

Piloting solutions to reduce single-use foodware in Toronto's foodservice businesses: demonstrating proof-of-concept that change is possible

October 2024



Authored by:
Rafaela F. Gutierrez, Mythreyi Rajasingham, Emily Alfred and Chelsea Rochman



**U of T
Trash Team**



A Program of Toronto and Region Conservation Authority

Table of Contents

Executive Summary	3
Introduction	5
Methods	7
Results and Discussion	15
Overarching Conclusions and Lessons Learned	23
Recommendations	25
Acknowledgements	26
References	27

Executive Summary

In response to the growing concerns over plastic and single-use waste, the federal government has banned the use of some single-use plastic items and the City of Toronto has launched an initiative aimed at reducing the use of single-use foodware in local foodservice businesses (City of Toronto's Single-Use and Takeaway Items Reduction Strategy). These initiatives include changes that may seem difficult to foodservice businesses because they require modifications to their operations. To demonstrate proof-of-concept that change is possible, and measure the challenges foodservice businesses may face, we launched a pilot to trial various practices in local businesses. Our pilot aimed to focus on promoting and/or trialling three main practices that can reduce the use of single-use foodware and promote the use of reusables: promoting "Bring Your Own" (BYO) programs (allowing customers to bring their own cups), implementing returnable foodware for takeout, and implementing reusable foodware for dine-in. These practices are relevant to goals of the City of Toronto's Single-Use and Takeaway Items Reduction Strategy. In fact, during our project, the City of Toronto introduced a mandate requiring all foodservice businesses to support BYO cups.

Our original aim was to work with six foodservice businesses willing to implement and promote new practices. Of these six, two would implement BYO, two would trial a returnable for takeout program (paid for by us), and two would implement the use of reusables dishes for dine-in (also paid for by us). In total, after approaching several restaurants, we collaborated with six foodservice businesses, two that focused on the promotion of existing BYO practices to increase participation and four that implemented returnable for takeout for the first time. We were not able to secure a foodservice business interested in implementing reusable foodware for dine-in; however, some of our foodservice businesses already utilized reusable foodware for dine-in that we could help promote. For each participating foodservice business, we offered customized support to address their specific concerns regarding new practices, provided staff education, and supplied promotional materials for customers. We also funded the new returnable takeout services.

We collected data over the course of our three-month pilot to assess the challenges foodservice businesses encounter and to understand the benefits they gain from implementing reusable initiatives. Our data collection included pre- and post-implementation surveys, interviews with business owners, and analyses of reusable and single-use foodware consumption.

Executive Summary

The pilot, running for three months with six foodservice businesses, successfully prevented the disposal of over 884 single-use cups and lids, as well as 208 single-use containers. When extrapolating these figures across all six participating foodservice businesses — assuming the four restaurants increase their adoption of returnable foodware for takeout to 5% of the takeout transactions, and the two coffee shops boost BYO participation to 20% — we could prevent the use of over 22,906 cups, and 22,906 lids and 10,899 containers during a twelve-month period.

Despite initial challenges in recruiting foodservice businesses, the project demonstrated that adopting reusable practices is both feasible and beneficial. Once foodservice businesses did participate, they found the implementation process easy and rewarding. On the customer side, changing behaviour was difficult, and overall uptake in the use of each program was slow. The project also confirmed that awareness and interest in reusable practices can be increased through targeted outreach, and even modest participation can lead to significant waste reduction. However, the timeline for the pilot may have been too short to capture the full impact of these changes, suggesting that future programs should allow more time for setup and execution to achieve measurable results over a longer duration.

Based on our findings, we recommend a focus on increasing business participation in these three activities and increasing customer participation. One solution to increasing participation among businesses is introducing local regulations. One has already been put in place for BYO. In Toronto and other jurisdictions, local regulations can be used to increase participation by businesses. For example, since March 2024, a local by-law in Toronto requires the acceptance of BYO cups. The next may be to require foodservice businesses to offer returnable takeout services. Some jurisdictions require businesses to offer returnable reusable takeout, however this would require deliberate actions to promote and support the practice to make it accessible and convenient. This could start with larger chains or only for specific items (e.g., cups or containers). To mainstream these practices, it is essential to make them as convenient as possible. For reusable takeout options, this could include expanding the number of return locations and improving accessibility to them. Additionally, we suggest expanding educational and communication efforts, including varied messaging in campaigns via social and traditional media, and integrating them into app-based orders. Finally, implementing incentives for both customers and businesses — such as discounts and subsidies — may promote consistent use and engagement. These combined actions are likely necessary for widescale adoption by both businesses and customers.

Our findings demonstrate the potential for significant waste reduction and highlight key strategies for increasing the adoption of reusable practices. We hope this report provides insights for policymakers, foodservice businesses, and environmental organizations working towards a more sustainable future.

Introduction

In Canada, single-use packaging accounted for almost 50% of the plastic waste generated in 2020, including items like cups, lids, and containers ([Environment and Climate Change Canada, 2020](#)). In response, national and local governments have committed to reducing plastic waste, including the advancement of policies focused on reducing single-use foodware. This includes the recent federal ban on six single-use plastic items, several of which are single-use foodware (i.e., straws, stir sticks, plastic cutlery, and takeout containers made of plastic materials that are hard to recycle - e.g., foam) ([Environment and Climate Change Canada, 2023](#))^[1]. The City of Toronto has also developed a Single-Use and Takeaway Items Reduction Strategy ([City of Toronto, 2024](#)), which uses education, support programs, and regulations to reduce single-use items used by foodservice businesses. Stage 1, launched in 2021, focused on voluntary measures. Currently, in Stage 2, new [regulations](#) started in March 1, 2024, require foodservice businesses to ask customers before providing accessories like utensils, condiments, and napkins, and permit customers to bring their own clean reusable cups and bags (i.e., BYO). Further regulations, such as mandating reusable foodware for on-site dining, are being considered for Stage 3. This strategy highlights the City's dedication to minimizing its environmental footprint by regulating single-use items.

