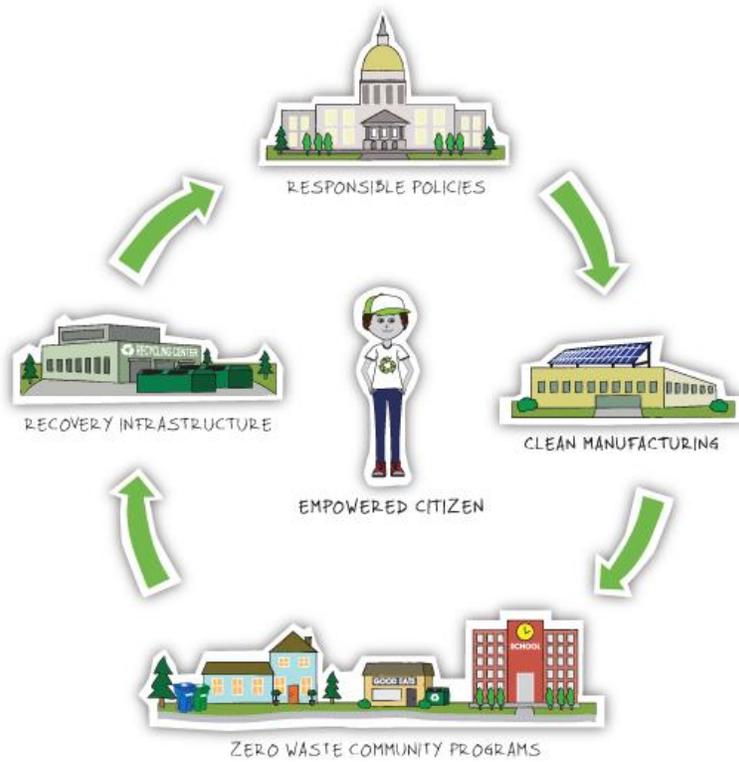




City of Westerville Zero Waste Plan



©Copyright. Eco-cycle 2021,
www.ecocycle.org/zerowaste

March 2022

Prepared by





TABLE OF CONTENTS

Executive Summary 1

Section 1 – Introduction..... 1

 History of Waste Management 1

 State Level Solid Waste Management..... 1

 County Level – Solid Waste Management District..... 3

 Local Level – Municipalities and Townships 4

 Future of Solid Waste Planning 4

 How Did This Zero Waste Plan Get Started? 5

 What is Zero Waste? 5

 Thank You! 7

 ZWP Green Team Members..... 7

Section 2 – Strategic Planning 8

 Defining Zero Waste for Westerville 8

 Waste Hierarchy 9

 Strategic Plan 9

 City of Westerville 2021 Zero Waste Plan Strategic Goals 10

 Strategic Public Involvement Plan 14

 Recommendation to Formally Establish City of Westerville Green Team..... 14

Section 3 – Data Collection 17

 Demographics 17

 Managing the Waste Stream 19

 Collection and Processing 22

 Other Materials Management 30

 Facilities..... 32

 Flow of Materials..... 37

 Reuse 43

 Special Events..... 45

Section 4 – Moving Toward Zero Waste 47

 Recommendations..... 47

 Public-Private Partnerships 51

 Measuring Results 52

 Communications and Social Media..... 53

 Schedule of Zero Waste Plan Implementation..... 54



CITY OF WESTERVILLE

ZERO WASTE PLAN

Executive Summary

INTRODUCTION

WHY A ZERO WASTE PLAN (ZWP)?

Zero waste is a goal focused on preventing waste overall by encouraging and developing practices for the redesign and reuse of a product's life cycle in an ethical, sustainable, and visionary way. Zero waste plans create a community wide, comprehensive strategy to remove or reduce a community's reliance upon landfills for solid waste management, while identifying opportunities for repurpose, reuse and recycling of materials once they are consumed and no longer needed.

SWACO INVOLVEMENT

The Solid Waste Authority of Central Ohio (SWACO) is responsible for developing and managing a comprehensive solid waste plan for Franklin County, Ohio to meet the solid waste requirements set forth by Ohio EPA. SWACO's authority extends into the City of Westerville. SWACO's current plan is to improve its waste diversion goal from 50% to 75% in 2032. A grant was awarded by SWACO to the City of Westerville to complete this Zero Waste Plan to support their diversion goals.

Westerville City Schools, Otterbein University, SAFEX, JP Morgan Chase, Lynn Law, Westerville Public Library, Sustainable Westerville, Sunrise Rotary Club, Worthington Industries, Rumpke and SWACO.

CITY OF WESTERVILLE DEFINITION OF ZERO WASTE

Zero waste is a goal focused on preventing waste by encouraging and developing practices for the redesign and reuse of a product's life cycle in an ethical, sustainable, and visionary way.

CITY OF WESTERVILLE ZWP GREEN TEAM MISSION STATEMENT

The ZWP Green Team's Mission is to develop and implement a zero-waste plan that reduces materials sent to the landfill by 80% by 2032 and aspire to 90% by 2040 by inspiring and engaging the Westerville community to rethink, reduce, reuse, and recycle our waste.

STRATEGIC PLANNING

PLAN GOALS

The Zero Waste Plan was developed following the 10 goals below.

1. Develop a data collection strategy
2. Improve residential sector waste management
3. Improve commercial sector waste management
4. Improve institutional sector and special events waste management
5. Improve industrial sector waste management
6. Establish education and outreach programs
7. Identify needed infrastructure (processing or waste management facilities)
8. Implement Zero Waste Plan
9. Develop a waste division plan
10. Submit zero waste plan to City Council



ZWP GREEN TEAM

A team of stakeholders representing the Westerville community was created to provide input and direction while this plan as prepared. During the preparation of the Zero Waste Plan the Green Team participated in meetings where the general concepts and goals of the plan were shared, mutual information exchanged, data was collected, strategies were discussed and prioritized. A total of 15 members were on the team and the meetings were facilitated by GT Environmental Consultants who was hired to prepare this plan. The team consisted of representatives from the City of Westerville,

OVERVIEW OF DATA COLLECTED

General

1. Approximate Population: 40,000
2. Households: 14,500
3. Commercial Businesses: 3,647
4. Industrial Businesses: 96

Business Recycling Survey Results

1. Range of employees: 1-470
2. Most common disposed item: Carboard
3. Average amount of food waste in waste stream: 9%
4. Monthly trash collection costs: \$107 - \$5,500
5. Monthly recycling costs: \$209 - \$1,500





CITY OF WESTERVILLE

ZERO WASTE PLAN

THREE STAGES OF A PRODUCT'S LIFE CYCLE

Zero waste strategies may be addressed at different phases of the product's life cycle.

- **Upstream** – Waste prevention through producer responsibility, product redesign, zero waste purchasing, and policies that promote a circular economy.
- **Midstream** – Maximizes product longevity through reuse, repair, repurposing, donations, and food recovery.
- **Downstream** – Maximizes resource recovery through recycling, composting, and other recovery options.

CURRENT COLLECTION/RECYCLING PROGRAMS

Residential Collection and Diversion Programs

- **Residential Trash:** Curbside collection with owner provided containers
- **Residential Recycling:** Curbside collection with 64-gallon City provided carts provided containers
- **Residential Yard Waste:** Unlined trash cans or paper yard waste bags
- **Residential Food Waste Collection:** 4 community drop-off locations

Community Diversion Program

- **Library:** In addition to books members can sign out or use musical instruments, electronics, art, learning kits, portable projector, electrical usage monitors, 3D Printing, computer and internet access, recording studio, digital creation studio, seed library and more.
- **Electric Division:** Offers light bulb, battery, holiday light recycling, solar rebates/panels (residential), electric charging station, energy efficiency improvements (commercial/industrial businesses).
- **Household Hazardous Waste Collection (HHW):** Two residential HHW collection events are performed yearly.

Commercial/ Institutional /Industrial Collection

- Businesses can choose from a variety of private haulers for trash and recycling collection.
- Multifamily housing is typically designated as commercial collection and is left up to the property management.
- Otterbein University works with students on sustainable initiatives.

Special Events

- City hosts many community events which have started some sustainable initiatives.

MOVING TOWARD ZERO WASTE

The Green Team collaborated and ranked recommendations that were developed through the creation of this Zero Waste Plan.

Partnerships

The City of Westerville looks forward to continuing existing and creating new partnerships to meet the zero waste goals.

- Re-use programs and infrastructure.
- Assistance with Zero Waste Plans for businesses
- Organic waste collection and expansion.
- Multifamily housing recycling collection initiatives
- Develop solutions for hard-to-recycle items such as household hazardous waste, electronics, etc.
- Promotion of local zero waste efforts, sustainability practices and accomplishments (such as Westerville Library, Electric Division, Otterbein University, and local businesses.)



PHASES TIMELINE

Recommendations assessed and ranked by the Green Team were placed as initiatives in different timeframes in focus of three phases for the Green Team's Mission to reduce materials sent to the landfill by 80% by 2032

- | | | |
|-------------|----------------|-----------|
| • Phase I | Calendar Years | 2022-2025 |
| • Phase II | Calendar Years | 2025-2028 |
| • Phase III | Calendar Years | 2028-2032 |

COMMUNICATIONS

Effective communication is necessary for this Zero Waste Plan to be implemented successfully. Multiple channels of communication need to be utilized to reach the multiple audiences included in this plan. Information inside this plan requires many constituents to work together for the goals of this plan to be achieved.

SECTION 1 – INTRODUCTION

HISTORY OF WASTE MANAGEMENT

The complex system of managing waste materials in our society is important to the environment, the economy, and all four sectors of our community (residential, commercial, institutional, and industrial). The goals for waste reduction, recycling, and rethinking how waste gets managed has, for the past three decades, started at the state government level in Ohio. State government was charged by the Ohio General Assembly with establishing regulations on how to safely operate a solid waste system statewide. State government also tabulated data and was first to notice the significant influx of out-of-state waste coming to Ohio landfills in the 1980s. Certain regions of Ohio lacked landfill capacity which was a cause for concern. Hundreds of older landfills lacked environmental protections for ground water and other modern technology such as liners, leachate collection, cover, and proper engineering. The famous “Garbage Barge” at the same time triggered interest in solid waste management issues across the United States. Recycling was in existence at the time, but the interest in solid waste management, government initiatives, and directives spurred the development of the recycling industry.

Since the late 1980s, the Ohio Environmental Protection Agency (OEPA) has directed the 52 solid waste management districts (districts) to develop programs to manage solid waste generated by households, (single family, multi-family) commercial businesses, (restaurants, groceries, big box stores, medical offices, general services, sports complexes), institutions (schools, universities, hospitals, and government agencies), and industry (manufacturers of products from steel to automobiles to plastics). Ohio required that each of the districts develop solid waste plans and update them every three to five years. The districts collected fees from the disposal and generation of waste and some districts charged a parcel fee on unimproved parcels to fund programs and solid waste infrastructure.

Whether an evolution or a revolution of ideas at the time, the most important aspect was that many who were concerned about managing waste now had the creation of a level of government that was to focus on managing waste, diverting material from landfills, and developing the facilities to manage it. This was not just an Ohio phenomenon but occurred in a similar manner in most states.

STATE LEVEL SOLID WASTE MANAGEMENT

In 2020, OEPA revised Ohio’s Solid Waste Management Plan. Several of the goals for recycling were changed, and the plan provides more flexibility to the solid waste districts regarding the industrial sector and the recycling infrastructure goal. The goals include the following:



Goal 1 – Recycling Infrastructure

The district shall provide its residents and commercial businesses with access to opportunities to recycle solid waste. At a minimum, the district must provide access to recycling opportunities to 80 percent of its residential population in each county and ensure that commercial generators have access to adequate recycling opportunities.

Goal 2 – Waste Reduction and Recycling Rates

The district shall reduce and/or recycle at least 25 percent of the solid waste generated by the residential/commercial sector.

Goal 3 – Outreach and Education – Minimum Required Programs

The district shall provide the following required elements:

- A website
- A comprehensive resource guides
- An inventory of available infrastructure
- A speaker or presenter

Goal 4 – Outreach and Education

The district shall provide education, outreach, marketing and technical assistance regarding reduction, recycling, composting, reuse, and other alternative waste management methods to identified target audiences using best practices.

Goal 5 – Industrial Programs and Services

The district shall incorporate a strategic initiative for the industrial sector into the solid waste management plan.

Goal 6 – Restricted Solid Wastes, Household Hazardous Waste (HHW), and Electronics

The district shall provide strategies for managing scrap tires, yard waste, lead acid batteries, HHW and obsolete/end of life electronic devices.

Goal 7 – Economic Incentives

The district shall explore how to incorporate economic incentives into source reduction and recycling programs.

Goal 8 – Measure Greenhouse Gas Reduction

The district will use U.S. EPA’s Waste Reduction Model (WARM) (or an equivalent model) to evaluate the impact of recycling programs on reducing greenhouse gas emissions.



Goal 9 – Market Development

The district has the option of providing programs to develop markets for recyclable materials and the use of recycled-content materials.

Goal 10 – Reporting

The district shall report annually to Ohio EPA regarding implementation of the SWMD's solid waste management plan.

Most of these goals have been in place for decades. The solid waste districts have been implementing programs to help achieve and exceed the goals outlined by the State.

The Ohio General Assembly revised the membership of the state committee required to update the State Plan and these ten goals. The Ohio Materials Management Advisory Council (OMMAC) is charged with the responsibility to write Ohio's State Solid Waste Management Plan. The 2020 edition is a result of their effort to modernize the districts activities.

COUNTY LEVEL – SOLID WASTE MANAGEMENT DISTRICT

The Solid Waste Authority of Central Ohio (SWACO) is the agency responsible for developing a comprehensive solid waste management plan to meet the regulatory requirements outlined by the State of Ohio and meet the needs of Franklin County constituents. SWACO is one of the few solid waste districts that operate transfer facilities and a landfill to manage solid waste that is not reduced, reused, or recycled. SWACO's landfill is one of the largest landfills operating in Ohio and one of the largest public landfills in the country, managing approximately one million tons annually. The facilities operated by SWACO are an asset to the residents, businesses, and political subdivisions. In addition to SWACO's facilities, there are several private sector entities that also help to collect, transport, and recycle solid waste within the district. Other districts without these assets must pay for the transport of waste to landfills located in distant counties.

