



# **Compost for Columbus: A Policy Benchmarking Project**

*RFP EEDS016*

Final Report

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## **Executive Summary**

The purpose of this report is to help the Compost Exchange and other composting stakeholders better understand how composting services can be increased in Central Ohio amid the landscape of policy and infrastructure dynamics that influence the economics and logistics of composting services. In order to do so, our team benchmarked other cities that have implemented waste bans, researched current compost policies and regulations statewide and in Central Ohio, examined the demographics of Ohio suburbs to identify likely communities where composting can be enhanced, considered political barriers to composting policy, and examined infrastructure dynamics, particularly in relation to the Solid Waste Authority of Central Ohio (SWACO). We conducted key informant interviews with staff at SWACO, Ohio Environmental Protection Agency (EPA), Ohio State University, and other municipalities to complement information we obtained through literature and online research, and we combined the results from all of these methods to produce a list of recommendations for how to improve composting in Central Ohio.

Seven cities in the United States currently have food waste bans that serve as a benchmark to compare to a Central Ohio baseline. Austin, TX proved to be the most similar city to Columbus that currently has a food waste ban. Analysis of local demographics provided perspective on which composting policies might be most likely to be developed around Central Ohio. Key informant interviews added detail to our understanding and also provided a number of specific recommendations. Key barriers to food waste policies being passed in Central Ohio are political considerations, infrastructure, contamination, funding, and enforcement. As Central Ohio does not have any current food waste policies, this project focused on the steps necessary to prepare for one but also considered future barriers. This report highlighted recommendations to overcome these

barriers, with a focus on collaboration between government agencies, the private sector, and stakeholders to efficiently use resources and support available.

## **Background: Why Composting is Critical**

Approximately a third of domestic food supply produced for human consumption becomes food loss or waste annually in the United States (Busby, 2022). *Food loss* arises during the production, processing, storage, and distribution phases or, prior to reaching the consumer in the food life cycle (Harvard T.H. Chan School of Public Health). *Food waste* is food that is still consumable by humans but is prematurely discarded during the retail and consumer phase (Harvard T.H. Chan School of Public Health). Both are *organic waste*, which is any substance originating from an animal or a plant that microorganisms can decompose (Commission for Environmental Cooperation, 2017). When organic waste goes to a landfill, it produces swaths of methane, a potent greenhouse gas (GHG), which exacerbates climate change (Buzby, 2022). Decomposition of organic material in landfills emits about 14.5% of all methane emissions in the United States annually, making it the third-largest single source of methane emitted by human activity (Buzby, 2022). GHG emissions associated with food production, manufacturing, and handling of food that eventually becomes food loss and waste are estimated to be equal to the amount of carbon dioxide equivalent (CO<sub>2</sub>e) emitted by 42 coal-burning power plants or about 170,000,000 metric tons of CO<sub>2</sub>e annually excluding methane emitted in the landfill stage (Buzby, 2022). In 2021, the United States Environmental Protection Agency found that food waste is the greatest individual material that is thrown away, making up approximately 24% of all waste in landfills annually (Buzby, 2022).

Meanwhile, composting production is connected to significant socioeconomic advantages. It is estimated that \$16 billion in municipal solid waste costs could be saved if the United States

increased its current compost to waste ratio from 10% to 28% by 2030 (Farhidi et al., 2022). Global annual compostable waste generation is projected to increase by 70% in 2050, which if not composted will apply expensive pressure to landfills, increase GHG emissions and cause contamination of drinking water resources and soils that are expensive to mitigate (Farhidi et al., 2022). It is estimated that each \$10 million invested in composting production creates 17 times more employees than trash incineration and twice as many jobs as landfill operations (Farhidi et al., 2022). Increased composting rates also reduce waste costs for individual consumers (Fahidi et al., 2022). Globally in 2019, the externalities associated with food production and food waste were equivalent to a trillion dollars in economic costs, and \$900 billion in social costs (Farhidi et al., 2022).