Since 2021, the University of Toronto (U of T) Trash Team, in collaboration with the Toronto Environmental Alliance (TEA), has been researching foodware waste reduction in foodservice businesses. Our research has included three phases, each with its own objective. In Phase 1, we conducted in-depth interviews with 12 foodservice businesses across the city to explore their perspectives on reducing single-use foodware ([Gutierrez, et al., 2022](#)). Phase 2 focused on the Harbourfront area, aiming to identify the support that 45 foodservice businesses and 100 customers need to reduce their consumption of single-use foodware ([Gutierrez, et al., 2023](#)). For Phase 3, we assessed the participation and motivation levels of 184 local businesses in six different neighbourhoods. We also aimed to raise awareness, motivate businesses, identify their needs, and provide practical resources ([Gutierrez, et al., 2024](#)).

Overall, our research revealed that foodservice businesses are interested in and taking some steps to reduce waste. Most are ready for positive change but need guidance on how to best accomplish this. It has become clear that to gain widespread adoption of reusables by foodservice businesses, they need support in the form of guidance about how to switch materials and implement new programs, educational campaigns to their staff and customers, clarity on internal staff procedures to protect human health, and widescale adoption of practices to promote the changing of social norms. It is also clear from our research that customers believe foodservice businesses should do more to reduce waste; however, they want these changes to be convenient and easily accessible.

[1] On November 16, 2023, the Federal Court retroactively declared the Order adding “plastic manufactured items” to Schedule 1 to the Canadian Environmental Protection Act, 1999 invalid and unlawful. On January 25, 2024, the Federal Court of Appeal granted a stay motion. The stay motion prevents the court ruling of November 16, 2023, from taking effect while the Government’s appeal of the ruling, filed on December 8, 2023, is ongoing. The Single-use Plastics Prohibition Regulations remain in force.

Introduction

Based on our previous findings, and to support the needs of both foodservice businesses and customers, we conducted a pilot project to trial and/or promote various practices in local foodservice businesses for a three-month period. We aimed to support six foodservice businesses to adopt new practices to reduce single-use foodware and switch to reusables. We intended to demonstrate proof-of-concept that making changes to implement reusable foodware was possible, and to understand the challenges foodservice businesses would face in making positive change. During our pilot, we collected data relevant to the experience of foodservice businesses, the uptake by customers, and the amount of single-use foodware reduced. We hope this data can inform the use of these practices more broadly to reduce the use of single-use foodware across foodservice businesses in Toronto and beyond.



Methods

We originally aimed to test the addition of three different types of practices in six local foodservice businesses. In each foodservice business, this would include adding one or more of each of: Bring Your Own (BYO), returnable foodware for takeout, and/or reusable foodware for dine-in. For each foodservice business, and where applicable (i.e., returnable takeout service and/or reusable dishes for dine-in), we offered to cover the expenses for a three-month period. In addition, we offered support to help the staff and customers transition by creating guides and educational materials. Each practice and how we aimed to support it is described in more detail below:

- 1. Bring Your Own (BYO):** BYO is a practice where foodservice businesses let customers use their own reusable cups or containers. When a business agreed to accept BYO and/or allowed us to help promote it, we created tailored staff training guides and posters to advertise it to customers. The staff training guides provided information on how to effectively communicate with customers about BYO and outlined the sanitation procedures for accepting customers' reusable foodware. The posters promoted the practice of bringing your own clean reusable cups for takeout orders.

- 2. Returnable Foodware for Takeout:** Returnable foodware for takeout services involve reusable, returnable cups and containers provided by the foodservice business for customers to use and return with or without a monetary deposit. Businesses participating in returnable takeout services were offered a three-month free trial of returnable takeout cups and/or containers from the returnable takeout service companies [Muuse](#)[2] or [Suppli](#)[3]. Muuse charges a fee to the restaurant, while Suppli charges both the restaurant and the customers. In this case, we only covered the restaurant's fee. Businesses also received a tailored staff training guide on how to effectively communicate with customers about returnable foodware for takeout. Furthermore, we designed and provided posters to educate customers about using reusable foodware.

[2] Muuse operates as a returnable takeout service with locations across Canada, Singapore, and Hong Kong. Partnering with eateries, cafes, and food establishments. Muuse provides free reusable cups and containers, made from double-walled stainless steel with polypropylene lids, to customers. Businesses pay a monthly fee depending on the quantity of returnable takeout cups and containers used during the month. With 50+ locations in Toronto alone, customers can easily return their items within 30 days to avoid any fees. Prior to receiving their reusable cups/containers, customers must scan a QR code and provide details, including their credit card information, ensuring timely returns. Muuse offers flexible wash solutions, both centralized and decentralized washing services for foodservice businesses equipped with dishwashers, enabling vegan or vegetarian establishments to share dishes without concerns of cross-contamination.

[3] Suppli is a Toronto-based returnable takeout service partnering with foodservice businesses to offer reusable container options made from food-grade stainless steel with down-cycled silicone lids. Businesses and customers pay a fee, depending on the container size and ordering platform. Orders can be made through delivery apps like Uber Eats or in-person, requiring a brief form submission prior to receiving their Suppli container. Customers have a two-week window to return their containers at any nearby drop-off location, located on Suppli's website map. Each drop-off box features a QR code for customers to scan and complete a form, confirming their container return.

Methods

3. Reusable Foodware for Dine-In: Reusable foodware for dine-in refers to foodservice businesses using reusable plates, cups, and utensils for on-site dining instead of single-use disposables. Participating businesses were offered reusable dishes for dine-in services at no cost. They were told that they could keep them after the pilot program. They also received a tailored staff training guide on how to communicate with customers about reusable foodware for dine-in. Furthermore, we designed and provided posters to educate customers about the benefits of using reusable foodware.

In addition to these practices, we ran tailored social media campaigns to promote the practices of each business and increase awareness among customers.

