

RECYCLING

Zero Waste Worcester:

A Master Plan for a Clean
and Sustainable Future

September 2026



The City of
Worcester

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ABBREVIATIONS

BPI	Biodegradable Products Institute
BYO	Bring-your-own
C&D	Construction and demolition
CBSM	Community-Based Social Marketing
CHaRM	Center for Hard to Recycle Materials
DPW	Department of Public Works (City of Worcester)
DSR	Department of Sustainability and Resilience (City of Worcester)
FTE	Full Time Equivalent (City of Worcester Full Time Employee)
GHG	Greenhouse Gas
GWP	Green Worcester Plan
HHW	Household hazardous waste
ISD	Inspectional Services Department (City of Worcester)
LLC	Limited Liability Company
MassDEP	Massachusetts Department of Environmental Protection
MRF	Materials Recovery Facility
MTCO2E	Metric tons of carbon dioxide equivalent
NGO	Non-Governmental Organization
PAYT	Pay As You Throw (program)
QoL	Quality of Life Team (City of Worcester)
WARM	Waste Reduction Model (U.S. EPA)
WooBins	Worcester's dual-stream public waste bins
WPS	Worcester Public Schools
ZWAC	Zero Waste Action Collaborative

Acknowledgments

Developing Worcester's first Zero Waste Master Plan required collaboration across municipal departments and with residents and organizations citywide. The Department of Sustainability and Resilience led the plan's development in partnership with the Department of Public Works and is grateful to the many people who contributed their time, expertise, and passion to this effort. We extend our sincere thanks to the elected and appointed officials, municipal staff, and community partners listed below. We are also grateful to the many Worcester residents and community members who participated in surveys, workshops, and listening sessions throughout the planning process – your input shaped this plan and helped define a vision and implementation strategies for a Zero Waste Worcester.

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Quality of Life Team
Worcester Public Schools
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Greater Worcester Land Trust
Worcester Native Plant Initiative
Massachusetts Audubon Society
Worcester Green Corps
University of Massachusetts Chan Medical School
College of the Holy Cross
Green Island Neighborhood Network
Pleasant Street Network Center
Indian Hill Neighborhood Association

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Executive Summary

Worcester discards about 129,000 tons of materials per year, with nearly 90% going to incineration, and the remainder being diverted via recycling, reuse, and composting. The Zero Waste Master Plan is Worcester's roadmap to change that, setting a path to divert four times as much of the city's discarded materials over the next ten years.

The municipality has a robust history of sustainable waste management – with its over 30-year-old Pay As You Throw (PAYT) program, extensive Residential Drop-Off Center, hard-working Quality of Life Team cleaning up city streets, the interdepartmental Keep Worcester Clean initiative, and much more.

This plan builds on the 2021 Green Worcester Plan, which called out a need for a Zero Waste Master Plan to take stock of existing programs and build on their success, as well as develop and advance new zero waste strategies. This Master Plan develops

a clear roadmap for the next 10 years – seven goals, 23 overall strategies, and five priority strategies. In addition to reducing and diverting waste, the plan has many environmental benefits, such as improved city cleanliness, cleaner air, and reduced emissions, as well as economic benefits due to reduced trash tipping fees as materials are diverted from the incinerator, and creating marketable final products via composting, reuse, and recycling.

Hard work is ahead of us to implement the plan, and we will work diligently and collaboratively to seek different sources of funding to enable successful implementation of the plan.

Vision

Through an extensive community engagement process, Worcester developed the following vision for the plan:

Zero Waste Worcester:
A community committed to working together to reduce waste, reuse materials, prevent litter, and ensure Zero Waste programs are accessible for all.

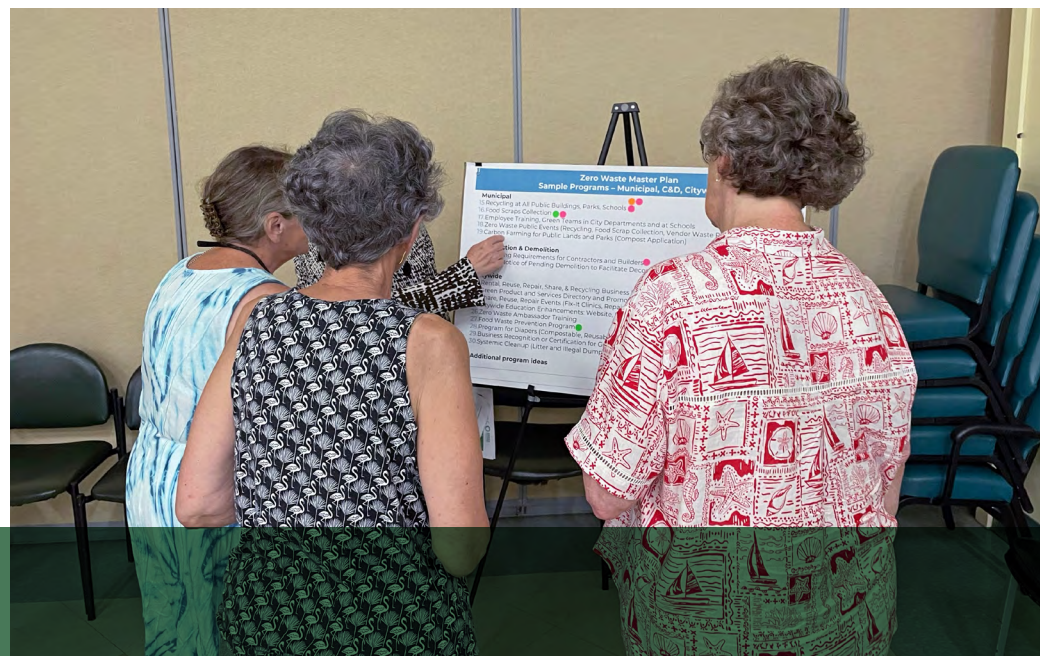
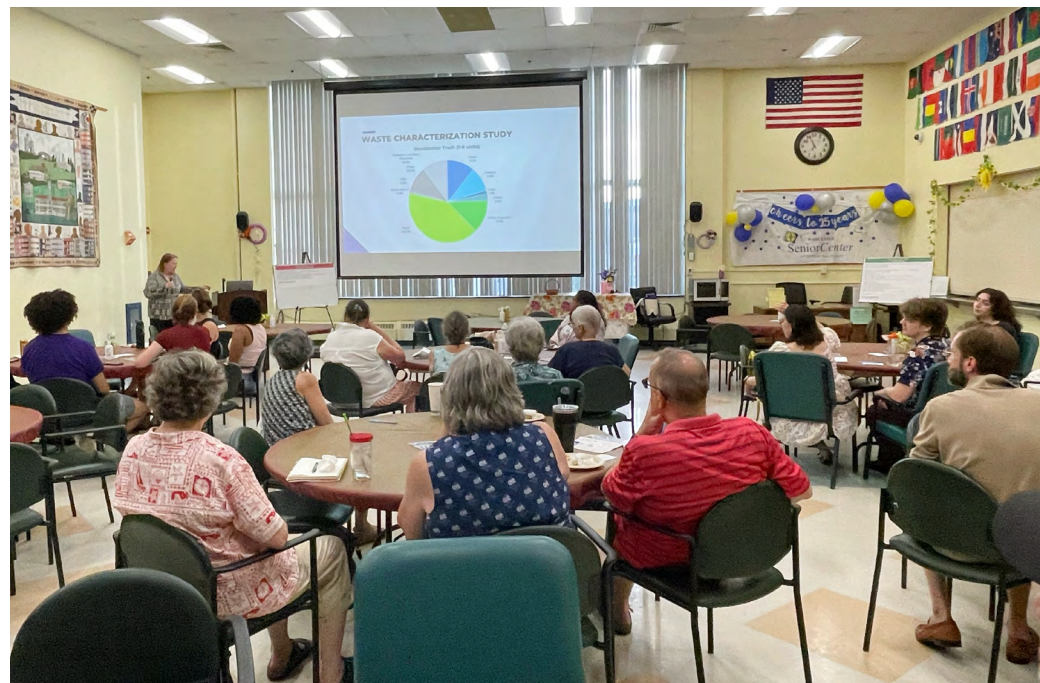
Nearly 90% of Worcester's waste currently goes to incineration. This plan creates a path to quadruple diversion citywide within 10 years, from 10% to 40%.

Built With the Community

Public engagement was paramount for the development of the plan. The municipality engaged Worcester residents, businesses, and community organizations throughout the planning process. With help from a 9-member steering committee representing a cross-section of the community and municipal staff, the process included 11 listening sessions, four public workshops, and three community-wide surveys (two conducted during the planning process and one conducted beforehand to gather initial input). Community input shaped the direction of the plan, defined its strategies, and identified the public's priorities. The result is a plan that reflects what Worcester residents and stakeholders actually want, with a roadmap of how to get there.

11 listening sessions
4 public workshops
3 community-wide surveys

(Right) Residents and community members participate in one of the Zero Waste Master Plan workshops.



What's In Worcester's Trash?

To inform this plan, the municipality commissioned a comprehensive Waste Characterization Study conducted in April 2025 by Diversion Designers, LLC. The study analyzed materials being sent to landfill or incineration from 103 locations across six sectors – single-family residential, multi-family residential, Worcester Public Schools, commercial businesses, municipal buildings, and illegal dump sites – to identify the policies, programs, and infrastructure needed to reduce waste and increase recycling and composting. The findings point to organics as the highest-impact intervention and directly informed the strategies selected for this plan. Details are included in [Chapter 02: Existing Conditions](#) and full results are available in the [Appendices](#).



(Above) Staff sorting waste for the April 2025 waste characterization study.

KEY FINDINGS

What's in Worcester's trash?

We sorted through the trash. Here's what we found.

Over 60% of materials in Worcester's trash **could be recycled or composted**.

Food is the **most common recoverable item** in Worcester's trash.

Some common **problem items** that require special handling include: **bulky items, diapers and sanitary products, textiles, and construction and demolition debris**.

7 goals

Planning Process: Selecting Goals, Strategies and Actions

The planning process was led using a comprehensive [Zero Waste Community Planning Toolkit](#) and associated resources (through the Zero Waste USA nonprofit organization) to guide the selection of different strategies and associated actions to address waste management issues over a 10-year time frame. The selected 23 strategies and their actions were then grouped into seven goals and organized by timeline (Near, Mid, and Longer Term) and priority (based on feasibility, cost, public support, and co-benefits) — resulting in a practical, actionable plan.

SEVEN GOALS FOR ZERO WASTE WORCESTER

Goal 1: Lead by Example – Municipal facilities and schools will lead by example, expanding recycling and composting, integrating Zero Waste into procurement, daily operations, and events, and building green teams to support implementation citywide.

Goal 2: Reduce Food Waste – Food waste, the largest sector of the citywide waste stream, will be significantly reduced through expanded composting and food recovery programs, including education, public drop-off locations, curbside collection, and partnerships that redirect edible food to residents in need.

Goal 3: Expand Recycling Access Citywide – Every resident, business, and construction site will have access to recycling and reuse programs, supported by education, technical assistance, incentives, and construction and demolition material diversion.

Goal 4: Improve Residential Curbside Collection Services – Curbside collection will be more convenient and effective, with upgraded recycling containers and enhanced Pay As You Throw trash and recycling services that increase participation and reduce litter.

Goal 5: Reduce Litter and Illegal Dumping – Worcester will be clean, with reduced litter and illegal dumping through expanded street sweeping and community cleanup programs, increased public trash and recycling infrastructure, and ordinance amendments as needed.

Goal 6: Improve and Expand the Drop-off Center – The Millbury Street Residential Drop-off Center will offer greater access and convenience through year-round operations, additional household hazardous waste events, and expanded options for hard-to-recycle and reusable materials.

Goal 7: Create Opportunities for Reduction, Recovery and Reuse – Residents and businesses will have the tools to prevent waste and recover resources, through programs for deconstruction, reuse, repair, sharing, public water bottle filling access, and community engagement in Zero Waste practices.

Goals, Strategies and Priorities

TIME FRAME TO BEGIN IMPLEMENTATION FOR ZERO WASTE STRATEGIES BY GOAL

	Near Term (1-3 Years)	Mid Term (4-6 Years)	Longer Term (7-10 Years)
Goal 1: Lead by Example	Strategy 1: Lead by Example		
Goal 2: Reduce Food Waste	Strategy 2: Backyard Compost Training Strategy 3: Food Scrap Drop-Off Locations Strategy 4: Edible Food Recovery and Donation Program*	Strategy 5: Collection of Compostable Materials	
Goal 3: Expand Recycling Access Citywide	Strategy 6: Support Property Owners Haulers, and Generators to Increase Recycling Participation* Strategy 7: Increase the Construction and Demolition Waste Diversion by Contractors and Builders	Strategy 8: Lease Requirements Focusing on Waste Diversion	
Goal 4: Improve Residential Curbside Collection Services	Strategy 9: Upgraded Recycling Containers*	Strategy 10: Wheeled Carts for Trash Collection	
Goal 5: Reduce Litter and Illegal Dumping	Strategy 11: Single-Use Plastic Bag Ban Expansion Strategy 14: Systemic Citywide Cleanup*	Strategy 12: Comprehensive Single-Use Plastics Reduction and Litter Prevention Ordinance Strategy 15: Expanding Public Waste Bins	Strategy 13: Reduce Single-Use Foodware and Litter
Goal 6: Improve and Expand the Drop-Off Center	Strategy 17: Household Hazardous Waste Events	Strategy 16: Millbury Street Residential Drop-Off Center Expansion*	Strategy 18: Drop-Off Sites for Residential Trash
Goal 7: Create Opportunities for Reduction, Recovery, and Reuse	Strategy 22: Expanding Library of Things Offerings Strategy 23: Zero Waste Business Recognition Program	Strategy 20: Water Bottle Filling Stations Expansion Strategy 21: Share, Reuse, Repair Events	Strategy 19: Education Program for Disposable Diaper Alternatives

* Indicates a priority strategy

5 strategies in 5 years

Where Do We Start?

FIVE STRATEGIES IN FIVE YEARS

The 23 selected strategies and their actions are grouped into seven goals and organized by timeline (Near, Mid, and Longer Term). Of the strategies, five have been identified as priorities for implementation within the plan's first five years. These priorities were selected based on public interest, potential impact on waste diversion, feasibility, environmental benefit, and community need.

Implementing these five strategies will require additional staff capacity, targeted investment, and coordination across municipal departments — led by the Departments of Sustainability and Resilience (DSR), Public Works (DPW), Inspectional Services (ISD), and the Quality of Life (QoL) team.

Strategies are not in any specific order; see associated implementation actions in [Chapter 03: Zero Waste Goals, Strategies and Actions](#).

GOAL:

Reduce Food Waste

PRIORITY STRATEGY:

Edible Food Recovery and Donation Program

A program to divert surplus food from restaurants, grocery stores, and schools by giving it to people in need instead of being thrown away (via food rescue or food bank organizations).

HIGH LEVEL COST ESTIMATE:

\$50,000 – \$150,000
(annually)

WHO:

DSR (lead),
WPS, MassDEP,
Community
Organizations

GOAL:

Improve
Residential
Curbside
Collection

PRIORITY STRATEGY:**Upgraded Recycling Containers**

Residents (1-6 units) would get upgraded recycling containers for curbside pickup by a semi-automated truck.

HIGH LEVEL COST ESTIMATE:

One-time capital cost —
\$2,500,000 – \$3,500,000

Potential increase in operational costs (going from manual to semi-automatic collection)

WHO:

DSR, DPW

GOAL:

Expand
Recycling
Access Citywide

PRIORITY STRATEGY:**Support Property Owners, Haulers, and Generators to Increase Recycling Participation**

The municipality will provide education, technical assistance, and incentives to help property owners (residential and commercial), haulers, and individual generators — including tenants, businesses, municipal buildings, and public schools — participate in recycling, consistent with MassDEP's statewide Waste Disposal Bans (310 CMR 19.017).