Food waste makes up 12.8% of all mass that is landfilled annually in Franklin County and is the largest individual source of material landfilled by weight (Marsh et al., 2019 & “Thankful”, 2022). Annual food waste in Central Ohio is equal to businesses and residents throwing out almost 1,000,000 pounds of food every day (“Thankful”, 2022). Yearly, this waste costs \$6 million to landfill and its economic loss is approximately \$106 million (Marsh et al., 2019). This equates to 192 million meals thrown away while 69 million meals are missed by Franklin County residents who are going hungry each year (Marsh et al., 2019). When food is thrown away, all of the emissions and natural and fiscal resources required to produce it are wasted. Food waste in Central Ohio is equal to wasting 41 billion gallons of water, 22 million gallons of gasoline, and 160 thousand acres of land (Marsh et al., 2019). The lack of large-scale composting is costing Central Ohio environmentally and economically. Food waste bans and incentivized food waste reduction policies would diminish these harmful effects.

# **The Project**

## **Introduction**

This report investigated the current waste infrastructure, regulatory agencies, current policy, and local demographics of Central Ohio to create a baseline to compare to cities that have successfully passed food waste bans. Our methods included online and literature research, and interviews with key informants. The results of this project take the form of recommendations to improve the composting system of Central Ohio.

## **The Compost Exchange**

Having access to composting services allows food waste to break down organically and is critical in diverting waste from landfills. The Compost Exchange (TCE) is a private composting company that provides composting educational resources and residential pick-up and drop-off composting services in select municipalities of Central Ohio. Annually, TCE diverts around 437 tons of food waste from landfills. TCE aims to expand composting services, accessibility, and education throughout Central Ohio. In an effort to increase composting reach in Central Ohio, the director of TCE requested a report investigating possible food waste policy and development barriers. TCE provided the study “Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organic Recycling Laws” (Farhidi et al, 2022) as a starting point for this project.

## **Benchmarking**

“Bans and Beyond” is a policy design and implementation tool that investigates seven cities in the United States that have implemented organic waste and disposal bans: Austin, TX, Hennepin, MN, Metro OR, San Francisco, CA, Seattle, WA, and Boulder, CO. The term “organic

waste ban” includes all policies that restrict the amount of food waste or organic waste that food businesses or individuals can dispose of, as well as policies that require the diversion of food waste or subscription to a collection service to send food scraps to a composting or anaerobic digestion (AD) facility (Sandson and Broad Leib, 2019). Disposal bans prohibit covered entities from sending organic waste or food waste to the landfill but do not specify what covered entities must do with that waste (Sandson and Broad Leib, 2019). “Bans and Beyond”, provided a benchmark to compare cities that have passed food waste bans to Columbus to understand the favorable conditions for passing and aspects of policies passed. “Bans and Beyond,” included information on the requirements and enforcement of food waste bans as well as analyzing the demographics of each of the seven cities with organic waste bans (see Appendix I). The political majority, median resident age, population, and income were significant factors that supported food waste bans being implemented in other cities. All the cities with bans have a relatively young median age ranging from 28-38 years old and a democratic majority within the population. Favorable local demographics that support food waste bans were instrumental in passing these public policies in other American cities which prompted an investigation into current Central Ohio demographics.

Key Columbus demographics provide a baseline to compare to demographics of cities that supported food waste bans being implemented (see Appendix II). Columbus has a population of 906,528, a median age of 32.4 years, and a median household income of \$54,902 (United States Census Bureau, 2021). The cities with implemented food waste bans had a population of 965,872, a median age of 36, median household income \$81,169, and usually has a democratic political majority (see Figure 1). Columbus not only has a democratic majority but the mayor, Andrew Ginther, is a member of the democratic party. Ginther supports environmental actions as he was the mayor to implement Columbus’ first Climate Action Plan, which is “a community roadmap to

achieve carbon neutrality by 2050 and 45% reduction of greenhouse gas emissions by 2030” (Moorman, 2021). The Climate Action Plan’s greenhouse gas reduction goal aligns with the positive benefits of composting and favors a potential food waste ban. Considering this information, the cities from “Bans and Beyond” were analyzed to assess how closely Columbus demographics match these cities, and which practices and policies from those other cities are most relevant to composting in Columbus.