Data Collection:

Before participating in the pilot, foodservice business owners were interviewed to provide insights about how they felt regarding the feasibility and impact of transitioning to sustainable foodware practices. We also surveyed foodservice businesses to collect baseline data on single-use foodware consumption by customers. The data collected from foodservice business owners included information regarding their average daily transactions, their dine-in and takeout percentages, the number of orders using BYO when relevant, waste management practices including garbage and recycling routines, and storage capacities. Additionally, we asked about their communication strategies with customers about single-use items, anticipated challenges throughout the pilot program, and their aspirations for the project's conclusion.

After the participation in the pilot and where relevant, the same set of questions was applied at the end of the pilot to compare before and after implementation. Moreover, in the follow-up interview, we also asked about any challenges encountered during the process and tips to share with other foodservice business owners considering the implementation of new practices to reduce single-use foodware. The number of orders that used returnable foodware for takeout was provided by the companies that offered the returnable takeout services.

Recruiting Foodservice Businesses:

During the summer of 2023, as part of a previous project, a team of field research assistants conducted surveys in over 180 foodservice businesses spanning the Greater Toronto Area, including Scarborough, Harbourfront, Midtown, North York, High Park, St. Lawrence and Etobicoke. The aim was to gauge their existing initiatives, interest in sustainability, and readiness to adopt reusable practices.

This data is published in our most recent report ([Gutierrez, et al., 2024](#)), and was used to guide the recruitment process for the participating foodservice businesses here. Our selection criteria for recruitment were based on:

- The interest of the foodservice business and their readiness level to adopt or adapt reusable practices.
- Our goal to have a selection of different types of foodservice businesses, such as fast casual and fast food establishments, as well as coffee shops.

Methods

Data from our previous phase helped us narrow down a long list of establishments to 26 foodservice businesses that seemed like they may be willing to participate. Through a combination of in-person visits and phone calls, we sequentially invited all 26 to participate in the pilot, with three confirming their participation. Recruiting foodservice businesses presented a challenge, as some were not yet ready for change (to implement new practices), some changed ownership since our first interview, one closed permanently, and one unexpectedly closed for the winter season. To recruit the remaining three foodservice businesses, we enlisted the support of the two reusable takeout service companies we worked with.

To participate in the pilot, foodservice businesses were expected to add (or at the very least allow us to promote) at least one new practice for a three-month period. These included: BYO, offer a returnable takeout container or cup for takeout, and replacing disposable foodware with reusable foodware for on-site dining (plates, bowls, food trays, cups, mugs, cutlery, chopsticks, condiment and/or side order containers).

Pilot Implementation at Participating Foodservice Businesses:

The participants represented a diverse array of foodservice businesses: two coffee shops, two fast food restaurants, one fast casual restaurant and one full-service restaurant. They are located across the city, including in the Midtown, Parkdale-High Park, St. Lawrence, and Downtown Toronto areas.

Initially, we aimed to recruit two foodservice businesses interested in implementing BYO (Bring Your Own), two in returnable foodware for takeout, and two in reusable foodware for dine-in. However, we could not find two foodservice businesses willing to change practices for dine-in. As a result, we secured two additional foodservice businesses interested in returnable foodware for takeout. Moreover, the two participating with BYO already had this practice in place and worked with us to promote the practice in an attempt to increase customer participation.

In total, our efforts after recruitment led to two foodservice businesses participating in the pilot to promote BYO and four implementing returnable foodware for takeout for the first time. This project took place from October 2023 through May 2024, with each foodservice business joining at different times. The initial interviews were conducted as soon as each foodservice business joined the project. However, for some foodservice businesses, the three-month pilot did not start immediately due to delays in starting the returnable for take-out services. Below, we describe each participating foodservice business in more detail:

Methods

Midtown



At Origin Coffee:

Timeline: Launched the promotion to customers in December 2023.

Practices before participating in the pilot: This coffee shop had already been offering BYO, returnable takeout cups, and reusable dishes for dine-in since its opening. For BYO, they provided a 20-cent discount to customers who brought their own cups. For returnable takeout cups, they provided this service at no charge for customers. For dine-in, they used all reusable foodware, including condiments and accessories. Their orders consisted of 25% dine-in and 75% takeout.

Practices during the pilot: Although they were already doing all of the practices we aimed to bring to foodservice businesses, they were still interested in partaking to increase participation of these practices among customers. During the pilot, our main focus was to increase the promotion of BYO through posters and a social media campaign. However, we also promoted returnable takeout cups and reusable foodware for dine-in [4]. Additionally, we provided a tailored guide to educate staff on how to encourage customers to BYO, including information on the sanitation of customers' personal cups.

Data collected: The data collected before and after, relevant to this foodservice business, included: average daily transactions, self-reported dine-in and takeout percentages, the number of orders using BYO (bring your own) [5], the self-reported number of orders using returnable foodware for takeout, waste management practices such as garbage and recycling routines, and storage capacities. Before participation, we also gathered qualitative information on their customer communication strategies, anticipated challenges, and goals for the project's conclusion. After participation, we collected qualitative data on issues encountered during the pilot program and any tips they could share with other foodservice business owners based on their experience.

Find more details about At Origin Coffee's participation in the pilot [here](#).

[4] This coffee shop chose to participate in the pilot by encouraging customers to bring their own cups or containers (BYO). Since they also offered returnable cups for takeout, we promoted these returnable takeout practices in our social media campaign to boost customer participation. We also promoted reusable for dine-in, however, this practice is well-established at the coffee shop. The owners and staff consistently ask customers if their order is "for here or to go" and provide reusable items for those dining in. For this reason, we didn't track this metric.

[5] The business has a tracking system to monitor this information.

Methods



Slayer Burger:

Timeline: Launched the promotion to customers in February 2024.

Practices before participating in the pilot: This fast food restaurant was not accepting BYO and was using single-use paper clamshell boxes and containers for takeout and dine-in and orders consisted of 50% dine-in and 50% takeout.

Practices during the pilot: Our primary focus was implementing the new practice of offering returnable takeout containers to customers. While we covered the costs for foodservice businesses, customers were required to pay a small service fee. We also promoted this initiative with posters and a social media campaign. Additionally, we provided staff with a guide on how to encourage customers to use returnable containers.

