

RESIDENTIAL CURBSIDE FOOD WASTE COLLECTION PILOT PROJECT



United States Department of Agriculture (USDA)
Composting and Food Waste Reduction (CFWR) Pilot Project
USDA-NRCS-NHQ-CFWR-23-NOFO0001235

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^{**}Project narrative, budget narative, and letters of support are available online**

https://www.columbus.gov/foodwaste/

I. Introduction

The City of Columbus is requesting \$400,000 from the USDA's Composting and Food Waste Reduction (CWFR) pilot project program to support a two-year, residential curbside food-waste collection pilot project. Columbus (906,528 residents) is the 14th largest city in the United States, and the largest city in Ohio. It is at the center of a region experiencing significant growth, with 3 million residents predicted by 2050. This predicted growth will likely be accelerated by Intel Corporation's 2022 announcement that it was constructing two semiconductor factories in Central Ohio, just outside of Columbus' corporate limits. Intel has described its site as a "mega-site," and its investment will significantly impact growth and accelerate the need for additional housing, greater densification, and expanded local waste infrastructure throughout Columbus and Central Ohio. Improving organic waste diversion is a central strategy in how Columbus and Central Ohio plan to ensure local waste infrastructure can continue to meet city and regional demands.

This curbside collection pilot project is one prong of a three-pronged approach Columbus is using to improve organic waste diversion. The other prongs are (1) a community food waste collection program launching in 2023, and (2) supporting community composting at community gardens across neighborhoods. These programs, which are all managed by the Public Service Department's (DPS's) Refuse Collection Division, combine education and community outreach with community drop-off sites. Residents will be able to drop off their food waste at five different community pickup sites or xyz community garden composting sites. The collection programs are complimentary, and essential to helping meet city and regional organize waste diversion goals.

Expanding and improving organic waste diversion rates are essential for achieving the ambitious goals laid out in Columbus' first Climate Action Plan (CAP). ⁶ The City adopted the CAP in December 2021, and it has committed to ambitious goals of a 45% reduction

2019 SWACO Landfill Waste Characterizations Final Report ⁵	Tons per year	%
Other compostable fiber	22,980	7.2%
Yard waste	18,239	5.7%
Edible food scraps – non-packaged	17,724	5.6%
Edible food scraps – packaged	15,363	4.8%
7D 4 1	54.20 6	22.20/

Total: 74,306 23.3%

in emissions by 2030 and carbon neutrality by 2050. The overwhelming majority of greenhouse gas (GHG) emissions from the waste sector are directly tied to methane emissions. Waste diversion is the most efficient way for reducing the amount of GHG generated by landfills, while simultaneously reducing growing landfill space demands. This application helps achieve two CAP

¹ "Fastest-Growing Cities Are Still in the West and South," CB22-90, U.S. Census Bureau, May 26, 2022, https://www.census.gov/newsroom/press-releases/2022/fastest-growing-cities-population-estimates.html.

² The Mid-Ohio Regional Planning Commission (MORPC) estimates that Columbus and Central Ohio, will grow to 3 million residents by 2050. See "2018-2050 Population Growth Projects," MORPC, last accessed Jan. 17, 2023, https://www.morpc.org/wordpress/wp-content/uploads/2020/09/MORPC-POPULATION-PROJECTIONS.pdf

³ "Innovating and Investing in Ohio," Intel Corporation, last accessed Jan. 17, 2023, https://www.intel.com/content/www/us/en/corporate-responsibility/intel-in-ohio.html.

⁴ The Division of Refuse Collection provides weekly curbside trash collection services for more than 340,000 households in Columbus, and it manages the contract for the city's weekly curbside recycling program. More information about the division is available at https://www.columbus.gov/publicservice/Refuse-Collection/

⁵ The 2019 SWACO Landfill Waste Characterization Final Report can be downloaded directly at https://www.swaco.org/DocumentCenter/View/1698/SWACO-WCS Final-Report 2018-19.

⁶ The Columbus Climate Action Plan (CAP) can be downloaded directly at https://www.columbus.gov/WorkArea/DownloadAsset.aspx?id=2147522706.