**Figure 1: Benchmarking Table Comparing Columbus to Cities with Food Waste Bans**

<b>City</b>	<b>Population</b>	<b>Median Age</b>	<b>Median Household Income (2020)</b>	<b>Political majority (% democrat)</b>
Columbus, OH	906,528	32.4	\$54,902.00	64.7
Austin, TX	965,872	33	\$75,752.00	71
Boulder, CO	108,777	28	\$87,476.00	77
Hennepin, MN	1,255,000	36	\$81,169.00	N/A
Metro, OR	2,197,000	37	\$73,159.00	N/A
New York City, NY	8,380,000	37	\$67,046.00	76
San Francisco, CA	874,784	38	\$119,136.00	85
Seattle, WA	741,251	35	\$97,185.00	88

The benchmarking analysis concluded that Austin, Texas, is most similar to Columbus. Austin has a population of 965,872, a median age of 33, and political majorities most similar to Columbus, and both cities are home to a large university. The City of Austin’s commercial organics recycling law provides curbside composting service for residential customers and requires



food enterprise businesses to provide diversion services to send organics to a composting or material recovery facility (Sandson and Broad Leib, 2019).

The City of Austin implemented its residential and commercial composting program as a part of its zero-waste master plan (Saldana, 2021). This plan aims to divert 50 percent of solid waste from municipal landfills with an emphasis on minimizing consumption and reducing trash from the source by incorporating composting and improving recycling (Saldana, 2021). The most significant barriers for Austin residents to adopt composting were potential smells and contamination issues, large size of individual compost collection containers, and fiscal cost to consumers (see Appendix III). Consistent and ongoing public education was essential in addressing these obstacles. To further promote food waste diversion, the City of Austin offers composting guides on their website and in print for residents, hosts educational composting events, and continuously distributes thousands of countertop kitchen composting collectors to ease the process of dumping food waste into composting collection.

All seven cities experienced considerable obstacles during the implementation of food waste ban policies. The significant barriers were political considerations, infrastructure, contamination, funding, and enforcement in different degrees depending on the city. These considerations along with current policy, regulations, and absence of food waste plans also present a possible barrier to future composting laws in Central Ohio. We researched current laws surrounding waste and composting, and regulatory agencies to better understand the barriers and opportunities for greater composting in Central Ohio.

## **Current Policy and Regulations**

The Ohio Environmental Protection Agency (EPA) regulates waste, recycling, and composting for the state (US Composting Council, n.d). Rules for composting can be found in Chapter 3745 of the Ohio Administrative Code and composting laws are codified in Chapter 3734 of the Revised Code (US Composting Council, n.d). Ohio currently has a landfill disposal ban on yard waste but does not have any other organic disposal bans or recycling mandates ([NRDC], 2021). Composting conducted at a residence and or a facility that is less than 500 square feet are not subject to state composting regulations (US Composting Council, n.d). The Ohio EPA classifies composting facilities based on what types of organic waste they accept (US Composting Council, n.d).

The Ohio EPA provides a number of funding opportunities and educational materials to promote food waste reduction and composting (NRDC, 2021). Currently, Ohio does not have a comprehensive, statewide food systems plan to promote sustainability throughout the food life cycle (NRDC, 2021). Passed in 1988, House Bill 592 (HB 592) updated state solid waste regulation and created a solid waste management planning program to be administered on local and state levels (Solid Waste Management Plan, 2018). HB 592 requires Solid Waste Management Districts to meet a minimum of 8 out of 10 recycling and waste reduction goals (NRDC, 2021). These goals stress the necessity to scale-down reliance on landfills by increasing recycling, material reuse, and minimization (Solid Waste Management Plan, 2018). Additionally, HB 592 established the Solid Waste Authority of Central Ohio (SWACO) as a solid waste management district. SWACO is a governmental agency tasked with managing solid waste safety and sanitation within Central Ohio (U.S. House of Representatives, 2012). An accurate understanding of SWACO was key to identifying their role within the composting system of Central Ohio.