Data collected: The data collected before and after, relevant to this business, included: self-reported average daily transactions, self-reported dine-in and takeout percentages, waste management practices such as garbage and recycling routines, and storage capacities. Before participation, we also gathered qualitative data on their customer communication strategies, anticipated challenges, and goals for the project's conclusion. After participation, we collected quantitative data on the number of orders using returnable foodware for takeout, qualitative data on issues encountered during the pilot program and any tips they could share with other foodservice business owners based on their experience.

Find more details about Slayer Burger's participation in the pilot [here](#).

Parkdale-High Park

UB Social:



Timeline: Launched the promotion to customers in December 2023.

Practices before participating in the pilot: This coffee shop was already accepting BYO, offering reusable foodware for dine-in, and selling eco-friendly reusable foodware for customers to purchase in-store to promote BYO. Their orders consisted of 5% dine-in and 95% takeout.

Practices during the pilot: Although they were already doing practices we aimed to bring to businesses, they were still interested in partaking to increase BYO participation among customers. Our main focus was to increase the promotion of BYO with posters and a social media campaign. However, we also promoted reusable for dine-in and the availability of reusable foodware for purchase to further encourage BYO. Additionally, we provided a tailored guide to educate staff on how to encourage customers to BYO, including information on the sanitation of customers' personal cups.

Methods

Data collected: The data collected before and after, relevant to this foodservice business, included: self-reported average daily transactions, self-reported dine-in and takeout percentages, the self-reported number of customers using BYO (bring your own), waste management practices such as garbage and recycling routines, and storage capacities. Before participation, we also gathered qualitative data on their customer communication strategies, anticipated challenges, and goals for the project's conclusion. After participation, we collected self-reported data on the percentage of customers dining in with reusable foodware, along with qualitative data on issues encountered during the pilot program and any tips they could share with other business owners based on their experience.

Find more details about UB Social's participation in the pilot [here](#).

St. Lawrence

Bindia Indian Bistro:



Timeline: Launched the promotion to customers in December 2023.

Practices before participating in the pilot: This full-service restaurant was accepting BYO and providing all reusable foodware for dine-in. Their orders consisted of 75% dine-in and 25% takeout.

Practices during the pilot: Our primary focus was implementing the new practice of offering returnable takeout containers to customers. While we covered the costs for businesses, customers were required to pay a small service fee. We promoted this initiative with posters and a social media campaign. However, we also promoted BYO through social media. Additionally, we provided staff with a guide on how to encourage customers to use returnable containers.

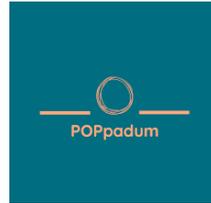
Data collected: The data collected before and after, relevant to this foodservice business, included: average daily transactions, self-reported dine-in and takeout percentages, the self-reported number of customers using BYO (bring your own), waste management practices such as garbage and recycling routines, and storage capacities. Before participation, we also gathered qualitative data on their customer communication strategies, anticipated challenges, and goals for the project's conclusion. After participation, we collected quantitative data on the number of orders using returnable foodware for takeout, and qualitative data on issues encountered during the pilot program and any tips they could share with other foodservice business owners based on their experience.

Find more details about the Bindia Indian Bistro's participation in the pilot [here](#).

Methods

Downtown

POPpadum:



Timeline: Launched the promotion to customers in January 2024.

Practices before participating in the pilot: This fast food restaurant was accepting BYO and offering mostly non-plastic single-use foodware for dine-in and takeout. Their orders consisted of 25% dine-in and 75% takeout.

Practices during the pilot: Our primary focus was implementing the new practice of offering returnable takeout containers to customers. While we covered the costs for businesses, customers were required to pay a small service fee. We also promoted this initiative with posters and a social media campaign. However, we also promoted BYO through social media. Additionally, we provided staff with a guide on how to encourage customers to use returnable containers.

Data collected: The data collected before and after, relevant to this foodservice business, included: self-reported average daily transactions, self-reported dine-in and takeout percentages, the self-reported number of customers using BYO (bring your own), waste management practices such as garbage and recycling routines, and storage capacities. Before participation, we also gathered qualitative data on their customer communication strategies, anticipated challenges, and goals for the project's conclusion. After participation, we collected quantitative data on the number of orders using returnable foodware for takeout, and qualitative data on issues encountered during the pilot program and any tips they could share with other foodservice business owners based on their experience.

Find more details about the POPpadum's participation in the pilot [here](#).

Geste Croissanterie & Bistro:



Timeline: Launched the promotion to customers in February 2024.

Practices before participating in the pilot: This bistro was accepting BYO and offering all reusable foodware for dine-in. Their orders consisted of 40% dine-in and 60% takeout.

Practices during the pilot: Our primary focus was implementing the new practice of offering returnable takeout containers to customers. We covered the cost for the business and there was no fee for customers. We also promoted this with posters and a social media campaign, in addition to the promotion of BYO through social media. Additionally, we provided staff with a guide on how to encourage customers to use returnable containers.

Methods

Data collected: The data collected before and after, relevant to this foodservice business, included: average daily transactions, self-reported dine-in and takeout percentages, the self-reported number of customers using BYO (bring your own), waste management practices such as garbage and recycling routines, and storage capacities. Before participation, we also gathered qualitative data on their customer communication strategies, anticipated challenges, and goals for the project's conclusion. After participation, we collected quantitative data on the number of orders using returnable foodware for takeout, and qualitative data on issues encountered during the pilot program and any tips they could share with other foodservice business owners based on their experience.

Find more details about the Geste Croissanterie & Bistro's participation in the pilot [here](#).

Tailored Education and Outreach to Staff and Customers

We aimed to increase awareness among both the staff and the customers to see whether increased literacy on reducing single-use foodware would increase the success of these new and/or existing practices. Based on the first interview, after the foodservice businesses joined the pilot, they received a tailored staff training guide on how to effectively communicate with customers about reusable initiatives. This equipped staff with the knowledge and skills to encourage customer participation and address frequently asked questions. Each guide was tailored to the specific needs of the foodservice business.