⁷ The city is also working towards a goal of implementing zero emission fleets, including pursuing its first-ever allelectric trash truck, electric box trucks for recycling and trash container delivery, and charging stations.

goals for 2050: (1) 90% reduction in organic waste, resulting in 133,784 MT of GHG; and (2) 2,000 green jobs created related to circular economy.

According to the Solid Waste Authority of Central Ohio's (SWACO's) 2019 Landfill Waste Characterizations Final Report, the Columbus residential waste stream going to the landfill has up to **29% compostable materials** and 21% other recoverable materials. Looking deeper at the waste study, there are a host of materials that can have a market in the circular economy through organics composting. This circular economy includes new jobs created by collected and hauling materials, and additional fertilizers and soil conditioners created by composting the organic food waste. Columbus already produces a range of compost products, including Com-Til,⁸ and the additional food waste materials collected curbside would provide significantly more materials for composting and circulating back into the market.

The expansion and accessibility of food waste drop-off and collection infrastructure and education for residents is essential for encouraging wide-spread adoption and utilization. Education around the importance of diverting food and organic waste from the landfill will help bring awareness and help change waste behavior.

Not only will diverting food and organic materials from the landfill help reduce methane gas emissions but it will also generate a product that can be used by agricultural applications through compost and fertilizers derived from that waste. With agriculture being the number one industry in Ohio and the state having more than 13 million acres of farmland, compost material can play a critical role in creating a circular economy where food scraps can feed the farms growing throughout the state. Columbus already produces a range of fertilizers and soil conditioners from treated bio-solids and compostable materials, and this project will help identify the feasibility of incorporating food waste collected curbside into these products or generating a new agricultural end product. 10

Columbus' proposed pilot project not only has the potential to support a circular economy, but it also directly support's the Columbus and Franklin County Local Food Action Plan (LFAP). This plan is a partnership between Columbus and Franklin County, and it is a community plan to create a stronger, more sustainable food system. These actions will bolster the LFAP's existing food waste prevention goals and efforts, while supporting new and impactful strategies that decrease the amount of food-related waste going to local landfills. The key actions of the LFAP include: (1) Expand food waste prevention education campaigns for consumers, local governments, Pre-K-12 schools and food businesses, (2) Leverage food waste reduction resources and strategies to increase the number of residents who access training, education and equipment for effective backyard composting, (3) Recommend changes to policies, zoning and health codes that support and encourage food waste recovery and diversion, and (4) Build support for food waste recovery infrastructure among local leaders and large-scale food waste generators.

⁸ More information on Columbus' Com-Til is available at https://www.columbus.gov/utilities/water-protection/comtil/

⁹ "2020-2021 Annual Report," Ohio Department of Agriculture, available for download at https://agri.ohio.gov/divisions/communications-office/annual-report

¹⁰ More information on Com-Til Compost is available at https://www.columbus.gov/utilities/water-protection/comtil/.

¹² LFAP's S Goal D is preventing food-related waste.

II. Goals, Objectives, and Milestones:

Columbus is building out its organic waste diversion infrastructure and education programs, and it is looking to expand those efforts by creating an additional opportunity for residents to have the opportunity to participate in a curbside food waste collection subscription program. When Columbus first tested residential recycling efforts, a pilot subscription program was created where up to 10,000 households signed up and paid an additional subsidized fee for curbside recycling collection. This model helped determine interest, learn how residents utilized the program, and tested education and outreach efforts that ultimately helped launch a citywide curbside recycling program that was free for all residents. Columbus is hoping to use a pilot program gather similar lessons learned for curb-side food-waste collection.

The City is currently opening multiple food waste drop-off sites in geographically and socioeconomically diverse communities. Five locations will be operational in 2023, and additional drop-off sites are planned throughout the city, and the city are working to expand and create community compost sites at community gardens. But all of these options require residents to transport their food waste to a location other than their place of residence. Unlike curbside collection for trash and recycling, this drop-off model for food waste is not nearly as convenient.