## **Support for Composting in Central Ohio**

SWACO acts as Central Ohio's lead waste facilitator under Ohio EPA's waste management plan and is responsible for creating, updating, and implementing a Solid Waste Management Plan (SWMP) as mandated by HB 592. Under the plan, SWACO contracts with private waste disposal services (i.e., Rumpke, Waste Management, or a smaller local service) to provide waste removal services across Columbus and suburbs. Per state requirements, the SWMP aims to reduce waste to the landfill through facilitation of other waste streams. SWACO promotes food capture before it becomes waste, educates the public about food safety, encourages food donation, and reduces the environmental externalities associated with landfilled food waste by increasing public education and promoting compost activities.

To meet mandated waste reduction goals, SWACO facilitates the Central Ohio Food Waste Initiative (COFWI), which coordinates with the Local Food Action Plan (LFAP), the Regional Food Action Plan (RFAP), and the Save More Than Food (SMTF) program. The COFWI provides centralized information to improve education and train residents to compost as individuals. The RFAP aims to reduce food waste by 50% in Central Ohio by 2030. The SMTF program is an educational support and outreach campaign that aims to increase awareness of the negative externalities of food waste, aims to reduce food waste, and provide support for composting. Together, these plans lay out a framework for the future of composting support in Central Ohio through food waste reduction and diversion.

Overall, SWACO supports increased composting, but will not facilitate regional composting pick-up. SWACO is currently seeking a private investor to fund a large-scale regional composting facility. Collaboration between SWACO and a private funder could build an

infrastructure framework and establish a main composting provider in the region. SWACO supports composting but maintains that services and infrastructure must be provided by the private sector and driven by public demand.

The City of Columbus also shows support for increasing composting through its own programs and initiatives (see Appendix VI). However, the City of Columbus affirms that demand for composting services must come from residents, its infrastructure must be built by the private sector, and must be coordinated with SWACO. SWACO and the City of Columbus identify lack of funding, infrastructure, and public education as barriers to increasing composting in Central Ohio (see Appendix III-VI for additional commentary on interviews with Austin, TX, Ohio EPA, SWACO, and the City of Columbus). Columbus's current solutions for 2023 include improvements to in-place infrastructure, introducing subscription based composting access to assess public demand, as well as developing infrastructure at urban gardens.

## **Barriers**

### **Ohio Politics**

The state's present politics are conservative and likely would not support a possible food waste ban. Currently, the governor's office, attorney general, secretary of state, and each chamber of the state legislature are controlled by the Republican Party (Ballotpedia, 2022). Traditional conservative Republican political views do not support government funding for public programs and are against increasing governmental regulation, which cuts support for a food waste ban at both legs (Adler, 2020). Furthermore, the majority of the Republican Party does not accept that climate change is real and human-caused (Adler, 2020). Governor Mike DeWine supports issues like clean air and clean water that help mitigate climate issues without addressing climate change

directly (see Appendix IV). Ohio does not currently have a state climate action plan, goals, or policy (NRDC, 2021). A state-wide climate action plan with goals and targets to reduce GHG emissions would make food waste ban policies more favorable (NRDC, 2021). The State Solid Waste Management Plan has goals for waste diversion and recycling, but Ohio does not require organic waste recycling or recycling (NRDC, 2021). Lack of political support for such environmental goals limits support for building composting infrastructure.