For example, coffee shops participating in the BYO initiative received guidance on how to ask customers if their order was for here or to go, how to handle customers bringing their own cups for takeout, the sanitation procedures for accepting customers' personal cups, and integrate the process into their point of sale (POS) systems^[6] when applicable. One coffee shop also included a reminder to apply a discount for customers using reusable foodware. For foodservice businesses offering returnable foodware for takeout, the guides focused only on steps to follow when processing a takeout order, how to incorporate the process into the POS, and reminding customers of the return policy and confirmation steps when ordering for pickup. These guides were reviewed by foodservice business owners to gather feedback so that we could refine before finalizing them.

Additionally, we designed and provided posters and social media content, including posts and reels, to educate customers about the benefits of reusable practices and encourage their active involvement in reducing single-use items. The posters were customized for each restaurant, highlighting key initiatives such as BYO, returnable foodware for takeout, and, where applicable, reusable options for dine-in and reusable foodware available for purchase. Similarly, the posters underwent a review by the foodservice business owners to gather feedback. Our social media content encompassed both informative posts, such as "The Problem with Single-Use" foodware and how they end up in landfills and/or pollute the environment as well as promotional reels to highlight the participating foodservice businesses. These reels showcased each restaurant's unique ambiance and sustainable practices and encouraged customers to visit each location to experience their eco-conscious offerings.

[6] POS is the system foodservice businesses use to take customer orders, accept payments, manage food inventory, and ultimately oversee the entire operation.

Results and Discussion

The section below presents the results of the pilot conducted with six foodservice businesses, focusing on participation rates, the reduction of single-use foodware, and the impact on storage space and waste management. Additionally, it explores the challenges and opportunities encountered by these foodservice businesses in implementing or expanding reusable practices, and shares advice from the participants for other foodservice businesses considering similar initiatives to reduce single-use foodware.

Participation Rates

1. At Origin Coffee:

- The percentage of customers bringing their own cups increased from 2.5% to 4.2%.[7]
- The owner self-reported that the number of customers using returnable cups for takeout stayed about the same with 2 to 3 regular customers per week[8].
- The owner self-reported that they observed increased customer interest and more discussions due to the promotional signs.

2. Slayer Burger:

- Returnable takeout containers were used for 35 orders in the first month, 30 in the second month, and 13 in the third month.

3. UB Social:

- The owner self-reported that the percentage of customers bringing their own cups stayed about the same around 10%[9].
- The owner self-reported a 2%[10] increase in customers requesting reusable items when dining in.
- The owner self-reported that they observed increased customer interest and more discussions due to the promotional signs.

4. Bindia:

- Returnable takeout containers were used for 41 orders in the first month, 26 in the second month, and 26 in the third month.
- The owner self-reported that the number of customers bringing their own container stayed about the same with 2 to 3 regular customers per month.

[7] The owner tracks this data using POS system.

[8] The owner self-reported that only two or three regular customers who participate 3 to 4 times a week. The owner doesn't have a tracking system for this.

[9] The owner doesn't have a tracking system so this is based on self-reported data. Before the pilot, the owner mentioned, that the rates for BYO was between 5 to 10%. After the pilot the reported rate was 10% and the owner mentioned that the BYO rate is maybe a little higher than before the pilot.

[10] This is a self-reported data from the owner. They don't have a tracking system for this.

Results and Discussion

5. POPpadum:

- Returnable takeout containers were used for 8 orders in the first month, 4 in the second month, and 23 in the third month.
- The owner self-reported that the percentage of customers bringing their own containers remained steady at around 0.5% per month.

6. Geste Croissanterie:

- Returnable takeout cups and containers were used for 2 orders each month.
- The owner self-reported that the percentage of customers bringing their own containers remained steady at around 1% per month.

We observed only a modest increase in the BYO participation rate, rising from 2.5% to 4.2% at one of the two foodservice businesses. At the other business, which lacked a POS system to track customers bringing their own cups, the data relied on self-reported observations from the owner. The owner noted that BYO rates remained mostly unchanged, though they may have slightly increased since the pilot. While the small improvement at one location suggests that a longer pilot could yield better results, our findings indicate that promotion alone may not be sufficient to significantly boost customer participation. Additional measures, such as offering incentives or imposing a fee for single-use cups, might be more effective in driving higher participation rates.

Similarly, the implementation of returnable foodware for takeout with promotion showed varied success. POPpadum demonstrated an increase in the use of returnable takeout containers, showing a rise from 9 to 23 orders. Conversely, Bindia, Slayer Burger and Geste did not see an increase over three months, but they did see consistent use after initial uptake. Bindia had the greatest uptake in the first month (41 orders), followed by similar number in the following two months (26 orders). Slayer had 35 orders in the first month, followed by similar number in the second month (30 orders) and 13 orders in the third month. Geste observed only 2 orders per month. At Origin Coffee, which already had the returnable cup for takeout before joining the pilot, and whose main focus was to increase BYO, also had a consistent 2 to 3 orders weekly throughout the pilot.

Although only one of the four businesses saw an increase, the fact that we observed both an increase and consistency suggest that once customers try returnable takeout containers, they are likely to continue using them. Following the three-month pilot intervention, we accessed data for the fourth month of the returnable foodware implementation at POPpadum, Bindia, and Slayer Burger. We observed an increase in orders compared to the previous month, with 24, 32, and 29 orders respectively. This implies that the initial challenge may be encouraging customers to try the returnable containers, but once they do, the satisfaction of using them is enough to promote ongoing use, indicating that the behaviour change is not too difficult.

Results and Discussion

Overall, the low participation, similar to BYO, suggests that additional measures may be needed to boost engagement. While an incentive might be effective, it's worth noting that the two foodservice businesses with increased participation charged a fee for returnable foodware, while Geste and At Origin Coffee offered it for free. Therefore, an effective incentive could be a discount or other reward, combined with actions to increase convenience, to make this service more popular and accessible across the city.