HIGH LEVEL COST ESTIMATE:

Ongoing education, enforcement, technical assistance — \$70,000 – \$100,000 (annually)

WHO:

DSR (lead), ISD (support)

GOAL:

Reduce Litter
and Illegal
Dumping

PRIORITY STRATEGY:**Systemic Citywide Cleanup**

This program builds on the efforts of the Keep Worcester Clean program and Quality of Life team. The program would include an expanded effort to clean up public spaces affected by illegal dumping and heavy littering. Thoroughly clean illegal dump sites and redesign the area with landscaping, barriers, lights, signs, and monitoring. Thoroughly clean littered areas and install educational and warning signs while continuing cleanup efforts through street sweeping and monitoring the area.

HIGH LEVEL COST ESTIMATE:

\$100,000 – \$200,000
(annually for 1-2 city-wide
cleanups, 2-3 targeted
cleanups, and community
cleanups)

WHO:

DPW (lead), ISD, QoL,
DSR (support)

GOAL:

Improve and
Expand the
Drop-Off
Center

PRIORITY STRATEGY:**Millbury Street Residential Drop-off
Center Expansion**

For this expanded program, the Drop-off Center would be open year-round and would accept a wider range of materials for reuse, recovery, and composting.

HIGH LEVEL COST ESTIMATE:

\$75,000 – \$150,000
(annually)

WHO:

DPW, DSR

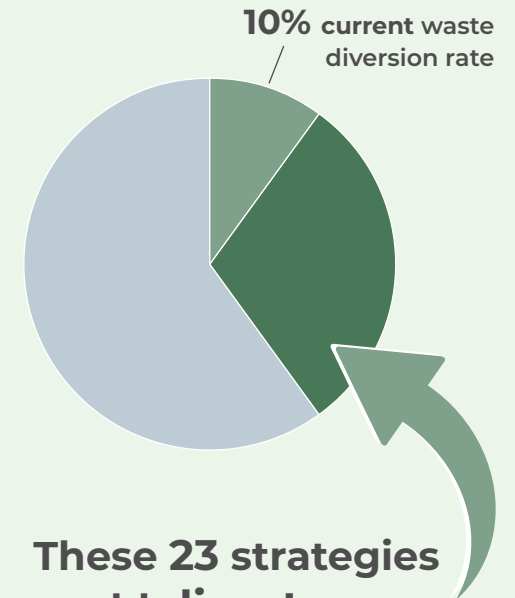
The Impact

Each of the Zero Waste strategies has the potential to increase the city's materials diversion rate and reduce GHG emissions. Beyond climate benefits, these strategies reduce how much waste flows to landfills and incinerators, lessening the burden on the communities that host those facilities.

Together, the 23 strategies in this plan have the potential to increase citywide diversion by an additional 30 percent (beyond the baseline level of 10 percent), which would avoid over \$3 million in annual trash tipping fees citywide, and reduce GHG emissions by 2.4 percent.

This table shows the results for all 23 strategies by time frame:

Impact	Near Term 1-3 Years	Mid Term 4-6 Years	Longer Term 7-10 Years	Total
Waste Diversion (Tons)	6,352	14,155	17,834	38,342
Diversion Rate (%)	5%	11%	14%	30%
GHG Emissions Reduction (MTCO2E)	9,817	16,910	14,826	41,553
Citywide GHG Reduction (%)	0.6%	1.0%	0.9%	2.4%



These 23 strategies could divert an additional 30% of Worcester's waste over the **next 10 years.**

Saving an estimated \$3 million annually in trash tipping fees.

Reducing GHG emissions by 2.4%.

RESOURCES NEEDED

Each strategy and its associated actions will require detailed cost estimates capturing both up-front and ongoing operating costs — including internal staffing and external contracts. The municipality will use the [Zero Waste USA Cost Estimate Tool](#) as a starting point, along with resources available through Massachusetts Department of Environmental Protection (MassDEP) and municipal peer networks, to develop project budgets that are achievable, realistic, and grounded in an understanding of local economic conditions and organizational capacity.

Fully implementing this plan will require new staff positions over the 10-year time frame. While some of the Near Term actions can be accomplished by existing staff, we estimate that a minimum of three new positions would be needed to make significant progress on the five priority strategies in five years.

Join Us

The Worcester community wants a cleaner, greener future. Zero Waste is a shared journey – and every resident, business, and organization has a role to play. Join us in making this plan a reality!



(Left) Residents contribute to a cleaner, greener future by participating in one of the municipality's Clean Team Events.

Context and Vision



The City of Worcester is setting out on a path toward “Zero Waste”.

Zero Waste is defined by the [Zero Waste International Alliance](#) as the conservation of all resources by means of responsible production, consumption, reuse, and recovery of products, packaging, and materials without burning and with no discharges to land, water, or air that threaten the environment or human health.



(Above) A member of Worcester's Clean Team picks up litter.

Zero Waste Hierarchy

The [Zero Waste Hierarchy](#) describes a progression of policies, programs and infrastructure to support the development of a Zero Waste system, from highest and best to lowest use of materials. The components of the hierarchy are:

Rethink/Redesign – Design and purchase products/materials to be durable, repairable, reusable, fully recyclable or compostable, and easily disassembled.

Reduce – Minimize quantity and toxicity of materials used.

Reuse – Maximize reuse of materials and products.

Recycle/Compost – Support and expand systems to keep materials in their original production loop and to protect the full usefulness of the materials.

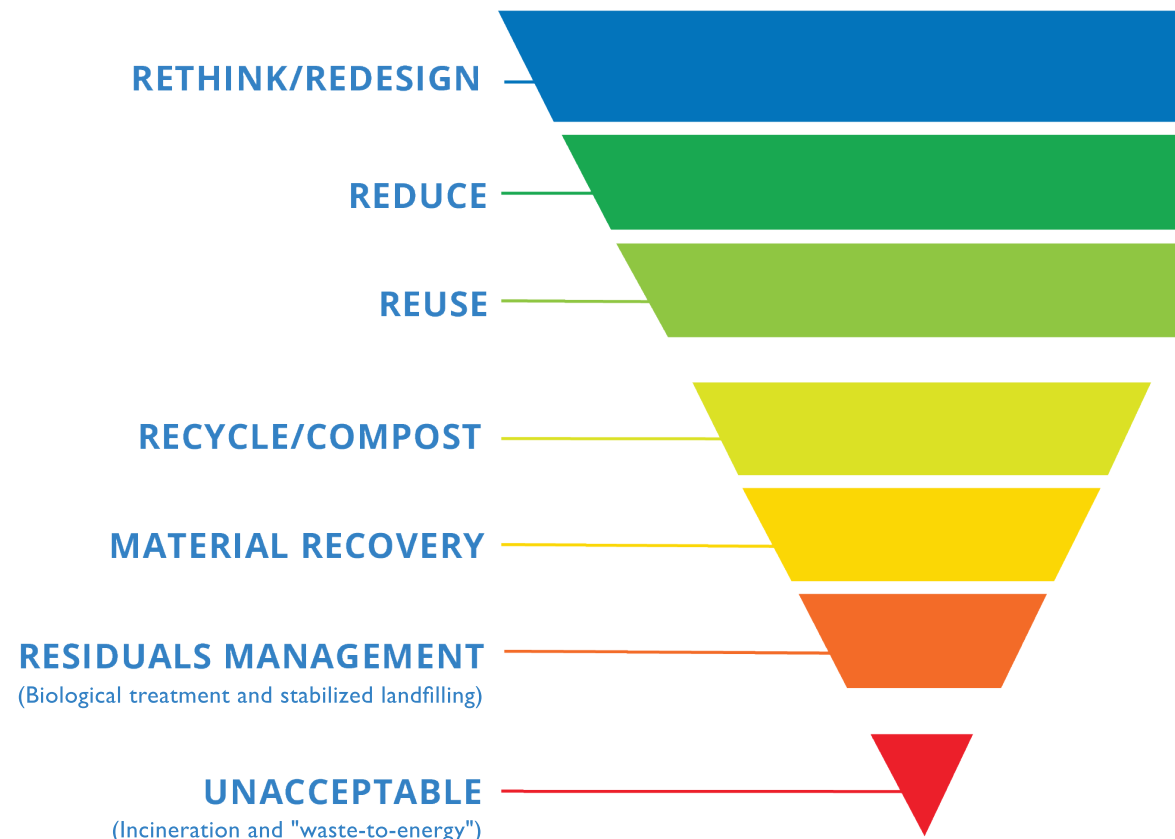
Materials Recovery – Maximize materials recovery from mixed discards and research purposes after extensive source separation.

Residuals Management – Examine materials that remain and use this information to refine the systems to rethink, reduce, reuse, and recycle in order to prevent further discards. Biologically stabilize materials prior to landfilling.

Unacceptable – Incineration and other “waste-to-energy” or “waste-to-fuels” schemes.

THE ZERO WASTE HIERARCHY 8.1

For detailed version visit www.zwia.org/zwh



Alignment with the State's Solid Waste Master Plan

Worcester isn't charting this course alone. Massachusetts requires MassDEP to maintain a statewide [Solid Waste Master Plan](#), updated every ten years, and the current plan sets ambitious targets: a 30% reduction in disposal by 2030 and a 90% reduction by 2050. To get there, the state is focused on diverting materials with the greatest potential for avoiding landfills and incinerators — like food waste, cardboard, wood, and textiles — while also reducing single-use packaging and boosting reuse and donation programs.

Worcester's Zero Waste Master Plan is designed to move in step with the Commonwealth's. Many of our priority strategies mirror the state's own goals, and that alignment matters: it positions the municipality to draw on MassDEP's grants, technical assistance, and other support as we implement our plan. Food recovery, donation, and composting are a strong example — one of our five priority strategies for the next five years, and a key part of the state's plan as well. This alignment sets Worcester up for success as we implement this ambitious plan.



(Left) Waste sorting station including a food scraps bin. (Right) Compost piles.

Setting a Vision

In 2021, the [Green Worcester Plan](#) (GWP) created a strategic framework to bring sustainability and resilience values to all aspects of city life through municipal leadership, goals, strategies, and actions, with the collaboration of partners across the city, including residents, institutions, businesses, nonprofits and others. Key strategies of the Green Worcester Plan’s Chapter VIII “Towards Zero Waste” included:

- Develop and implement a Zero Waste Master Plan.
- Develop a residential green waste diversion program.
- Require plans for sustainable disposal of construction and demolition waste.
- Develop expanded municipal procurement policies to reduce waste and toxics.
- Developing and implementing the Zero Waste Master Plan was identified as one of the GWP’s early actions.

The Zero Waste Master Plan takes stock of the city’s zero waste related successes to-date, evaluates its current trash, recycling and waste diversion programs, and looks to the future for new ways to reduce, reuse, repurpose and divert materials from landfill and incinerators.

Lastly, the plan’s vision statement¹ was developed through a citywide stakeholder process², input from workshop and survey participants, and guidance from the Zero Waste Master Plan Steering Committee. The finalized vision statement reflects these ideas and articulates Worcester’s core values.

¹ A vision statement is a clear and inspiring expression of an organization’s long-term goals, describing the future it ultimately aims to create. It answers the question, “What will the world look like if we succeed?” and serves as a guiding light—providing direction, inspiring action, and aligning efforts with the organization’s core values.

² This process included 11 listening sessions, two in-person and two online workshops, and three citywide surveys.



Cover of
The Green
Worcester
Sustainability
Plan 2020.

Phrases that resonated for community members:

- “Programs that are equitable for all residents”
- “Provide affordable solutions”
- “Make it easy to dispose of things responsibly”
- “Community values, working together”
- “Fostering community pride”
- “Clean and environmentally friendly”
- “Community engagement”

A photograph of two people participating in a cleanup activity in a wooded area. One person, wearing a black shirt and shorts, is on the left, bending over to pick up debris. The other person, wearing a red shirt and grey shorts, is on the right, also bending over. They are surrounded by trees and fallen logs. The image has a blue tint and is used as a background for the text.

VISION STATEMENT

Zero Waste Worcester:

A community committed to working together to reduce waste, reuse materials, prevent litter, and ensure Zero Waste programs are accessible for all.

CHAPTER 02

Existing Conditions



The City of Worcester has led the way in developing innovative municipal solutions to modern issues related to waste management. The City marked a 30-year anniversary in 2023 since passing and successfully managing the effective Pay As You Throw program (PAYT), which uses financial incentives to drive residents' behavior to recycle more and therefore produce less trash. At the time of its 1993 inception, Worcester was the largest city in the nation to adopt a PAYT + curbside recycling collection program.

This chapter describes each of the municipality's existing collection services and facilities, provides an overview of the municipality's generation and projects, and provides the results of the comprehensive citywide materials characterization study performed in 2025.

Current Collection Services and Facilities

The following tables provide an overview of how materials (trash, recycling, yard trimmings, food scraps, textile and bulk items) are managed in Worcester. They are organized by sector (residential 1-6 units, public schools, municipal buildings, multifamily (units 7+), commercial/institutional).

WORCESTER WASTE COLLECTION SERVICES, BY SECTOR

Sector	Trash Collection	Recycling Collection	Yard Trimmings Collection	Food Scraps Collection	Textile Collection	Bulk Waste Collection
Residential (Units 1–6)	Municipal Crews	Contractor	Mix (residential drop off and also Municipal Crews gathering fall leaves)	Individual subscription	Contractor - Free	Contractor- Fee required
Public Schools	Contractor	Contractor	NA	Individual subscriptions	NA	NA
Municipal Buildings	Municipal Crews and Contractor	Contractor	NA	Individual subscriptions	NA	NA
Multifamily (Units 7+)	Contractor	Contractor	Contractor	Individual subscriptions	Contractor - Free	Contractor
Commercial, Institutional	Contractor	Contractor	Contractor	Individual subscriptions	Contractor - Free	Contractor

“Contractor” means that services are provided through a third-party service provider.

WORCESTER WASTE PROCESSING, BY SECTOR

Sector	Trash Processing	Recyclables Processing	Yard Trimmings Compost	Food Scrap Compost	Drop-Off Recyclables	Drop-Off Bulk Waste
Residential (Units 1-6)	WIN Waste Millbury Combustor	Casella MRF ¹	City Facility - Drop-Off sites	Private sites	City Drop-Off	City Drop-Off
Public Schools	Private sites	Casella MRF and Private sites	NA	Private sites	NA	NA
Municipal Buildings	Private sites	Private sites	NA	Private sites	NA	NA
Multifamily (Units 7+)	Private sites	Private sites	City Facility Drop-Off sites	Private sites	City Drop-Off	City Drop-Off
Commercial, Institutional	Private sites	Private sites	NA	Private sites	NA	NA

¹ MRF – materials recovery facility

(Right) Plastic film drop-off bin.



COLLECTION FOR CITY RESIDENTIAL BUILDINGS WITH 1-6 UNITS

The Worcester Department of Public Works collects and disposes of trash produced by the residential customers in buildings from one to six dwelling units. Municipal staff collect trash in PAYT bags that are purchased by residents at local stores and brings it to the local waste-to-energy incinerator (Win Waste, formerly Wheelabrator).

The PAYT program has been highly successful as the cost per bag of trash sends a clear price signal to residents to reduce waste and increase recycling. The PAYT program has maintained a high (42%) trash reduction rate since its launch in 1993. The revenues from the sale of the PAYT yellow bags covers approximately 60 percent of the direct costs for collection and disposal.

The municipality (via DPW) contracts with Casella Waste Systems, Inc. for curbside recycling and bulk waste collection. Casella provides single-stream recycling collection (also known as “Zero Sort”) where residents place all recyclable materials into a 22-gallon recycling bins with dome

vented lids, or small bins of residents' choosing. Casella monitors the set-outs and does not empty bins that are heavily contaminated. As a result, Worcester typically has a very low (under 10%) contamination rate.

Collection of bulk waste (mattresses, furniture, appliances, electronics) is currently provided for a fee (determined by material type) through Casella on-call.

Free curbside collection of textiles (clothes, towels, blankets, and shoes) is currently provided on-call through Helpsy.

Residents may also subscribe to food scrap collection for a fee (determined by volume and frequency of collection) through compost collectors permitted to operate in the city, including Black Earth Compost.



(Above) Municipal sanitation staff picking up yellow PAYT bags.

ALL OTHER COLLECTION

Residential buildings with seven dwelling units or more are considered commercial establishments and are serviced by private sector haulers permitted to operate in the city.

Private haulers also provide collection services to commercial, institutional, and industrial generators in Worcester.