SWACO Statistics



- Approximately 40 years of landfill life remaining
- \$39.75 per ton to direct haul in-district waste to the landfill
- \$52.75 per ton from Morse Road Transfer
- \$51.75 per ton from Jackson Pike Transfer
- 2021 residential/commercial waste generated projection 1,683,000 tons
- 2021 industrial waste generated projection 269,000 tons
- 2021 total waste generated projection 1,953,000 tons
- 2021 composting projection 199,000 tons
- 2021 recycled projection 780,000 tons
- 75% diversion goal for 2032
- 50% current SWACO diversion

LOCAL LEVEL – MUNICIPALITIES AND TOWNSHIPS

Cities and, in some cases, townships were the foundations of the waste management process going back to the beginning of the last century. In Ohio, there were hundreds of small landfills operating to service political subdivisions who collected waste from their residents. There are still several cities that operate their own solid waste collection systems. The City of Columbus is one example in SWACO's jurisdiction. However, the current trend has been to privatize this service, and so fewer cities now operate their own collection system.

With that changing trend towards privatization and the creation of solid waste districts, the local level has not been as involved in managing solid waste. In most cities, the contracting piece is managed by the city through the hiring of a waste hauler. For the City of Westerville, the current hauler is Rumpke. Rumpke provides the residential collection services which includes trash, recycling, and yard waste collection.

The first twenty-five to thirty years of solid waste planning in Ohio has focused primarily on the state and county levels of government, including setting up residential recycling and meeting the goals established in the *State Plans*. The next twenty-five years will likely focus on the local level and how political subdivisions and individual entities such as schools, universities, hospitals, sports venues, industry, and businesses can make a big difference.

FUTURE OF SOLID WASTE PLANNING

The solid waste industry is constantly evolving. New technologies are always being developed to make the business of managing waste more efficient and cost effective. For example, many haulers have moved away from diesel and toward natural gas trucks. The future may also lie with hydrogen fuel cell trucks. Fuel cells have no emissions out the tail pipe. Cummins engines have produced fuel cell trucks for Europe. Other hydrogen fuel cell makers have initiated discussions with Republic Waste Services regarding hydrogen fuel cell garbage trucks.

New methods of managing waste and planning also play a role in how communities address their waste generation, waste reduction, recycling, and reimagining how materials become waste in the first place. Several states and provinces in Canada have initiated legislation called "extended producer responsibility" (EPR). EPR requires the manufacturer to develop a system or plans on taking back their product after their useful life is completed. Each of these programs are unique and it provides a new way of doing business requiring a focus on the lifecycle of a product.

Another planning technique becoming popular is the "circular economy." It is looking beyond the traditional manufacturing methods of taking raw materials to make a product and then disposing of the waste when a product's useful life is over. The Ellen McArthur Foundation defines a circular economy as ***based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating***



natural systems. The circular economy and EPR are two newer tools to be used by planners and lawmakers. EPR would require state level changes in solid waste law.

HOW DID THIS ZERO WASTE PLAN GET STARTED?

The City of Westerville has been active with solid waste issues for many years. The city has been a member of the SWACO waste consortium which bids out the collection of trash, recycling, and yard waste with several other municipalities in Franklin County. The consortium provides for a joint bid which keeps pricing lower due to the volume of waste and recyclables available from multiple communities instead of one community bidding by themselves. The city has developed a recycling container program for downtown Westerville and the city in cooperation with SWACO operates two household hazardous waste (HHW) collections providing residents the opportunity to safely dispose of toxic, flammable, and reactive materials. Finally, the city has participated in a new organics drop-off program collecting over 180,000 pounds since its inception in 2020. The City has a drop-off program for food waste. Working with GoZero, the City launched a drop-off food waste composting project with locations at three public sites. The program is free for residents to use. The City is one of four communities that received a grant from SWACO to operate the food waste program.

In 2020, the city prepared a grant application to SWACO to develop a zero waste plan (ZWP). SWACO provided the grant approval in the first quarter of 2021. The city has one year to prepare the ZWP.

WHAT IS ZERO WASTE?

The term “zero waste” was first used publicly in the United States in the 1970s and gained more widespread use since the late 1990s as communities such as San Jose, California; Austin, Texas; and Boulder, Colorado developed comprehensive plans to implement strategies associated with this concept. There are many different interpretations of zero waste, and it is useful to examine the various definitions established by entities engaged in promoting this objective. In Ohio, there are two communities (City of Oberlin and City of Bexley) that have completed zero waste plans. The following are descriptions of different zero waste definitions from communities across the United States.

1. **Zero Waste** means “designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them.” (Seattle Public Utilities)
2. **Zero Waste** “maximizes recycling, minimizes waste, reduces consumption and ensures that products are made to be reused, repaired or recycled back into nature or the marketplace.” (Grassroots Marketing Network)
3. **Zero Waste** “is a goal that is ethical, economical, efficient and visionary, to guide people in changing their lifestyles and practices to emulate sustainable natural



cycles, where all discarded materials are designed to become resources for others to use. Zero Waste means designing and managing products and processes to systematically avoid and eliminate the volume and toxicity of waste and materials, conserve and recover all resources, and not burn or bury them. Implementing Zero Waste will eliminate all discharges to land, water or air that are a threat to planetary, human, animal or plant health.” (Zero Waste International Alliance)

4. “When waste is defined differently – as everything that isn’t needed to deliver value to customers – achieving **zero waste** requires a lot more creative work. Eliminating waste is a continuous process of removing material resources (including fuels) from every part of your business, even – and perhaps most importantly now – from your product. It is about drastically improving resource performance by using strategies like dematerialization and light weighting, while delivering more benefits to your customers. It involves a willingness to reorient your thinking”. (dMass)
5. “The pathway to **zero waste** requires a shift in thinking. Previously, we treated waste as waste. We must think of waste as material that can be used and capitalized upon. We must move toward a comprehensive and integrated approach that manages materials throughout their lifecycles and encourages stakeholders to take their share of responsibility, through smartly designed incentives. That shift in thinking means we will focus on:
 - Reducing the production of waste
 - Promoting more efficient use of materials
 - Increasing the recycling of materials that have served their useful purpose
 - Reducing the amount of waste requiring disposal
 - Reducing the toxicity of the waste requiring disposal
 - Improving the environmental performance of solid waste management facilities” (Masss 2010 – 2020 Master Waste Plan; Pathway to Zero Waste)

All the above definitions attempt to capture the meaning of zero waste. Even though there are many more definitions, it is obvious that each one has a similar objective, goal, theme, and even a new way of thinking. The overarching theme for zero waste is an effort to improve the natural environment by eliminating waste, using fewer resources to create products, and eliminating discharges to the environment.

The City of Westerville’s definition of zero waste is presented in the next section. The ZWP’s recommendations will be implemented in phases, and the ZWP will be updated by the City of Westerville Green Team every five years or earlier as determined by City Council.

This ZWP is made up of several sections covering topics that will help move the ZWP and roadmap for Westerville from concept to implementation. The sections are described as follows:



- Section 2: the development of a strategy to achieve the goals established by the Westerville ZWP Green Team.
- Section 3: Analysis of Current Solid Waste Strategies
- Section 4: Moving toward Zero Waste – Short-term vs. long-term goals the Green Team recommends regarding zero waste programming. The ZWP will include an economic assessment of recommendations and their impact on the city, residents, and businesses.

The ZWP will also recommend how the City Council should incorporate the Green Team into the city operations. There are many options, and this ZWP will formalize a recommendation as part of the program recommendations.

THANK YOU!

The development of this Zero Waste Plan was possible with the help of many individuals, organizations, institutions, and companies. This includes:

- The Solid Waste Authority of Central Ohio (SWACO) for providing funding through their grant program.
- City of Westerville professionals and their support of the project and guidance with the ZWP Green Team.
- Westerville’s City Manager and City Council’s support of the project.
- The Green Team members for their commitment to waste diversion and environmental sustainability. This Zero Waste Plan took many hours of meetings and review. The value of the input of the Green Team was invaluable and appreciated.

ZWP GREEN TEAM MEMBERS

- Derek Blazo – JPMorgan Chase & Co.
- Jon Connar – Worthington Industries
- Taylor Greely – Rumpke
- Mari Long – SWACO
- Sarah Lynn – Lynn Law
- Gayane Makaryan – Rumpke
- Tamara Murray – Westerville Public Library
- Tim O’Brien – Westerville City Schools
- Loren Stone – Otterbein University
- Tom Strasburg – Westerville Sunrise Rotary
- Bethany Vosburg-Bluem – Sustainable Westerville
- Tara Trigg – City of Westerville Electric Division
- Mikhail Yakhnitskiy – Safex, Inc.
- Alex Heckman – City of Westerville
- Kevin Weaver – City of Westerville

SECTION 2 – STRATEGIC PLANNING

The City of Westerville ZWP Green Team developed the strategic initiatives included in this section. The Green Team worked to develop the ZWP mission statement, goals, and definition of zero waste. This strategic plan will guide the Green Team as it moves forward with implementation of the ZWP in future years.

DEFINING ZERO WASTE FOR WESTERVILLE

“Zero waste” is a relatively new term in managing waste. Definitions of zero waste are variable and include community- or business-specific goals for eliminating waste. Typically, the definition will include a percentage waste reduction/diversion goal as a target to achieve. The target may also have a time reference to attain the percentage goal(s).

The definition may also include the types of waste reduction or methodologies that may be used to achieve zero waste or can be excluded from zero waste. For example, incineration which reduces the volume of waste generated has been excluded from some communities’ zero waste definitions.

The focus of waste planning activities in the past included recycling programs to extract materials from the waste stream and return those materials to commerce. In Ohio, this has been a main goal of solid waste management plans. This includes having the recycling infrastructure in place to manage the extracted materials. The plans evolved to include other special types of recyclable materials including household hazardous waste, tires, yard waste, electronics, and other specialty items.

A zero waste plan has a broader context in that it looks at waste as a complex system. Waste occurs for many reasons and there are many ways to manage it including:

- Reduce consumption
- Minimize generation
- Recycle materials
- Reuse materials
- Repair equipment

Instead of thinking of materials as a waste, under a zero waste system, materials are evaluated as a resource. Can waste materials become a raw material in a manufacturing process? What about energy production? The ZWP is a roadmap showing how the community will get from its current status to the stated goals outlined in this plan.



City of Westerville Definition of Zero Waste

Zero waste is a goal focused on preventing waste by encouraging and developing practices for the redesign and reuse of a product's life cycle in an ethical, sustainable, and visionary way.

WASTE HIERARCHY

The U.S. Conference of Mayors adopted a resolution that incorporates principles of zero waste and establishes a recommended hierarchy of materials management. The resolution is instructive, and the hierarchy leads the City of Westerville to a new robust hierarchy to follow with the development of this zero waste plan.

WHEREAS, the concept of zero waste goes beyond recycling and composting at the end of a product's life cycle, to encompass the entire life cycle of a product, beginning with product design, and envisioning the use and management of materials in ways that preserve value, minimize environmental impacts, and conserve natural resources; and

WHEREAS, materials management through zero waste can begin to shift the fiscal burden of waste and empower industry to embrace resource responsibility by rewarding stewardship through purchasing and economic development incentives; and

WHEREAS, while industry and the federal government have variously defined and categorized zero waste strategies, it behooves the nation's cities, with primary responsibility for waste management, to devise a definition that encourages shared fiscal responsibility and legislative innovations,

NOW, THEREFORE BE IT RESOLVED, that The United States Conference of Mayors adopts a definition of Zero Waste, and set of Zero Waste principles, that recognizes a Hierarchy of Material Management as follows:

- Extended Producer Responsibility and Product Redesign
- Reduce Waste, Toxicity, Consumption, and Packaging
- Repair, Reuse and Donate
- Recycle
- Compost
- Down Cycle and Beneficial Reuse
- Waste-Based Energy as disposal
- Landfill Waste as disposal

STRATEGIC PLAN

The first step in developing this ZWP was to work with the Green Team to identify the goals and objectives for the ZWP and establish the City's mission for zero waste. The Green Team has drafted a mission statement for materials management for the City of Westerville.



City of Westerville Green Team Mission Statement

The Green Team's Mission is to develop and implement a zero waste plan that reduces materials sent to the landfill by 80% by 2032 and aspire to 90% by 2040 by inspiring and engaging the Westerville community to rethink, reduce, reuse, and recycle our waste.

CITY OF WESTERVILLE 2021 ZERO WASTE PLAN STRATEGIC GOALS

Goal 1 – Develop Data Collection Strategy

Objective G1-1-2021 – Establish historical, baseline statistics using known data sources including:

- City/hauler records
- Survey responses
- SWACO
- Ohio EPA data
- Ohio Development Services Agency
- National statistics
- Other

Objective G1-2-2021 – Require disposal and diversion statistics from service providers (add contractual language when appropriate).

Objective G1-3-2021 – Identify measurable outcomes for programs, projects, and activities that cannot be measured volumetrically or by weight (i.e., number of presentations given, total recycling advertisements placed, etc.).

Objective G1-4-2021 – Periodically evaluate data collection strategy and make improvements as necessary.