In general, although foodservice businesses saw low rates of uptake, many reported that customers were reading the posters and frequently inquired about them, which led to more conversations between customers and staff. Similar engagement was reported with the social media posts and reels, indicating that customers are interested in these initiatives. To achieve more substantial outcomes, extending the project duration would be important, as it would provide customers with the necessary time to gradually adapt to new habits and integrate these sustainable practices into their daily routines. Additionally, increasing and diversifying educational efforts to make the benefits of BYO and returnable foodware for takeout tangible and compelling could encourage broader participation. In parallel, offering a range of incentives can further accelerate customer adoption. Discounts, loyalty programs, and other rewards for consistent use of reusable options can create a positive reinforcement cycle, making these choices not just an ethical decision but also a rewarding one. Another key element in driving greater participation is improving the convenience of reusable takeout services. Customers are more likely to embrace sustainable practices when they are easy to adopt. By making these services more widely available and accessible — such as increasing the number of return locations, simplifying the process for customers, and integrating reusable options seamlessly into existing systems — the initiative can mainstream and normalize these alternatives.



Results and Discussion

Amount of Single-use Foodware Prevented During the Pilot

Based on the daily transaction data from each foodservice business participating in this pilot and the percentage of customers bringing their own containers or using returnable foodware for takeout options, we calculated the total amount of single-use foodware prevented over the three-month pilot program across all six businesses. The participating foodservice businesses successfully prevented the disposal of 884 single-use cups and 884 cup lids, as well as 208 single-use containers (not including the lids) through BYO practices and the use of returnable foodware for takeout. Notably, the avoided single-use containers is likely higher, as we assumed only one container per order though many orders have more than one container.

The adoption of returnable foodware for takeout represented a range from 0.01% to 0.6%^[11] of the takeout transactions for the foodservice businesses participating in the pilot. Even with low customer participation, these numbers highlight the substantial potential for waste reduction when sustainable practices are adopted. For example, when extrapolating these figures across all six participating businesses — assuming the four restaurants raise their adoption of returnable foodware for takeout to 5% of the takeout transactions, and the two coffee shops boost BYO participation to 20% — we could prevent the use of over 22,906 cups, and 22,906 lids and 10,899 containers during twelve-month period ^[12].

Another point to note is that since the returnable foodware for takeout was being implemented and tested in the pilot phase, most participating foodservice businesses only offered a limited selection of their dishes in these alternatives. As the use of reusables increases, we anticipate that more dishes will be available in reusable containers, further reducing the amount of single-use foodware.



^[11] One restaurant had 0.01% of their takeout transactions using returnable foodware. Another had 0.3%, a third had 0.4%, and a fourth had 0.6%. To calculate this, we multiplied the daily takeout transaction by 90 days and then we calculated how much the returnable foodware takeout represented of their total takeout transactions.

^[12] To get to these results, we calculated the daily takeout transactions involving returnable containers or BYO practices and multiplied them by the number of days each establishment is open in a year. Three of the businesses operate six days a week, two are open seven days a week, and one is open five days a week. We then summed these figures to determine the overall impact.

Results and Discussion

Storage Space and Waste Bins

We sought to understand the storage requirements for single-use foodware items. Foodservice businesses confirmed that these items occupy a significant amount of space. Two foodservice businesses use their basements for storage, with one reserving half of its basement for single-use foodware. One business utilizes an external storage space, while others rely on shelves and counters. The amount of available storage space influences the price they pay for single-use foodware. Businesses with less storage space need to order more frequently, while those with more storage can buy in bulk and pay less per item^[13]. Despite these differences, most businesses reported having sufficient storage capacity for their single-use foodware. For returnable foodware for takeout, we anticipate that as the demand for returnable containers and cups increases and the quantity of single-use items declines, foodservice businesses will eventually free up storage space in the long run. However, one business pointed out that as orders for returnable containers increase, they will require more frequent restocking and will need to coordinate with the returnable foodware provider for regular deliveries. We also inquired about the use of garbage and recycling bins before and after participation. Foodservice businesses self-reported no significant change in the amount of garbage and recycling waste over the pilot months. This is understandable, as the actions taken during the pilot were mainly related to takeout and not dine-in services.

Perspectives From the Foodservice Businesses – Challenges and Opportunities

Through interviews, we explored the challenges foodservice businesses anticipated before the pilot and the challenges and opportunities they encountered during implementation. Overall, the foodservice businesses did not anticipate many challenges before the pilot, and only few issues arose during the actual implementation. Below, we summarize the concerns we heard and their relevant experiences during the pilot.

Sanitation for BYO

Prior to the pilot, one owner was concerned about the sanitation of customers' BYO reusable cups and how customers would react if their cups were rejected for not being properly cleaned. During the pilot, this owner faced challenges with customers bringing in dirty cups, which can negatively affect the taste of their coffee. To address this, the owner either rejected dirty cups, taught customers how to clean them, or cleaned the cups themselves. They noted that it remains difficult for customers to change their habits and consistently bring clean cups. The sanitation of customers' personal reusable cups was a concern that proved well-founded and highlights the importance of establishing clear guidelines and expectations around reusable container cleanliness to ensure a positive experience for both foodservice businesses and customers.

[13] Each business has its own process for ordering single-use items, which depends on the type and quantity of each item they use. Two businesses place orders weekly. One business orders its most-used items every three weeks and its less-used items every four months. Another business orders every four weeks, another every six weeks, and one business orders every six months.

Results and Discussion

App-Based Orders

One restaurant owner expected issues with customers ordering through Uber Eats and not adding returnable takeout containers to their orders due to a lack of education compared to in-person orders where staff could promote the containers. Indeed, customers ordering through apps did not receive as much information about returnable takeout containers because there is limited space for this type of promotion in app-based orders. This shows the challenge of effectively communicating sustainable options in digital ordering platforms and the importance of cooperation and full participation of the ordering platform services.

Food Temperature Concerns

Before the pilot, another restaurant was concerned that food delivered with returnable takeout containers would arrive cold. However, post-pilot interviews revealed that this was not an issue, alleviating initial concerns and demonstrating that returnable takeout containers maintain food quality during delivery.

