10-YEAR SOLID WASTE MANAGEMENT PLAN

AT A GLANCE

SUMMARY REPORT 2024-2033

BALTIMORE CITY
DEPARTMENT OF PUBLIC WORKS

The Baltimore City 10 Year Solid Waste Management Plan (SWMP) is a regulatory plan submitted to the Maryland Department of Environment (MDE) to map operational needs, constraints and improvements for waste management within the City for the next 10 years. The plan consolidates goals for managing the City's solid waste stream, assesses the existing solid waste collection systems, current and future disposal capacity needs, and how zero waste strategies like reuse, recycling, and composting are to be implemented.

BALTIMORE CITY
DEPARTMENT OF PUBLIC WORKS

The report provides a snapshot of the content in the SWMP. To read the full SWMP visit us here:

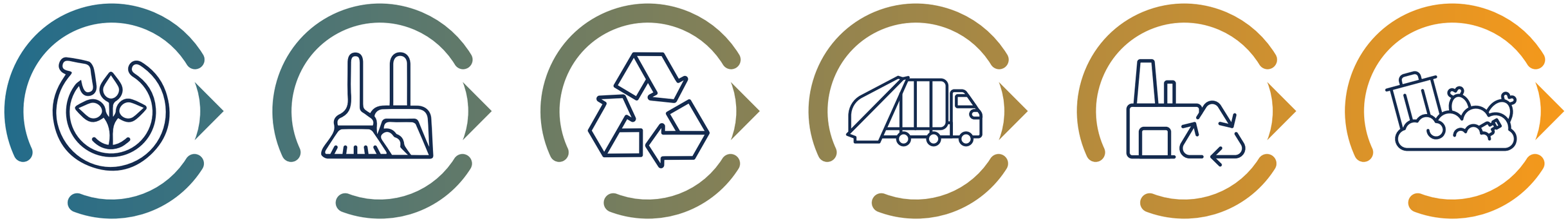
PLANNING APPROACH

The City consolidated goals from various City planning documents to ensure strategies for waste management are grounded in principles of environmental health and equity. Many actions described in the plan reflect a transition towards zero waste principles, prioritizing the conservation of materials, circular economies, and greenhouse gas reduction.

TABLE OF CONTENTS

DPW'S WASTE MANAGEMENT SYSTEM
AT A GLANCE

In collaboration with other city agencies and private businesses, the Department of Public Works (DPW), Bureau of Solid Waste (BSW) supports the health, environment, and economy of our City and the region by keeping neighborhoods and waterways clean through the programs described below:



WASTE REDUCTION & DIVERSION

Outreach, advocacy and implementation for Baltimore's zero waste programs and strategies such as food scrap drop off sites, compost workshops, school presentations, zero waste legislation, community partnerships and recycling.

CLEANING & GREENING

Multiple operations work together to clean and green Baltimore, including mechanical street sweeping, street & alley cleaning, vacant lot boarding & cleaning, rodent eradication, graffiti removal, and community pitch-in programs.

RECYCLING

Single stream recycling (SSR) is picked up from households and multifamily dwellings. Residential Drop-Off Centers also accept SSR, and hard-to-recycle materials such as electronics, white goods, scrap metal, motor oil, tires, and oyster shells.

WASTE COLLECTION

Regular mixed refuse and recycling collection services are provided to over 210,000 homes, the business district, and at special events. Bulk waste and yard waste are collected when requested and seasonally. Marine debris are collected from the inner harbor and surrounding waterways.

WASTE PROCESSING

The City's SSR is taken to Waste Management (WM)'s Materials Recovery Facility (MRF) in Elkridge Maryland where it is sorted and then sold. Food scraps collected at Residential Drop-Off Centers are taken to Prince Georges County's Compost Facility.