To create an additional opportunity for residents and determine the feasibility of expanded and/or citywide curbside food waste collection, a pilot program will be created, which will provide curbside collection for up to 10,000 households. Households will be able to join a subscription program, at a significantly reduced cost, \$5 per month. This cost is comparable to the subscription cost when Columbus used a pilot subscription program to evaluate the feasibility of curbside residential recycling. The CWFR funds would primarily be matched with local funds to subsidize the subscription program.

Columbus is committed to having an equitable program and ensuring that there is an equal opportunity for all households to be able to sign up and participate regardless of where they live. Using the US EPA's Climate and Economic Justice Screening tool, census tracks throughout the city will be allocated a specific number of sign-up opportunities based on population. This will help ensure that the growing New American populations, as well as underserved and communities of color have the opportunity to participate. This allotment system will also help ensure route density for collection and help track metrics by neighborhood in terms of participation, setout rates, contamination, and other factors that may be tracked throughout the pilot.

The proposed residential curbside food waste subscription collection program will have a measurable impact towards a sustainable diversion program poised for long-term success and growth. Participation and collection data from this pilot program will also help city staff determine the feasibility of incorporating curbside food waste into the range of Com-Til Compost fertilizers and soil conditioners that Columbus already produces from treated bio-solids and other compostable materials.¹³

Goals:

• Create an equitable, accessible, and affordable subscription residential curbside food waste collection program that fuels a local and regional circular economy.

• Measure the amount of organic material diverted from the landfill.

 $^{^{13}\,}More\ information\ on\ Com-Til\ Compost\ is\ available\ at\ \underline{https://www.columbus.gov/utilities/water-protection/comtil/}.$

- Determine feasibility of incorporating the diverted organic materials into fertilizers and soil conditioners.
- Capture participating resident feedback to refine the pilot program and use the data to scale up a long-term solution for residential food waste collection.
- Develop best practices that are replicable by other communities to increase organics participation.

Objectives:

- Achieve the 2030 and 2050 CAP goals for organics and circular economy.
- Have 10,000 households participating in a residential curbside food waste collection subscription pilot program.
- Divert up to 2,500,000 pounds of food waste from the landfill.

Milestones:

- 2024:
 - o Establish allotment geographies
 - o Create RFP and select hauling vendor through city's competitive bid process
 - o Begin resident education on food waste subscription pilot program
 - o Create resident sign-up portal and open it to public
 - o Start residential food-waste collection for 12 months
- 2025:
 - o Complete residential food-waste collection
 - o Track metrics and resident survey responses
 - o Project close out and identify next steps

III. Procedures and Work Plan:

This two-year program will be broken in to two distinct phases: (1) Program development and (2) Program execution. The following 24 month work plan is entirely flexible, depending upon when grant agreements are executed and funding becomes available. The first phase will begin in 2024, the second phase in 2025, and completing by the end of 2025. Over the duration, the pilot program will go from planning to implementation and result in the City of Columbus successfully executing a residential food waste curbside collection subscription program.

By the launch of this program, Columbus will have five food waste drop-off sites open to residents. Data regarding the amounts and types of food waste dropped off will help inform and develop the curbside program; and communication and educational materials for these sites will provide a basis for publicizing the curbside pilot and educating participants.

A. Phase I: Program Development (2024)

1. Establish geographies and create allotments. (January 2024-Feburary 2024)

The City of Columbus has more than 200 neighborhoods. To empower residents, the City created Area Commissions that are resident-based recommending bodies to serve as a voice for the community. There are currently 21 area commissions that cover the entire population of the City.¹⁴

Using Area Commissions plus data from the US EPA's Climate and Economic Social Justice Tool, the City will create an allotment of households that helps ensure residents have an equal

¹⁴ "Columbus Area Commissions." Department of Neighborhoods, City of Columbus, available at https://cbusareacommissions.org/

opportunity to sign up for the program and that the program is distributed geographically across all neighborhoods.