Changing Customer Habits and Low Participation Rates

An owner anticipated difficulty in changing customer habits for BYO practices and, after the pilot, confirmed that it is indeed challenging. This owner suggested that government intervention, such as banning single-use items or implementing additional costs for them, might be necessary to drive significant behavioural change. This points to the need for broader systemic support to facilitate the transition to reusable options.

Post-pilot interviews revealed that all the restaurant owners felt that customers were not using the returnable foodware for takeout service as much as expected. Changing customer habits and getting them to consistently remember to bring their own reusable items or start using returnable foodware for takeout can be challenging and may take time. To drive the behavioural shifts required for the success of the reusable programs, foodservice businesses suggest that more incentives and educational campaigns across the city are necessary. Additionally, foodservice businesses suggested that increasing the implementation of returnable foodware for takeout services around the city can make it more convenient for customers.

Operational Adjustments

In post-pilot interviews, participating foodservice businesses were very pleased with the onboarding process for the returnable takeout services. They found the containers and cups very easy to use and the platform intuitive for customers. However, one restaurant mentioned that adding lids to returnable takeout containers was time-consuming. This required adjustments to their kitchen practices, which impacted their efficiency. Streamlining this process and/or sourcing containers with a different design to make them easier to seal could help mitigate this issue.

Results and Discussion

Another restaurant pointed out that the lack of returnable foodware for takeout bin on their premises made the process less convenient for customers to return the containers, potentially reducing participation rates. To address this, ensuring that participating foodservice businesses have accessible bins for returnable takeout could enhance the customer experience and encourage more consistent use of returnable takeout containers. Conversely, a restaurant with a returnable bin found that despite clear signage, some customers still disposed of trash in the return bin. This indicates a need for better customer education and possibly more prominent or clearer signage. Additionally, placing the returnable foodware for takeout bin in a more monitored or strategic location might reduce the likelihood of misuse.

Customer Willingness to Pay

Additionally, some restaurant owners expressed concerns that customers might not be willing to pay a fee for returnable takeout containers, as one of the returnable foodware for takeout companies charges a small fee per container^[14]. This highlights the need for financial incentives or subsidies to encourage participation. Finding ways to offset costs or offering discounts for using reusable options can make these practices more attractive to customers.

Advice from Foodservice Businesses to Motivate Others to Try New Sustainable Practices

We asked foodservice business owners what advice they could offer to other foodservice businesses interested in adopting reusables. All the owners interviewed emphasized the importance of being willing to take the first step to initiate change. They also highlighted several key points:

- **Encourage and communicate with customers**

Engaging with customers is crucial to reducing single-use foodware. Business owners suggest offering incentives and continuously educating customers.

“Encourage your customers... can give a small discount to customers, like we are doing, to encourage them to BYO... Just let the customers know that this doesn’t create an extra bill. If we don’t start, then nobody will do it” (At Origin Coffee owner).

“Be patient. Talk over and over, enough is never enough, in terms of how you can gain trust about this matter from customers. Even if you have your social media on, or people from your team trying to explain, or flyers and posters, it’s still not enough. It’s a long journey, but it has to start from the beginning” (Slayer Burger manager).

[14] Our pilot included a returnable takeout service for containers that charge customers and one for cups that doesn't charge customers. Due to the difference in foodware types and the sample size, we were not able to identify the impact of the fee, if any.

Results and Discussion

- **Implementing returnable foodware for takeout is easy**

Several owners noted that using returnable containers is straightforward and can be easily incorporated into existing operations.

"Use reusable takeout because it is easy to implement. It's not that difficult, actually. When you are packing in reusable containers versus single-use, it's not that different. Any business should be encouraged to use reusable containers." (Bindia Indian Bistro owner)

"For takeout, it was a learning experience. Have been a part of the industry for 14 years, never participated in something like this before" ... "Just go for it. It seems intimidating initially, and I was skeptical in the beginning. Worst case scenario, we will pull out. However, we are not going to end our partnership with Suppli" (POPpadum owner)

- **The more foodservice businesses participating, the easier it will be**

Increasing the number of foodservice businesses participating in reusable initiatives can make the transition smoother and more effective.

"If more businesses start to participate, it will make it easier" (Geste Croissanterie & Bistro owner)

"I believe it is the right thing to do to allow my customers to have the opportunity to choose. Signing up and giving the customers a choice never hurts. It is probably the best way to move forward. The more restaurants sign up for it, eventually, economies of scale will allow everyone to scale back price, make it more accessible and affordable" (POPpadum owner)

- **Other motivations for change**

Some owners highlighted the broader benefits of adopting reusable practices, emphasizing community well-being and environmental health.

"It's not a business, it's for the whole community, for their well-being" (Bindia Indian Bistro owner)

"Unless you believe in it, there is no way to make meaningful change. You have to believe in the possibility of doing something good for people and their health. In the end, all this garbage we are creating will have an impact on our health" (UB Social owner).

"Try to make it work... It takes one step each time. If you take one step, your customers will take one step. We need to start from somewhere" (At Origin Coffee owner).

"If you don't start it, you won't ever get to where you want. Once you start, people will notice you because you are trying to do the right thing. You will not have the final result right away, but progress will eventually come." (Slayer Burger manager).

Overarching Conclusions and Lessons Learned

Our pilot project aimed at increasing participation in, and a better understanding of the practices foodservice businesses can take to reduce single-use foodware yielded insightful conclusions and valuable lessons. Despite initial challenges in recruiting participants, the findings highlight the feasibility and benefits of adopting reusable practices and provide information about how to make these programs more successful. Below we highlight some of our conclusions and the lessons they inform.

1. Challenges in recruiting foodservice businesses suggest that there are other barriers to change:

We found that even though foodservice businesses are very interested in reducing single-use foodware, and suggested that they were ready to change in our previous study, it was very difficult to get them to take the first step and participate in the pilot. This suggests that future programs should help facilitate this change through incentives to change voluntarily and/or policies that mandate new practices.

2. Foodservice businesses found that implementation was easier than expected: Although foodservice businesses had concerns and perceived challenges, we found that once they did implement new practices, they found that these actions were easy to adopt. This ease of implementation is informative, suggesting that incentives and/or policies put in place will help foodservice businesses make a leap towards something positive.