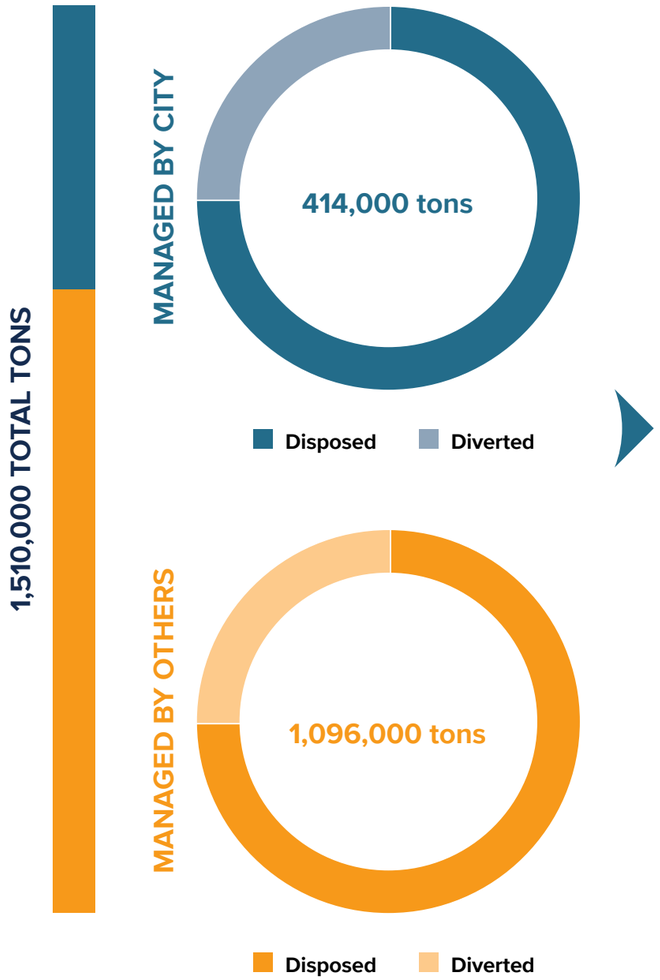
DISPOSAL & TRANSFER

Most city-managed mixed refuse is disposed at WIN Waste, a privately operated incinerator. Mixed refuse not sent to WIN Waste is disposed at the city-operated Quarantine Road Landfill (QRL). Northwest Transfer Station consolidates mixed refuse and SSR into larger truckloads to take to WM's MRF, QRL or WIN Waste.

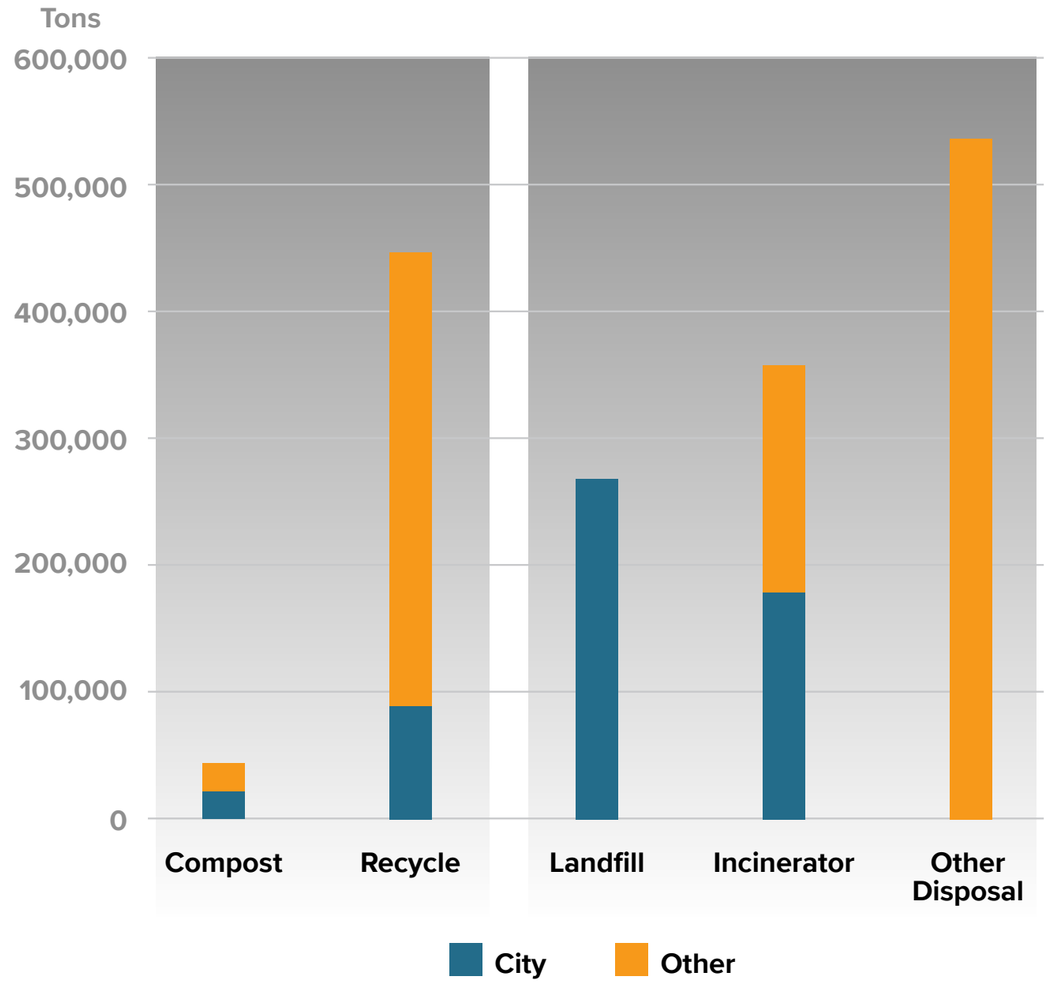
BALTIMORE CITY WASTE STREAMS
AT A GLANCE