Goal 2 – Improve Residential Sector (single family and multi-family) Waste Management

Objective: G2-1-2021 – Organics collection via drop-off or curbside collection for residents, and supporting at-home compost education

- Consider curbside options when drop-off program participation reaches 10%

Objective: G2-2-2021 – Evaluate opportunities to assist recycling access for multi-family housing units

- Drop-off recycling program promotion



Objective: G2-3-2021 – Evaluate increasing recycling volumes by increasing convenience and possible financial incentives such as pay-as-you-throw initiatives

- Provide multiple cart sizes for trash and recycling

Objective: G2-4-2021 – Evaluate education for diversion of correct materials and diversion opportunities for materials which are not accepted by the curbside and drop-off programs

- Household Hazardous Waste (HHW) collection promotion
- Electronics collection promotion
- Curbside tagging/contamination initiatives
- Comparison to different model systems
- Curbside material exchange

Objective: G2-5-2021 – Evaluate diversion infrastructure in the City and surrounding area for creating a space for new programs or promoting existing programs such as recycling, reuse, and repair locations/businesses or events

- HHW collection locations/events
- Electronics collection locations/events

Goal 3 – Improve Commercial Sector (restaurants, theaters, shops, medical businesses, etc.) Waste Management

Objective: G3-1-2021 – Evaluate partnerships with food rescues or compost programs to assist restaurants to reduce materials going to the landfill

- Cardboard
- Food
- Glass bottles and metal cans

Objective: G3-2-2021 – Develop assistance packages and evaluate targeted materials for businesses on recycling and composting options

- Welcome packet for new businesses
- Hauler list for recycling and food waste collection

Objective: G3-3-2021 – Promote and recognize the elimination of single-use containers such as plastic bags and to-go containers for businesses

Goal 4 – Improve Institutional Sector (hospitals, schools, university, government) and Special Events Waste Management

Objective: G4-1-2021 – Develop a model to do zero waste events by offering recycling and compost for events



- Music and arts festival
- Fourth Friday
- Compostable service-ware for events

Objective: G4-2-2021 – Provide education and outreach at large events in the City

- Representative of the Green Team at public events
- Cost analysis of providing promotional/reusable materials

Objective: G4-3-2021 – Evaluate opportunities to partner with and support Otterbein zero waste efforts

- Compost waste at Equine Center
- Free store/restore event for end of year move out
- Donate gently used school supplies
- Education initiatives

Objective: G4-4-2021 – Evaluate contract opportunities for recycling and compost at education facilities (Westerville City Schools and other government buildings)

- Yard waste from maintenance department
- Plastic bottle and metal can recycling only at high school level
- Westerville Green Collaborative

Objective: G4-5-2021 – Education opportunities to promote electric division which offers several electronic recycling and other zero waste initiatives.

- Christmas lights, lightbulbs, batteries
- Transformers
- Electric charging station
- Solar rebates/panels residential
- Energy efficiency improvements for commercial/industrial businesses

Objective: G4-6-2021 – Support zero waste initiatives for healthcare infrastructure

- OhioHealth
- Mount Carmel St. Ann's
- Nationwide Children's

Goal 5 – Improve Industrial Sector (product manufacturers) Waste Management

Objective: G5-1-2021 – Evaluate opportunities to recognize industrial businesses' zero waste efforts



- Credits, awards, certifications for those who reach certain goals (LEED, Greenspot, city-implemented award, etc.)

Objective: G5-2-2021 – Evaluate opportunities to offer education, best management practices, and waste audits

Goal 6 – Establish Education and Outreach Program

Objective G6-1-2021 – Develop an education and outreach plan for each target audience (residents, commercial businesses, institutions, etc.)

Objective G6-2-2021 – Develop Westerville zero waste content for Facebook and/or City website page

Objective G6-3-2021 – Prepare topical videos and posts which focus on sustainable practices or borrow content from partners' resources (i.e., SWACO, Rumpke). Topics for videos and posts could include backyard composting, recycling, providing re-useable materials to Habitat for Humanity Restore, etc. Distribution of the videos and posts would take place through social media.

Objective G6-4-2021 – Develop and promote a web-based directory of local reuse and recycling options for all types of materials

Goal 7 – Identify Needed Infrastructure (processing or waste management facilities)

Objective G7-1-2021 – Create a list of needs for processing or waste facilities for the City of Westerville

Objective G7-2-2021 – Present the list of needs to SWACO and service providers

Objective G7-3-2021 – Identify other political subdivisions to engage in a discussion about shared processing or waste management facilities

Goal 8 – Implement Zero Waste Plan

Objective G8-1-2021 – Determine future role of Green Team

Objective G8-2-2021 – Identify City of Westerville departments that will be responsible for implementing plan recommendations while being mindful of available resources (i.e., human, financial, departmental capacity)

Objective G8-3-2021 – Assist other organizations with establishing individual Green Teams



Goal 9 – Develop a Waste Diversion Plan

Objective: G9-1-2021 – The Zero Waste Plan will include Goals 1-8. The Zero Waste Plan shall be consistent with the SWACO Solid Waste Management Plan. The Plan shall identify methods to encourage City businesses and institutions to adopt and achieve their own zero waste initiatives. The Plan shall also provide recommendations and priorities on procurement policies, recycling programs, organics, household hazardous waste, special materials (e.g., electronics), and construction and demolition debris management for the City as well as entities doing business in the City.

Goal 10 – Submit Zero Waste Plan to City Council

Objective: G10-1-2021 – A public hearing will be held to present the draft Zero Waste Plan and obtain comments from residents. The draft plan will be available for review electronically prior to the public hearing.

Objective: G10-2-2021 – The Green Team shall submit a draft Zero Waste Plan for review by Westerville City Council (November 2021)

STRATEGIC PUBLIC INVOLVEMENT PLAN

The Green Team will develop a formal schedule to present the ZWP and accept comments from the community. Two meetings will be held that present details of the development of the ZWP and the recommendations for public comment. Meetings should be held to get feedback on potential programs and the draft document before being implemented in 2022. The public will be invited to share comments, suggestions, and concerns. The goal is to publicize the ZWP and foster positive feedback from the community. These meetings will be added to the Facebook page and website to inform the Westerville community.

Implementation Activities

- Establish who will facilitate the meetings
- Create an advertisement for the community
- Identify location for the meetings
- Create agenda and presentation for the meetings
- Determine who will make presentations

RECOMMENDATION TO FORMALLY ESTABLISH CITY OF WESTERVILLE GREEN TEAM

In order to implement the ZWP, the Westerville Green Team is recommending the below draft committee structure to City Council. The Westerville Green Team plans to continue to meet and begin implementing the recommendations of the plan and will evaluate the



structure again at the six month point to make sure that it is meeting the needs of the ZWP.

Purpose

The **Westerville Green Team** shall be charged with meeting the Mission and Goals established in this ZWP and recommending to City Council implementation of programs and strategies as prioritized. The **Westerville Green Team** may also provide advice to Council on other green policies, environmental, sustainability and energy issues.

Membership

The **Westerville Green Team** shall be comprised of not less than seven nor more than eleven members. Members shall not be paid. Appointments to the **Westerville Green Team** shall be made by City Council. Members shall be Westerville residents and qualified by experience and/or training in matters related to the environment and sustainability such as: education, energy, civil construction/engineering, green building, landscape design, environmental engineering, consulting, law, recycling/solid waste, air and water quality, and environmental health.

Membership shall include one city council member, one institutional representative from either the Westerville City School District, Otterbein University, or other institution and the City Manager's designee. The city council member, the institutional representative, and City Manager's designee shall be voting members.

Members shall serve two- or three-year staggered terms. Five of the members each shall serve an initial term of three years; six of the members each shall serve an initial term of two years. Thereafter, all terms shall be for two years. The City Manager's designee, the institutional representative and City Council representative shall serve for the initial three-year term. The City Manager shall determine the additional two positions serving three-year terms.

Function, Duties, and Responsibilities

The **Westerville Green Team** shall be advisory in nature. The duties and responsibilities of the **Westerville Green Team** shall include, but not be limited to:

- (A) Advising City Council, the City Manager, and city officials on:
 - (i) The implementation and revisions of the ZWP;
 - (ii) The review of existing city green policies;
 - (iii) Trends affecting the environment and the community;
 - (iv) Recommendations on methods of funding the ZWP, programs and strategies.



- (B) Recommending city and community priorities and resources relative to the ZWP and other sustainability issues;
- (C) Coordinating and assisting other boards and commissions to determine if new plans/proposals are in compliance with ZWP sustainability goals;
- (D) Partnering with outside boards, commissions, agencies such as MORPC, SWACO and the Franklin Soil & Water Conservation District, to further the city's sustainability goals;
- (E) Providing a forum for addressing public concerns relative to sustainable practices;
- (F) Developing educational outreach activities and materials; and
- (G) Drafting indicators to measure the successes of the **Westerville Green Team**.

City Support Staff

The implementation of the ZWP will require support from the city and the **Westerville Green Team**. There are numerous options available to the city to obtain champions for different aspects of the ZWP. This could include but are not limited to:

- Dedicated citizens
- School class projects at the high school or higher education.
- Student interns from Otterbein or other higher education institutions.
- Other City resources as identified by the Administration and Council.

Meetings

The **Westerville Green Team** shall meet monthly at City Hall or as determined by the **Westerville Green Team**. The **Westerville Green Team** shall develop by-laws and select a Chair, Vice Chair to run the meetings and a secretary to record the minutes.

Subcommittees

The **Westerville Green Team** shall appoint subcommittees, as necessary. Subcommittees will have responsibility for implementing specific ZWP program recommendations. The chairperson of each subcommittee will be a member of the **Westerville Green Team**. Membership of the subcommittees will consist of 5 to 8 persons, and the subcommittees will report to the **Westerville Green Team**.



SECTION 3 – DATA COLLECTION

This section of the ZWP will outline a current snapshot of Westerville waste management. Additionally, potential zero waste strategies will be listed in this section and then described in more detail in Section 4 of the ZWP.

DEMOGRAPHICS

Residential

The City of Westerville is home to approximately 40,000 people. Of Westerville residents, 22% are under 18 years old and 19% are 65 and over. Approximately 14,500 households are in Westerville, making the average household size 2.7 people. Housing units are 78% owner-occupied, and 22% are renter-occupied. Additionally, 67% of residents over the age of 16 are in the labor force.

Overall, Westerville is a family-friendly community with many employment options, a university, year-round community events and opportunities, and a great school system. The residents of Westerville are what make the community what it is, and the future of the community relies on its very own people. To make zero waste a reality in the city, the residents will need to be on board and work together to be successful.

Business

In addition to the residents, businesses are also very important to the city’s success in becoming a zero-waste community. There are approximately 3,647 commercial and institutional businesses and 96 industrial businesses that are located in the city limits. Though the nature of each business impacts the type and amount of waste generated, all businesses have the opportunity to improve their waste reduction, diversion, and management. Industrial businesses often already have higher diversion rates than commercial businesses, but in order to become a zero-waste community, all businesses need to commit to improvement.

Commercial NAICS Codes: 42, 44-45, 48-49, 51-56, 61-62, 71-72, 81, 92

Employee Range	Number of Companies
1-4	2,179
5-9	686
10-19	426
20-49	230
50-99	69
100-249	42
250-499	10
500-999*	5
Total	3,647

*Alliance Data Systems, Cigna, DHL Supply Chain, Exel, Meijer



Industrial NAICS Codes: 22, 31-33

Employee Range	Number of Companies
1-4	31
5-9	20
10-19	20
20-49	18
50-99	3
100-249*	3
250-499*	1
500-999	0
Total	96

*Cheryl & Co, Robin Enterprises, T Marzetti, West Camp Printing

A survey was conducted to gather information on Westerville businesses' current recycling activities and perspectives on recycling. The following summarizes the results from the survey responses of the 8 participating businesses.

- Number of employees: 1-470
- Most commonly disposed item: paper/cardboard
- 100% of businesses that do not already have a recycling program would be interested in receiving assistance to start one
- Monthly trash collection costs: \$107-\$5,500
- Monthly recycling collection costs: \$209-\$1,500
- 4 businesses would participate in a city-provided food waste program if it cost the same as disposal
- Average estimated 9% of waste stream is food waste
- 3 businesses have an internal green team
- Other current waste diversion initiatives
 - Take recycling home
 - Electronics, battery, ink toner, and paper shred recycling
 - Compost plant materials in garden
 - Give lightly used items up for donation
 - Universal waste management
- Waste diversion challenges
 - Cannot decrease current waste generation level
 - Disposing of specialty materials
 - Contamination of recycling streams
 - Transport of materials for recycling
- Provided Recommendations to the City
 - Provide clear guidance on accepted materials
 - Provide containers
 - Provide grant opportunities
 - Controlled system for burning waste
 - Provide more cost-effective recycling opportunities

- Educational/outreach material to help encourage use of recycling streams by employees and neighbors
- Establish additional recycling opportunities around city
- Increase awareness of the importance of zero waste throughout the city by partnering with local businesses.
- Encourage local businesses to use only biodegradable cutlery items for take-out dining services.
- Provide food waste containers for city residents for those items that are not suitable for a garbage disposal.

MANAGING THE WASTE STREAM

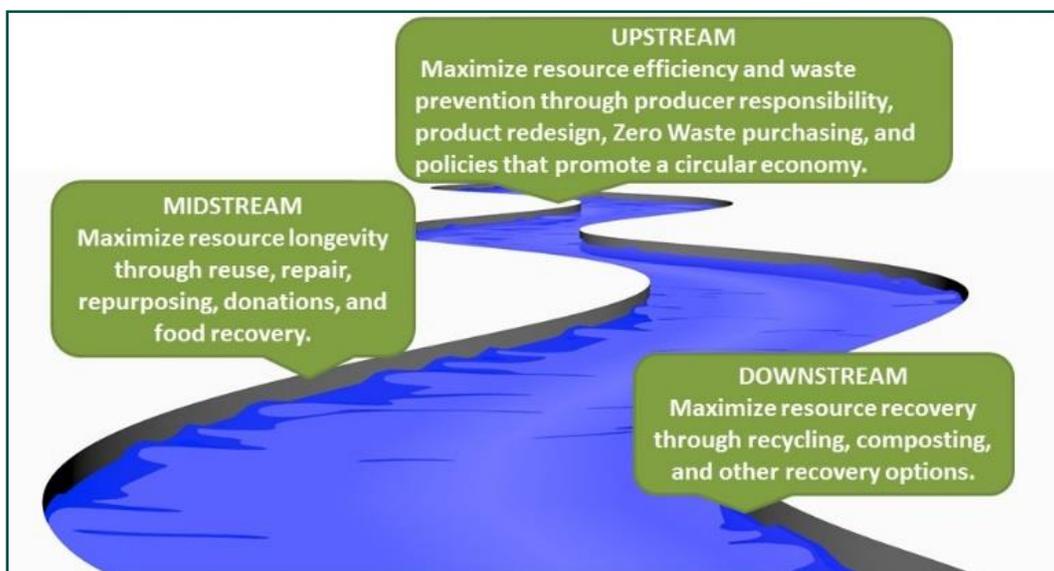
All stages of material flow are important to implementing zero waste strategies. The following are definitions of the upstream, midstream, and downstream stages of a product’s lifecycle by SWANA and the CRRA. There are opportunities to promote and implement zero waste strategies in each stage.

Upstream – maximizing resource efficiency and waste prevention through producer responsibility, product redesign, zero waste purchasing, and policies that promote a circular economy.

Midstream – Maximize resources longevity through reuse, repair, repurposing, donations, and food recovery.

Downstream – Maximize resource recovery through recycling, composting, and other recovery options.