3. Although customers suggested they wanted to reduce single-use foodware, we observed low customer participation: Although our previous research shows that customers want more sustainable options to reduce single-use foodware, participation in the programs by customers was relatively low and slow to increase. This indicates that changing customer behaviour is a gradual process that requires persistent efforts and time. Such efforts should include incentives and/or fees to reduce the use of single-use foodware and switch to reusable.

4. Education and outreach to increase awareness and interest in reusable practices:

Although our efforts did not lead to big increases in participation, we did see that customers noticed our promotional materials and discussed the programming with foodservice business owners and operators. Ongoing engagement and education are likely essential tools to help overcome initial resistance to foster lasting behavioural change. Tools like posters and social media can spark conversations with customers and raise awareness.

Overarching Conclusions and Lessons Learned

5. Switching to reusable foodware can lead to significant waste reduction: Despite the low participation rates, the reduction in single-use foodware waste was substantial, with 1,125 single-use cups, 1,125 cup lids, and 290 single-use containers being diverted from disposal over a three-month period. This demonstrates the significant benefits of even modest shifts towards reusable practices.

6. Pilots should likely be extended in duration: It took a long time to recruit participants, which led to us having some foodservice businesses participate just for promotion versus starting a new program. Future pilots should allow more time for building these relationships. Getting the pilot in place as well as asking businesses to change practices to include these programs and also to collect data was a challenge. More time should be allotted for this transition. We also feel that our pilot timeline was insufficient to allow for measurable change. Based on our experience, we suggest that similar pilot programs should allot more time to set up the project and to the pilot itself.

Our key insight is that behavioural changes are challenging and take time. The pilot project showed that these changes are possible and beneficial, but engaging foodservice businesses and customers remains difficult. Future efforts should concentrate on this aspect, exploring the implementation of incentives, fees, and or policies to drive participation. While policy changes may not always be popular, several foodservice businesses indicated that such measures could level the playing field, ensuring that efforts to reduce single-use foodware and improve the environment do not negatively impact their profitability.

Recommendations

Building on the findings of the pilot, we make the following recommendations:

1. Implement gradual regulations requiring foodservice businesses to offer returnable takeout services and broaden participation.

- Encourage more foodservice businesses to join the initiative through policies. Increased participation can lead to greater community impact and potentially lower costs through economies of scale.
- Regulations could initially target larger chains or focus on one item at a time, such as cups or containers, before expanding to other types of foodware and businesses.
 - Larger foodservice chains can set trends that smaller foodservice businesses may struggle to establish on their own. When customers see others participating, they are more likely to follow suit, making it vital for major chains to take a leading role.

2. Improve convenience:

- To make reusable takeout services mainstream, it is crucial to increase the availability and accessibility of these services. Customers are more likely to embrace sustainable practices when they are easy to adopt. This includes increasing the number of return locations and improving ease of use, which can lead to greater customer participation. This initiative can mainstream and normalize these alternatives.
- Local government could support adding drop-off locations for returnable foodware for takeout around the city.

3. Enhance educational and communication efforts:

- Continue and expand educational campaigns to include more diverse messaging and outreach strategies.
- Reinforce the need to reduce single-use foodware through government-led promotions, such as TV ads, news channels, billboards, and public transport signs.
- Develop strategies to incorporate messaging into app-based orders like Uber Eats, DoorDash, SkipTheDishes and others to enhance communication and visibility.

4. Increase incentives for customers and foodservice businesses:

- Implement incentives, such as discounts, loyalty programs and other rewards, to encourage the consistent use of reusable options from customers.
- Offer subsidies to the foodservice businesses to offset the initial costs of transitioning to returnable takeout services.

Acknowledgements

Many individuals and organizations enabled the success of this research. We acknowledge that this project is supported by [Partners in Project Green](#), a program of [Toronto and Region Conservation Authority](#) and [Environment and Climate Change Canada](#). We would like to thank the six foodservice businesses for kindly participating in this study. Lastly, we would like to thank Susan Debrececi for reviewing this report and supporting the project with communication.

Project supported by:



This project was undertaken with the financial support of:
Ce projet a été réalisé avec l'appui financier de :



Environment and
Climate Change Canada

Environnement et
Changement climatique Canada

References

- City of Toronto. (2024). Single-Use and Takeaway Items Reduction Strategy. <https://www.toronto.ca/services-payments/recycling-organics-garbage/long-term-waste-strategy/reducing-single-use-takeaway-items/single-use-takeaway-items-reduction-strategy-bylaw/>
- City of Toronto. (2024). By-law 68-2024 To adopt a new City of Toronto Municipal Code Chapter 702, Single-Use and Takeaway Items. <https://www.toronto.ca/legdocs/bylaws/2024/law0068.pdf>
- Environment and Climate Change Canada. (2020). Science assessment of plastic pollution. <https://www.ic.gc.ca/eic/site/101.nsf/eng/00087.html>
- Environment and Climate Change Canada. (2023). Single-use Plastics Prohibition Regulations - Overview. <https://www.canada.ca/en/environment-climate-change/services/managing-reducing-waste/reduce-plastic-waste/canada-action.html>
- Gutierrez, R. F., Alfred, E., Rochman, C.(2022). Food service businesses in Toronto are willing to change their practices around single-use and reusable foodware. University of Toronto Trash Team. https://uofttrashteam.ca/wp-content/uploads/2022/03/Report_food-service-businesses.pdf
- Gutierrez, R. F., Alfred, E., Behrendt, L., Rochman, C.(2023). Reducing Single-use Foodware on Toronto's Waterfront Understanding the challenges and opportunities for local businesses and customers. University of Toronto Trash Team. <https://uofttrashteam.ca/wp-content/uploads/2023/06/Single-Use-Foodware-Toronto-Waterfront-2023-Report.pdf>
- Gutierrez, R. F., Alfred, E., Schutt, V., Rochman, C. (2024). Informing the reduction of single-use foodware: one neighbourhood at a time. https://uofttrashteam.ca/wp-content/uploads/2024/Final-Reusable-project_-Report2024.pdf