Approximately 1.5 million tons of material traveled through Baltimore's waste and resource recovery streams in 2021. The graph below shows the tons of waste managed between the public and private sectors and the percentage of resources that are diverted for each. The graph also depicts where resources and waste are recovered or disposed.

WASTE MANAGEMENT



RESOURCE RECOVERY & WASTE DISPOSAL



ZERO WASTE: IMPACT THROUGH COLLABORATION

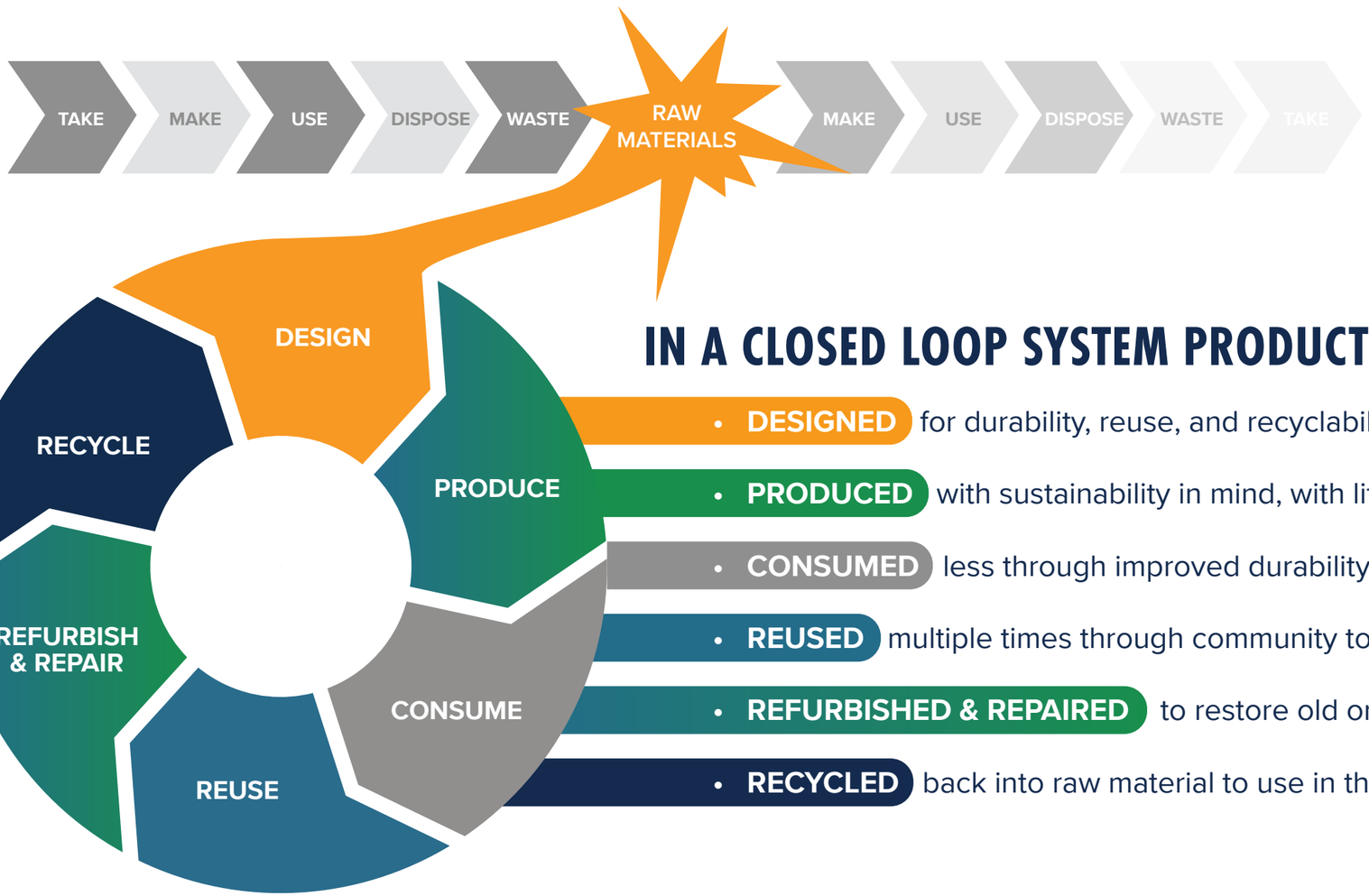
Zero waste is defined by diverting 90% of discarded materials from landfilling and incineration. In order to achieve zero waste, the City must implement a coordinated movement towards sustainable materials management that broadens focus from the 3 Rs: Reduce, Reuse, Recycle to a zero waste strategy that includes 9 Rs: rethink, refuse, reduce, reuse, refurbish, remanufacture, repurpose, recycle and recover.