Three categories of zero waste solutions from SWANA and the CRRA:



Source: “Three Categories of Zero Waste Solutions” SWANA, CRRA Zero Waste Training Program (Developed by Kessler Consulting, Inc. – 2018)

Upstream

Upstream zero waste strategies address resource extraction and product or packaging manufacturing. These strategies include producer responsibility, product redesign, zero waste purchasing, and other policies that promote a circular economy. The objective is to conserve resources and prevent downstream waste by effecting actions at this stage.

The following table gives examples by sector for upstream strategies to reduce waste:

Upstream	
Residential	Consumers buying products which: <ul style="list-style-type: none"> • have less packaging/recyclable packaging • have longevity in mind (equipment, products) • supporting companies that have zero waste initiatives
Institutional	Institutions buying products which: <ul style="list-style-type: none"> • have less packaging/recyclable packaging • have longevity in mind (equipment, products) • supporting companies that have zero waste initiatives
Commercial	Commercial businesses buying products which: <ul style="list-style-type: none"> • have less packaging/recyclable packaging • have longevity in mind (equipment) • quantities/shelf life are assessed for minimal waste
Industrial	Industries buying/producing products which: <ul style="list-style-type: none"> • have longevity in mind (equipment, products) • are packaged with minimal or recyclable materials • have producer responsibility where the end-of-life recyclability/proper disposal of the product is assessed

Upstream Strategies for Westerville Zero Waste Plan

- Develop a city-wide zero waste recognition/certification program for businesses
- Promote and recognize businesses that eliminate single-use containers such as plastic bags and to-go containers
- Develop assistance packages and evaluate targeted materials for businesses on recycling and composting options
 - Welcome packet for new businesses
 - Hauler list for recycling and food waste collection
- Establish public and private partnerships for new ways to manage solid waste
- Develop a plan for phases of food waste drop-off and curbside collection
- Revise building code standards or green building ordinances to address zero waste initiatives for the diversion of construction and demolition material
- Develop a Business Recycling Toolkit for Westerville businesses
 - Educate businesses to create an internal green team
 - Educate businesses on use of social media to promote zero waste
 - Develop resource guide for materials management



- Utilize SWACO’s toolkit as guide
- Educate businesses on zero waste purchasing and procurement

Midstream

Midstream strategies address extending the longevity of product use. These strategies include reuse, repair, repurposing, refurbishing, donations, and food recovery.

Midstream	
Residential	Consumers: <ul style="list-style-type: none"> ● use products through full life expectancy ● reuse, repair, repurpose, refurbish products ● donate items to extend life of product ● donate unused food to food banks/kitchens
Institutional	Institutions: <ul style="list-style-type: none"> ● use products through full life expectancy ● reuse, repair, repurpose, refurbish products ● donate items to extend life of product ● donate unused food to food banks/kitchens
Commercial	Commercial businesses: <ul style="list-style-type: none"> ● use products through full life expectancy ● reuse, repair, repurpose, refurbish products ● donate items to extend life of product ● donate unused food to food banks/kitchens ● maximize equipment lifespan
Industrial	Industries using products which: <ul style="list-style-type: none"> ● maximize equipment lifespan

Midstream Strategies for Westerville Zero Waste Plan

- Expand food recovery networks with local food recovery programs
- Promotion of repairs for household electronics and other commodities
- Promotion of donation bins and systems to reuse clothing and household items
- Provide education to businesses and institutions as well as residents on the importance of preventative maintenance to expand the longevity of products

Downstream

Downstream strategies strive to maximize the recovery of resources from discarded materials. These strategies may include recycling, composting, and various other material and energy recovery technologies. It is important to address and develop robust and stable market strategies for recovered materials and resources. Policies to incentivize specific downstream actions would include but are not limited to disposal bans and recycling mandates.



Downstream	
Residential	Consumers recycle/properly dispose products which: <ul style="list-style-type: none"> • can be recycled/composted
Institutional	Institutions recycle/properly dispose products which: <ul style="list-style-type: none"> • can be recycled/composted
Commercial	Commercial businesses recycle/properly dispose products which: <ul style="list-style-type: none"> • can be recycled/composted
Industrial	Industrial businesses recycle/properly dispose products: <ul style="list-style-type: none"> • which can be recycled/composted • consumers need assistance • by creating new products from recycled materials

Downstream Strategies for Westerville Zero Waste Plan

- Assess future contracts and franchise agreements with collections and processing vendors to include requirements and incentives addressing zero waste
 - Government buildings
 - Westerville City Schools
 - Special events
- Require disposal and diversion statistics from service providers (add contractual language when appropriate)
- Develop partnerships to implement a large-scale reuse program (i.e., Reuse-A-Palooza)
- Support organizations working on the implementation of take-back programs
- Collaborate with facilities which collect materials from the city:
 - Resource recovery facilities for recycling
 - Compost facilities for organics
 - Local facilities for the break down and recycling of difficult recyclable materials, hazardous and electronic waste recycling.
- Establish uniform or similar multi-family recycling
- Expand recycling outreach and education programming to include food waste drop-off and potential curbside collection
- Incentives for residential backyard composting
- Explore mandatory commercial recycling ordinance

COLLECTION AND PROCESSING

Collection and processing systems are described by sector because each sector has a unique trash and recycling system available to it.

Single Family Households

The City of Westerville contracts with Rumpke Waste Services for the curbside collection of trash and recycling. These services are provided on Tuesday for the entire city. The

City of Westerville observes six holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving, and Christmas. When an observed holiday falls on a Monday or Tuesday, then curbside trash and recycling is collected on Wednesday.

Refuse may be placed in trash cans or plastic bags. Trash cans may be plastic or metal, must be watertight, and be no larger than 35-gallon capacity unless able to be emptied using the truck tipper equipment (up to 96-gallons). Each container must weigh less than 50 lbs. when full. For trash, the collection process is performed by the trash collector or driver manually emptying the trash can by grabbing the trash bags or dumping the trash can or bags into the hopper of the trash truck.

Rumpke Front-load Residential Truck



Bulk Collection

Residents are provided additional bulk collection services for items that are placed at the curb in neat, manageable piles and are collected on the same day as the trash. Residents may contact the Department of Public Service 24 hours in advance of placing any bulk items at the curb. Examples of bulk item collection are provided on the website and include:

- Non refrigerant appliances (stoves, washers, dryers, etc.)
- Non-upholster furniture (chairs, tables, etc.)
- Upholstered furniture (wrapped in heavy plastic)
- Mattresses/box springs (wrapped in heavy plastic)
- Hot water tanks
- Bathtubs/toilets



- Exercise equipment
- Garage door openers and garage doors
- Fencing with concrete removed, cut down to 4-foot lengths

Items not collected in the bulk collection program include the following:

- Bricks, concrete, gravel, and construction debris
- Sod in large amounts
- Flammable liquids
- Pesticides/insecticides
- Large auto parts, tires, and motor oil
- Railroad ties
- Refrigerant units (refrigerators, freezers, and dehumidifiers)
- TV's, floor models, and rear projection

Yard Waste

Yard waste is collected every Monday throughout the city except for weeks with a Monday holiday where it is then collected on a Tuesday. Yard waste is collected year-round.

Yard waste guidelines are as follows per the city website:

“...yard waste items such as grass clippings, leaves and twigs should be placed in unlined trash cans or paper yard waste bags. Twigs or branches up to 2 inches in diameter should be cut into four-foot lengths and bound together with a biodegradable material such as string or twine. To dispose of small shrubs and bushes, 4-foot or less in length, remove the root-ball and use string or twine to tie the branches closer to the base. Christmas trees should be placed at curb completely free of all decorations and tree stands; should not be in a disposable bags; and should be cut in 4-foot lengths with the branches tied closer to the base.”

Leaf collection is provided by the City Department of Public Works and is seasonally collected during the fourth quarter as scheduled by zone. Each resident is expected to have at least 5 collection opportunities. All leaves must be raked to the tree lawn which is in between the street and the sidewalk. Yard waste collection will continue on Mondays during leaf collection.

Customer Service

The City of Westerville monitors service issues for curbside collection of yard waste, trash, and recycling collection. If trash or recycling is not collected on Tuesday, the City asks residents to leave trash and/or recycling at the curb for Wednesday morning collection for a delayed route. If the trash or recycling is not collected by Wednesday morning, then residents are asked to contact public service at 614-901-6740 or submit a service request via the *Tell Westerville* app.

Food Waste

Food waste drop-off is available to residents at the following locations.

- 370 Park Meadow – 6 carts
- 310 W. Main – 3 carts
- 469 Westdale – 6 carts
- Huber Village Park – 2 carts

Westerville Food Waste Drop-offs



Recycling Program

Residents place recyclables in 64-gallon carts at the curb for collection. The carts provide a container to accumulate recyclables and wheel them to the curb. Each container has a lid that prevents recyclables from blowing away. The 64-gallon cart replaced 10-gallon recycling bins that were previously used for curbside collection. These carts enable Rumpke to automate the collection of the recyclables making for a safer, more efficient collection.

Cardboard boxes need to be broken down and placed in the 64-gallon cart. Cardboard that is placed outside the recycling cart may be collected as trash.



The diagram below is provided to residents to help them identify the correct materials for their curbside recycling program. The cart program is a single-stream recycling program which means that residents can put all the items listed as acceptable in their recycling cart and the materials will be sorted at the material recovery facility (MRF).

Residential Recycling Accepted Items



Recycle			Recycle Right MAKE A DIFFERENCE		Not Accepted	
 <p>Paper & Cardboard <i>Please flatten</i></p>	 <p>Plastic Bottles Jugs & Tubs <i>Lids and labels accepted</i></p>	 <p>Glass Bottles & Jars <i>All colors accepted</i></p>	 <p>No Plastic or Foam Food Containers</p>	 <p>No Tangles <i>Hoses, wires, chains, clothing, or electronics</i></p>		
 <p>Metal Cans <i>Remove aerosol tips</i></p>	 <p>Cartons <i>Rinse and remove lids</i></p>	 <p>Keep them loose <i>Don't bag items</i></p>	 <p>No Plastic Bags <i>Return to retailer</i></p>	 <p>No Cups <i>Coffee or Party</i></p>		

For questions, resources, and info on how and where to recycle, donate, or dispose of items, visit RecycleRight.org.



Commercial, Institutional, and Industrial Collection

Commercial, institutional, and industrial customers located in the city can choose from numerous private haulers to provide trash collection and recycling services. These private haulers can also provide trash and recycling services to large multi-family complexes including apartment buildings and condominiums. All private haulers must use a SWACO disposal facility for trash disposal. Disposal facilities include the Franklin County Landfill at \$39.75 per ton, Jackson Pike Transfer Station at \$51.75 per ton, or the Morse Road Transfer Station at \$52.75 per ton. The collection systems available are front and rear-load containers that can be serviced multiple times per week, if necessary. The private hauler will provide service using 2, 4, 6, or 8-yard containers. The level of service for the containers can be set up in any frequency or number of days serviced as needed.

Commercial Front-load Container



Larger generators of waste can use 10, 20, 30, or 40-yard roll off containers that are serviced by roll-off trucks. Compactors can also be used and are also serviced by roll-off trucks.

Roll-off Truck



Recycling

Carboard recycling is available to all commercial, institutional, and industrial customers. Carboard collection can be provided by containerized service 2, 4, 6, 8-yard front-load or rear-load containers. In addition, for large generators of cardboard, compactors can be used and serviced by roll-off trucks. Customers that generate significant amounts of cardboard can bale the cardboard and sell the bales to cardboard processors. Both compactors and bales of cardboard can generate revenue for customers.

Roll-off Compactor Unit



Vertical Baler



For larger customers who generate significant materials such as metals or wood waste can use roll-off containers that can source separate material and can be hauled directly to an end use processor.

Single-Stream Recycling

Single-stream recycling is available to commercial and industrial customers using front-load containerized service serviced by dedicated front-load recycling routes from private haulers.

Multi-Family Housing

Multi-family housing can use multiple containerized services from private haulers including 96-gallon or 65-gallon carts, containers, or compactors for trash disposal. Carts can be more convenient for residents but may cost more to service. Larger complexes use containerized front-load or rear-load service. This service requires the resident to carry the trash to the container. The containers are typically located in a corral and many complexes can have many corrals with trash containers. The front-load and rear-load containers are more efficient for collection but not as convenient for residents.

Some larger complexes use compactors that are serviced by roll-off trucks for trash. The compactors can provide service for an entire residential complex and are the most efficient trash collection service. Compactors are typically less convenient for residents but can be the most cost effective.



Recycling

Multi-family recycling is sometimes provided using carts or containerized service including compactors much the same as trash collection. However, space is often a constraint because many residential complexes were not designed to have a trash container next to a recycling container at every corral or collection spot. In addition, recycling service for residential complexes typically requires the owner or landlord to pay an additional fee for recycling resulting in recycling not offered in many complexes. Because of the lack of available service, many residents of large residential complexes must find other recycling opportunities located outside the complex.

Collections and Processing Strategies

The items below outlines recommendations for collection and processing.

- Residential
 - Provide carts for trash collection to automate routes
 - Combine current curbside yard waste collection with food waste
 - Provide larger carts 96 gallon for recycling
 - Utilize 64 gallon for trash collection at a lower rate incentivize residents
 - Continue education and outreach to maximize diversion and reduce contamination.
- Commercial and Institutional
 - Encourage development of green teams and zero waste plans
 - Promote and support zero waste initiatives to provide recycling collection and organics collection.
 - Provide support to obtain grant funding to set up recycling infrastructure (corrals) etc.
 - Create new construction ordinances requiring recycling infrastructure designs
- Industrial
 - Encourage development of green teams and zero waste plans
 - Create new construction ordinances requiring recycling infrastructure designs
- Multi-Family
 - Provide support for complexes to obtain grant funding to set up recycling infrastructure (corrals) etc.
 - Create new construction ordinances requiring recycling infrastructure designs
 - Work with SWACO on pilot programs

OTHER MATERIALS MANAGEMENT

In addition to trash and recycling, the city also provides solutions to other categories of residential waste.

