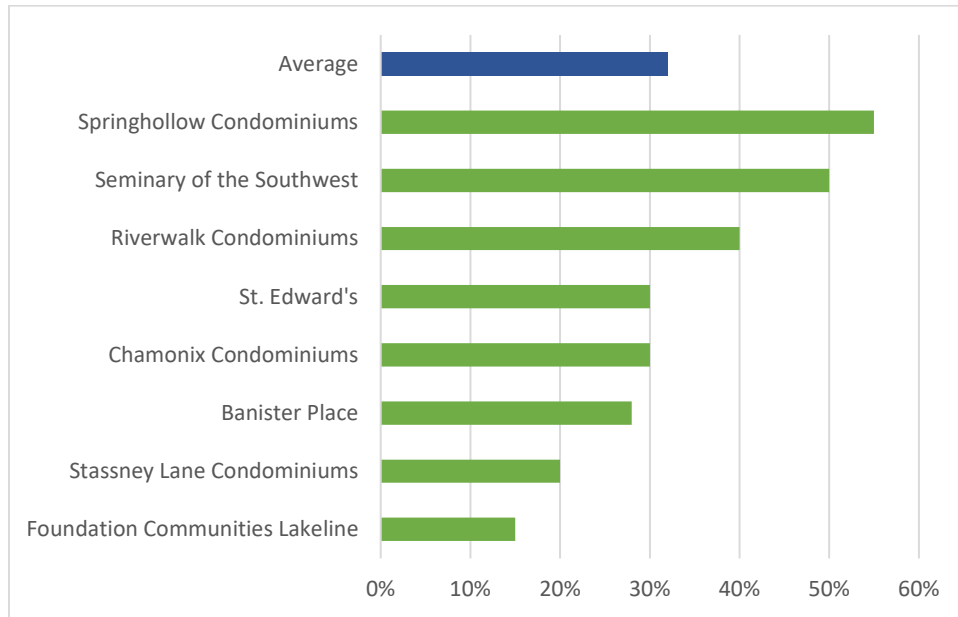


How important is having access to compost/organics service where you live?