The City manages about 1/3 of Baltimore's waste stream, with the remaining 2/3 of materials managed by private service providers. Therefore, sustainable materials management in Baltimore requires coordinated adoption of zero waste strategies by the public and private sectors. Additionally, in order to close material loops and foster a circular economy, private manufacturers and Baltimore City government must work together to incorporate the 9Rs into Baltimore's industrial sectors.

BEYOND RECYCLING
ON THE ROAD TO ZERO WASTE

CLOSING THE LOOP

Our current linear economy relies on cheap, easily available resources and fossil energy. We take, make, use and dispose: extracting raw materials, creating products, and disposing of them when they are no longer useful. Circular economies build regenerative systems that minimize waste and maximize resource efficiency through strategies like reuse, repair, remanufacturing, and recycling. Circular economies prioritize the long-term use of resources, providing a more forward-thinking and effective approach to resource conservation, environmental sustainability, and economic opportunity.



IN A CLOSED LOOP SYSTEM PRODUCTS ARE...

- **DESIGNED** for durability, reuse, and recyclability to conserve raw materials.
- **PRODUCED** with sustainability in mind, with lifecycle solutions for restoration and recycling.
- **CONSUMED** less through improved durability and repairability, minimizing the need to buy new things.
- **REUSED** multiple times through community tool banks, secondhand markets, and donation.
- **REFURBISHED & REPAIRED** to restore old or used products to as-new condition.
- **RECYCLED** back into raw material to use in the manufacturing of new products.

WHAT IF THE GOODS OF TODAY BECAME THE RESOURCES OF TOMORROW?

ADVANCING ZERO WASTE WILL:

1. *Protect Baltimore's people & ecosystems;*
2. *Drive economic growth; and*
3. *Build local resource resilience.*

PLAN OF ACTION

WASTE REDUCTION & DIVERSION

The SWMP presents a roadmap for the City to achieve a recycling rate of at least 35% during the planning period while also laying out a foundation for the City to achieve its long term zero-waste goals outlined in city planning documents such as Less Waste Better Baltimore, Baltimore Food Waste & Recovery Strategy, and the Sustainability Plan. The plan of action outlines composting, source reduction, donation, reuse, and education strategies that will reduce and divert food, yard, C & D and bulk waste. Examples are summarized below.

ORGANICS
Increase organic waste reuse, reduction and diversion by constructing in-city organics processing capacity; partnering with Baltimore Rec and Parks' Camp Small to reuse wood-waste and pilot a program that collects food waste curbside.

ENGAGEMENT & OUTREACH
Expand education and outreach around all zero waste initiatives with activities such as marketing campaigns to inspire behavior change, a zero-waste coalition to gather stakeholders from multiple sectors to identify their priorities for zero-waste programs, community-engaged seminars and workshops such as waste sorts and fix-it fairs.

LEGISLATION
Advocate for state and city legislation and code that advances zero-waste strategy, such as business recycling and organics diversion mandates, disposal bans for materials that can be reused or recycled, enforcement of recycling/diversion mandates, and single use plastic bans.

This is just a snapshot of Waste Reduction & Diversion Strategies in the SWMP. For more detail and the full Plan of Action read section 5 of the SWMP here:

EMISSIONS REDUCTION

Once fully implemented, the waste reduction and diversion strategies can sustainably manage **45,100 tons of organic materials per year...**

REDUCING GREENHOUSE GAS (GHG) EMISSIONS BY

109,060 TONS

ANNUALLY

THIS IS EQUIVALENT TO REDUCING:

5% OF CO_2 EMISSIONS
from total household energy consumption in Baltimore each year

OR

9% OF GHG EMISSIONS
from city-registered vehicles each year

PLAN OF ACTION
CLEANING & GREENING

Litter and illegal dumping are persistent problems in Baltimore city that will require behavior change and inter-agency collaboration to solve. As such, cleaning and greening efforts in the SWMP are primarily focused on reducing litter and illegal dumping both proactively (through community engagement to change behavior) and reactively (through clean up and enforcement programs). Proactive strategies include communication campaigns, improved signage, community programs, and school engagement and reactive strategies include litter pick up, ticket, and license plate programs. Examples are summarized below.