HHW

The City hosts two HHW collection events every year in collaboration with SWACO at the public service department. Residents are able to bring materials to the public service department for free (except latex/water-based paint), and materials are sent to EEI. Residents are also able to drop off HHW items at EEI year-round in Columbus. These events are welcomed and successful. Materials accepted include the following:

- Flammables
- Toxics
- Reactives



- Corrosives
- Fats/oils/grease
- Electronics
- Tires
- Oil-based paint
- Latex/water-based paint (\$1/can)

Electronics

Electronics are collected at the semi-annual HHW collection events as described above. Additionally, batteries, light bulbs, and holiday lights are accepted at the Westerville Electric Division for free, and materials are then sent to Mark Gray Enterprises. Goodwill accepts working electronics; Gamestop accepts video games and accessories, cell phones, and tablets; the library accepts cell phones; and T-Mobile accepts cell phones, cell phone accessories, and cell phone batteries. Accurate IT in Columbus accepts most electronics from all communities in SWACO's jurisdiction.

Tires

Tires are collected at the semi-annual HHW collection events as described above. Tires are also often accepted at car and tire repair stores when purchasing new tires such as Firestone, Goodyear, Tuffy, Tire Choice, and others. Liberty Tire in Grove City accepts tires from all communities in SWACO's jurisdiction.

Leaf Collection and Yard Waste

Yard waste is collected in paper bags or unlined trash cans every Monday throughout the city. Leaves, grass clippings, brush, and twigs are accepted as a part of this program. The city also advertises to residents to leave grass clippings on their lawn. Leaves are collected periodically throughout the fall season. No specific set-out dates are scheduled, and city crews pick up leaves that are out when driven past.

Bulk and Other Waste

Bulk items are collected on the same day as trash collection. Bulk items may be left outside of the can or bag. Examples of bulk items include furniture, non-refrigerant appliances, toilets, garage doors, lawn furniture, fencing, mattresses, artificial holiday trees, etc. The city includes specific instructions for certain items such as the following:

- Mattresses, box springs and upholstered furniture must be put in disposable bags or wrapped in heavy plastic and taped completely closed prior to being set out for collection.
- Disassemble large items such as decks, fencing, sheds, poles to 4-foot by 4-foot sections

Strategies for Other Materials Management

- Ensure HHW events are frequent enough for the City’s needs or refer residents to the SWACO HHW drop-off
- Survey residents at HHW collection events for focusing on feedback and residential need
- Partner with other communities for collection contracts

FACILITIES

Discarded materials throughout the city are collected and transported to a variety of nearby facilities for consolidation, disposal, recycling, composting, resource recovery and more. A list of the solid waste disposal, recycling, yard waste, composting, food waste, household hazardous waste and electronics facilities used by the City follows below.

Solid Waste (Trash)

SWACO Morse Road Transfer Facility - 4262 Morse Rd, Columbus, OH 43230

- Items accepted include municipal solid waste
- Only approved waste haulers are permitted to use SWACO transfer stations

SWACO Jackson Pike Transfer Facility – 2566 Jackson Pike, Columbus, OH 43233

- Items accepted include municipal solid waste
- Only approved waste haulers are permitted to use SWACO transfer stations

SWACO Franklin County Sanitary Landfill - 3851 London Groveport Rd, Grove City, OH 43123

- Items accepted include municipal solid waste
- Every year approximately one million tons of waste is disposed
- Landfill has approximately 42 years of life left
- Waste haulers and residents are permitted to use the landfill

Recycling

SWACO Recycling Drop-off (Sharon Woods Metro Park at the Maintenance Shop) – 6911 Cleveland Ave, Westerville, OH 43081

- Items accepted include paper, cardboard, paper cups, plastic bottles, plastic jugs, plastic tubs, plastic cups, glass bottles and glass jars, metal cans, aluminum cups, cartons.
- The following items are NOT currently accepted through this recycling program.
 - Plastic: Containers such as drinking cups, disposable storage containers, toys, plastic bags, plastic films and bubble wrap, and plastic utensils.
 - Glass: Ceramics, window or drinking glass, light bulbs, and any other glass not in the shape of a bottle or jar.
 - Paper: Cups, plates, paper towels, tissues, etc.
 - Drink Pouches: Made of or lined with foil and plastic.



- Metals: Coat hangers, steel scraps and any other metal not in the shape of a container.
- Note: Polystyrene foam or "Styrofoam" egg cartons, plates, cups, etc. are NOT accepted.
- Cardboard boxes need to be broken down and flattened.
- Items collected must be kept loose and are not to be placed in plastic bags.
- Items dropped off by resident and placed into co-mingled containers.
- Material is collected and transferred to Rumpke's Recycling Center located at 1191 Fields Avenue, Columbus, OH 43201.

SWACO Recycling Drop-off (St. Paul Catholic Church) - 313 N State St, Westerville, OH 43081

- Items accepted include paper, cardboard, paper cups, plastic bottles, plastic jugs, plastic tubs, plastic cups, glass bottles and glass jars, metal cans, aluminum cups, cartons.
- The following items are NOT currently accepted through this recycling program.
 - Plastic: Containers such as party drinking cups, disposable storage containers, toys, plastic bags, plastic films and bubble wrap, and plastic utensils.
 - Glass: Ceramics, window or drinking glass, light bulbs, and any other glass not in the shape of a bottle or jar.
 - Paper: Plates, paper towels, tissues, etc.
 - Drink Pouches: Made of or lined with foil and plastic.
 - Metals: Coat hangers, steel scraps and any other metal not in the shape of a container.
 - Note: Polystyrene foam or "Styrofoam" egg cartons, plates, cups, etc. are NOT accepted.
- Cardboard boxes need to be broken down and flattened.
- Items collected must be kept loose and are not to be placed in plastic bags.
- Items dropped off by resident and placed into co-mingled containers.
- Material is collected and transferred to Rumpke's Recycling Center located at 1191 Fields Avenue, Columbus, OH 43201.

Rumpke Material Recovery Facility (MRF) - 1191 Fields Avenue, Columbus OH 43201

- Items accepted include paper, cardboard, paper cups, plastic bottles, plastic jugs, plastic tubs, plastic cups, glass bottles and glass jars, metal cans, aluminum cups, cartons.
- The following items are NOT currently accepted through this recycling program.
 - Plastic: Containers such as party drinking cups, disposable storage containers, toys, plastic bags, plastic films and bubble wrap, and plastic utensils.
 - Glass: Ceramics, window or drinking glass, light bulbs, and any other glass not in the shape of a bottle or jar.
 - Paper: plates, paper towels, tissues, etc.
 - Drink Pouches: Made of or lined with foil and plastic.



- Metals: Coat hangers, steel scraps and any other metal not in the shape of a container.
- Note: Polystyrene foam or "Styrofoam" egg cartons, plates, cups, etc. are NOT accepted.
- Cardboard boxes need to be broken down and flattened.
- Items collected must be kept loose and are not to be placed in plastic bags.

Yard Waste

Kurtz Brothers - 6055 Westerville Road, Westerville, Ohio

- Accepts grass clippings, bushes, leaves, old mulch, woodchips, sod/edgings, yard waste in paper bags.
- Does not accept plastics, treated/painted wood, dirt, rocks, concrete, plastic, metal, food waste, sewer waste, railroad ties.
- Yard waste loads must be free from contamination such as plastic and metal.

Food Waste

Westerville Public Service – 350 Park Meadow Road, Westerville, OH 43081

- Residents can use any container to collect food waste. If liners are used must be BPI-certified
- Residents can place compostable items in a marked 64-gallon receptacle at City facilities
- This program is offered free of charge to residents
- The collection containers are serviced weekly by Springfield-based GoZero. Services. Items accepted include baked goods, beans, coffee grounds, cooked meat, dairy, eggs, eggshells, fruits, grains, pasta, plant, animal-based material, and soiled non-coated paper/fiber products
- Items not accepted include rocks, stones, glass, plastics not labeled "BPI-certified compostable," metal, steel, tin, aluminum, electronics, Styrofoam, personal health care products, pharmaceuticals, non-compostable packaging, and coated paper/fiber products

Parks Maintenance Department Food Waste Drop-off - 469 Westdale Ave., Westerville, OH 43082

- Residents can use any container to collect food waste. If liners are used must be BPI-certified
- Residents can place compostable items in a marked 64-gallon receptacle at City facilities
- This program is offered free of charge to residents
- The collection containers are serviced weekly by Springfield-based GoZero. Services. Items accepted include baked goods, beans, coffee grounds, cooked meat, dairy, eggs, eggshells, fruits, grains, pasta, plant, animal-based material, and soiled non-coated paper/fiber products
- Items not accepted include rocks, stones, glass, plastics not labeled "BPI-certified compostable," metal, steel, tin, aluminum, electronics, Styrofoam, personal health



care products, pharmaceuticals, non-compostable packaging, and coated paper/fiber products

Former Westerville Senior Center Building – 310 W. Main Street, Westerville, OH 43081

- Residents can use any container to collect food waste. If liners are used must be BPI-certified
- Residents can place compostable items in a marked 64-gallon receptacle at City facilities
- This program is offered free of charge to residents
- The collection containers are serviced weekly by Springfield-based GoZero. Services. Items accepted include baked goods, beans, coffee grounds, cooked meat, dairy, eggs, eggshells, fruits, grains, pasta, plant, animal-based material, and soiled non-coated paper/fiber products
- Items not accepted include rocks, stones, glass, plastics not labeled "BPI-certified compostable," metal, steel, tin, aluminum, electronics, Styrofoam, personal health care products, pharmaceuticals, non-compostable packaging, and coated paper/fiber products

Huber Village Park Food Waste Drop-off – 365 Huber Village Blvd., Westerville, OH 43081

- Residents can use any container to collect food waste. If liners are used must be BPI-certified
- Residents can place compostable items in a marked 64-gallon receptacle at City facilities
- This program is offered free of charge to residents
- The collection containers are serviced weekly by Springfield-based GoZero. Services. Items accepted include baked goods, beans, coffee grounds, cooked meat, dairy, eggs, eggshells, fruits, grains, pasta, plant, animal-based material, and soiled non-coated paper/fiber products
- Items not accepted include rocks, stones, glass, plastics not labeled "BPI-certified compostable," metal, steel, tin, aluminum, electronics, Styrofoam, personal health care products, pharmaceuticals, non-compostable packaging, and coated paper/fiber products

London Correctional Institution - 1580 State Route 56 SW, London, OH 43140

- Items accepted include food, yard, agricultural and animal waste
- GoZero (food waste hauler) collects and transports food waste to this facility for processing (until July 2021)
- Receives 150 tons/day of food waste from the central Ohio region
- Materials processed is converted into compost and sold in the marketplace

Andre Farms – 14687 county road M, Wauseon, OH 43567

- Items accepted include food, yard, agricultural and animal waste
- GoZero (food waste hauler) collects and transports food waste to this facility for processing (since July 2021)



Household Hazardous Waste

Public Service Department - 350 Park Meadow Rd., Westerville, OH

- Semi-annual spring and fall collection events
- Items accepted include lighter fluid, thinner/turpentine, gasoline, kerosene, gasoline/oil mix, CFL bulbs, rat poison/insecticides, extinguishers, mercury/nicad batteries, pool chemicals, computer hardware, TV's phone, copiers/fax machines, wires, latex/water-based paints (additional fee), oil-based paint and more
- Items not accepted include drain cleaners, bleach, paint strippers, antifreeze, needles/medical waste, asbestos/propane tanks, ammunition, trash

SWACO / Environmental Enterprises, Inc. (EEI) - Household Hazardous Waste Drop Off Center - 4650 Spring Grove Ave, Cincinnati, OH 45232

- Items accepted include household cleaners, paint (latex, oil-based, aluminum), household batteries, gasoline, diesel, kerosene, used oil, antifreeze, car batteries, asbestos tiles and paint chips, aerosol cans, lawn fertilizers, pesticides, glue and adhesive, tile grout, driveway sealer, small electronics, computer equipment, televisions, cell phones, cell phone batteries, ink cartridges, propane tanks, one-pound propane tanks, pool chemicals, light bulbs, fluorescent tubes, and light bulbs
- No fees charged to Westerville residents except for water based paints, televisions, and monitors
- Materials recovered and set to recyclers
- Some materials collected are shipped to EEI's Treatment facility located at 4650 Spring Grove Ave, Cincinnati, Ohio for further processing

Environmental Enterprises, Inc. (EEI) – 4650 Spring Grove, Cincinnati, Ohio 45232

- Ohio EPA, Part B permitted hazardous waste treatment and storage and treatment facility
- Operates various treatment systems to manage hazardous and non-hazardous materials
- Receives waste from facilities throughout the country

Electronic Recycling

Electric Division - 139 E. Broadway Ave, Westerville, OH 43081

- Items accepted include batteries, bulbs, transformers, holiday lights and appliances
- Rebates available for smart thermostats
- Energy audits for businesses
- Rebate program for off-peak electric vehicle charging program
- Rebate for electric vehicle supply charging equipment
- Commercial solar rebate program



Green Wave Computer Recycling - 6555 East 30th Street, Ste D, Indianapolis, IN 46219

- Items accepted include televisions, computers, monitors, laptops, cell phones, batteries, printers, stereos, cables, gaming devices, copy machines, fax machines and more
- Data containing items are destroyed in a controlled environment
- Breaks down materials into commodity form
- Hazardous materials are recovered for proper disposal
- Raw materials are collected and recycled

Scrap Tire Recycling

Liberty Tire Recycling - 3041 Jackson Pike, Grove City, OH 43123

- Specializing in tire reclamation, tire-derived fuel, and industrial feedstock. Cut up into different size pieces and separate the car and semi. Metal from tires is recycled. Tires may be either on or off the wheel.
- Tires get shredded and turned into new products such as drainage fill material, landscaping, turf for high school and collegiate track, and tire derived fuel
- Accepts car, truck, and tractor tires
- Open to the public
- Charge a disposal fee
- Collection services for commercial businesses
- No appointment necessary

Strategies for Facilities

- All contracts should identify where material is sent to
- Evaluation of facilities' pricing for contracts
- Consider becoming a member of a multi-city contract or consortium for household hazardous waste or any of the ancillary services outside of solid waste
 - Potential benefits include lower costs
 - Increased availability of service to the residents

FLOW OF MATERIALS

The following waste streams will be included in the flow of materials schematic:

- Residential trash
- Residential recyclables
- Residential organics
- Commercial trash
- Commercial recyclables