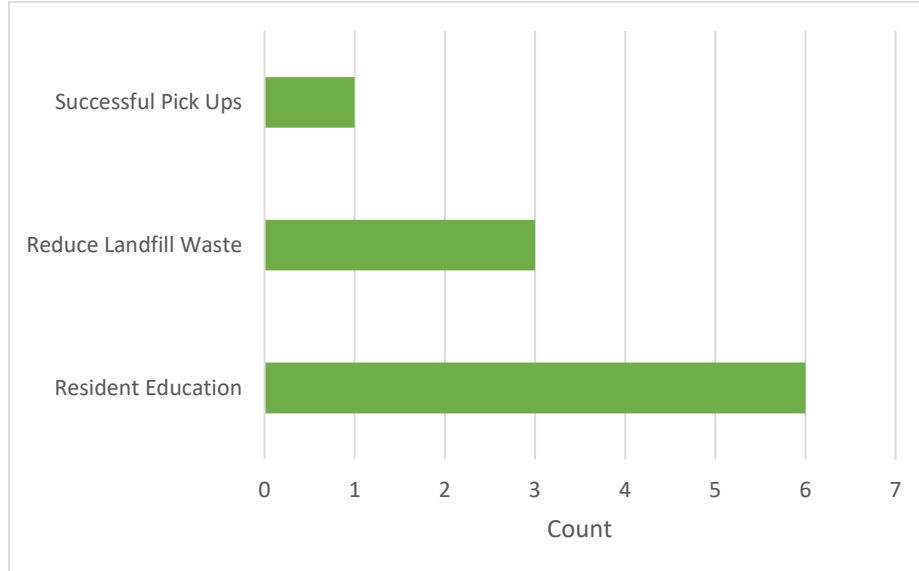


B. Management Survey

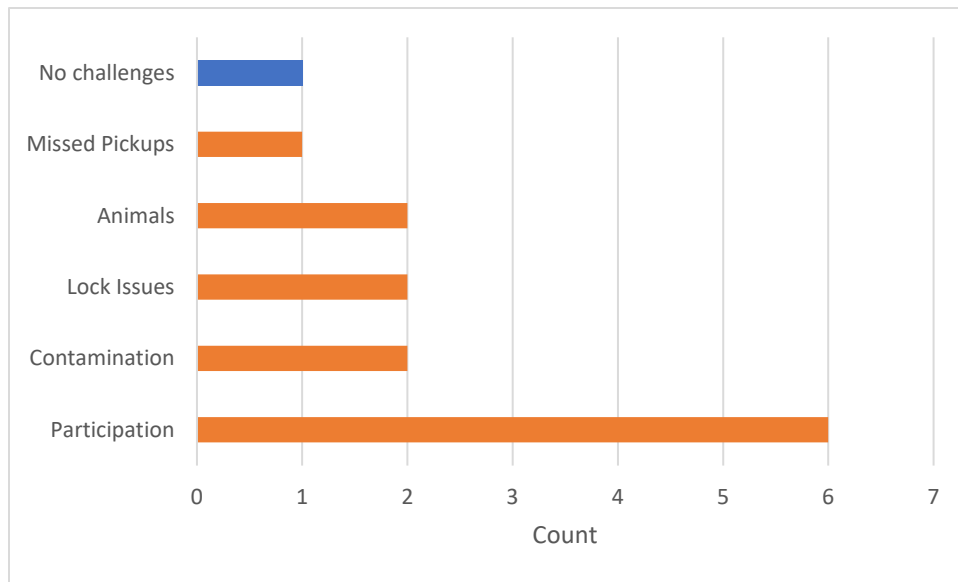
What percentage of your residents do you estimate used the pilot compost/organics service?



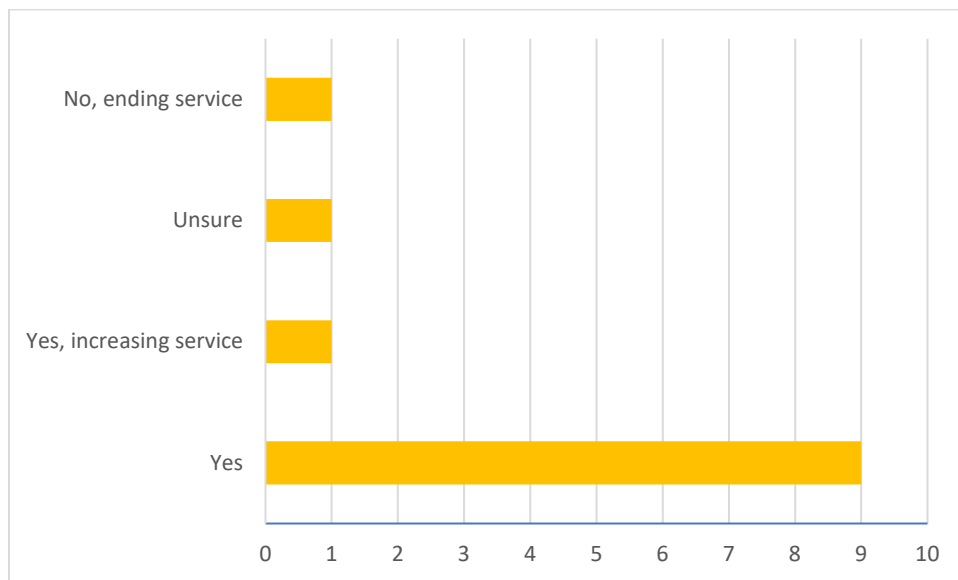
What successes did you experience during the pilot program?



What challenges did you experience during the pilot program?

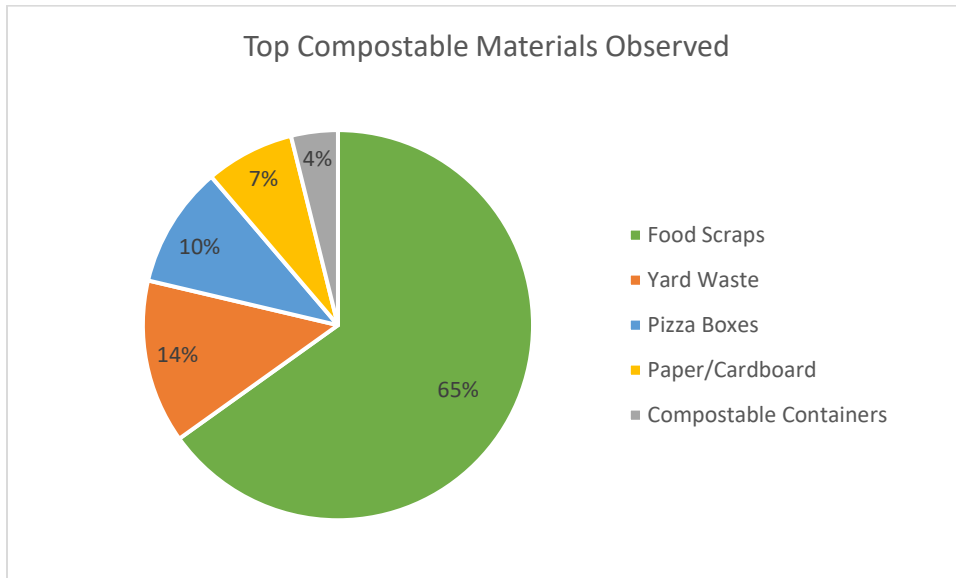


Will you use a compost/organics service at your community in the future?/ Do you plan to keep the same compost/organics service provider?/ Do you plan to keep the same compost/organics service level?