Currently, there are **15 private sector haulers** permitted to operate within the city. Of these, seven provide collection services to both commercial customers and residential buildings with seven or more units. Two provide collection services only to commercial customers, and three provide collection services to construction and demolition (C&D) sites. Three haulers are permitted to provide compost collection services. However, only one service provider, Black Earth, is currently active in the city.

Haulers must apply for a license through the Department of Inspectional Services and pay an annual \$130 fee. To receive a license, haulers must provide a list of scheduled pickups and ultimate disposal facility, complete a tax form, and provide a certificate of compliance with the Worcester Revised Ordinance Regarding Revenue Collection. Currently, the private haulers that provide collection services for large multifamily buildings and commercial establishments do not report the trash or recycling service volumes or tonnages to the municipality or to MassDEP.

The Massachusetts Department of Environmental Protection (MassDEP) introduced its first bans on landfilling and combustion of easy-to-recycle and toxic materials in 1990. Additional "waste bans" have been phased in over time to reduce materials sent to disposal landfill or incineration.

MassDEP enforces the waste bans through third-party inspections at transfer stations and disposal facilities. Facilities that accept banned materials for disposal may be required to implement a corrective action plan.

For more information, see [MassDEP's waste disposal ban webpage](#).



(Right) Commercial dumpsters



RESIDENTIAL DROP-OFF CENTER

Worcester's Residential Drop-Off Center is located at 1065 Millbury Street, Worcester, MA.

- The Drop-off Center's hours vary depending on the day and time of year.
- It is open year-round for all Worcester residents for the no-charge drop-off of household recyclables, textiles, mercury-containing items, and cooking oil and cooking grease.
- It is open from April to November/December (weather dependent) for the drop off (by appointment) of bulky items, mattresses, electronics, appliances, and scrap metal on Wednesday and Saturday. Many bulky items have a charge of \$5 fee for the items bound for the incinerator. Mattresses and box springs have a \$15 disposal fee.
- Yard waste is accepted seasonally from April to November.

YARD TRIMMINGS COMPOST FACILITY

Since December 31, 1992, MassDEP banned the disposal of leaves and yard trimmings at landfills and combustors. Cities and towns in Massachusetts have developed "low-level" technology, municipal-scale, leaf and yard waste composting facilities² to process the banned material. The municipality's 15-acre compost site at 1065 Millbury Street processes 20,000 tons of yard trimmings per year brought to the site by municipal crews (from the fall street leaf collection) and through the residential yard waste drop-off program.

² Properly sited and managed leaf and yard trimmings compost facilities are not considered to be solid waste management facilities by MassDEP. These compost facilities are "conditionally exempt" from site assignment requirements of MassDEP solid waste facilities, provided that they have successfully met MassDEP registration requirements.

(Left) Residents can drop off yard waste and bulky items like mattresses for proper disposal at city-run sites.



CASELLA'S MATERIALS RECOVERY FACILITY (MRF)

The municipality contracts with Casella for processing single stream recyclables at its Material Recovery Facility (MRF) in Auburn, Massachusetts. Single stream recycling is a system in which recyclable materials such as cardboard, paper, plastic, metal, and glass containers are collected together and then processed into separate commodities. Once recyclables reach the MRF, they are sorted using a combination of manual, mechanical, magnetic, and optical methods. Once the materials have been processed, they are baled and sold on national and international markets for the production of new products and packaging. The MRF is part of the Casella Auburn Transfer Station which opened in 2000, has a

maximum throughput of 650 tons per day and 76,076 tons per year.

WIN WASTE WASTE COMBUSTOR

The municipality contracts with WIN Waste for waste disposal at its waste combustor in Millbury, Massachusetts. The facility was built in 1987 and uses two mass burn units to reduce the volume of waste and produce electricity. Mass burn units burn municipal solid waste in a combustion chamber under conditions of excess air. The heat released from burning converts water to steam, which is then sent to a turbine generator to produce electricity. Each unit is designed to process 750 tons per day for a total facility throughput of 1,500 tons per day.

Ash from the facility is disposed at the Shrewsbury Ash Landfill in Shrewsbury, Massachusetts. The landfill is operated by WIN Waste on land owned by the Town of Shrewsbury and is expected to reach capacity in 2032.

(Left) At the Materials Recovery Facility, workers monitor conveyor belts as recyclables are being sorted. Large bales of compacted paper are stacked in the warehouse.

Waste Generation and Diversion Numbers

A combination of actual and estimated data was used to calculate Worcester's waste generation numbers for the 2024 baseline year.

- Actual diversion and waste disposal data were used for residential (units 1-6) and public schools.
- Estimated waste disposal data were used for multifamily (units 7+) and commercial using state and national statistics. No diversion data was available for the multifamily and commercial sectors.
- Estimated diversion and waste disposal data were used for municipal buildings and illegal dumpsites based on service volumes.

The waste generation chart below shows the tons of materials produced by all sectors in Worcester each year that go to incineration, landfilling, reuse, recycling, composting, and other diversion pathways.

The diversion rate shows the percentage of waste that is kept out of incinerators and landfills through reuse, recycling, and composting. It is calculated using the formula below.

$$\text{DIVERSION RATE} = \frac{\text{TOTAL DIVERSION TONS (Recycling, Composting, Other Diversion)}}{\text{TOTAL GENERATION TONS (Landfilling/Incineration + Diverted Materials)}}$$

WORCESTER'S 2024 BASELINE WASTE GENERATION IN TONS

Sector	Landfilling/Incineration	Recycling	Composting	Other Diversion	Total Waste Generation	Total Diversion	Diversion Rate
Residential (Units 1-6)	25,510	9,912	1,756	264	37,442	11,932	32%
Multifamily (Units 7+)	10,178	0	0	0	10,178	0	0%
Public Schools	3,145	187	0	0	3,332	187	6%
Commercial	76,756	0	0	0	76,756	0	0%
Municipal Buildings	474	318	0	0	792	318	40%
Illegal Dumpsites	138	0	0	12	150	12	8%
TOTAL	116,201	10,417	1,756	276	128,650	12,449	10%

Waste Characterization Study Findings

The municipality commissioned a comprehensive Waste Characterization Study conducted in April 2025 to analyze the types of materials that are being sent to landfill or incineration (from PAYT bags, dumpster, etc.) by Worcester waste generators (residents, businesses, etc.). Understanding the composition of discarded materials by generator type is essential in identifying the appropriate policies, programs, and infrastructure needed to reduce waste and increase recycling and composting.

The executive summary of the Study is included as an attachment.

Samples were sorted into 50 different material categories. To help identify additional diversion opportunities, each of these 50 types was classified into one of **three recoverability groups: Recyclable, Compostable, and Problem Materials.**



(Right) Samples of waste are hand sorted and cataloged during a waste characterization study.

RECOVERABILITY MATERIALS INDEX



Recyclable

Acceptable in the City's current recycling collection program.

Examples: paper, glass bottles



Compostable

Acceptable in programs offered in the region.

Examples: food, plant debris



Problem Materials

Not currently marketable and must currently be sent to landfill or incineration.

Examples: diapers, plastic bags

KEY FINDINGS

What's in Worcester's trash?

We sorted through the trash. Here's what we found.

Over 60% of materials in Worcester's trash **could be recycled or composted.**



Food is the **most common recoverable item** in Worcester's trash.

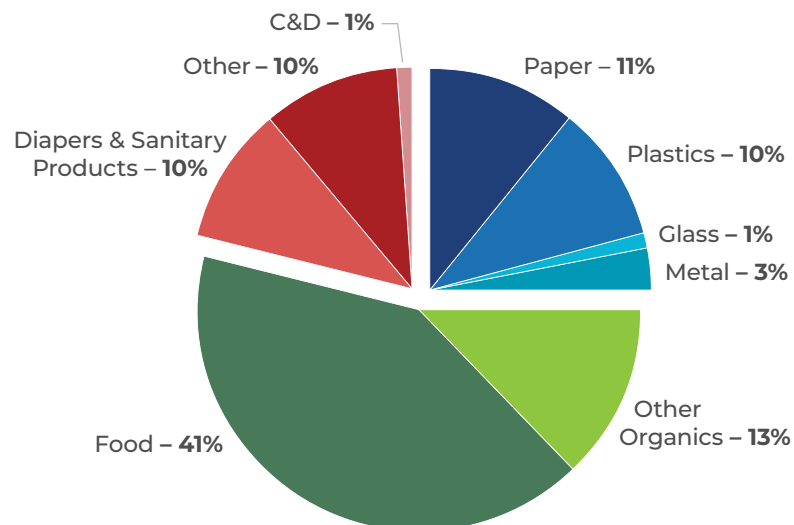


Some common **problem items** that require special handling include: **bulky items, diapers and sanitary products, textiles, and construction and demolition debris.**



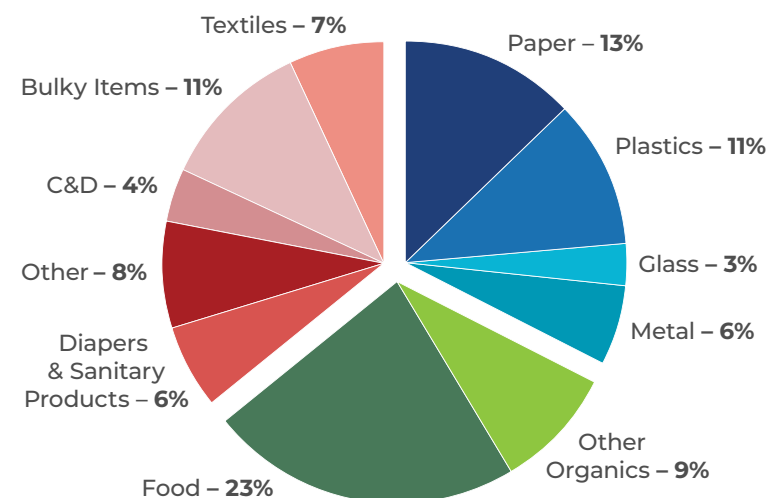
RESIDENTIAL TRASH (1-6 UNITS)

- 79% of trash from residential buildings with 1-6 units could be recycled (25%) or composted (54%).
- Food is the largest recoverable material (41%).
- Diapers and sanitary products are the largest problem items (10%).



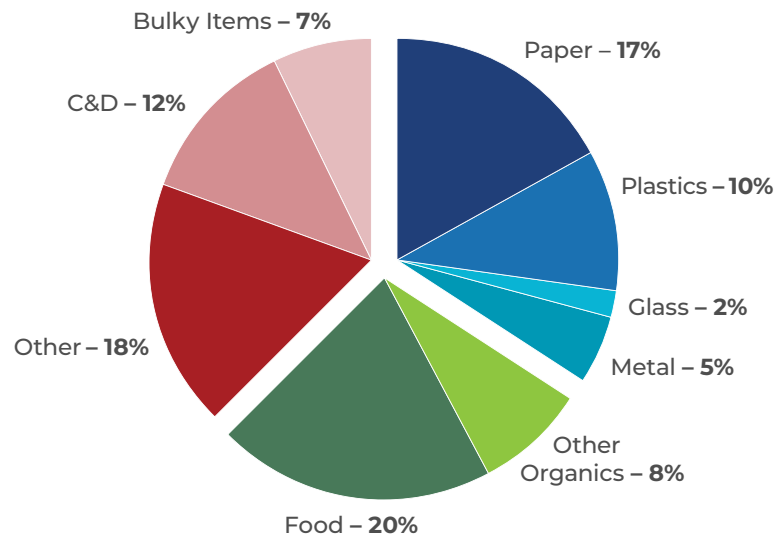
RESIDENTIAL TRASH (7+ UNITS)

- 64% of trash from residential buildings with 7+ units could be recycled (32%) or composted (32%).
- Food is the largest recoverable material (23%).
- Bulky items are the largest problem items (11%).



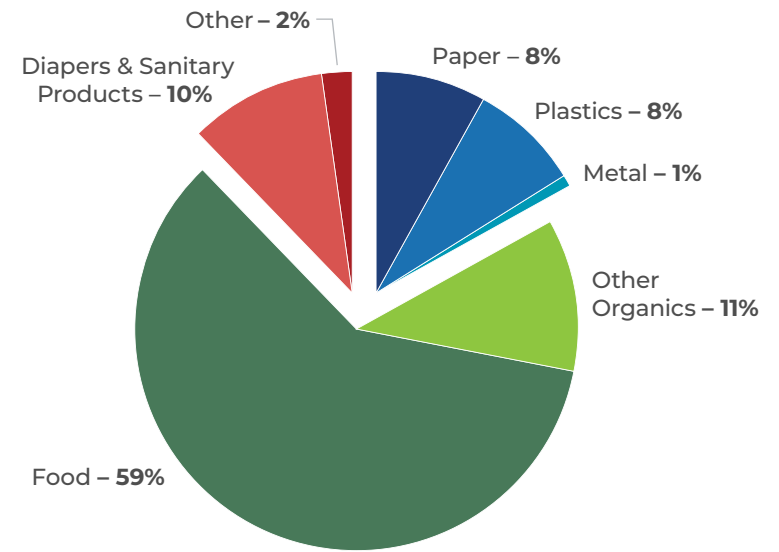
COMMERCIAL TRASH

- 63% of trash from commercial buildings could be recycled (34%) or composted (29%).
- Food is the largest recoverable material (21%).
- Construction and demolition (C&D) materials are the largest problem items (12%).



SCHOOL TRASH

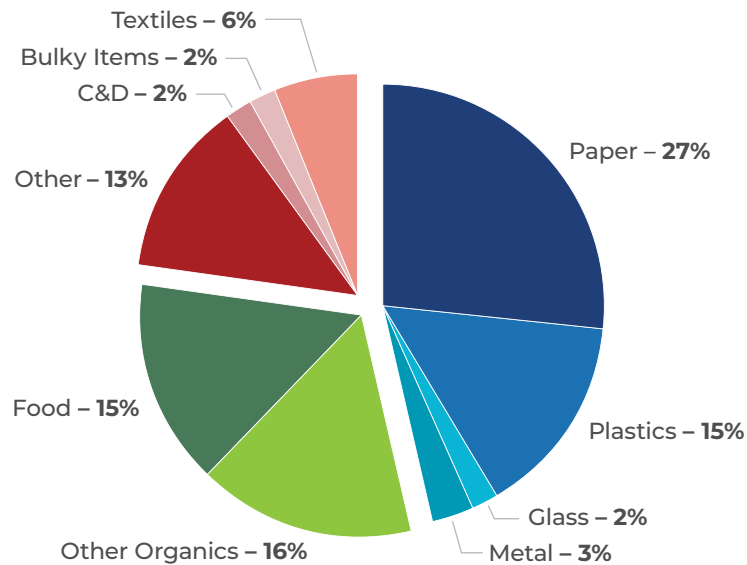
- 88% of trash from schools could be recycled (18%) or composted (70%).
- Food is the largest recoverable material (59%).
- Diapers and sanitary products are the largest problem items (10%).



Worcester has many opportunities to improve recycling of paper, plastics, and food waste through expanded programs.

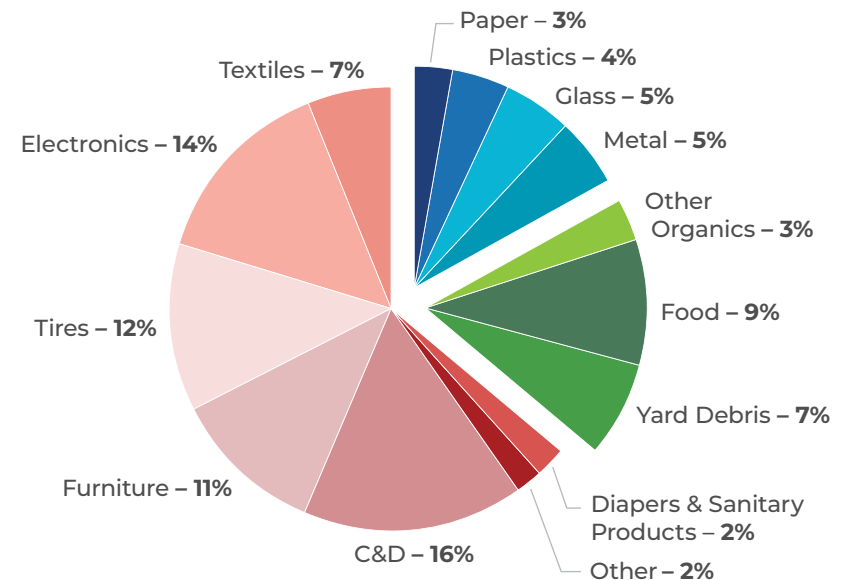
MUNICIPAL FACILITIES TRASH

- 78% of trash from municipal buildings could be recycled (46%) or composted (31%).
- Paper is the largest recoverable material (27%).
- Textiles are the largest problem items (6%).