Waste Stream	Service Provider	Destination during 2021
Residential Trash	Rumpke	SWACO Franklin County Sanitary Landfill 3851 London Groveport Rd, Grove City, OH 43123
Residential Recyclables	Rumpke	Rumpke Waste Recycling - Columbus 1191 Fields Avenue, Columbus OH 43201
Residential Yard Waste	Rumpke	Ohio Mulch 4665 Westerville Rd, Columbus, OH 43231
Residential Food Waste	GoZero	Andre Farms 14687 county road M, Wauseon, OH 43567
Commercial Trash	Multiple Haulers	SWACO Franklin County Sanitary Landfill 3851 London Groveport Rd, Grove City, 43123
Commercial Recyclables	Multiple Haulers	Rumpke Waste Recycling - Columbus 1191 Fields Avenue, Columbus OH 43201

Primary Residential Waste Streams

The three main waste streams are trash, recycling, and organics (further broken down into yard waste and food waste). The following figure shows the flow of the waste stream from residents to its destination during 2021:



*Transfer stations may or may not be used

Other Waste Streams

Household Hazardous Waste

- Semi-annual spring and fall collection events
 - Collaboration with SWACO
 - Accepted items currently include flammables, toxics, reactives, corrosives, and fats/oils/grease.
 - Public Service Department: 350 Park Meadow Rd.
 - SWACO uses a vendor to manage the materials and are typically sent to: EEI 4650 Spring Grove Ave, Cincinnati, OH 45232
- SWACO / EEI - Household hazardous waste drop-off center
 - Residents may use the year-round drop-off center by SWACO: 645 E 8th Ave, Columbus, OH 43201

Electronic Waste

- Electric Division 139 E. Broadway Ave
 - Batteries, light bulbs, and holiday lights
 - The Electronic Division uses a vendor to recycle the materials and are typically sent to: Mark Grey 464 N Highland Ave, Columbus, OH 43204
- Semi-annual spring and fall collection events
 - Collaboration with SWACO
 - Accepted items currently include computer hardware, TV, phones, cameras, copiers, fax machines, VCRs, radios, and wires
 - Public Service Department: 350 Park Meadow Rd.
 - SWACO uses a vendor to manage the materials and are typically sent to: Greenwave 6555 East 30th Street, Ste D, Indianapolis, IN 46219

Scrap Tires

- Semi-annual spring and fall collection events
 - Collaboration with SWACO
 - Accepted items currently include tires w/o rims (limit four per household)
 - Public Service Department 350 Park Meadow Rd.
 - SWACO uses a vendor to manage the tire and are typically sent to: Liberty Tire Recycling 3041 Jackson Pike, Grove City, OH 43123
- Local vendors (ex. autobody shops and Liberty Tire Recycling in Grove City)

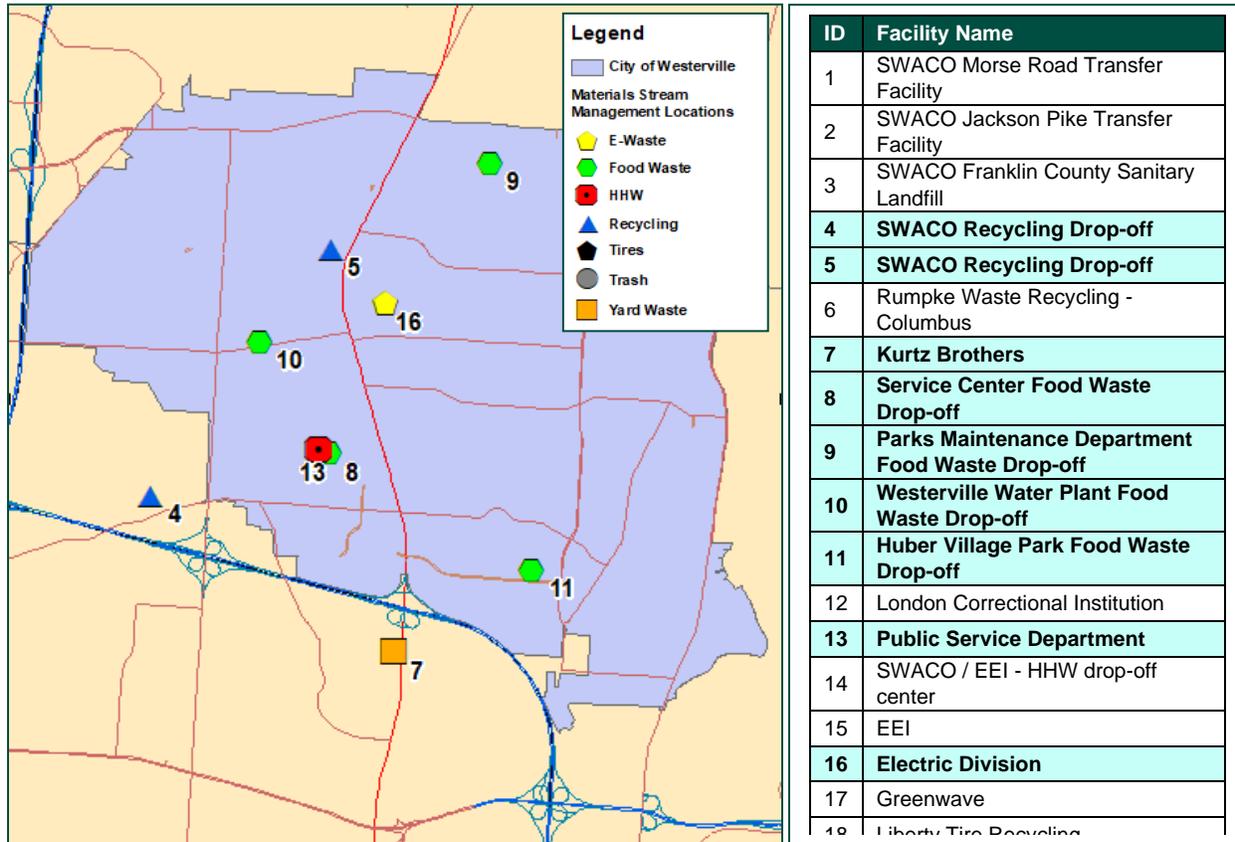


The following table shows the main locations used for materials management and the ID correlates to the following map during 2021:

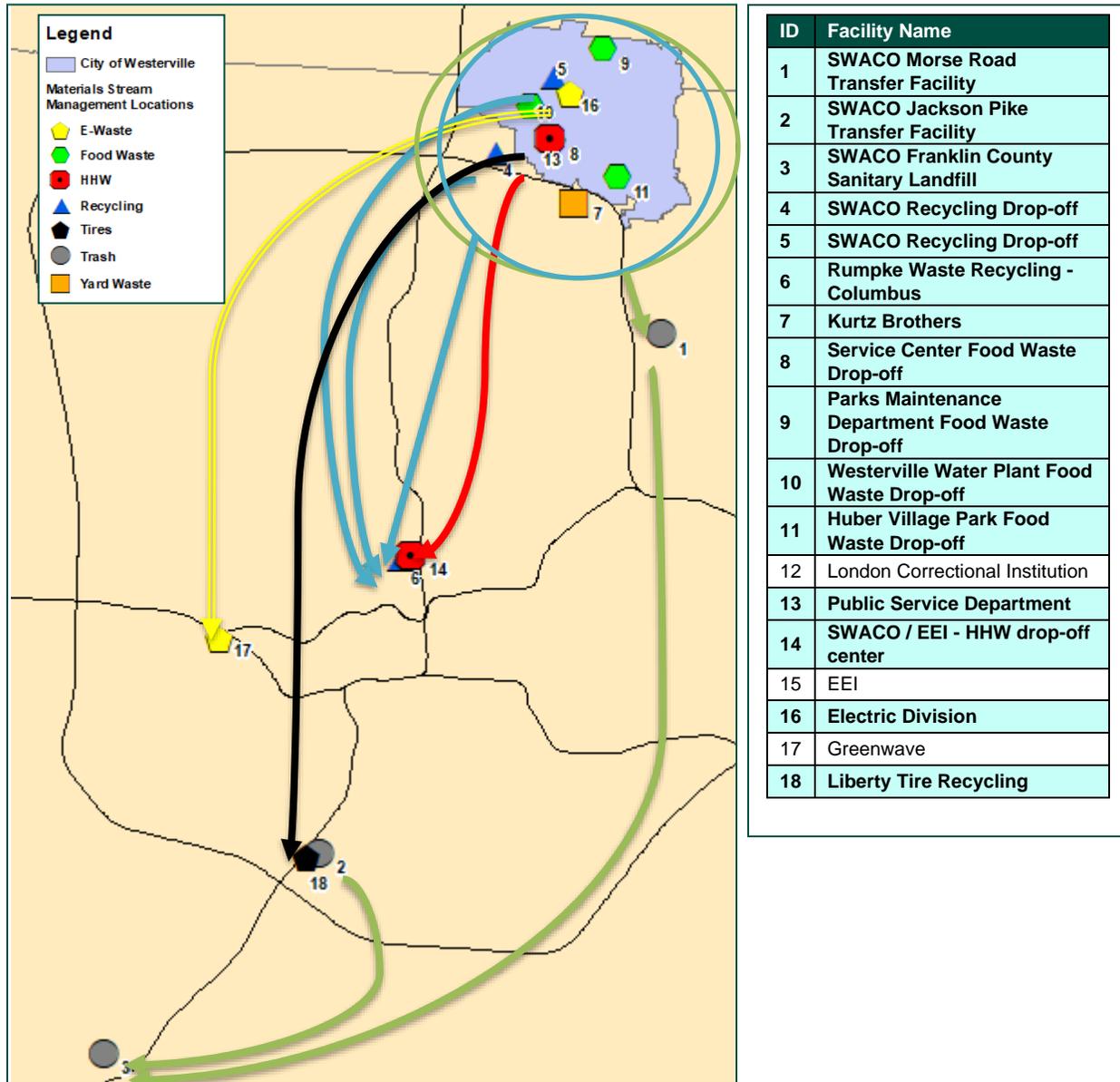
ID	Facility Name	Stream	Location Type
1	SWACO Morse Road Transfer Facility	Trash	Transfer Station
2	SWACO Jackson Pike Transfer Facility	Trash	Transfer Station
3	SWACO Franklin County Sanitary Landfill	Trash	Landfill
4	SWACO Recycling Drop-off (Sharon Woods Metro Park at the Maintenance Shop)	Recycling	Recycling Drop-off
5	SWACO Recycling Drop-off (St. Paul Catholic Church)	Recycling	Recycling Drop-off
6	Rumpke Waste Recycling - Columbus	Recycling	MRF
7	Kurtz Brothers	Yard Waste	Yard Waste Composter
8	Service Center Food Waste Drop-off	Food Waste	Food Waste Drop-off
9	Parks Maintenance Department Food Waste Drop-off	Food Waste	Food Waste Drop-off
10	Westerville Water Plant Food Waste Drop-off	Food Waste	Food Waste Drop-off
11	Huber Village Park Food Waste Drop-off	Food Waste	Food Waste Drop-off
12	Andre Farms	Food Waste	Food Composter
13	Public Service Department	HHW	HHW Event
14	SWACO / EEI - Household hazardous waste drop-off center	HHW	HHW Drop-off
15	EEI (Cincinnati, OH)	HHW	HHW Recycler
16	Electric Division	E-Waste	E-Waste Drop-off
17	Greenwave (Indianapolis, IN)	E-Waste	E-Waste Recycler
18	Liberty Tire Recycling (Grove City, OH)	Tires	Tire Recycler

The following map shows the different locations. Locations are labeled with the IDs identified in the table above.

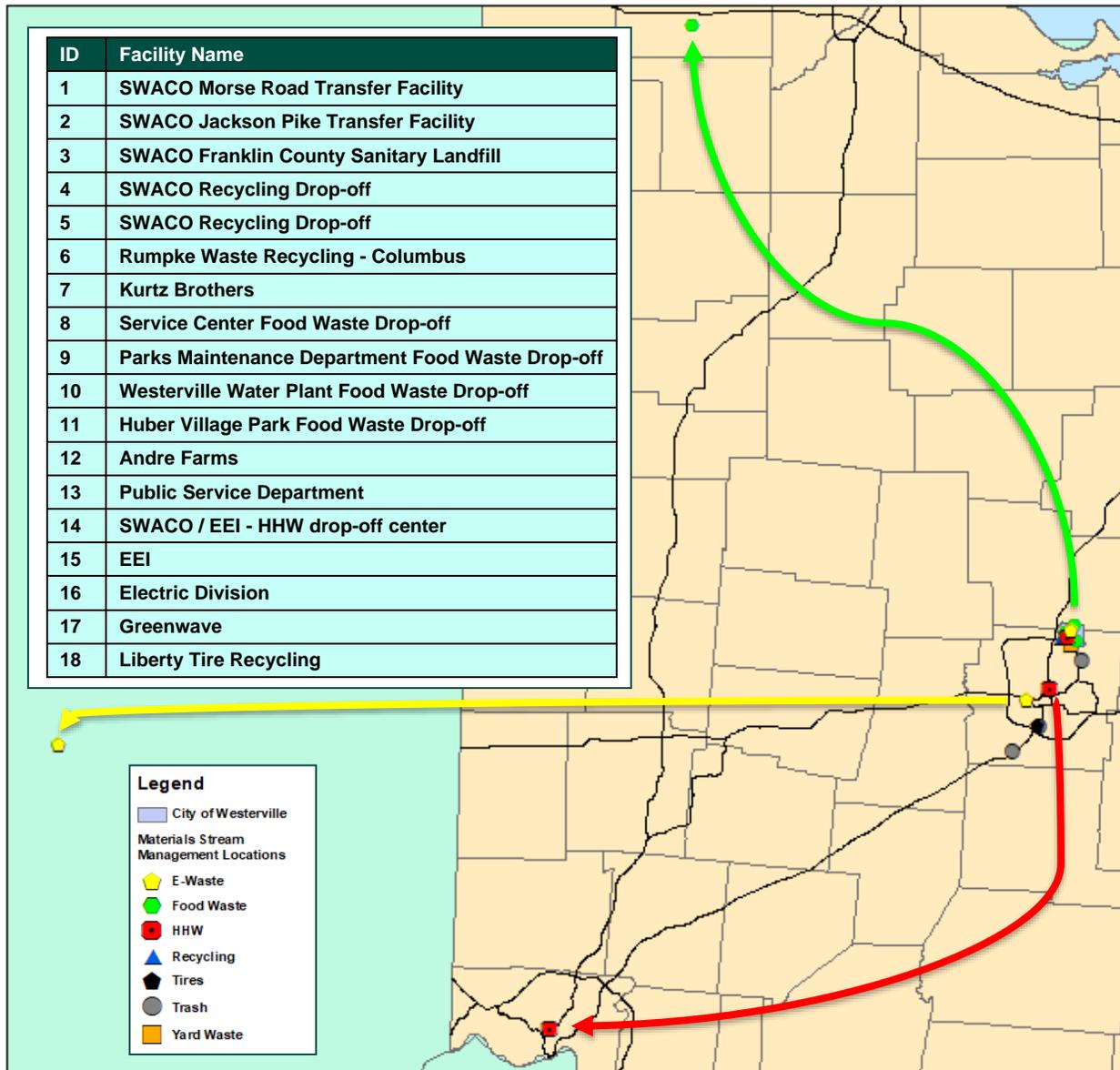
Flow of Materials during 2021 - Map Focus: City of Westerville



Flow of Materials during 2021 - Map Focus: Central Ohio



Flow of Materials during 2021 - Map Focus: Region



REUSE

Reuse practices are complementary to recycling practices. Reuse is the practice of using materials again that otherwise would have become waste, whereas recycling is the practice of turning waste materials into another form for use. Reusing materials keeps items from becoming waste and/or it keeps another item from being used and eventually becoming waste. There are currently many opportunities for residents and businesses to reuse materials rather than wasting them. Additionally, the City of Westerville can promote and educate its residents and businesses on best reuse practices as well as promote systems that are already in place.