### **Infrastructure**

Infrastructure continues to be one of the biggest barriers to food waste bans in Ohio. The Ohio EPA conducted community engagement campaigns in 2007 and 2008 aimed at working with large commercial food distributors like Kroger, Giant Eagle, and restaurants to divert their food waste to composting facilities (see Appendix IV). There was supportive interest from the commercial food providers, but the campaign was fraught with infrastructure issues. Food waste collected from participating businesses produced vastly more liquid than anticipated due to food waste sitting in collection containers for too long before it was able to be transported, and transportation was delayed by infrastructure inadequacies. Eventually, the participating composting facilities stopped accepting food waste from the campaign. Lack of economic incentive contributed to the transportation, processing, and infrastructure issues. The results of this commercial composting pilot concluded that widespread composting in Ohio lacks proper infrastructure, and the Ohio EPA is unable to establish a composting program independently (see Appendix IV). The infrastructure must be built through the private sector by means of economic benefit to composting companies. At the time, the Ohio EPA concluded that it is necessary for the agency to provide better guidance, educational resources, and funding for composting facilities and food waste generators.

Large scale, dependable, and economic options for composting continue to be one of the greatest challenges to food waste composting (Central Ohio Food Waste Action Plan, 2019). A potential composting policy would only address food waste at the end of the food life cycle. However, if increased efforts were made to reduce food loss and food waste before the composting stage, this could relieve some of the infrastructure pressures on composting systems. Food donation and more informative food date labeling could help reduce how much food waste is created. Ohio currently has a strong policy protecting food donations from liability, though food donation is often too expensive for donors (NRDC, 2021). However, Ohio could provide further guidance and funding for food donors and implement free technical assistance to bridge policy gaps (NRDC, 2021).

Ohio does not offer supplementary tax credits or deductions apart from those provided by the federal government (NRDC, 2021). Ohio could promote food donation by awarding tax incentives to farmers and food distributors to offset costs associated with food donation and transportation (NRDC, 2021). Ohio currently only requires sell-by dates on food items, but this date reflects food quality not food safety (NRDC, 2021). Such misleading dates promote food items to be discarded prematurely, causing edible food to be thrown away by the consumer and distributor. To reduce food waste at the consumer level, Ohio could update date labeling to include quality-based and safety-based dates while investing in public education resources to help consumers understand the difference (NRDC, 2021). Furthermore, this could allow food distributors to donate food after the quality date has been based but prior to the safety date to increase food donation and divert it from the waste stage. By incentivizing food donation and increasing food quality knowledge, less food waste would reach the composting stage, relieving pressures on composting infrastructure and supporting large scale composting.

An additional barrier to widespread composting in Ohio is a lack of collaboration between stakeholders, the private sector, the public sector, and regulatory agencies. For instance, local zoning laws could impede grassroots composting initiatives. Composting definitions vary between agencies like the Ohio EPA and the Ohio Department of Agriculture which, if aligned, would further promote composting activities (see Appendix IV). Without collaboration between the private, public, and residential sectors, residents are uninformed on already available frameworks, such as SWACO's resources and TCE's composting services. The Ohio EPA said that even the current Ohio administration is asking for agency collaboration to maximize efficiency.

## **Recommendations**

### **Central Ohio**

#### **1. Infrastructure**

- Take advantage of the infrastructure that already exists, such as SWACO and City of Columbus initiatives.
- Implement and update current permitting and zoning laws to support current and future composting facilities.
- Utilize smaller and increase quantity of processing facilities in geographically dispersed locations to reduce infrastructure costs.
- Follow the City of Columbus 2023 plans, which include implementing composting at five urban farms and starting a subscription-based curbside composting program.
- Identify financial barriers and establish opportunities for SWACO's proposed regional composting facility.

- Establish a collaborative council of representatives from public agencies, regional waste services providers, stakeholders and current and future composting service providers.
- Coordinate between Ohio cities to share waste hauling trucks to reduce costs associated with food waste transportation.

## 2. Political Considerations

- Increase collaboration between public agencies to increase efficiency and align rules, laws, and services.
- Establish a state-wide climate action plan with food waste reduction and composting targets.
- Require safety-based food labels in addition to current quality based-dates and provide educational resources to consumers.
- Conduct an economic analysis of proposed food waste bans to address opposition by quantifying its economic benefits.
- If implementing a food waste ban, use strong collaboration between residents, private sector, and public agencies and invest adequate time and resources.
- Follow the goals of the Columbus Climate Action Plan and Regional Food Waste Initiative.