ILLEGAL DUMPSITE TRASH

- 36% of trash at illegal dumpsites could be recycled (18%) or composted (19%).
- Food is the largest recoverable material (9%).
- Construction and demolition (C&D) materials are the largest problem items (16%).



Trash looks **very similar across most sectors**, except at illegal dumping sites.

CHAPTER 03

Zero Waste Goals, Strategies and Actions



This chapter outlines the overall goals of the Zero Waste Master Plan and the strategies identified to achieve them. These strategies represent new or expanded policies, programs, and infrastructure developed through extensive stakeholder engagement – including community surveys, listening sessions, public workshops, and the Zero Waste Master Plan Steering Committee – and refined by municipal staff. Together, they work to reduce the amount of material sent to landfills and incinerators while advancing citywide sustainability.

A total of 23 Zero Waste strategies were evaluated for their waste diversion potential (tons diverted from disposal) **and their estimated greenhouse gas (GHG) reductions** measured in metric tons of carbon dioxide equivalent (MTCO₂e).

Each strategy includes an assigned implementation time frame within the 10 year planning horizon: Near Term (1–3 years), Mid Term (4–6 years), or Longer Term (7–10 years). Time frames reflect the logical sequencing of actions. For example, *Strategy 3: Food Scrap Drop-off Locations* is scheduled for Near Term implementation so that early adopters can begin diverting food scraps while the municipality explores new composting capacity and evaluates the feasibility of expanding curbside collection of compostable materials (*Strategy 5: Collection of Compostable Materials*) in the Mid Term.

The Zero Waste Master Plan is an ambitious, decade long roadmap to significantly reduce the city's waste, improve public health, and deliver

environmental and economic benefits to the community. Successfully implementing the strategies in Chapter 3 will require additional staff capacity, targeted investments, and strong coordination across municipal departments. The next chapter will discuss the overall implementation timeline, high-level cost estimates, and resources needed to carry out the Master Plan effectively and efficiently

Many strategies of this Master Plan will require further research, planning, and resources before moving into pilot phases. Some may need multi-year studies; others will depend on support from consultants, contractors, or community-based organizations. Success will rely on collaboration across all sectors – residents, community groups, businesses, institutions, and universities.

To learn about high level estimates of the staffing needs, resource requirements, and how progress will be monitored, please see [Chapter 04: Implementation Roadmap](#).

The Zero Waste Master Plan is an ambitious, decade long roadmap to significantly reduce the city's waste, improve public health, and deliver environmental and economic benefits to the community.

(Right) Volunteers clean up litter on neighborhood streets.



Zero Waste Goals and Strategies

The order of the strategies is listed by goal and not by implementation time frame.

Strategy Impact Key		
TIME FRAME TO BEGIN IMPLEMENTATION 1 – 3 Years Near Term 4 – 6 Years Mid Term 7 – 10 Years Longer Term	ANNUAL ESTIMATED WASTE REDUCTION  1 – 400 tons  401 – 2,000 tons  over 2,000 tons	ANNUAL ESTIMATED GHG EMISSION REDUCTION  1 – 400 MTCO2E  401 – 2,000 MTCO2E  over 2,000 MTCO2E
 PUBLIC FAVORITE (Based on stakeholder prioritization from the citywide survey)		

Goal 1: Lead by Example	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 1: Lead by Example	1 – 3 Years			

Goal 2: Reduce Food Waste	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 2: Backyard Compost Training	1 – 3 Years			
Strategy 3: Food Scrap Drop-off Locations	1 – 3 Years			
Strategy 4: Edible Food Recovery and Donation Program	1 – 3 Years			
Strategy 5: Collection of Compostable Materials	4 – 6 Years			

Goal 3: Expand Recycling Access Citywide	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 6: Support Property Owners, Haulers, and Generators to Increase Recycling Participation	1 – 3 Years			
Strategy 7: Increase the Construction and Demolition Waste Diversion by Contractors and Builders	1 – 3 Years			
Strategy 8: Lease Requirements Focusing on Waste Diversion	4 – 6 Years			

Goal 4: Improve Residential Curbside Collection Services	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 9: Upgraded Recycling Containers	1 – 3 Years			
Strategy 10: Wheeled Carts for Trash Collection	4 – 6 Years	N/A	N/A	

Goal 5: Reduce Litter and Illegal Dumping	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 11: Single-Use Plastic Bag Ban Expansion	1 – 3 Years			
Strategy 12: Comprehensive Single-Use Plastics Reduction and Litter Prevention Ordinance	4 – 6 Years			
Strategy 13: Reduce Single-Use Foodware and Litter	7 – 10 Years			
Strategy 14: Systemic Citywide Cleanup	1 – 3 Years			
Strategy 15: Expanding Public Waste Bins	4 – 6 Years			

Goal 6: Improve and Expand the Drop-off Center	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 16: Millbury Street Residential Drop-off Center Expansion	4 – 6 Years			
Strategy 17: Household Hazardous Waste Events	1 – 3 Years			
Strategy 18: Drop-off Sites for Residential Trash	7 – 10 Years	N/A	N/A	

Goal 7: Create Opportunities for Reduction, Recovery, and Reuse	Time frame to Begin Implementation	Waste Reduction	GHG Emissions Reduction	Public Favorite
Strategy 19: Education Program for Disposable Diaper Alternatives	7 – 10 Years			
Strategy 20: Water Bottle Filling Station Expansion	4 – 6 Years			
Strategy 21: Share, Reuse, Repair Events	4 – 6 Years			
Strategy 22: Expanding Library of Things Offerings	1 – 3 Years			
Strategy 23: Zero Waste Business Recognition Program	1 – 3 years			

Results

OVERALL IMPACTS IF ALL ZERO WASTE STRATEGIES ARE IMPLEMENTED

Each of the Zero Waste strategies has the potential to increase the City's diversion rate and reduce GHG emissions. Together, the strategies have the potential to increase citywide diversion by 30 percent and reduce citywide GHG emissions by 2.4 percent.

This table shows the results for all 23 strategies by time frame.

Impact	Near Term 1-3 Years	Mid Term 4-6 Years	Longer Term 7-10 Years	Total
Waste Diversion (Tons)	6,352	14,155	17,834	38,342
Diversion Rate (%)	5%	11%	14%	30%
GHG Emissions Reduction (MTCO2E)	9,817	16,910	14,826	41,553
Citywide GHG Reduction (%)	0.6%	1.0%	0.9%	2.4%

Together, the strategies have the potential to increase citywide diversion by 30 percent and reduce citywide GHG emissions by 2.4 percent.

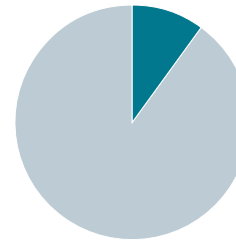
WASTE REDUCTION

Citywide waste disposal in the base year 2024 was 116,201 tons and citywide diversion (through reuse, recycling and composting) was 12,449 tons resulting in a citywide diversion rate of 10 percent.

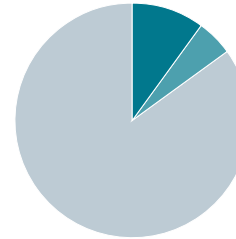
Full implementation of the Zero Waste strategies has the potential to reduce waste by an estimated 38,342 tons per year, increasing the city's diversion rate by 30 percent from 10 percent in 2024 to 40 percent at the end of the 10-year planning period.

This sets the city on the path to reach the Massachusetts Department of Environmental Protection (MassDEP) goal of 90 percent reduction in tons disposed by 2050.¹

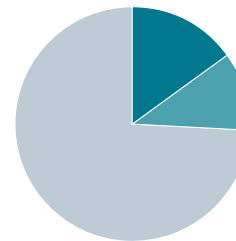
¹ [MassDEP 2030 Solid Waste Master Plan](#)



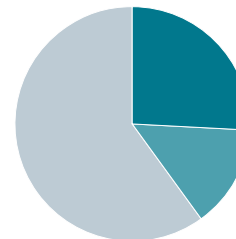
In 2024, **only 10% of Worcester's waste was diverted** through reuse, recycling, and composting. **The rest went to landfill or incineration.**



Near Term Strategies could divert **an additional 5%.**



Mid Term Strategies could divert **another 11%.**



Longer Term Strategies could divert **another 14%.** That means reaching a **40% diversion rate within 10 years** if fully implemented.

■ Landfill or Incineration ■ Diversion Rate ■ Additional Diversion

ZERO WASTE IS PART OF THE CLIMATE SOLUTION

“A zero waste approach is one of the fastest, cheapest, and most effective strategies we can use to protect the climate and the environment.”²

Reducing waste to landfills and incinerators reduces GHG emissions and saves energy (reducing the use of fossil fuels which impact climate change).

The U.S. EPA developed the [Waste Reduction Model](#) (WARM) to help communities track the GHG emissions reduction and energy savings potential of different waste management practices: source reduction, recycling, anaerobic digestion, and composting.

The model calculates emissions across a range of material types commonly found in municipal solid waste in MTCO₂E.

Using the U.S. EPA Waste Reduction Model, these Zero Waste strategies are estimated to reduce GHG emissions by 41,553 MTCO₂E.

According to Worcester’s most recent [2024 Greenhouse Gas Emissions Inventory](#) (covering time period of 2009-2023) solid waste emissions accounted for 129,331 MTCO₂E in 2023 (about 7.6 percent of citywide emissions). Implementing the Zero Waste strategies can reduce GHG emissions from solid waste by over 30 percent, reducing citywide emissions by 2.4 percent.

Worcester's Zero Waste strategies are estimated to reduce GHG emissions by 41,553 MTCO₂E.

This is equal to ...

5,580
homes' energy use
for one year.



9,692
gasoline-powered
passenger vehicles
driven for one year.



Source: [U.S. EPA Greenhouse Gas Equivalencies Calculator](#)

² Institute for Local Self-Reliance, [Stop Trashing the Climate](#)

Goal 1: Lead by Example

Municipal facilities and public schools will lead by example, expanding recycling and composting, integrating Zero Waste into procurement, daily operations, and events, and building green teams to support implementation citywide.

STRATEGY 1:

Lead by Example

All municipal buildings and public schools would set an example by properly recycling, composting, and following other Zero Waste practices.

IMPACT LEVEL	
TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Lead by Example is a municipal-initiated program working to expand recycling and composting systems across municipal facilities and public schools, beginning with pilot programs and community partnerships, while promoting the use of locally sourced soil amendments in municipal and school landscaping, developing a Zero Waste event guide, and encouraging the formation of green teams to support implementation of practices aligned with the Zero Waste Master Plan for the community.

PROPOSED IMPLEMENTATION ACTIONS:

Phase 1

- Develop a resolution for municipal buildings and public schools to lead by example by implementing recycling, composting, and other Zero Waste policies and programs.
- Pilot implementation of robust recycling programs in some municipal and public school buildings. Compile lessons learned and develop action steps for expanding the program to all municipal and school buildings.
- Develop a Zero Waste event guide that outlines details on the City requirements for all public events and private events requiring a City permit.
- Update Sustainable Purchasing Policy for municipal procurement.

Phase 2

- Work to implement a robust recycling programs in all municipal and school buildings, leveraging community resources, relationships and partnerships. Encourage and foster the creation of Zero Waste teams in municipal departments and public schools, that will help with on-the-ground implementation and oversight.
- Pilot implementation of composting programs in some municipal and school buildings. Compile lessons learned and develop action steps for expanding the program into as many municipal and school buildings as possible.
- Include the use of locally sourced compost in all upgraded and new landscaping at municipal and school facilities.



(Right) Examples of municipal spaces in which Zero Waste practices will be implemented.

Goal 2: Reduce Food Waste

Food waste, the largest sector of the citywide waste stream, will be significantly reduced through expanded composting and food recovery programs, including education, public drop-off locations, curbside collection, and partnerships that redirect edible food to residents in need.

STRATEGY 2:

Backyard Compost Training

Residents would be offered backyard compost training to turn kitchen scraps (e.g., fruits, vegetables, coffee grounds, and more) and yard trimmings into compost at home using backyard composting bins.

IMPACT LEVEL	
TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

This strategy enhances the current program that Worcester’s Department of Public Works offers: DPW offers compost bins for home use to Worcester residents. The New Age Composter costs \$65.00 and can be purchased by appointment. Through the backyard composting strategy, the municipality and its partners would offer assistance and instruction to ensure proper use of the materials. Generally, successful backyard composting programs provide training and certification of “master composters” who then give back service hours to the community by training others.

PROPOSED IMPLEMENTATION ACTIONS:

- Partner with a local nonprofit to expand community compost and compost education in Worcester. Support a local nonprofit to conduct backyard composting training.
- Sponsor local community leaders, volunteers, and students to be certified in community compost training.
- Offer backyard composting training to residents who purchase New Age composters through the Department of Public Works.

STRATEGY 3:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Case Study: Washington, DC

Washington, DC launched a smart bin program for organics and food scraps in February 2025, with 31 smart bins open 24 hours per day, 7 days a week. Residents sign up for free and get a code to open the bins to deposit their food scraps. In the first six months of the program, the city diverted over 150,000 pounds of food scraps and food-soiled paper from landfill and incineration.

Food Scrap Drop-off Locations

Residents would be able to drop off food scraps (e.g., fruits, vegetables, meat, seafood, dairy products, compostable service ware, and more) at large, secure bins throughout the city. The food scraps would be taken to a composting facility.

Food scraps are the most prevalent material category in Worcester’s residential, commercial, and institutional trash. While citywide curbside collection of food scraps would take time to implement (see [Strategy 5: Collection of Compostable Materials](#)), an interim strategy is to install smart bins for food scrap drop-off throughout the city, as done successfully in many other cities. This would allow people the opportunity to compost their kitchen scraps if they are not able to compost at home.

Initially, the drop-off sites may be located at the Millbury Street Residential Drop-off Center, the Leaf and Yard Waste Drop-off locations, and eventually distributed citywide. Smart bins are air-tight metal boxes (to prevent animals from getting in) and require a code for opening, which residents can apply online to receive. The containers are emptied by a compost collection company and the food scraps composted off-site.

The program would need to be carefully monitored for progress and adjusted as needed for continued success.

PROPOSED IMPLEMENTATION ACTIONS:

- Establish food scrap drop-off at the Leaf and Yard Waste Drop-off locations and at the Millbury Street Residential Drop-off Center.
- Add additional smart bins for food scrap drop-off throughout Worcester.
- Develop and deploy educational materials about food waste reduction for websites, social media, and events.

STRATEGY 4:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

Case Study: City of Boston's Food Recovery Initiative

The City of Boston's Office of Food Justice (OFJ) runs a Food Recovery Initiative that connects food-insecure residents with fresh, healthy surplus food. OFJ began by evaluating the city's existing food recovery landscape through a citywide assessment, engaging community members, food access and recovery organizations, and food-generating businesses. At the Haymarket outdoor market, municipal staff worked with vendors and event leadership to redesign waste systems and connect the market to a regional food distribution hub.

Edible Food Recovery and Donation Program

A program to increase the diversion of surplus food from restaurants, grocery stores, and schools by connecting it with people in need through food rescue and food bank organizations.

This strategy expands Worcester's existing edible food rescue and donation systems, coordinating the collection of surplus edible food and its delivery to organizations that serve people in need.

Under this strategy, the municipality would evaluate current food recovery systems and work with food-generating businesses, K-12 schools, and higher education institutions to support edible food rescue. Businesses and institutions would receive assistance from municipal staff and be connected with food rescue and food bank organizations, helping maximize the collection and redistribution of edible food.