Promote Systems Currently in Place

There are many opportunities for reuse already in place in Westerville including the following:

- Borrow before buying
 - Library
 - Little Free Libraries (multiple locations)
 - Nextdoor app
- Purchase items that will last a while
 - Green Haven Living
- Purchasing used goods
 - Reuse-a-Palooza
 - Facebook, Nextdoor, and other online markets
 - Purchase from thrift stores
 - Clothes Mentor
 - GameStop
 - Once Upon a Child
 - Otterbein Women's Thrift Store
 - Play It Again Sports
- Give gently used items to thrift stores
 - Clothes Mentor
 - GameStop
 - Once Upon a Child
 - Otterbein Women's Thrift Store
 - Play It Again Sports
 - Planet Aid
- Give unwanted, unopened, unperishable food/toiletries
 - Westerville Area Resource Ministry (WARM)
 - Westerville Estates Blessing Box 11050 Fancher Rd, Westerville, 43082
 - State Farm Blessing Box 6449 N Hamilton Rd, Westerville, 43081

New Opportunities

Westerville could also start up new opportunities for reuse as well as educate residents on the importance of reuse, in addition to the new Reuse-A-Palooza event. Some examples could include:

- Collection events at the end of the school year at Otterbein
- Collect gently used school supplies at the end of school year to use following year
- Provide map of opportunities to reuse on website
- Provide financial assistance to businesses providing reuse opportunities
- Educate residents on importance of reuse (see below).
 - Develop and promote a web-based directory of local reuse and recycling options for all types of materials



Education

The City of Westerville could promote the value of reuse to its community. This could include posts on social media, including education at events and schools, and providing resources to those interested. Explanations and examples of reuse opportunities include the following.

The first principle of reuse is using items that are already available. This includes utilizing items to their full lifespan and potential. For example, instead of throwing away a shirt that has been worn a few times, use it until it is no longer wearable. Another example is repairing broken goods (if possible) rather than disposing and purchasing a new item.

Once items that are already in possession cannot be reused again, then the second principle of reuse is to find a new use for the item. An example of this would be a shirt that is no longer wearable, but it could be turned into rags or patches for other clothing items. Other ideas include reusing jars, bottles, boxes, bags, or paper for storage, crafts, or other uses.

When an item cannot be reused and there are no other potential uses for it, it would be disposed and replaced with a new item. New items for replacement could include borrowing items from friends, family, neighbors, or the library instead of purchasing a new item, purchasing used items, or purchasing items that have the potential to be reused and can last a while.

SPECIAL EVENTS

The City of Westerville hosts many events throughout the year for residents and the public to attend including some of the larger events listed below:

- Music and Arts Festival
- Fourth of July
- Uptown Westerville Activities – Fourth Friday
- Westerville Pumpkin Glow
- Community Center Pancake Breakfasts
- Summer Concert Series
- Snowflake Castle
- Parks and Recreation Activities
- Youth Sporting Events

These events have the potential to generate substantial quantities of waste, and conversely, the potential to reduce and divert waste. Though each of the events are unique in their own way, each event generates waste, requires management of this waste, and provides an opportunity for residents, neighbors, and businesses to learn more about reducing and diverting their waste.



Strategies for Zero Waste Events

- Develop guidelines for zero waste events
 - Assign roles and responsibilities
 - Composting and recycling bins available
 - Compostable and recyclable materials only used for food service
 - Connect with waste service provider
 - Prohibit single-use plastics
 - Prepare for leftover food donation
 - Electronic and/or recyclable educational material made available
 - Create method for measuring success of zero waste
- Create grant program for events that choose to use zero waste guidelines
- Offer reusable items for sale
- Apply for grant opportunities for zero waste event containers, assistance, materials, etc.
- Provide education and outreach at large events in the city
 - Representative of the Green Team at public events
 - Cost of analysis of providing promotional/reusable materials

SECTION 4 – MOVING TOWARD ZERO WASTE

RECOMMENDATIONS

Each goal identified in Section 2 by the Green Team, as well as the data collected during Section 3, resulted in Zero Waste Plan recommendations for the City. The following recommendations were presented with estimated low, medium, and high diversion impact, cost, and time to implement for the Green Team to rank. These recommendations were also assigned a timeframe of 2022-2025, 2025-2028, and 2028-2032.

Goal	Recommendation	Vote
Goal 1 – Develop Data Collection Strategy	Establish historical, baseline statistics using known data sources including: City/hauler records, Survey responses, SWACO, Ohio EPA data, Ohio Development Services Agency, National statistics, Other	Yes
	Require disposal and diversion statistics from service providers (add contractual language when appropriate).	Yes
	All contracts should identify where material is sent to.	Yes
	Evaluate contract opportunities for recycling and compost at education facilities (Westerville City Schools and other government buildings) -Yard waste from maintenance dept. -Plastic and metal can recycling only at high school level -Westerville Green Collaborative	Yes
	Use of measurable outcomes for programs, projects, and activities that cannot be measured volumetrically or by weight (i.e., number of presentations given, total recycling advertisements placed, etc.).	Yes
	Periodically evaluate data collection strategy and make improvements as necessary.	Yes
	Goal 2 – Improve Residential Sector (single family, multi- family) Waste Management	Develop a plan for phases of food waste drop-off and curbside collection.
Expand recycling outreach and education programming to include food waste drop-off and potential curbside collection.		Yes
Incentives for residential backyard composting.		No
Establish uniform or similar multi-family recycling.		Yes
Multi-Family: Provide support for complexes to obtain grant funding to set up recycling infrastructure (corrals) etc.		Yes
Residential: Provide carts for trash collection automate routes		No
Residential: Combine current curbside yard waste collection with food waste		Yes
Residential: Provide larger carts 96-gallon for recycling		Yes
Residential: Utilize 64 gallon for trash collection at a lower rate incentivize residents		Yes
Develop partnerships to implement a large-scale reuse program (i.e., Reuse-A-Palooza).	Yes	



Goal	Recommendation	Vote
	Objective: G2-4-2021 – Evaluate education for diversion for correct materials and diversion opportunities for materials which are not accepted by the curbside and drop-off programs -Household Hazardous Waste (HHW) collection promotion -Electronics collection promotion -Curbside tagging/contamination initiatives -Comparison to difference model systems -Curbside material exchange	Yes
	Promotion of repairs for household electronics and other commodities.	No
	Promotion of donation bins and systems to reuse clothing and household items	Yes
	Support organizations working on the implementation of take-back programs.	No
	Residential: Continue education and outreach to maximize diversion and reduce contamination.	Yes
	Provide financial assistance to businesses providing reuse opportunities	Yes
	Ensure HHW event are frequent for the City’s needs or frequency of referral to the SWACO HHW drop-off	Yes
	Survey residents at HHW collection events for focusing on feedback and residential need.	Yes
	Partner with other communities for collection contracts	Yes
	Offer reusable items for sale	Yes
	Goal 3 – Improve Commercial Sector (restaurants, theatres, shops, medical businesses, etc.) Waste Management	Establish public and private partnerships for new ways to manage solid waste.
Expand food recovery networks with local food recovery programs.		Yes
Evaluate partnerships with food rescues or compost programs to assist restaurants reduce materials going to the landfill -Cardboard -Food -Glass bottles and metal cans		Yes
Explore mandatory commercial recycling ordinance.		Yes
Commercial Institutional: Promote and support zero waste initiatives to provide recycling collection and organics collection.		Yes
Commercial Institutional: Provide support to obtain grant funding to set up recycling infrastructure (corrals) etc.		Yes
Develop assistance packages and evaluate targeted materials for businesses on recycling and composting options -Welcome packet for new businesses -Hauler list for recycling and food waste collection		Yes
Promote and recognize the elimination of single-use containers such as plastic bags and to-go containers for businesses.		Yes
Goal 4 – Improve	Develop guidelines for zero waste event Assign roles and responsibilities	Yes



Goal	Recommendation	Vote
Institutional Sector (hospitals, schools, university, government) and Special Events Waste Management	-Composting and recycling bins available -Compostable and recyclable materials only used for food service -Connect with waste service provider -Prohibit single-use plastics -Prepare for leftover food donation -Electronic and/or recyclable educational material made available -Create method for measuring success of zero waste	
	Provide education and outreach at large events in the city -Representative of the Green Team at public events -Cost of analysis of providing promotional/reusable materials	Yes
	Collection events at the end of the school year at Otterbein	Yes
	Assess future contracts and franchise agreements with collections and processing vendors to include requirements and incentives addressing zero waste. -Government buildings -Westerville City Schools -Special Events	Yes
	Collaborate with facilities which collect materials from the city: -Resource recovery facilities for recycling -Compost facilities for organics -Local facilities for the break down and recycling of difficult recyclable materials, hazardous and electronic waste recycling.	Yes
	Collect gently used school supplies at the end of school year for use following year	Yes
	Promote education opportunities to promote electric division which offers electronic recycling and other zero waste initiatives. -Christmas lights, lightbulbs, batteries -Transformers -Electric charging station -Solar rebates/panels residential -Energy efficiency improvements for commercial/industrial businesses	Yes
	Support zero waste initiatives for healthcare infrastructure	Yes
Goal 5 – Improve Industrial Sector (product manufacturer) Waste Management	Develop a city-wide zero waste recognition/certification program for businesses.	Yes
	Evaluate opportunities to offer education, best management practices, and waste audits.	Yes
Goal 6 – Establish Education and	Develop an education and outreach plan for each target audience (residents, commercial businesses, institutions, etc.).	Yes
	Develop Westerville zero waste content for Facebook and/or City website page.	Yes



Goal	Recommendation	Vote
Outreach Program	Prepare topical videos and posts which focus on sustainable practices or borrow content from public/private resources (i.e., SWACO, Rumpke). Topics for videos and posts could include backyard composting, recycling, providing re-useable materials to Habitat Restore, etc. Distribution of the videos and posts would take place through social media.	Yes
	Educate residents on importance of reuse -Develop and promote a web-based directory of local reuse and recycling options for all types of materials.	Yes
Goal 7 – Identify Needed Infrastructure (processing or waste management facilities)	Provide map of opportunities to reuse on website	Yes
	Evaluation of facilities’ pricing for contracts	Yes
	Multi-Family: Work with SWACO on pilot programs	Yes
	Consider becoming a member of a multi-city contract or consortium for household hazardous waste or any of the ancillary services outside of solid waste. -Potential benefits include lower cost. -Increased availability of service to the residents.	Yes
Goal 8 – Zero Waste Plan Implementation	The Green Team will develop a formal schedule to present the zero waste plan and accept comments from the community. Two meetings will be held that present details of the development of the ZWP and the recommendations for public comment. Meetings should be held to get feedback on potential programs and the draft document before being implemented in 2022. The public will be invited to share comments, suggestions, and concerns. The goal is to publicize the ZWP and foster positive feedback from the community. These meetings will be added to the Facebook page and website to inform the Westerville community.	Yes
	Formally Establish a City of Westerville Green Team. In order to implement this ZWP, the Westerville Green Team is recommending that City Council create and adopt the Westerville Green Team (or any name)	Yes
	Develop a Business Recycling Toolkit for Westerville businesses. Educate businesses to create an internal green team -Educate businesses on use of social media to promote zero waste -Resource guide for materials management -Educate businesses on zero waste purchasing and procurement	Yes
	Commercial Institutional: Encourage development of green teams and zero waste plans	Yes
	Industrial: Encourage development of green teams and zero waste plans	Yes
Goal 9 – Develop a Waste Diversion Plan	Revise building code standards or green building ordinances to address zero waste initiatives for the diversion of construction and demolition material.	Yes
	Commercial Institutional: Create new construction ordinances requiring recycling infrastructure designs	Yes



Goal	Recommendation	Vote
	Industrial: Create new construction ordinances requiring recycling infrastructure designs	Yes
	Multi-Family: Create new construction ordinances requiring recycling infrastructure designs	Yes
	Create grant program for events that choose to use zero waste guidelines	Yes
	Apply for grant opportunities for zero waste event containers, assistance, materials, etc.	Yes

PUBLIC-PRIVATE PARTNERSHIPS

Private infrastructure and existing services or programs can be excellent opportunities for public-private partnerships (PPP). Creating win-win relationships allows both groups to leverage their areas of expertise to deliver high quality services at affordable prices. PPP's can be designed in many different situations and circumstances. These partnerships can be local, regional, or statewide. PPP's can include cross-promotion or education and outreach for services that currently exist but are not fully utilized because of a lack of awareness.

PPP's can also leverage aggregated volumes or services from both parties creating efficiencies in the zero waste system and lower operating costs. Partnering with other communities and businesses can create synergies that will expand service and lower costs. For example, there are many reuse organizations for furniture and clothing that could participate in reuse events and drop-offs. Also, there are existing food rescue programs to divert edible food from the waste stream.