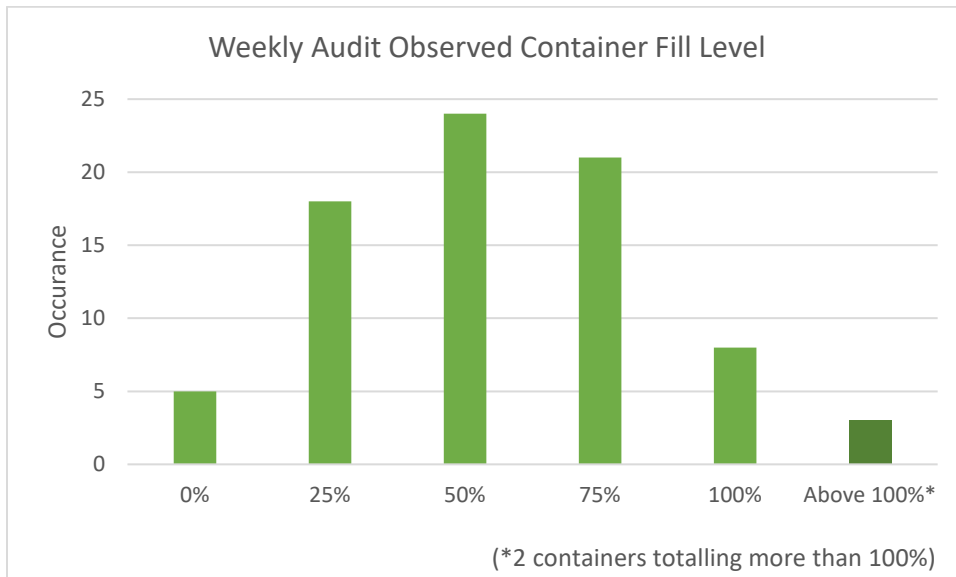


C. Weekly Audits

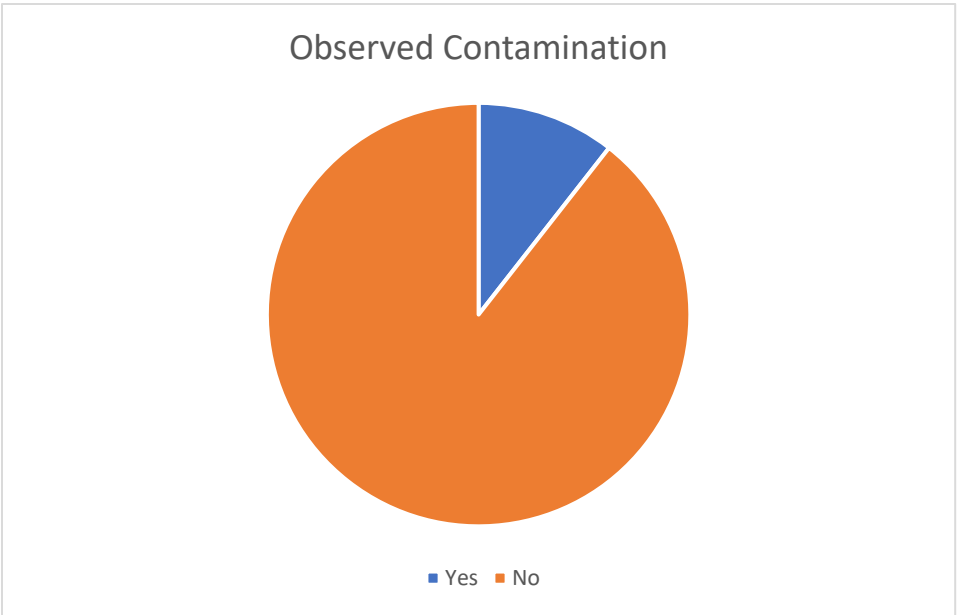
What are the top 3 materials you observe in container 1 [and 2]?



Approximately how full is container 1 [and 2]?



Did you observe any contamination in container 1[and 2]?



What materials did you observe as contamination?