Worcester also recognizes a dynamic ecosystem of mobile marketplaces that aim to reduce food waste by connecting local restaurants, bakeries, cafes, and grocery stores with customers to sell leftover, surplus food at a major discount. This strategy aims to complement, not replace, those solutions.

PROPOSED IMPLEMENTATION ACTIONS:

- Evaluate current food surplus distribution and rescue operations to identify opportunities to increase recovery rates and improve diversion effectiveness.
- Expand existing food rescue partnerships with food-generating businesses, K-12 schools, and higher education institutions to maximize the collection and redistribution of edible food.
- Connect businesses and institutions with resources, best practices, and programs that support the rescue and redistribution of edible food.
- Facilitate partnerships between businesses, institutions, and food rescue organizations or food banks to increase food recovery and reduce waste.



(Right) Food recovery programs and the schoolchildren who may benefit from them.

STRATEGY 5:

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Collection of Compostable Materials

A program to introduce weekly curbside collection of compostable materials (food scraps, food-soiled paper, and small amounts of yard trimmings) to divert compostable materials from waste disposal.

MassDEP identified organic waste (compostable materials) reduction as a primary strategy in its [2030 Solid Waste Master Plan](#). Compostable materials – including food scraps, food-soiled paper, and small amounts of yard trimmings – are the most prevalent material category in Worcester's waste stream. These materials account for 53.8 percent of residential (1-6 units) trash, with food scraps alone making up 40.7 percent. Compostable materials also account for 31.8 percent of residential (7+ units) trash, 28.9 percent of commercial trash, and 69.7 percent of school trash.

PROPOSED IMPLEMENTATION ACTIONS:

Phase 1

- Develop a pilot voluntary program for curbside residential collection of compostable materials (1-6 units). Develop and run a public education, outreach, and engagement campaign to encourage participation. Evaluate results to inform decisions about extending the pilot and/or developing a larger program.
- Evaluate options the municipality has for collecting and processing food scraps and other compostable materials for all generators, such as on-site processing, building a new transfer station, and more. Evaluate options to expand capacity at the municipality's yard trimmings compost facility and/or develop a regional site for food scraps and other compostable materials.



(Above) Bins Used in the City of Boston's Food Waste Collection Program

Phase 2

- Expand residential collection of compostable materials citywide where feasible, depending on results from the pilot.
- Once the 1-6 units residential collection program is in place, evaluate options for expanding the municipality's contract for compost collection to other residential buildings (7+ units) and non-residential generators.
- Support generators of compostable materials in setting up compost collection services.



(Right) Compost piles

Goal 3: Expand Recycling Access Citywide

Every resident, business, and construction site will have access to recycling and reuse programs, supported by education, technical assistance, incentives, and construction and demolition material diversion.

STRATEGY 6:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

Support Property Owners, Haulers, and Generators to Increase Recycling Participation

The municipality will provide education, technical assistance, and incentives to help property owners (residential and commercial), haulers, and individual generators — including tenants, businesses, municipal buildings, and public schools — participate in recycling, consistent with MassDEP's statewide Waste Disposal Bans (310 CMR 19.017).

This strategy complements the compliance assistance and enforcement MassDEP already provides through its own inspection program and RecyclingWorks technical assistance service. The municipality will encourage expansion of compostable materials collection where feasible.

PROPOSED IMPLEMENTATION ACTIONS:

Phase 1

- Offer direct technical assistance to property owners and managers seeking to establish or improve recycling programs. Provide model recycling plan templates and space-planning guidance for large multifamily residences (7+ units), businesses, and institutions establishing a program.
- Research and pilot incentive options to encourage compliance, such as waiving Inspectional Services fees for dumpster permits tied to documented recycling participation, or grant programs helping with acquiring recycling containers.
- Notify business owners, through the Inspectional Services website at the point of dumpster permit application, that state waste bans apply to their business, that MassDEP enforcement is ongoing and expected to increase over the next several years, and that early planning is recommended. Request a copy of the Recycling Plan.
- Develop case studies highlighting local businesses that have successfully implemented recycling programs, to share as practical examples for peer businesses.
- Develop Zero Waste Business Recognition Program (see [Strategy 23: Zero Waste Business Recognition Program](#)), which recognizes businesses for achievements in waste reduction, recycling, composting, reusable foodware, and other sustainable practices.

- Promote the Drop-Off Center as an option for recycling materials drop-off by the all city residents. Explore opportunities for the municipality providing additional recycling drop-off locations throughout the city.
- Develop and deploy an education campaign (website, social media, mailers, community events) explaining what materials are banned from trash disposal under state law and how to recycle correctly.

Phase 2

- Following MassDEP 2030 Plan implementation, during the mid-term plan implementation phase, re-assess the municipality's role and how it can reasonably assist with implementation and possibly enforcement, provided enough resources are provided.
- Track voluntary reporting of tonnage data, to measure program reach and identify gaps for future outreach.
- Explore, in a later phase, opportunities for program expansion to organics waste diversion for businesses, institutions, and residents, aligned with any future expansion of MassDEP's organics disposal ban.

Case Study: Montgomery County, MD

Montgomery County created a [Property Manager's Guide to Recycling for multi-family properties](#).

STRATEGY 7:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	🗑️ 🗑️ 🗑️
EMISSIONS REDUCTION	☁️ ☁️ ☁️

Increase the Construction and Demolition Waste Diversion by Contractors and Builders

Contractors and builders would be encouraged to divert construction and demolition materials for reuse and recycling, aligning with state waste bans and goals to reduce disposal to landfills and incinerators.

MassDEP bans certain materials in landfills and incinerators, but does not require contractors or builders to reuse or recycle building materials. The first construction and demolition (C&D) waste bans regulated asphalt pavement, brick and concrete, metal, and wood in 2006, and clean gypsum wallboard was added in 2010. The [MassDEP C&D handling facilities report](#) relatively low diversion rates (19.0% in 2024). Reducing waste disposal of C&D statewide is a key strategy in the [MassDEP 2030 Solid Waste Master Plan](#). MassDEP has developed minimum performance standards for C&D handling facilities that increase the requirements for C&D recovery up to 25% by 2030.

(Below) Bins of sorted construction debris and metals to be recycled





(Above) Construction workers

PROPOSED IMPLEMENTATION ACTIONS:

- Launch a pre-demolition planning program to help identify opportunities for C&D diversion. Educate and connect to the existing private market opportunities for financially beneficial reuse and diversion.
- Work collaboratively with MassDEP and the building community to identify opportunities for improving C&D diversion without negative economic impact. Implement the recommendations accordingly.
- Require Public Notice of Pending Building Demolitions to Facilitate Deconstruction/Reuse
- Develop and deploy educational materials for residents, contractors, builders, and other partners about C&D recycling best practices.

STRATEGY 8:

Lease Requirements Focusing on Waste Diversion

Property owners and managers would be required (through a policy and education program) to notify their tenants about how to divert household goods and furniture for reuse and how to properly sort their recyclable materials onsite during move-in and move-out seasons.

Lease Requirements is a program that aims to salvage and divert reusable and recyclable materials from renters during high-volume move-in and move-out seasons in apartment buildings and other rental units. This policy would require that residents be provided with information about proper diversion opportunities for reusable and recyclable materials. This strategy includes two components: a notice in the rental or lease agreement about resources and collection streams and a Lease Transition Plan. The Lease Transition Plan is completed by the property owner and submitted to the municipality, outlining the property owner's plan to collect and divert reusable and recyclable materials. Materials targeted for reuse and recycling include household goods, furnishings, electronics, and cardboard. Other items for consideration can include unopened food, unopened personal care products, and textiles.

PROPOSED IMPLEMENTATION ACTIONS:

- Conduct stakeholder outreach with property owners and reuse organizations to inform this strategy.
- Run a Pilot program with the lease requirements, including:
 - Draft a lease transition plan document for property owners to use.
 - Develop and deploy educational materials for websites, social media, and events.
- Develop a policy, informed by lessons learned from the Pilot. Require the resource notice information in the lease agreement and the lease transition plan.
- Once the policy is passed, inspect properties during move-in and move-out seasons to enforce the regulations.

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	



(Above) Donating items in good condition is a great way to keep them in use and support reuse.

Goal 4: Improve Residential Curbside Collection Services

Curbside collection will be more convenient and effective, with upgraded recycling containers and enhanced Pay As You Throw trash and recycling services that increase participation and reduce litter.

STRATEGY 9:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

Upgraded Recycling Containers

Residents (1-6 units) would get upgraded recycling containers for curbside pickup by a semi-automated truck.

In 1993, the Worcester Department of Public Works launched a curbside recycling program, originally providing residents with 14-gallon tubs. In 2021, Worcester distributed 22-gallon bins with dome-vented lids to reduce wind-blown litter and increase capacity; however, the bins proved fragile and often insufficient in volume. This program would replace them with upgraded containers to improve ease of use and litter control.

Case Study: The Recycling Partnership

The Recycling Partnership is a national nonprofit formed in 2014 and funded by The Aluminum Association and other industry partners. Its goal is to increase recycling rates and expand collection capacity by supporting the switch to wheeled carts (*a type of recycling container Worcester may consider*). In [*A Guide to Implementing a Cart-Based Recycling Program*](#), they highlight the **benefits of switching to carts, including cost savings, improved worker safety, higher participation rates, reduced landfill waste, and environmental benefits**. For example, one year after switching to wheeled carts, Hillsborough County, FL saw an 85% increase in recyclables at the curb, going from 32,000 tons to 60,000 tons annually for roughly 260,000 households.

PROPOSED IMPLEMENTATION ACTIONS:

- To assist with decision making around choosing the most advantageous program structure, issue a Request for Information (RFI) to waste haulers to assess costs of different approaches, that consider the city's geography, residential density, equipment availability, and more.
- Identify pros and cons of different models of container ownership (by residents, by the municipality, by a recycling provider).
- Research available funding options for containers including public and private grants and incentives.
- Based on the gathered information above, develop a preferred program structure.
- Assuming sufficient funding has been identified and secured, solicit proposals from waste haulers for servicing containers through semi-automated collection.
- Phase in implementation citywide, starting with a Pilot Phase.
- Develop and deploy educational materials for websites, social media, events, and mailers.

STRATEGY 10:

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	N/A
EMISSIONS REDUCTION	N/A
PUBLIC FAVORITE	

Wheeled Carts for Trash Collection

Community engagement and research highlighted the need to improve and modernize Worcester’s curbside trash collection program, with many residents expressing interest in transitioning to wheeled carts for both recycling and trash collection.

Because this plan includes only a high-level analysis, additional work is needed before selecting a final approach. Two potential strategies emerged from the research and stakeholder feedback and are presented here for consideration. Further evaluation will be required before implementation, including coordination with haulers and contractors, operational analysis, and financial assessment. A pilot program will also be needed to assess feasibility, benefits, challenges, and overall effectiveness.

In 1993, the Worcester Department of Public Works initiated a Pay As You Throw (PAYT) trash bag program. The program has been a huge success. Trash tonnage dropped from 40,000 tons to 23,000 tons in its first year. PAYT remains one of the most effective systems for reducing waste through incentivizing recycling, as it sends a price signal for each purchased trash bag that needs to be used.

The proposed system of wheeled carts for trash would replace the manual collection system with a semi-automated one. Automated systems reduced labor needs, as only one staff member is needed to both drive the truck and empty the carts. DPW employees would be re-assigned to work on other important functions in the department that may not have sufficient resources now.

Some larger properties with up to six units may not have space for multiple carts for trash and recycling. In these cases, residents may need to share carts, as they currently do in many of the city’s larger multifamily buildings (greater than seven units).

Option A: Wheeled Carts for Trash Collection with Pay As You Throw Yellow Bags

Under this approach, residents would continue to purchase Pay As You Throw (PAYT) yellow bags for trash disposal but use wheeled carts for collection.

Residents (1-6 units) would be provided a 32-Gallon Cart for the collection of their PAYT yellow bags. For higher-density buildings (e.g. 4, 5 and 6 units), a larger 64-Gallon or 92-Gallon Cart could be provided for shared use where curb space is limited.

Carts could be stored outside or in garages and placed at the curb on collection days.

If funding for carts is limited in the short term, residents could have the option to purchase their own carts or continue setting out PAYT bags at the curb.

Continuing the PAYT program would maintain the current pricing structure and its proven incentive to reduce waste. Residents would still be encouraged to recycle more and throw away less to avoid purchasing additional bags. At the same time, wheeled carts would improve convenience, increase collection efficiency, and help keep streets cleaner.

Option B: Wheeled Carts for Trash Collection with Pay As You Throw Cart Sizes

Under this approach, residents would use wheeled carts for trash collection and pay for service based on cart size instead of purchasing PAYT bags.

Residents (1-6 units) would receive wheeled trash carts in different sizes (20-, 32-, 64-, or 96-gallons) and pay for service based on cart size rather than purchasing PAYT bags. The larger the cart, the higher the cost. The 32-gallon cart could serve as the default size, with tiered pricing designed to encourage waste reduction.

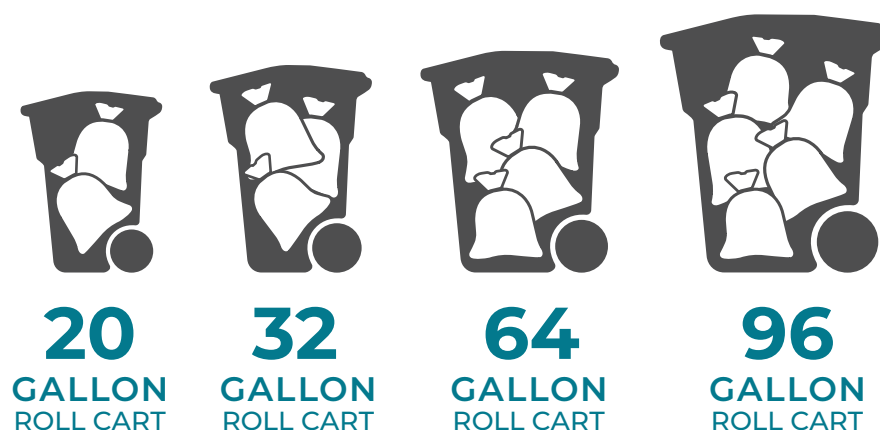
Residents would pay for trash collection through their quarterly water/sewer bill or through direct billing if service is provided by a private contractor. To qualify as a PAYT program under MassDEP guidelines, at least 50 percent of residents would need to use 20- or 32-gallon carts.

Residents could use any bags inside the cart and would only need to purchase PAYT yellow bags for overflow if trash exceeds the cart's capacity. Carts could be stored outdoors or in garages and placed at the curb on collection day.

This approach maintains a financial incentive to reduce waste while improving trash collection.

PROPOSED IMPLEMENTATION ACTIONS:

- Consider soliciting proposals from private sector collection service providers to transition to wheeled carts for trash collection.
- Prepare a Request for Information to ascertain the level of interest of the private sector collection service providers in operating a trash collection system in Worcester for residents (1-6 units). Request information about how the collector would address: wheeled carts with PAYT bags and PAYT wheeled carts, hard to service areas, multi-unit buildings, shared services, billing, bad debt, cart purchases, length of term, local office, customer service, and potential additional services (recyclable materials collection, compostable materials collection, yard trimmings collection, bulky item collection, recyclable material processing, composting, transfer and disposal).
- Conduct a competitive procurement and provide alternative implementation scenarios (wheeled carts with PAYT bags and PAYT wheeled carts).
- In order to determine whether a public option or private option is more beneficial to the municipality, have Public Works also participate as a proposer for the collection services, responding to the same Request for Proposals. This may require additional consultant services to assist with the operational and financial proposal.
- Consider how this strategy affects the recycling container strategy and explore synergies and cost savings.



(Above) Possible size options for wheeled trash carts

Goal 5: Reduce Litter and Illegal Dumping

Worcester will be clean, with reduced litter and illegal dumping through expanded street sweeping and community cleanup programs, increased public trash and recycling infrastructure, and ordinance amendments as needed.

STRATEGY 11:

Single-Use Plastic Bag Ban Expansion

Worcester would strengthen its current ban on single-use plastic bags, allowing only reusable bags at checkout and charging a small fee for paper bags. A mix of an ordinance and a complementary educational program to help with compliance would be needed.