Integrating economic development initiatives into the zero-waste process is an excellent approach to developing PPP's. An integrated approach to economic development supporting recycling collection, processing, and end user consumption of recyclables will create great economic value and further develop the zero waste initiative. Economic development at the City of Westerville should participate with the Green Team and implementation of the zero waste plan. Excellent examples of PPP include public ownership of facilities or property that are operated by private companies.

Most of the recommendations in this report have opportunities for partnering with a stakeholder that could include another public entity and the private sector. Many of the recommendations can be implemented at minimal cost to the city when supported by a PPP stakeholder. PPP's opportunities should be thoroughly evaluated and reviewed for each recommendation. Examples of the PPP opportunities are listed below.

Reuse

- Expand and promote Goodwill or other reuse services
- Collaborate with Otterbein end-of-year collection event
- Collaborate with Westerville school supplies reuse program
- Cross promote reuse opportunities available in community



- Financial assistance to businesses providing reuse opportunities

Commercial, Industrial, and Institutional

- Green teams for businesses
- Zero waste plans for businesses
- Business recycling toolkit and awards program through business associations

Residential

- Education and outreach for businesses that offer recycling to the community
- Multi-family pilot program with SWACO
- Partner with surrounding communities for ancillary recycling, HHW, electronics, etc.
- Education and outreach provided by stakeholders to increase recycling and minimize contamination
- Pilot program with SWACO for curbside organics collection

Green Team

- Review contracts for services to include zero waste concepts
- Develop guidelines for zero waste events with promotions
- Develop program with local businesses to eliminate single-use packaging
- Collaborate/promote Westerville Library programs
- Collaborate/promote Westerville Electric Division programs

Strategies for Public-Private Partnerships

- Evaluate partnerships with food rescues or compost programs to assist restaurants to reduce materials going to the landfill
 - Cardboard
 - Food
 - Glass bottles and metal cans
- Support zero waste initiatives for healthcare infrastructure

MEASURING RESULTS

The Green Team is responsible for collecting, recording, and analyzing data regarding baseline and future data for programs outlined in the ZWP. For each recommendation outlined and decided upon above, the Green Team will need to create a plan to collect data on the program. It is more useful if data collected is quantitative and easily measured from year to year or program to program, but data can also be qualitative.

One way to collect quantitative data is using Re-TRAC connect, Excel, or other tools to collect waste data by type, weight, and/or volume. Businesses, institutions, industries, and other stakeholders can report to the City qualitative data about waste, whether for disposal, recycling, composting, reuse, or other on each program. Stakeholders can collect this data by weighing their waste and/or estimating volume in dumpsters including:



- Percentage of dumpster capacity used
- Number of bags
- Degree of contamination in the recycling dumpsters and recyclables visible in the trash dumpster.

The City can also keep data on programs that do not directly impact waste such as number of presentations given, number of posts on social media about zero waste, number of locations with reuse programs, etc. Other qualitative data could include survey responses of the approval of certain programs. The City should keep track of as many data points as possible.

Strategies for Measuring Results

- Use measurable outcomes for programs, projects, and activities that cannot be measured volumetrically or by weight (i.e., number of presentations given, total recycling advertisements placed, etc.).
- Periodically evaluate data collection strategy and make improvements as necessary.
- Establish historical, baseline statistics using known data sources including:
 - City/hauler records
 - Survey responses
 - SWACO
 - Ohio EPA data
 - Ohio Development Services Agency
 - National statistics
 - Other

COMMUNICATIONS AND SOCIAL MEDIA

Effective communication is necessary for a successful zero waste plan implementation. Multiple channels of communication need to be utilized to reach the multiple audiences included in this plan. Additionally, interested businesses and institutions could create their own or borrowed displays to post at their place of work as well. Tools such as the following should be utilized:

- Social media
 - Facebook
 - Twitter
 - Instagram
 - YouTube
 - LinkedIn
- PSAs
 - Radio
 - TV
 - Newspaper
 - Newsletters



- Ads in bills
- Permanent displays at city offices
- Booths at city events
- Live presentations, recorded to keep on website
- Dedicated website or page on city website

The communication pieces need to include the purpose of the zero waste plan, the importance, the planned programs, the expected outcomes, etc.

Strategies for Communications and Social Media

- Develop an education and outreach plan for each target audience (residents, commercial businesses, institutions, etc.).
- Develop Westerville zero waste content for Facebook and/or City website page.
- Prepare topical videos and posts which focus on sustainable practices or borrow content from public/private resources (i.e., SWACO, Rumpke). Topics for videos and posts could include backyard composting, recycling, providing re-useable materials to Habitat Restore, etc. Distribution of the videos and posts would take place through social media.
- Promote electric division which offers electronic recycling and other zero waste initiatives.
 - Christmas lights, lightbulbs, batteries
 - Transformers
 - Electric charging station
 - Solar rebates/panels residential
 - Energy efficiency improvements for commercial/industrial businesses
- Evaluate education for diversion for correct materials and diversion opportunities for materials which are not accepted by the curbside and drop-off programs
 - Household Hazardous Waste (HHW) collection promotion
 - Electronics collection promotion
 - Curbside tagging/contamination initiatives
 - Comparison to difference model systems
 - Curbside material exchange
- Evaluate opportunities to offer education, best management practices, and waste audits to businesses.
- Create newsletter about zero waste for the community and/or dedicate space in every community newsletter with updates on zero waste plan

SCHEDULE OF ZERO WASTE PLAN IMPLEMENTATION

Recommendations assessed and ranked by the Green Team were placed as initiatives in different timeframes in focus of three phases for the Green Team's Mission to reduce materials sent to the landfill by 80% by 2032. The three phases are 2022-2025, 2025-2028, and 2028-2032 for the implementation. These are general guidelines for implementation. When the City establishes a formally recognized entity (Green Team or another name chosen) would be responsible for working and coordinating with the City to



implement the Zero Waste Plan and its initiatives. The Green Team would be responsible to make recommendations to SWACO or the Mid-Ohio Regional Planning Commission, as appropriate. Initiatives and facilities may require more regional cooperation if not within City’s ability to finance.

Definitions:

- Time to Implement – An estimated time it would take to implement the individual recommendation.
- Expected Diversion – An estimated diversion of waste impact compared to other recommendations (ex. tons diverted from landfill).

Phase 1 - Initiatives for Timeframe 2022-2025

Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 1	Establish historical, baseline statistics using known data sources including: City/hauler records, Survey responses, SWACO, Ohio EPA data, Ohio Development Services Agency, National statistics, Other	1 year	Low
Goal 1	Require disposal and diversion statistics from service providers (add contractual language when appropriate).	1 year	Low
Goal 1	All contracts should identify where materials are sent to.	1 year	Low
Goal 1	Evaluate contract opportunities for recycling and compost at education facilities (Westerville City Schools and other government buildings) -Yard waste from maintenance dept. -Plastic and metal can recycling only at high school level -Westerville Green Collaborative	1 year	Moderate
Goal 2	Develop a plan for phases of food waste drop-off and curbside collection.	2 years	High
Goal 2	Establish uniform or similar multi-family recycling.	1 year	High
Goal 2	Objective: G2-4-2021 – Evaluate education for diversion for correct materials and diversion opportunities for materials which are not accepted by the curbside and drop-off programs -Household Hazardous Waste (HHW) collection promotion -Electronics collection promotion -Curbside tagging/contamination initiatives -Comparison to difference model systems -Curbside material exchange	1 year	Low
Goal 2	Promotion of donation bins and systems to reuse clothing and household items	Ongoing	Low
Goal 2	Residential: Continue education and outreach to maximize diversion and reduce contamination.	Ongoing	Low
Goal 2	Survey residents at HHW collection events for focusing on feedback and residential need.	Ongoing	Low



Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 2	Partner with other communities for collection contracts	2 years	Low
Goal 3	Evaluate partnerships with food rescues or compost programs to assist restaurants reduce materials going to the landfill -Cardboard -Food -Glass bottles and metal cans	1 year	Moderate
Goal 3	Commercial Institutional: Promote and support zero waste initiatives to provide recycling collection and organics collection.	Ongoing	Low
Goal 3	Promote and recognize the elimination of single-use containers such as plastic bags and to-go containers for businesses.	1 year	Low
Goal 4	Provide education and outreach at large events in the City -Representative of the Green Team at public events -Cost of analysis of providing promotional/reusable materials	Ongoing	Low
Goal 4	Promote education opportunities to promote electric division which offers electronic recycling and other zero waste initiatives. -Christmas lights, lightbulbs, batteries -Transformers -Electric charging station -Solar rebates/panels residential -Energy efficiency improvements for commercial/industrial businesses	Ongoing	Low
Goal 6	Develop Westerville zero waste content for Facebook and/or City website page.	Ongoing	Moderate
Goal 6	Educate residents on importance of reuse -Develop and promote a web-based directory of local reuse and recycling options for all types of materials.	Ongoing	Moderate
Goal 7	Provide map of opportunities to reuse on website	1 year	Low
Goal 7	Multi-Family: Work with SWACO on pilot programs	2 years	Low
Goal 8	The Green Team will develop a formal schedule to present the zero waste plan and accept comments from the community. Two meetings will be held that present details of the development of the ZWP and the recommendations for public comment. Meetings should be held to get feedback on potential programs and the draft document before being implemented in 2022. The public will be invited to share comments, suggestions, and concerns. The goal is to publicize the ZWP and foster positive feedback from the community. These meetings will be added to the Facebook page and website to inform the Westerville community.	1 year	High
Goal 8	Formally Establish a City Of Westerville Green Team. In order to implement this ZWP, the Westerville Green Team is recommending that City Council create and adopt the Westerville Green Team (or any name)	1 year	High



Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 8	Develop a Business Recycling Toolkit for Westerville businesses. Educate businesses to create an internal green team -Educate businesses on use of social media to promote zero waste -Resource guide for materials management -Educate businesses on zero waste purchasing and procurement	1 year	High

Phase 2 - Initiatives for Timeframe 2025-2028

Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 1	Use of measurable outcomes for programs, projects, and activities that cannot be measured volumetrically or by weight (i.e., number of presentations given, total recycling advertisements placed, etc.).	1 year	Low
Goal 1	Periodically evaluate data collection strategy and make improvements as necessary.	1 year	Low
Goal 2	Expand recycling outreach and education programming to include food waste drop-off and potential curbside collection.	1 year	Moderate
Goal 2	Multi-Family: Provide support for complexes to obtain grant funding to set up recycling infrastructure (corrals) etc.	Ongoing	Low
Goal 2	Residential: Combine current curbside yard waste collection with food waste	2 years	High
Goal 2	Residential: Provide larger carts 96 gallon for recycling	2 years	Moderate
Goal 2	Residential: Utilize 64 gallon for trash collection at a lower rate incentivize residents	2 years	Low
Goal 2	Develop partnerships to implement a large-scale reuse program (i.e., Reuse-A-Palooza).	2 years	High
Goal 2	Provide financial assistance to businesses providing reuse opportunities	Ongoing	Low
Goal 2	Ensure HHW event are frequent for the City's needs or frequency of referral to the SWACO HHW drop-off	Ongoing	Low
Goal 3	Expand food recovery networks with local food recovery programs.	1 year	Moderate
Goal 3	Explore mandatory commercial recycling ordinance.	1 year	Low
Goal 3	Commercial Institutional: Provide support to obtain grant funding to set up recycling infrastructure (corrals) etc.	Ongoing	Low
Goal 3	Develop assistance packages and evaluate targeted materials for businesses on recycling and composting options -Welcome packet for new businesses -Hauler list for recycling and food waste collection	1 year	Low



Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 4	Develop guidelines for zero waste event Assign roles and responsibilities -Composting and recycling bins available -Compostable and recyclable materials only used for food service -Connect with waste service provider -Prohibit single-use plastics -Prepare for leftover food donation -Electronic and/or recyclable educational material made available -Create method for measuring success of zero waste	1 year	Low
Goal 4	Collection events at the end of the school year at Otterbein	Ongoing	Low
Goal 4	Assess future contracts and franchise agreements with collections and processing vendors to include requirements and incentives addressing zero waste. -Government buildings -Westerville City Schools -Special Events	Ongoing	Low
Goal 4	Collaborate with facilities which collect materials from the city: -Resource recovery facilities for recycling -Compost facilities for organics -Local facilities for the break down and recycling of difficult recyclable materials, hazardous and electronic waste recycling.	Ongoing	Low
Goal 4	Collect gently used school supplies at the end of school year for use following year	Ongoing	Low
Goal 4	Support zero waste initiatives for healthcare infrastructure	1 year	Low
Goal 5	Develop a city-wide zero waste recognition/certification program for businesses.	1 year	Low
Goal 5	Evaluate opportunities to offer education, best management practices, and waste audits.	1 year	Low
Goal 6	Develop an education and outreach plan for each target audience (residents, commercial businesses, institutions, etc.).	1 year	Moderate
Goal 6	Prepare topical videos and posts which focus on sustainable practices or borrow content from public/private resources (i.e., SWACO, Rumpke). Topics for videos and posts could include backyard composting, recycling, providing re-useable materials to Habitat Restore, etc. Distribution of the videos and posts would take place through social media.	Ongoing	Moderate
Goal 7	Evaluation of facilities' pricing for contracts	1 year	Low
Goal 8	Commercial Institutional: Encourage development of green teams and zero waste plans	1 year	High
Goal 8	Industrial: Encourage development of green teams and zero waste plans	1 year	High



Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 9	Multi-Family: Create new construction ordinances requiring recycling infrastructure designs	1 year	Low
Goal 9	Create grant program for events that choose to use zero waste guidelines	1 year	Low
Goal 9	Apply for grant opportunities for zero waste event containers, assistance, materials, etc.	1 year	Low

Phase 3 - Initiatives for Timeframe 2028-2032

Goal	Initiative	Time to Implement	Expected Diversion Tons
Goal 2	Offer reusable items for sale	Ongoing	Low
Goal 3	Establish public and private partnerships for new ways to manage solid waste.	Ongoing	Moderate
Goal 7	Consider becoming a member of a multi-city contract or consortium for household hazardous waste or any of the ancillary services outside of solid waste. -Potential benefits include lower cost. -Increased availability of service to the residents.	2 years	Low
Goal 9	Revise building code standards or green building ordinances to address zero waste initiatives for the diversion of construction and demolition material.	1 year	Low
Goal 9	Commercial Institutional: Create new construction ordinances requiring recycling infrastructure designs	1 year	Low
Goal 9	Industrial: Create new construction ordinances requiring recycling infrastructure designs	1 year	Low