2. Create RFP and select hauling vendor through city's competitive bid process (January 2024-August 2024)

As part of the City's five food waste drop-off sites that are planned for 2023, a private hauler was contracted to service those sites. The City will use its competitive bid process to solicit applications and ultimately bring on board a vendor to execute the collection, hauling, and composting of the food waste generated through this program. Columbus is committed to ensuring meaningful opportunities for Minority-Owned and Women-Owned Business Enterprises (MBE/WBEs) and Small Local Business Enterprises (SLBEs) to participate in its construction, professional services, and goods and services contracts. In administering this Supplier Diversity Policy, Columbus takes all necessary and reasonable steps to ensure business enterprises certified as MBE/WBEs have an equal opportunity to participate in city contracts. It is Columbus' policy to create contracting opportunities for MBE/WBEs and SLBEs in its construction, professional services, and goods and services contracts. The MBE/WBE and SLBE Programs ensure contracts are awarded in a manner that promote economic inclusion. Administration of the MBE/WBE Program is afforded the same priority as compliance with all other legal obligations. Free gender and race-based certification is offered to make it easier to identify those ready, willing, and able to perform on contracts. 15The City will purchase 5-gallon buckets for all household participants. These buckets will include information on food scrap composting and be part of the larger container management that the Division of Refuse Collection oversees with both trash and recycling containers.

3. Create resident sign-up portal (March 2024-May 2024)

An online sign-up system will be created to allow residents to sign-up for the program. This system will use the allocations and geographies to create an equitable and balanced number of registrations spread out across the numerous neighborhoods. The portal will allow residents to commit to the program, set-up their subscription, confirm their address and contact information, collect payment information, and opt-in for program updates. The portal will come online several months prior to the launch of the collection to allow for enough signups and give time for buckets to be delivered to residents prior to service starting.

4. Begin resident education on food waste subscription pilot program (April 2024-September 2024)

To ensure adequate levels of sign-ups, a multi-month education campaign promoting the upcoming launch of the program will help give residents the opportunity to learn more. Using earned media, social media, elected officials, and a paid promotion, residents will learn of the importance of food waste and options to reduce waste. In addition to the promoting the curbside subscription program, these efforts will give options including backyard composting, community garden composting, and have locations of the City's food waste drop-off sites across the community.

5. Open resident sign-up portal and select households (June 2024-September 2024)

An online sign-up system will be created to allow residents to sign-up for the program. This system will use the allocations and geographies to create an equitable and balanced number of registrations spread out across the numerous neighborhoods. The portal will allow residents to commit to the program, set-up their subscription, confirm their address and contact information, collect payment

^{15 &}quot;Minority, Women, and Veteran Business Enterprise Certification: Policy" City of Columbus, https://www.columbus.gov/odi/supplier-diversity/Business-Certifications/

information, and opt-in for program updates. The portal will come online several months prior to the launch of the collection to allow for enough signups and give time for buckets to be delivered to residents prior to service starting. In the event that not enough residents sign-up in a specific area after the first 30 days the portal is online, a re-allocation of spots will be considered to help create enough density for routes and that all available spots are able to be filled prior to the program launch.

B. Phase 2: Program Execution (2024-2025)

I. Launch curbside program (October 2024-September 2025)

The curbside collection program will launch across all neighborhoods with a collection schedule distributed to participants in advance. There will be weekly service at each household.

Monthly updates via email and social media will be sent to participants that share helpful tips, metrics including the total amount of food waste collected, and other important program information monthly.

Every month, the program will be evaluated and adjusted to fill open spots, remove households that have significant contamination, and other items that may arise and impact the effectiveness of the pilot program.

A payment model will be created for either monthly, 6-month, or annual billing that will be subsidized by the City.

It is estimated that it will cost approximately \$9 per month per household for collection, which would be approximately \$1,080,000 over 12 months for up to 10,000 households. A significant portion of the CWFR funds and Columbus' local match would be used to subsidize the collection costs, and cap the subscription fee to \$5 per month for participating households. This help increase affordability while still having residents invest in the program.