IMPACT LEVEL	
TIME FRAME	1 – 3 Years
WASTE REDUCTION	  
EMISSIONS REDUCTION	  

This strategy strengthens the current Single-Use Plastic Bag Ban by updating the existing ordinance, §9D – Ban on Plastic Shopping Bags, to ban all plastic bags at checkout. The only plastic bags allowed at checkout would be reusable plastic bags with stitched handles. Paper bags would be available at checkout for a fee of at least 10 cents.

PROPOSED IMPLEMENTATION ACTIONS:

- Conduct outreach and education directly with consumers and affected businesses to identify barriers and benefits for the ordinance amendment and co-create ordinance language.
- Update the existing ordinance, §9D – Ban on Plastic Shopping Bags with findings from the stakeholder outreach.
- Develop and deploy educational materials about the ordinance for websites, social media, outreach, and events.
- Inspect regularly and enforce the single-use plastic bag regulations.

STRATEGY 12:

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

Comprehensive Single-Use Plastics Reduction and Litter Prevention Ordinance

Expanded polystyrene, stirrers, and single-use alcohol “nip” bottles would be banned, along with prohibiting the outdoor release of plastic items like balloons and glitter. The ordinance would also regulate cigarette disposal and include enforcement and compliance incentives for affected businesses (those serving dine-in and to-go food).

This ordinance would prohibit the use of polystyrene in food service, prohibit retail establishments from selling or distributing polystyrene food service ware, and ban the sale or distribution of polystyrene loose-fill packaging or any packaging made of polystyrene. These bans would affect businesses serving dine-in, take-out, and to-go food. This ordinance would also prohibit the intentional release of any plastic, glitter, or balloons outdoors and define how cigarette butts can be disposed of properly. The ordinance would include enforcement criteria and incentives to comply.

PROPOSED IMPLEMENTATION ACTIONS:

- Conduct outreach and education directly with consumers and affected businesses to identify barriers and benefits for the ordinance and co-create ordinance language.
- Develop and pass a local ordinance amendment to regulate the above materials.
- Develop and deploy educational materials to use with stakeholders for websites, social media, in outreach, and at events.
- Inspect regularly and enforce the litter prevention regulations.



(Above) Polystyrene to-go containers would be banned under Strategy 12.

STRATEGY 13:

IMPACT LEVEL

TIME FRAME	7 – 10 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

Reduce Single-Use Foodware and Litter

Businesses would be required (through ordinance) to provide reusable dishes for on-site dining and BPI-certified compostable containers for to-go orders, along with proper trash, recycling, and compost bins. This would also limit disposable accessories to “by request only,” would allow reusable bring-your-own cups, and add a \$0.25 fee for disposable to-go cups to encourage reuse and proper sorting.

This ordinance aims to reduce the use of single-use foodware (e.g., plates, cups, bowls, and utensils) in the community and promote the adoption of reusable foodware. The goal is to promote reusable foodware, while also reducing single-use materials that often end up as litter. This ordinance builds on [Strategy 12: Comprehensive Single-Use Plastics Reduction and Litter Prevention Ordinance](#) to further reduce single-use foodware and increase reuse and recycling.



(Above) Reusable and compostable foodware are great alternatives to reduce single-use.

The following items are required for businesses serving prepared food onsite and to-go:

- Required to use reusable foodware (plates, cups, bowls, utensils) for on-site dining.
- A three-bin system for trash, recycling, and compost is required. The bins must be placed together.
- Accessory items, such as stirrers, napkins, lids, condiment packets, etc., are available only upon request or at a self-serve station.
- Online take-out food orders must opt into any accessory items needed (they are not provided automatically).
- Reusable “bring-your-own” (BYO) cups are allowed for use with hot and cold beverages.
- To-go disposable cups have a \$0.25 charge and must be made of BPI-certified compostable materials that are accepted in the local composting systems.
- To-go food containers (clamshells, cups, stirrers, lids) must be made of BPI-certified compostable materials that are accepted in the local composting systems or are reusable (i.e., washable and used repeatedly).
- Establish a protocol requiring food service providers to ask whether an order is “for here” or “to go,” and to serve “for here” orders in reusable vessels unless a customer specifically requests otherwise (Reuse as default).

PROPOSED IMPLEMENTATION ACTIONS:

- Conduct outreach and education directly with consumers and affected businesses to identify barriers and benefits for the ordinance and co-create ordinance language.
- Develop and pass a local ordinance amendment to regulate the above materials.
- Develop and deploy educational materials to use with stakeholders for websites, social media, mailers, in outreach, and at events.
- Inspect regularly and enforce the single-use foodware regulations.

STRATEGY 14:

Systemic Citywide Cleanup

This program builds on the efforts of the Keep Worcester Clean program and Quality of Life team. The program would include an expanded effort to clean up public spaces affected by illegal dumping and heavy littering. Thoroughly clean illegal dump sites and redesign the area with landscaping, barriers, lights, signs, and monitoring. Thoroughly clean littered areas and install educational and warning signs while continuing cleanup efforts through street sweeping and monitoring the area.

Creating and maintaining clean and beautiful neighborhoods and commercial areas will encourage Worcester residents to take pride in the city. This effort promotes culture change and the expectation that everyone will do their part to reduce litter and Keep Worcester Clean.

This strategy focuses on cleaning and improving areas impacted by illegal dumping and heavy littering. Research shows that maintaining clean environments reduces the likelihood of these activities recurring. For illegal dumping sites, each identified “hot spot” would be thoroughly cleaned by removing all debris and discarded materials. After cleanup, the area would be improved through landscaping and deterrent measures such as boulders, fencing, lighting, educational signage, cameras, and ongoing monitoring. For areas experiencing heavy littering, litter would be fully removed and the space enhanced with landscaping, educational signage, cameras, and continued monitoring. To ensure these spaces remain clean over time, maintenance would be supported through both new and existing formal and informal programs that address litter and illegal dumping, including initiatives such as Keep Worcester Clean, Clean Team city events, the Clean Streets Collective, the Green Worcester Green Corps, cleanups organized in partnership with local colleges and universities, high school environmental clubs, and Adopt a Spot.

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

PROPOSED IMPLEMENTATION ACTIONS:

- Identify and prioritize illegal dumping and heavily littered sites for cleanup, monitoring, and maintenance.
- Conduct coordinated cleanup events with municipal departments and community partners throughout the year.
- Schedule 1-2 citywide cleanups, 3 targeted cleanups at "hot spots," and support community cleanups (sponsored by neighborhood and community groups) on an annual basis.
- Develop and deploy educational materials for websites, social media, events, and on-site signage.
- Inspect priority sites regularly and enforce illegal dumping and littering regulations.

STRATEGY 15:

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

Expanding Public Waste Bins

Increasing the number of “WooBins” for trash and recyclables throughout the city.

This infrastructure expansion aims to ensure that residents and visitors have access to adequate, convenient locations for depositing materials in bins, thereby preventing materials from becoming litter or being illegally dumped. This strategy would include educational materials (flyers, website, videos) about the dual-stream waste bins and the municipality's policy about proper use.

PROPOSED IMPLEMENTATION ACTIONS:

- Identify locations for additional “WooBins.”
- Order and install bins as resources allow.
- Develop and deploy educational materials for websites, social media, outreach, and events.
- Monitor the bins to ensure the service frequency is adequate.



The City of Worcester launched a pilot in Spring 2025 that deployed 150 “WooBins” for trash and recyclables throughout the city. The expanded effort would place an additional 200 WooBins to more areas of the city.

Goal 6: Improve and Expand the Drop-off Center

The Millbury Street Residential Drop-off Center will offer greater access and convenience through year-round operations, additional household hazardous waste events, and expanded options for hard-to-recycle and reusable materials.

STRATEGY 16:

Millbury Street Residential Drop-off Center Expansion

For this expanded program, the Drop-off Center would be open year-round and would accept a wider range of materials for reuse, recovery, and composting.

IMPACT LEVEL	
TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	
PUBLIC FAVORITE	

This strategy expands operations at the Millbury Street Residential Drop-off Center, increasing both the range of materials accepted and the volume diverted from disposal. Under this strategy, the Center would remain open year-round with consistent hours, offer more opportunities for material diversion, and establish a year-round Center for Hard-to-Recycle Materials (CHaRM). As a CHaRM facility, it would create opportunities to divert bulky items for reuse and support more frequent household hazardous waste collection events.

We will also explore creative ways to improve the Center, such as offering free drop-off days throughout the year to encourage use, and introducing a subscription program similar to those used in other municipalities.

PROPOSED IMPLEMENTATION ACTIONS:

- Extend the operational hours further into December, January, and February for the collection of bulky items and expanded material collection.
- Establish a program where bulky items brought to the Drop-off Center are diverted for reuse. A local non-governmental organization specializing in the sale of used bulky household items, including furniture, lamps, household décor, doors, and other items for household remodeling, would be located at the Drop-off Center to salvage these items.
- Create a “free” bin for small scrap metal for residents to place items in.
- Develop and enhance educational materials for websites, social media, events, and on-site signage.



(Right) Batteries, clothing, and shoes are some of the items collected at the Worcester Residential Drop-Off Center for recycling.

STRATEGY 17:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Household Hazardous Waste Events

More household hazardous waste collection events would be held at the Millbury Street Residential Drop-off Center.

Household hazardous waste (HHW) events are periodic events where residents can bring acceptable items for drop-off by appointment during operating hours. These events help residents properly dispose of hazardous items, preventing them from being dumped in the streets or placed in the household trash.

This strategy would increase the number of HHW events in Worcester to six per year. The events would be held from March through November. The events would be published in January of each calendar year so that all residents can plan. Event communications would share key impact information about why these events benefit the community, and the events would be held on a weekend day for at least four hours.

PROPOSED IMPLEMENTATION ACTIONS:

- Plan six HHW events each calendar year. The events would be held annually from March to November.
- Develop and enhance the educational materials about the HHW events and share the dates and details of the events on the website, social media, and at events.
- Communicate with residents about the benefits of using the HHW events.

STRATEGY 18:

IMPACT LEVEL

TIME FRAME	7 – 10 Years
WASTE REDUCTION	N/A
EMISSIONS REDUCTION	N/A
PUBLIC FAVORITE	

Case Study: Needham, MA

The Recycling Transfer Station in Needham accepts many materials for reuse, recycling, composting, and disposal (household trash). They have a swap area, collect recyclable materials, accept food scraps for composting, residential household trash in yellow PAYT bags, and bulky items.

Drop-off Sites for Residential Trash

Residents would have convenient locations to dispose of household trash in PAYT bags in cases of overflow or missed collection. These sites could be co-located with existing drop-off sites, yard waste facilities, or established at new strategic locations.

The trash drop-off sites are locations where residents can drop off their household trash in prepaid PAYT bags. The drop-off locations or sites for residential bagged waste could be co-located at the Millbury Street Residential Drop-off Center and/or other regularly staffed municipal locations to be able to confirm residence requirements. The locations could be a new site or sites strategically located within the city to serve residents who need this infrastructure.

This strategy provides residents with a convenient location to dispose of household trash in rare instances of overflow or missed collection (e.g., if a resident is out of town on collection day).

PROPOSED IMPLEMENTATION ACTIONS:

- Identify the appropriate location(s) for the trash drop-off sites.
- Create the system parameters, including bins, accessibility, frequency of pickups, and signage.
- Develop and deploy educational materials about drop-off locations for websites, social media, outreach, and events.

Goal 7: Create Opportunities for Reduction, Recovery, and Reuse

Residents and businesses will have the tools to prevent waste and recover resources, through programs for deconstruction, reuse, repair, sharing, public water bottle filling access, and community engagement in Zero Waste practices.

STRATEGY 19:

Education Program for Disposable Diaper Alternatives

Community members would receive education, resources, and guidance on disposable diaper alternatives, such as reusable and compostable options.

IMPACT LEVEL	
TIME FRAME	7 – 10 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

This program educates and encourages community members to choose reusable or compostable diapers over disposable ones. It would offer clear, accessible resources on these alternatives—helping remove common barriers to switching—with information made available on the Zero Waste website.

PROPOSED IMPLEMENTATION ACTIONS:

- Develop educational materials on reusable and compostable diaper options.
- Provide guidance and recommendations on where to find these alternatives.
- Partner with a local organization offering reusable diaper classes to host workshops for new parents.

STRATEGY 20:

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Water Bottle Filling Stations Expansion

Add more water bottle filling stations in public areas and parks to encourage the use of reusable water bottles.

This strategy would expand access to water bottle refill stations across Worcester, serving both residents and visitors. New indoor and outdoor stations would be installed in schools, parks, and municipal buildings, with the commercial sector encouraged to add stations in private buildings as well. By promoting local tap water over single-use plastic bottles, this strategy helps residents save money and reduces litter. An accompanying educational campaign would encourage community members to carry and regularly use reusable water bottles.

PROPOSED IMPLEMENTATION ACTIONS:

- Identify locations for new stations — including schools, municipal buildings, parks, and other public areas — and determine whether each should be indoor or outdoor.
- Order necessary equipment and coordinate installation with the appropriate municipal department.
- Develop and deploy educational materials on the benefits and use of filling stations across websites, social media, and community events.
- Conduct outreach to local businesses to encourage them to install refill stations on their premises.

STRATEGY 21:

IMPACT LEVEL

TIME FRAME	4 – 6 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Share, Reuse, Repair Events

Quarterly events, held in different locations, that include share swaps, reuse collection, and fix-it clinics.

This program would promote and expand local share, reuse, and repair opportunities through quarterly events held at rotating locations.

Share – Each event would include a drop-and-swap area where community members can bring and take everyday household items for immediate reuse.

Reuse – Each event would include a donation area for good-condition items such as lamps, décor, furniture, and other lightly used goods, with local non-governmental organizations (NGOs) on hand to collect them.

Repair – Each event would host a fix-it clinic with volunteer fixers on hand to repair lamps, small appliances, corded items, jewelry, and textiles, as well as offer knife sharpening.



(Left) Stuff Swap event at the Worcester library

PROPOSED IMPLEMENTATION ACTIONS:

- Millbury Street Residential Drop-off Center – Events would include a station, trailer, or collection area for items commonly accepted at the Drop-off Center for reuse, recycling, and composting, such as textiles, books, mattresses, box springs, and electronics.
- Establish program parameters for quarterly share, reuse, and repair events.
- Coordinate with the Millbury Street Residential Drop-off Center to incorporate their component.
- Develop and deploy educational materials for websites, social media, and events on share, reuse, and repair.
- Develop and deploy educational materials on share, reuse, and repair for websites, social media, and events.



(Right) Stuff Swap event at the Worcester library

STRATEGY 22:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

(Below) Library of Things at the Worcester library



Expanding Library of Things Offerings

Community members would be able to borrow a wider range of tools, appliances, and everyday items - just like checking out books - through an expanded Worcester Library of Things, with more items, more locations, and greater opportunities to save money, reduce waste, and share resources.

A Library of Things allows community members to check out items such as tools, small appliances, kits, and guides — much like a book library, but for things people need only occasionally rather than daily. This community effort expands the share economy by keeping items in circulation rather than sitting unused in individual households. Worcester's current Library of Things offers an extensive range of items, and this strategy would broaden it further — adding more items, expanding to more locations, and introducing new categories such as kitchen supplies (stand mixers, baking accessories, crockpots, and other cooking tools).

PROPOSED IMPLEMENTATION ACTIONS:

- Identify materials that could be added to the Library of Things, such as kitchen supplies.
- Develop and deploy educational materials for websites, social media, and on-site signage.
- Add a button on the Library of Things website that allows the residents to suggest new items for the catalog.

STRATEGY 23:

IMPACT LEVEL

TIME FRAME	1 – 3 Years
WASTE REDUCTION	
EMISSIONS REDUCTION	

Case Study: Haddonfield, NJ

The Green Business Recognition Program, led by the Sustainable Haddonfield Team, recognizes local businesses for meeting sustainability benchmarks.

The program works with local businesses to highlight their current environmentally friendly practices and support new ones they are planning to implement. These efforts focus on areas such as waste reduction, energy efficiency, water conservation, green buildings, transportation, pollution reduction, social responsibility, and supporting the local economy.

Zero Waste Business Recognition Program

Recognizes businesses for achieving Zero Waste successes through event planning, waste reduction, recycling, composting, the use of reusable foodware, and other sustainable practices.