## 3. Funding

- Offer grants for start-up and current composting facilities.
- Implement tax credits and incentives for food donation.



#### 4. Enforcement Logistics

- Focus on community outreach and work cohesively with food waste generators to achieve voluntary compliance instead of coercive enforcement.
- Conduct inspections at waste transfer stations or landfill tipping floors.

#### 5. Contamination

- Provide educational resources to inform businesses and residents about the importance of reducing contamination in organic waste.

#### **To private composting companies:**

- Focus efforts on education and outreach programs.
- Collaborate with private companies like TCE and public agencies like SWACO, other composting organizations, the Ohio EPA, city governments, grassroots organic recycling movements, and community organizations.

#### **Future research:**

- Focus on why composting does not make economic sense at the provider level.
- Create detailed action steps to accomplish food waste reduction and composting goals.
- Develop a strategy to encourage residents to demand for Columbus and each surrounding city to provide a composting service within 3 years.

## **Conclusion**

Increased rates of composting are associated with several positive socio-economic benefits including reduced economic loss and pollution and increased employment. In the future, implementation of food waste bans in Central Ohio is possible, but requires established infrastructure, public demand, political support, and collaboration between stakeholders, the private sector, and public agencies. An increase in infrastructure and management would cut down on hauling costs and landfill space, as well as provide economic opportunity for organics recycling and environmental benefits. Large-scale composting in Central Ohio must be provided by the private sector and be driven by public demand. Funding is a significant barrier to wide-spread composting in Central Ohio and future research needs to focus on how to make composting economic for the private sector. Incentivized food donation and use of safety-based labeling on food products could significantly reduce the amount of food waste created, which would relieve pressure on composting infrastructure and reduce some of the infrastructure barriers. Increased collaboration among stakeholders can assist in forming policy and literature including statewide food and climate action plans, educational programming, and economic feasibility studies. These recommendations provide a foundation for Central Ohio as a whole, the private composting sector, and future research efforts. Above all, future composting efforts must rely on collaboration.

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## Appendix

### Appendix I: Benchmark Informational Table for the Cities from “Bans and Beyond”

City	Requirements	Enforcement	Political majority	Median age	Population
<b>Austin, TX</b>	Food enterprises businesses must provide diversion services to send organics to a composting or materials recovery facility, or send surplus food to a food bank, processor, material broker, farm, ranch, community garden, or similar site	Written citation then a citation and fine of \$2000	Democrat 71%	33	965,872
<b>Boulder, CO</b>	Any businesses and residential property owners must provide separate compostable material containers and collection services	2 notices then \$500 fine	Democrat 77%	28	108,777
<b>Hennepin, MN</b>	Businesses that produce a significant amount of food waste must have a food scraps recycling service, source separate back-of-house food waste, and provide appropriate collection containers for food scraps in the back-of-house; cities must provide residential organics collection services to households that already have access to curbside recycling collection	County can issue warnings or citations for non-compliance	Democrat NA%	36	1.255 million
<b>Metro, OR</b>	Local jurisdictions within the Metro region must adopt policies requiring businesses that cook, assemble, serve, or sell food to source-separate food waste and send it to an authorized facility	Local jurisdictions are responsible for enforcing the policies	Democrat NA%	37	2.197 million
<b>New York City, NY</b>	Food service establishments in hotels, arenas and stadiums, food manufacturers, food wholesalers with a floor, food service establishments, and food retailers must separate their organic material and either send to a composting, AD, or other	Those who fail to comply within 1 yr face civil penalties from \$250-1000 per violation	Democrat 76%	37	8.38 million

	processing facility, or process it on-site				
<b>San Francisco, CA</b>	Businesses, governmental entities, multi-family or commercial residences, and individuals must separate food scraps and subscribe to composting collection services. Owners of multi-family or commercial properties, food vendors, and events must provide organics bins and collection services	City departments impose civil penalties	Democrat 85%	38	874,784
<b>Seattle, WA</b>	All single-family and multi-family residences and commercial businesses and individuals must separate food waste and subscribe to compost collection services. Property owners must provide organics bins and collection services to their tenants	Law authorized \$1 for single-family homes and \$50 for businesses and multi-family homes for violations following a six-month implementation period	Democrat 88%	35	741,251