2. Track metrics and resident survey responses (October 2024-September 2025)

Throughout the program, the collection of quantitative and qualitative data will be part of all aspects. This will help measure the success of the work and provide information to build upon this program and future food waste work in the City. Data will also be available to others interested in starting similar programs so that best practices and lessons learned can be shared. Data collected may include:

- Number of participants (households and individuals)
- Amount of food waste collected
- Resident knowledge and interest
- Challenges with the program
- Suggestions for improvement
 - 3. Project Close-Out (October 2025-December 2025)

Complete review of data collected throughout pilot project, compile final report, and identify next steps.

C. Staff Expertise and Qualifications

The City of Columbus Division of Refuse Collection provides weekly, curbside trash collection to more than 340,000 Columbus households. The division also manages regular collection of curbside residential recycling and yard waste. As the number of households grows, the division's planning efforts and innovative use of technology and data will continue to drive how Refuse Collection provides trash, recycling, and yard waste pickup services as efficiently as possible. It

is a significant point of pride that, more than 99 percent of the time, residents get their trash picked up by the Division of Refuse Collection on their scheduled weekly collection day. The division will take this same pride and customer service focus to the proposed residential curbside food waste subscription pilot program in this application. The division is dedicating frontline and management staff to lead this work, prioritizing waste diversion and sustainability efforts across the current work, and continuing to fund programs and infrastructure to transition the division to meet the goals of 95% organic diversion by 2050.

Leading this project will be Tim Swauger, Division of Refuse Collection Administrator, and Aryeh Alex, Sustainability Manager and Keep Columbus Beautiful Executive Director—both staff members in the City's Department of Public Service.

Tim Swauger has been serving as the Administrator for Division of Refuse Collection for the last 6 years, leading a team of over 200 employees and managing operating and capital budgets totaling nearly \$100 million. The Division is responsible for the citywide residential collection of trash, yard waste and recycling materials, and the Keep Columbus Beautiful (KCB) program and serves over 350,000 residential locations. Since joining the Division of Refuse Collection in 2016, Tim has led various initiatives aimed at improved productivity and expanding services, including the optimization of refuse routes through GIS mapping, the addition of the Solid Waste Investigation program to city code, and the expansion of residential curbside recycling. Tim is a member of the Solid Waste Association of North America (SWANA) and collaborates with other cities to continue to improve waste services while leading the way for sustainability practices that will reduce waste, increase diversion, and create green jobs.

Aryeh Alex leads sustainability efforts in the Division of Refuse Collection where he is tasked with executing three key sections of the city's Climate Action Plan related to recycling, organics, and building a circular economy. Aryeh also oversees the Keep Columbus Beautiful program that leads in volunteer litter cleanups, community beautification projects, and sustainability education. Over the past twelve months, these projects have included an ongoing 10,000 apartment unit multifamily recycling pilot, an Ohio State University off-campus move-in/move-out recycling program, the first-ever pumpkin composting drop-off, and two neighborhood-based door-to-door recycling education campaigns that focused on increase participation and reduced contamination in recycling. Aryeh also serves as a Park Commissioner with the Columbus and Franklin County Metro Parks, a volunteer leadership position that oversees a \$40 million annual park budget. Aryeh will be the primary staff contact for Columbus.

Primary Staff Contact: Aryeh Alex, Sustainability Manager and Keep Columbus Beautiful

Executive Director

Address: 2100 Alum Creek Drive, Columbus, Ohio 43207

Phone: 614-645-3171

Email: AWAlex@Columbus.gov

IV. Collaborators:

I. Solid Waste Authority of Central Ohio (SWACO)

SWACO serves Franklin County and neighboring areas with solutions for solid waste. It is one of 52 solid waste districts created by the Ohio General Assembly in 1989. These districts were established with the mission of reducing reliance on landfills. Acting upon that mission, SWACO provides consumers recycling opportunities around Franklin County at our recycling drop off-

locations. SWACO's mission is to manage the waste stream to enable community growth, prosperity, and environmental stewardship. Columbus has a close working relationship with SWACAO, as more than 60% of all materials going to SWACO's landfill are generated from Columbus residents. Shared goals of waste diversion, increase in recycling, and build out a food waste program extend the landfill's life and makes neighborhoods healthier and more sustainable. To address the concerning issue of food waste in our community, SWACO and the Central Ohio Food Waste Imitative came together to create the "Save More Than Food" — an awareness campaign dedicated to sharing the impact that food waste has on the health of our community, economy, and environment.