This program would partner with the Regional Chamber of Commerce to recognize businesses that meet specific criteria for waste reduction, reuse, recycling, and composting — such as using reusable foodware for dine-in and to-go orders, or increasing diversion from waste disposal. By publicly identifying businesses that have achieved Zero Waste, the program helps the community easily find and support them.

PROPOSED IMPLEMENTATION ACTIONS:

- Develop program criteria and parameters in collaboration with the Regional Chamber of Commerce.
- Promote the program and deploy educational materials through the Chamber of Commerce, social media, websites, community events, and on-site signage.

CHAPTER 04

Implementation Roadmap



Implementing the Zero Waste Master Plan will significantly reduce the city's waste, improve public health, and deliver environmental and economic benefits to the community. Successfully implementing the strategies in [Chapter 03: Zero Waste Goals, Strategies and Actions](#) will require additional staff and operational budget capacity, targeted investments, and strong coordination across municipal departments.

Many strategies in this Master Plan will require further research, planning, and resources before moving into pilot phases. Some may need multi-year study; others will depend on support from consultants, contractors, or community-based organizations. Success will rely on collaboration across all sectors – residents, community groups, businesses, institutions, and universities.

This chapter focuses on staffing and resource needs, identifies the top five priority strategies for the first five years, and provides a 10-year roadmap for implementing all 23 Zero Waste strategies. It also provides monitoring and evaluation framework, and an overview of Community-Based Social Marketing approach to incentivize sustainable behaviors.

The Roadmap

7 GOALS, 23 STRATEGIES AND 5-IN-5 PRIORITIES

The roadmap charts all 23 strategies across three time frames: Near Term (1–3 Years), Mid Term (4–6 Years), and Longer Term (7–10 Years). The time frames reflect a sequenced approach – Near Term strategies are those with the greatest readiness, public support, and Near Term impact, while Mid and Longer Term strategies may require additional research, funding, or infrastructure before they can be launched. Responsibility for each strategy is detailed in [Chapter 03: Zero Waste Goals, Strategies and Actions](#)

Within the 23 strategies, five have been identified as priorities for implementation within the first five years of the plan. These priorities were selected based on public interest, impact on waste diversion, feasibility, environmental benefit, and community need.

Roadmap to Zero Waste



5 strategies in 5 years

Where Do We Start?

FIVE STRATEGIES IN FIVE YEARS

Implementing the plan will require additional staff capacity, targeted investment, and coordination across municipal departments, led by the Departments of Sustainability and Resilience (DSR), Public Works (DPW), Inspectional Services (ISD), and the Quality of Life team (QoL).

Strategies are not in any specific order.

GOAL:	PRIORITY STRATEGY:	IMPLEMENTATION ACTIONS IN NEXT 5 YEARS:	HIGH LEVEL COST ESTIMATE:
Reduce Food Waste	Edible Food Recovery and Donation Program A program to divert surplus food from restaurants, grocery stores, and schools by giving it to people in need instead of being thrown away (via food rescue or food bank organizations).	• Evaluate current food rescue operations. • Expand the current food rescue operations that work with food-generating businesses, K-12 schools, and higher education to ensure maximum collection and distribution of all resources. • Assist the businesses and institutions with new programs to rescue edible food. • Assist in connecting businesses and institutions to food rescue or food bank organizations.	\$50,000 – \$150,000 (annually) WHO: DSR (lead), WPS, MassDEP, Community Organizations

GOAL:	PRIORITY STRATEGY:	IMPLEMENTATION ACTIONS IN NEXT 5 YEARS:	HIGH LEVEL COST ESTIMATE:
Improve Residential Curbside Collection	Upgraded Recycling Containers Residents (1-6 units) would get upgraded recycling containers for curbside pickup by a semi-automated truck.	• To assist with decision making around choosing the most advantageous program structure, issue a Request for Information (RFI) to waste haulers to assess costs of different approaches, that consider the city's geography, residential density, equipment availability, and more. • Identify pros and cons of different models of container ownership (by residents, by the municipality, by a recycling provider). • Research available funding options for containers including public and private grants and incentives. • Based on the gathered information above, develop a preferred program structure. • Assuming sufficient funding has been identified and secured, solicit proposals from waste haulers for servicing containers through semi-automated collection • Phase in implementation citywide, starting with a Pilot Phase. • Develop and deploy educational materials for websites, social media, events, and mailers.	One-time capital cost — \$2,500,000 – \$3,500,000 Potential increase in operational costs (going from manual to semi-automatic collection) WHO: DSR, DPW

GOAL: Expand Recycling Access Citywide	PRIORITY STRATEGY: Support Property Owners, Haulers, and Generators to Increase Recycling Participation The municipality will provide education, technical assistance, and incentives (as funding allows) to help property owners (residential and commercial), haulers, and individual waste generators - including tenants, businesses, municipal buildings, and public schools - participate in recycling, consistent with MassDEP's statewide Waste Disposal Bans (310 CMR 19.017).	IMPLEMENTATION ACTIONS IN NEXT 5 YEARS: Phase 1 • Offer direct technical assistance to property owners and managers seeking to establish or improve recycling programs. Provide model recycling plan templates and space-planning guidance for large multifamily residences (7+ units), businesses, and institutions establishing a program. • Research and pilot incentive options to encourage compliance, such as waiving Inspectional Services fees for dumpster permits tied to documented recycling participation, or grant programs helping with acquiring recycling containers. • Notify business owners, through the Inspectional Services website at the point of dumpster permit application, that state waste bans apply to their business, that MassDEP enforcement is ongoing and expected to increase over the next several years, and that early planning is recommended. Request a copy of the Recycling Plan. • Develop case studies highlighting local businesses that have successfully implemented recycling programs, to share as practical examples for peer businesses.	HIGH LEVEL COST ESTIMATE: Ongoing education, enforcement, technical assistance — \$70,000 – \$100,000 (annually) WHO: DSR (lead), ISD (support)
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IMPLEMENTATION ACTIONS IN NEXT 5 YEARS CONTINUED:

Support Property Owners, Haulers, and Generators to Increase Recycling Participation

Phase 1 continued

- Develop Zero Waste Business Recognition Program (see [*Strategy 23: Zero Waste Business Recognition Program*](#)), which recognizes businesses for achievements in waste reduction, recycling, composting, reusable foodware, and other sustainable practices.
- Promote the Drop-Off Center as an option for recycling materials drop-off by the all city residents. Explore opportunities for the City providing additional recycling drop-off locations throughout the city.
- Develop and deploy an education campaign (website, social media, mailers, community events) explaining what materials are banned from trash disposal under state law and how to recycle correctly.

Phase 2

- Following MassDEP 2030 Plan implementation, during the mid-term plan implementation phase, re-assess the municipality's role and how it can reasonably assist with implementation and possibly enforcement, provided enough resources are provided.
- Track voluntary reporting of tonnage data, to measure program reach and identify gaps for future outreach.
- Explore, in a later phase, opportunities for program expansion to organics waste diversion for businesses, institutions, and residents, aligned with any future expansion of MassDEP's organics disposal ban.

GOAL: Reduce Litter and Illegal Dumping	PRIORITY STRATEGY: Systemic Citywide Cleanup This program builds on the efforts of the Keep Worcester Clean program and Quality of Life team. The program would include an expanded effort to clean up public spaces affected by illegal dumping and heavy littering. Thoroughly clean illegal dump sites and redesign the area with landscaping, barriers, lights, signs, and monitoring. Thoroughly clean littered areas and install educational and warning signs while continuing cleanup efforts through street sweeping and monitoring the area.	IMPLEMENTATION ACTIONS IN NEXT 5 YEARS: • Identify and prioritize illegal dumping and heavily littered sites for cleanup, monitoring, and maintenance. • Conduct coordinated cleanup events with municipal departments and community partners throughout the year. • Develop and deploy educational materials for websites, social media, events, and on-site signage. • Inspect priority sites regularly and enforce illegal dumping and littering regulations.	HIGH LEVEL COST ESTIMATE: \$100,000 – \$200,000 (annually for 1-2 city-wide cleanups, 2-3 targeted cleanups, and community cleanups) WHO: DPW (lead), ISD, QoL, DSR (support)
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GOAL: Improve and Expand the Drop-Off Center	PRIORITY STRATEGY: Millbury Street Residential Drop-off Center Expansion For this expanded program, the Drop-off Center would be open year-round and would accept a wider range of materials for reuse, recovery, and composting.	IMPLEMENTATION ACTIONS IN NEXT 5 YEARS: • Extend the operational hours further into December, January, and February for the collection of bulky items and expanded material collection. • Establish a program where bulky items brought to the Drop-off Center are diverted for reuse. A local non-governmental organization specializing in the sale of used bulky household items, including furniture, lamps, household décor, doors, and other items for household remodeling, would be located at the Drop-off Center to salvage these items. • Provide small scrap metal bins for the residential no-cost drop offs, with potential revenue stream for the municipality. • Develop and enhance educational materials for websites, social media, events, and on-site signage.	HIGH LEVEL COST ESTIMATE: \$75,000 – \$150,000 (annually) WHO: DPW, DSR
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Implementation: Resource Allocation

STAFFING

Implementing the Zero Waste Master Plan will require dedicated staff resources. All municipal departments will need to support the plan to demonstrate our commitment to leading by example. However, the following departments will carry the majority of implementation responsibility: the Department of Sustainability and Resilience (DSR), Public Works (DPW), and Inspectional Services (ISD), in addition to the Quality of Life interdepartmental team.

Fully responding to the community's needs and implementing all strategies in this plan will require investment in additional staff over the next 10 years.

While some of the Near Term actions can be accomplished by existing staff, we estimate that a minimum of three new positions would be needed to make significant progress on the five priority strategies in five years. See below table:

Additional Staff Members Needed	Strategy
1 DSR Staff Member	Strategy 4: Edible Food Recovery and Donation Program Strategy 6: Support Property Owners, Haulers, and Generators to Increase Recycling Participation
1 DPW Staff Member	Strategy 9: Upgraded Recycling Containers (and the related longer-term Strategy 10: Wheeled Carts for Trash Collection) Strategy 16: Millbury Street Residential Drop-off Center Expansion
1 Quality of Life Staff Member	Strategy 14: Systemic Citywide Cleanup

ROLE OF THE ZERO WASTE COORDINATOR

The municipality's Zero Waste Coordinator will have primary responsibility for supporting and tracking implementation of the Zero Waste Master Plan strategies, working closely with other staff in Sustainability and Resilience, Public Works, and Inspectional Services. The Zero Waste Coordinator will:

- Take primary responsibility for implementing education and outreach actions.
- Pursue related grants to support implementation.
- Meet regularly with counterparts in Public Works, Inspectional Services, and Quality of Life team to collaborate on strategies assigned to each department.
- Convene regular meetings of the Zero Waste Action Collaborative to review implementation progress.
- Prepare an annual report to be presented publicly and published on the municipality's website.
- Prepare annual reports for the Massachusetts Department of Environmental Protection.
- Lead training and implementation of Zero Waste strategies at municipal facilities.

BUDGETS

Implementing the Zero Waste Master Plan will require both one-time startup investments and ongoing annual expenditures. Costs will vary significantly by strategy – some can be achieved through existing staff capacity and modest program budgets, while others, such as upgraded recycling container purchase and drop-off center expansion, will require more substantial capital investment.

Each strategy and their associated actions will require detailed cost estimates, capturing up-front and operation costs, internal staffing and external contracts. We will use the Zero Waste USA Cost Estimate Tool as a starting point, as well as other resources available through Massachusetts Department of Environmental Protection (MassDEP) and municipal information sharing, to develop project budgets that are achievable and realistic, that take into account local economic realities and organizational structures.

Funding for implementation will come from a combination of sources, such as the municipality's operating and capital budgets, state grants from the MassDEP, federal grants, and potential partnerships with regional organizations and institutions.

Education, Outreach and Technical Assistance

Education, outreach, and technical assistance are essential to Zero Waste success. Change can be difficult — but raising awareness and helping people understand and participate in new programs is what turns good intentions into real action. Zero Waste doesn't happen on its own; it requires sustained behavior change across the entire community.

An important distinction: while awareness alone is not enough, it is, however, an essential first step. The "Marketing Rule of 7" holds that a person needs to encounter a message roughly seven times before taking action. Lasting behavior change requires sustained, targeted effort — reaching the right populations, understanding their specific barriers, and working with them over time to build new habits. The approach must evolve to address different challenges and different communities.

COMMUNITY-BASED SOCIAL MARKETING (CBSM)

To the extent possible, the municipality will use CBSM – an approach grounded in social psychology – to engage residents, businesses, and other stakeholders, understand the barriers to changing behavior, and develop targeted strategies to overcome them. Awareness is an essential first step, but lasting change requires repeated, well-targeted outreach that meets people where they are and helps new habits stick.

CBSM uses tools from social psychology to engage targeted sectors or demographics, identify barriers to behavior change, and develop strategies to overcome them. Examples of behavior changes this plan seeks to support include reducing contamination in recycling, increasing recycling participation, and recovering organic materials from the waste stream.

BEHAVIOR CHANGE LEADS TO CULTURE CHANGE

The ultimate goal of the Zero Waste Master Plan is to create culture change in Worcester:

- Moving from single-use disposable to reusable and refillable.
- Reusing and repairing instead of purchasing new.
- Participating in recycling and composting wherever residents live, work or play.
- Supporting the City to raise awareness and Keep Worcester Clean.

FIVE PRIORITY STRATEGIES

Each strategy in the Zero Waste Master Plan includes an education and outreach component. DSR will take the lead role in developing education and outreach materials for all new and expanded Zero Waste policies, programs, and infrastructure, as resources become available.

To support implementation of the five priority strategies, DSR will:

- Host educational content on municipal web pages, with downloadable resources available in multiple languages.
- Create mailers, flyers, and educational materials for presentations and community outreach.
- Develop and circulate information about edible food recovery organizations operating in Worcester, connecting surplus food generators – such as schools, universities, corporate cafeterias, restaurants, and grocery stores – to food recovery operations.
- Study additional CBSM strategies and identify methods to integrate them into programs to increase sustained behavior change.
- Enhance anti-litter and illegal dumping educational campaigns across all sectors, with targeted education on the most common material types found at illegal dump sites (e.g., tires, food waste, wood, furniture, and electronics). Materials will include information on how to report litter and dumping by phone, email, or online form.
- Expand information about the Residential Drop-Off Center to reflect any new or expanded services, including hours of operation, materials accepted, upcoming events, and household hazardous waste event schedules. Outreach will specifically target renters and college students.



(Above) Door-hanger recycling tag

Monitoring and Evaluation

Implementing the Zero Waste Master Plan will require ongoing internal coordination across all municipal departments as well as engaging with the community through a Zero Waste Action Collaborative. The following describes the key roles and accountability structures that will guide implementation.

ROLE OF THE ZERO WASTE ACTION COLLABORATIVE (ZWAC)

The Zero Waste Master Plan Steering Committee was convened to provide guidance to municipal staff during the development of the Zero Waste Master Plan. Committee members have expressed interest in continuing to play an active role in implementation, particularly around community outreach, education, and litter cleanups, and will transition into the Zero Waste Action Collaborative (ZWAC). ZWAC members will:

- Meet regularly with municipal staff to review and provide input on reports.
- Participate in public events, outreach activities, and community cleanups.
- Support municipal staff in reaching all sectors of the community.



(Above) A member of Worcester's Clean Team collecting litter.

ANNUAL REPORT

An annual report will be the primary vehicle for documenting and communicating progress in implementing the Zero Waste Master Plan. Each annual report will:

- Provide an update on each strategy scheduled for implementation during the reporting period.
- Include waste diversion and disposal data by sector, where possible.
- List tasks to be undertaken during the next calendar year.
- Provide budgeting information to affected departments for annual budget allocations and, if needed, requests.
- Include a revised schedule and timeline for implementing Zero Waste strategies as needed.
- Incorporate data reported to the MassDEP (via Recycling and Solid Waste Annual Survey).