Source: “Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organics Waste Laws”

Description: Table contains requirements of each city’s waste bans. The table also includes demographic indicators used to benchmark against Central Ohio cities.

### Appendix II: Table of Columbus and Surrounding City Demographics

City	Population	Median resident age	Estimated median household income	Residents living in poverty
Columbus	898,553	32.4	\$57,118.00	16.30%
Dublin	47,824	40.3	\$145,531.00	2.50%
Delaware	41,818	35.8	\$69,698.00	9.60%
Grove City	41,394	38.7	\$78,414.00	7.10%
Westerville	40,443	42.1	\$98,927.00	6.50%
Reynoldsburg	38,016	37.2	\$70,851.00	9.10%
Hilliard	37,023	37	\$102,349.00	4.90%
Gahanna	35,442	40.1	\$93,393.00	5.10%
Upper Arlington	35,364	40.8	\$130,416.00	2.30%
Pickerington	21,257	35.4	\$102,741.00	4.20%



Pataskala	15,751	36.1	\$79,223.00	6.00%
Worthington	14,961	42.0	\$110,164.00	3.50%
Bexley	13,805	34.8	\$115,097.00	8.20%
Powell	13,353	38.9	\$158,540.00	1.20%
New Albany	11,085	38.5	> \$200,000	1.20%
Canal Winchester	9,148	42.2	\$101,108.00	4.50%
Grandview heights	8,333	35.8	\$106,720.00	2.80%
Granville	5,829	21.9	\$120,985.00	2.60%
Groveport	5,630	40.9	\$70,791.00	4.90%

Source: City Data: <https://www.census.gov/>

Description: This dataset shows results from demographic research. These demographics were used to benchmark against cities from “Bans and Beyond: Designing and Implementing Organic Waste Bans and Mandatory Organics Waste Laws”.

### Appendix III:

Source: Paul Bestgen Public Information Specialist Senior for Austin Resource Recovery | City of Austin

Contact: [paul.bestgen@austintexas.gov](mailto:paul.bestgen@austintexas.gov)

Description: Notes from an informational interview with Paul Bestgren regarding composting and the food waste ban in Austin, Texas completed on November 9, 2022.

### Appendix IV:

Source: Dr. Ángel Arroyo-Rodríguez : Lead Environmental Specialist at Ohio EPA | Composting | Organics Recycling | Infectious Waste | Division of Materials and Waste Management

Contact: [angel.arroyo-rodriguez@epa.ohio.gov](mailto:angel.arroyo-rodriguez@epa.ohio.gov)

Description: Notes from an informational interview with Ángel Arroyo-Rodríguez regarding current composting initiatives, policies, and the possibilities of a future food waste ban in Ohio.

The interview was conducted on November 2, 2022.

#### **Appendix V:**

Source: Jane Boehm: Food Waste Programs Administrator | Solid Waste Authority of Central

Ohio

Contact: [jane.boehm@swaco.org](mailto:jane.boehm@swaco.org)

Description: Notes from an informational interview with Jane Boehm regarding SWACO's current composting and food waste initiatives. The interview was conducted on November 1, 2022.

#### **Appendix VI: Interview with the City of Columbus**

Source: Aryeh Alex: Sustainability Manager and Keep Columbus Beautiful Executive Director

Contact: [awalex@columbus.gov](mailto:awalex@columbus.gov)

Description: Notes from an informational interview with Aryeh Alex regarding current composting support, initiatives, and composting infrastructure by the City of Columbus. The interview was conducted on November 8, 2022.