Staff Contact: Jane Boehm, Food Waste Administrator

Address: 4239 London Groveport Road, Grove City, Ohio 43123

Phone: 380-799-2438

Email: jane.boehm@swaco.org

2. Columbus Public Health

This City of Columbus department is charged with assuring conditions in which people can be healthy. Columbus Public Health is made up of a range of programs providing clinical, environmental, health promotion, and population-based services. One of the programs is the execution of the Local Food Action Plan, a community planning effort to create a stronger, more sustainable local food system. The Columbus & Franklin County Local Food Action Plan¹⁷ provides common goals and actions to unify efforts in growing, processing, transporting, selling, consuming, and disposing of food. The Plan seeks to address inequalities in access to healthy food, affordable food, and local food. A key goal of this plan is to prevent food-related waste. Food inspectors are being trained to better identify and reduce food waste as well as building connections with community and non-profit led entities that rescue food throughout the region.

Staff Contact: Karima Samadi, Policy Analyst – Food Systems

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V. Evaluation:

Anticipated output is to meet the Columbus CAP goals of 74,700 tons of organics being diverted from the landfill by 2030 through programs like this pilot and additional food waste programs throughout the City of Columbus.

Data collection will help ensure that these programs are not only performing to the best of their ability but are meeting the needs and demands from residents and industries as our city's organics diversion programs continue to advance. Data will be collected through participant surveys, weekly collection reports from the hauler, and formulas used to extrapolate information from the operation.

Quantitative data to be collected will include but not limited to the following:

• Number of participants/users of the programs

¹⁶ The Save More than Food initiative website is available at https://savemorethanfood.org.

¹⁷ Available at: https://www.columbus.gov/publichealth/programs/Local-Food-Action-Plan/

- Weight of materials
- Diversion rates
- Contamination rates
- Frequency of use by residents
- Total emissions saved, and
- Cost savings to residents

Qualitative data will also be collected and used to measure the success of programs. This data will be captured using ongoing resident surveys at the point of collection. Responses will help inform the operations and access of infrastructure to communities and ensure that they continue to be accessible and beneficial.

Combined, the qualitative and quantitative data will help replicate programs throughout the City of Columbus and be available to other communities to develop and execute and build upon these programs as investments in recycling and organics infrastructure continue to be made throughout Ohio, the Midwest, and the country.

VI. Self-Sustainability:

The City of Columbus is dedicated to the success and long-term diversion of food waste from landfills, and this diversion effort is a key part of the city becoming carbon-neutral by 2050. The Mayor's 2023 budget includes substantial new funding dedicated to these goals, including: five staff positions for a two Waste and Reuse Convenience Centers and three pilot food waste drop-off sites. This funding will help develop the long-term infrastructure needed for the region's waste diversion programs. The city will continue prioritizing and expanding this work as it moves closer towards attaining its the overall waste reduction and diversion goals.

All the elements of this project will be replicable within the city, region, and in other areas across the country. The residential curbside collection pilot program will provide a model for other municipalities in Ohio to similar programs further capturing and diverting food waste from landfills. Collected data, lessons learned, and best practices will be help sustain Columbus' efforts, and provide replicable guidance to others interested in developing similar infrastructure and programs.

This pilot will help the City determine how best to expand programs like this and other food waste collection options for residents to help achieve the City's Climate Action Plan goals. Other factors supporting the sustainability of food waste diversion is the growth of community garden composting and the addition of more food waste drop-off sites across Columbus. There are over 150 community gardens in the city and if each were generating a similar amount of compost, that would equal 36 tons of material diverted annually. These community garden sites will also play a role in generating fresh produce for the neighborhoods they serve and create a space to educate residents and the community about organic waste. These neighborhood hubs also provide a gathering place, connection to nature, and an opportunity to learn about and expand composting and food waste reduction. Many of these community gardens are in the same CEJST identified disadvantaged communities that are the focus of Columbus' Food Waste Drop-Off Sites.