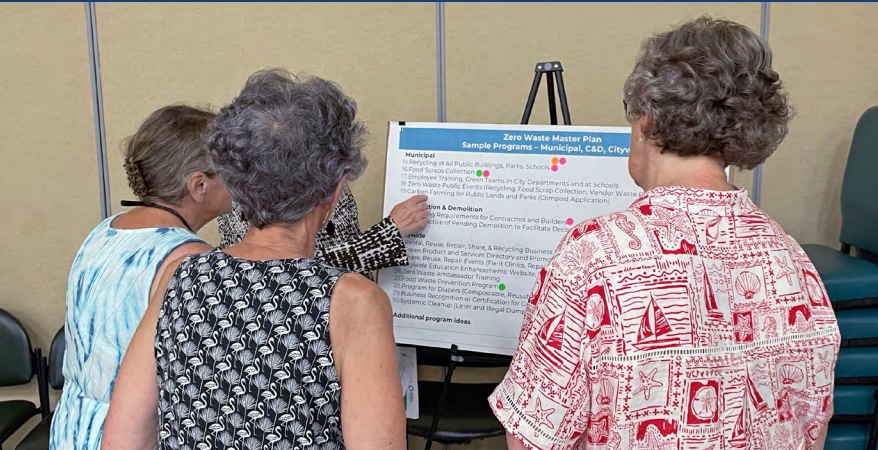
PLAN UPDATES

The Zero Waste Master Plan is designed to be implemented over a 10-year planning period, with built-in checkpoints to ensure the plan stays current and effective. At Year 5, the municipality will conduct a mid-point review – assembling all relevant data, conducting a comprehensive waste characterization study, and updating time frames, action steps, strategies, and implementation resources as needed. At Year 10, the municipality will launch a new planning process and prepare a new 10-year plan.

The plan includes built-in checkpoints to ensure it stays current and effective, with a mid-point review at Year 5 and a new planning process at Year 10.

CHAPTER 05

Plan Development Process



Developing the Zero Waste Master Plan was a collaborative, community-driven process that ran from December 2024 through Fall 2026. Led by the municipality's Department of Sustainability and Resilience in partnership with the Department of Public Works, and supported by the municipality's consultant Zero Waste Associates, the process combined rigorous research and data collection with extensive outreach to residents, businesses, and community organizations across Worcester.

SPRING 2025

- Waste characterization study and analysis
- Community survey 1
- Listening sessions
- Steering Committee formed

SUMMER 2025

- Listening sessions
- Public workshop 1
- Zero Waste strategy development
- Facility survey and analysis
- Steering Committee review

FALL 2025

- Community survey 2
- Public workshop 2
- Policy and program analysis
- Legal and regulatory analysis
- Steering Committee review

WINTER 2025

- Draft plan elements
- Planning cost estimates
- Steering Committee review

SPRING–FALL 2026

- Implementation roadmap
- **Plan Finalized Fall 2026**

Research and Best Practices

The planning process began with in-depth research, including a detailed waste characterization study conducted by the municipality's consultant, Diversion Designers, LLC in April 2025. The findings from that study, along with analysis of tonnage and diversion rates, baseline waste generation data, current infrastructure and other key information, are presented in [Chapter 02: Existing Conditions](#). Those results formed the foundation for developing draft strategies and helped focus attention on the greatest opportunities for impact. The municipality also conducted a review of best practices from municipalities across Massachusetts and the nation, ranging from Boston, Cambridge, and Springfield to San Diego, CA and Washington, D.C. Where relevant, those peer examples are referenced throughout [Chapter 03: Zero Waste Goals, Strategies and Actions](#).

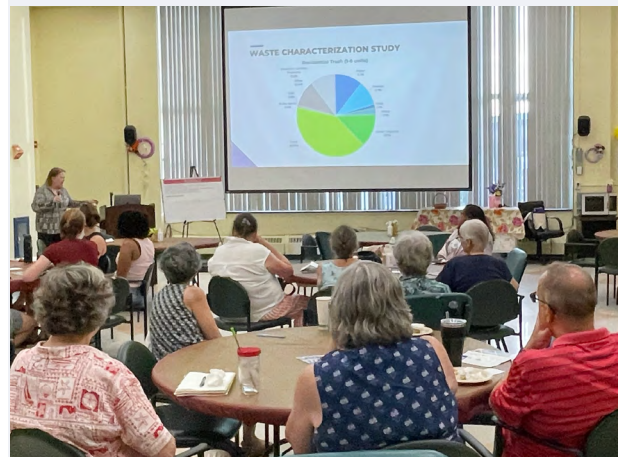
Research and data shaped the strategies, but understanding what motivates people, what barriers they face, and what they value most required hearing directly from the community.

Community and Stakeholder Engagement

One of the defining features of a Zero Waste planning process, as opposed to a traditional solid waste management plan, is its emphasis on stakeholder engagement. Zero Waste requires meaningful changes in behavior, and lasting behavior change depends on understanding what stands in the way and what makes new habits worthwhile.

To make that possible, the municipality conducted an extensive outreach process assisted by the Zero Waste Master Plan Steering Committee. Engagement took place in multiple phases, each serving a distinct purpose:

- Listening sessions and the first community survey shaped the early direction of the plan and surfaced potential policies, programs, and infrastructure strategies.
- The Steering Committee and first public workshop helped define and refine those strategies.
- The second public workshop and second community survey prioritized the strategies and identified the community favorites that are included in this plan.



(Above) As part of stakeholder engagement, the municipality conducted public workshops and listening sessions.



7 external listening sessions

with business community, service providers, environmental justice organizations, faith-based groups, schools and universities with **over 75 participants**



4 public workshops

(two in-person and two online) with **nearly 100 stakeholders** participating



3 surveys conducted in Winter, Spring and Fall 2025 with **over 3,000 responses**



5 meetings of the Zero Waste Master Plan Steering Committee

(with representatives from Worcester Public Schools, 311, Inspectional Services, community-based organizations, neighborhood groups, and the Worcester Green Corps)

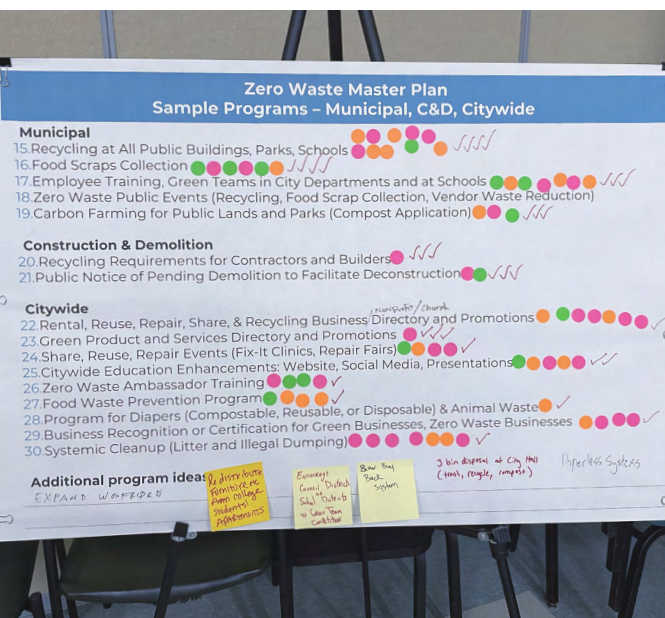
STEERING COMMITTEE

The Steering Committee brought together community members representing a wide range of constituencies across Worcester, alongside municipal staff who provided operational context and guidance. The committee met five times throughout the planning process, helping to steer stakeholder engagement and inform the prioritization of Zero Waste strategies.

LISTENING SESSIONS

Before strategies were drafted, the municipality held listening sessions to hear directly from representatives of different community sectors about the opportunities and barriers specific to their experience. Seven sessions were held with external stakeholders, in addition to four sessions with internal municipal departments. The external sessions included:

- Business sector (hosted with the Worcester Regional Chamber of Commerce)
- Faith community
- Environmental and community organizations
- Colleges and universities
- Neighborhood associations
- Youth climate leaders
- Private haulers



PUBLIC WORKSHOPS

Two in-person workshops were held at the Senior Center and the Library, each paired with an online session via Zoom to maximize participation.

Workshop 1 introduced participants to the planning process and shared early findings from the community survey and waste characterization study. Small group discussions explored challenges, opportunities, and a shared vision for Zero Waste in Worcester. Participants then reviewed and commented on potential new or expanded strategies at poster stations.

Workshop 2 asked participants to vote on their top three strategies across three categories: policies, programs, and infrastructure. Those preferences directly shaped the final selection of strategies included in this plan.

Top Strategies Selected at Workshop 2:

Policies

- Single-Use Plastic Ban
- Lead by Example
- Recycling Requirements for Contractors and Builders

Programs

- Food Scraps and Yard Trimmings Collection
- Edible Food Recovery and Donation
- Share, Reuse, Repair Events and Directory

Infrastructure

- Household Hazardous Waste Events
- Residential Drop-Off Center Expansion
- Water Bottle Filling Station Expansion

(Left) Workshop 1 participants shared feedback on proposed Zero Waste strategies and identified challenges and opportunities for reducing waste in Worcester.

COMMUNITY SURVEYS

Two community surveys were conducted to gather input during the planning process: one in Spring 2025 to understand current conditions and priorities, and a follow-up in Fall 2025 to help prioritize strategies. Full survey results are available in [Appendix C: Analyses of the Community Surveys](#).

A third survey, conducted prior to the start of the planning process, gathered community feedback on the Residential Drop-Off Center and informed the strategies in [Goal 6: Improve and Expand the Drop-off Center](#). Those results are also available in the [Appendix C: Analyses of the Community Surveys](#).

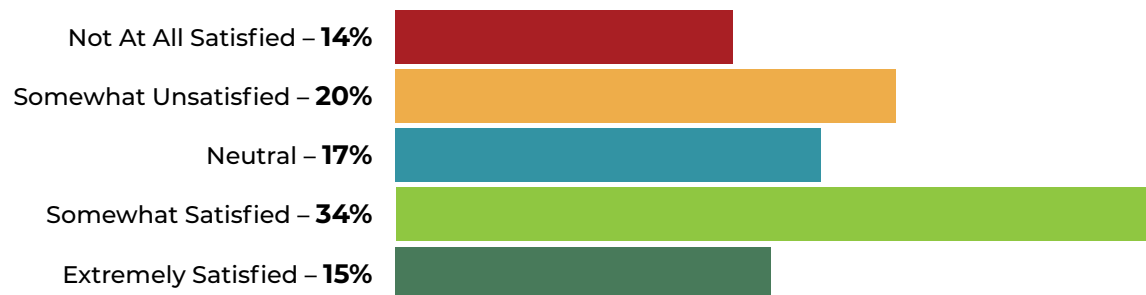
Spring Survey (1,820 responses)

The first survey asked Worcester residents about their experience with trash and recycling collection and invited ideas for improvement. Key takeaways from resident feedback include:

- Interest in wheeled carts for both recycling and trash
- Support for curbside collection of food scraps and yard trimmings
- A preference for keeping collection weekly
- Concerns about litter and recycling bin quality
- Appreciation for timely collection, friendly staff, and clear municipal communication

Satisfaction with trash collection was nearly evenly split: 41% of respondents were not satisfied, primarily citing the cost and quality of the required yellow bags, while 39% were satisfied and appreciated the PAYT program and its affordability. Satisfaction with recycling collection was somewhat higher: 49% were satisfied, citing weekly pickup and the convenience of zero-sort recycling, while 34% were not satisfied, most often pointing to bins being too small, prone to breaking, or difficult to contain in wind. Residents also expressed interest in expanded services, including curbside bulk waste pickup, food scrap collection, and more litter cleanups. **The survey results were shared with the Steering Committee and workshop participants and informed the Zero Waste strategies evaluated in this plan.**

How satisfied are you with Worcester's curbside recycling collection program?



34% of residents were **not satisfied** with curbside recycling

49% of residents **were satisfied** with curbside recycling

Fall Survey (749 responses)

The follow-up survey asked residents to rank strategies by implementation time frame: Near Term (1 to 3 years), Mid Term (4 to 6 years), and Longer term (7 to 10 years). Key takeaways include:

- There is strong support for transitioning to wheeled carts: 58% of respondents ranked recycling carts among their top three Near Term priorities, and 49% ranked trash carts among their top Mid Term priorities.
- Strategies that address litter and illegal dumping were also broadly supported, including residential trash drop-off (53%), systemic cleanup (45%), expanded WooBins (38%), a single-use foodware ordinance (35%), and a plastic reduction ordinance (26%).

Responses were analyzed across all respondents as well as by respondent type such as renters and non-PAYT customers, which include residences with seven or more units and commercial establishments that arrange for collection through private haulers.

(Right) Charts showing the top three Zero Waste strategies for each plan phase, as ranked by Worcester residents.

Top 3 Near Term Strategies

Edible Food Recovery and Donation – 61%

Wheeled Carts for Recycling – 58%

Semi-Annual Systemic Citywide Cleanup – 45%

Top 3 Mid Term Strategies

Wheeled Carts for Trash – 49%

Residential Drop-Off Center Expansion – 41%

Increase the Number of "WooBins" – 39%

Top 3 Longer Term Strategies

Drop-Off Sites for Residential Trash – 53%

Expand Library of Things – 38%

Reduce Single-Use Foodware and Litter – 35%

Strategy Evaluation and Prioritization

Developing this plan required making some difficult choices. The research, peer review, and community engagement described in this chapter generated far more potential strategies than any city could implement at once. To move from a long list of possibilities to a focused, actionable plan, **the municipality evaluated each strategy against three criteria:**

✓ **Environmental impact.**

How much waste reduction could this strategy achieve, measured in tonnage? What are the projected reductions in greenhouse gas emissions?

✓ **Community support and need.**

How did residents, businesses, and stakeholders respond to this strategy throughout the engagement process? Strategies that consistently rose to the top across listening sessions, workshops, and surveys were recognized as "public favorites" and given added weight.

✓ **Cost and feasibility.**

What would implementation realistically require in terms of funding, staffing, infrastructure, and timeline?

Applying these criteria allowed the municipality to narrow the full list of potential strategies down to the 23 strategies detailed in [Chapter 03: Zero Waste Goals, Strategies and Actions](#). From there, the same framework was used to identify the top five priority strategies for implementation in the first five years of the plan, which are presented in [Chapter 04: Implementation Roadmap](#).

Conclusion

The process described in this chapter reflects a core belief behind this plan: that lasting change requires both strong data and genuine community investment. Worcester residents, businesses, faith communities, students, neighborhood leaders, and municipal staff all helped shape this plan. The result is a plan grounded in evidence, informed by lived experience, and built for this community.

The strategies, timelines, and priorities in this plan are ambitious, but they are phased and designed to build momentum over time. This plan is the roadmap towards a Zero Waste future for Worcester.

Appendices

A. Key Takeaways from Studies that Informed the Plan

B. Local Waste Research:

1. **Waste Characterization Study Results;** Conducted April 2025 by Diversion Designers, LLC for the City of Worcester; presentation dated September 2025.

C. Analyses of the Community Surveys:

1. **Residential Drop-Off Center for Waste Disposal Community Survey;** Conducted November 2024-February 2025; developed by DSR; presentation dated April 2025.
2. **Zero Waste Master Plan Community Survey; Spring 2025**
3. **Zero Waste Master Plan Community Survey; Fall 2025**

Appendix A:

Key Takeaways from Studies that Informed the Plan

Appendix B:

Local Waste Research

Waste Characterization Study Results

Conducted April 2025 by Diversion Designers, LLC for the City of Worcester; presentation dated September 2025.

Appendix C:

Analyses of the Community Surveys

Residential Drop-Off Center for Waste Disposal Community Survey

Conducted November 2024-February 2025; developed by DSR; presentation dated April 2025.

Zero Waste Master Plan Community Survey, Spring 2025

Zero Waste Master Plan Community Survey, Fall 2025

Attachments:

Priority Focus Areas – Analyses and Memos

Zero Waste Associates conducted research and wrote summary memos on the following topics. This work helped inform the plan development and strategy selection. The memos are not part of the published plan, but can be requested from zerowaste@worcesterma.gov.

- A. Drop-Off Center**
- B. Materials Management Opportunities for Buildings Not Served by the Municipal Pay As You Throw Program**
- C. Litter and Illegal Dumping**
- D. Organics Diversion**
- E. Pay As You Throw Program – Past, Present and Future**
- F. Single-Use Plastic Bag Ban**