ILLEGAL DUMPING REMEDIATION
Focus community engagement, resources and education in vulnerable communities where illegal dumping is persistent. Pursue an interdepartmental approach to enforcement using tickets, signs, resident reporting, license plate tracking and other tools to identify those who litter and dump illegally.

STREET SWEEPING
Improve signage to alert residents to parking restrictions for street sweeping and work with the Department of Transportation to improve enforcement of street sweeping parking ordinances. Work with the Department of General Services to procure specialized vehicles for cleaning bike lanes.

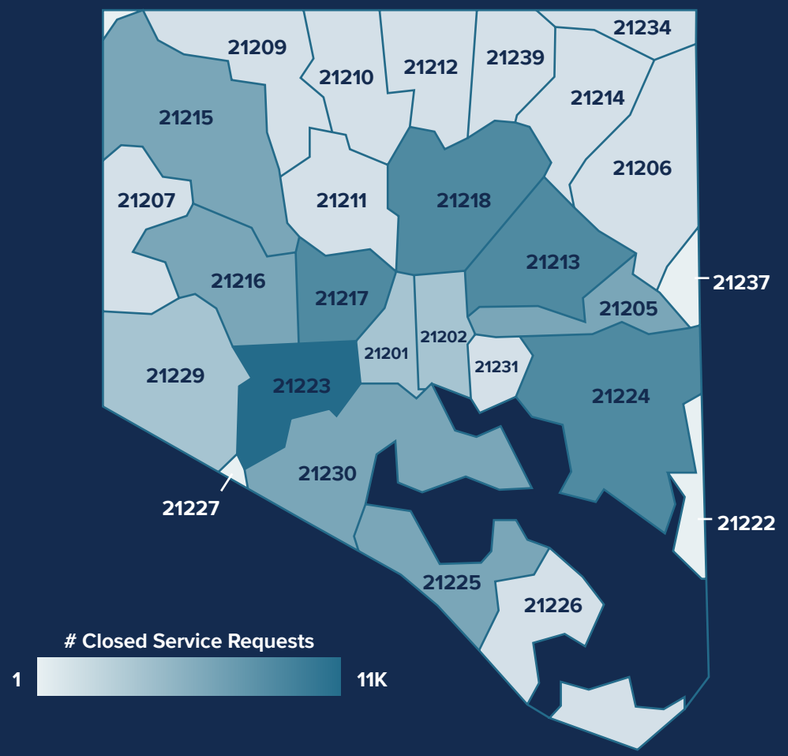
COMMUNITY CLEANUP PROGRAMS
Partner with programs that offer day-labor and provide mandated community service, such as Youth Works, ECO Ambassador programs, and YH20, to create volunteer projects for litter collection. Expand the community pitch-in program capacity and improve coordination between the program and 311.

This is just a snapshot of Cleaning & Greening Strategies in the SWMP. For more detail and the full Plan of Action read section 5 of the SWMP here:

MAPPING ILLEGAL DUMPING

Approximately 10,0000 tons of waste are illegally dumped in Baltimore annually. Baltimore addresses illegal dumping in the city through investigations and citations by the Department of Housing and Community Development (DHCD), debris removal, and education and outreach. In FY23 Baltimore City closed over 70K 311 illegal dumping service requests.

FY23 ILLEGAL DUMPING 311 SERVICE REQUESTS BY ZIP CODE:



PLAN OF ACTION
RECYCLING

The SWMP outlines multiple efforts to increase recycling in order to reach a recycling rate of at least 35% during the planning period. Strategies include multi-faceted communications campaigns, education programs in Baltimore City Schools and expanding recycling opportunities at residential drop off centers. The plan of action also introduces strategies to incentivize and support local recycling markets which will leverage city-collected recycling materials to build sustainable industry and opportunities in Baltimore. Examples are summarized below.

SINGLE STREAM RECYCLING (SSR)
Improve diversion of SSR by expanding outreach and education programs to decrease contamination and improve trust in the recycling process, deploying additional recycling cans in public spaces, and reinstating weekly recycling.

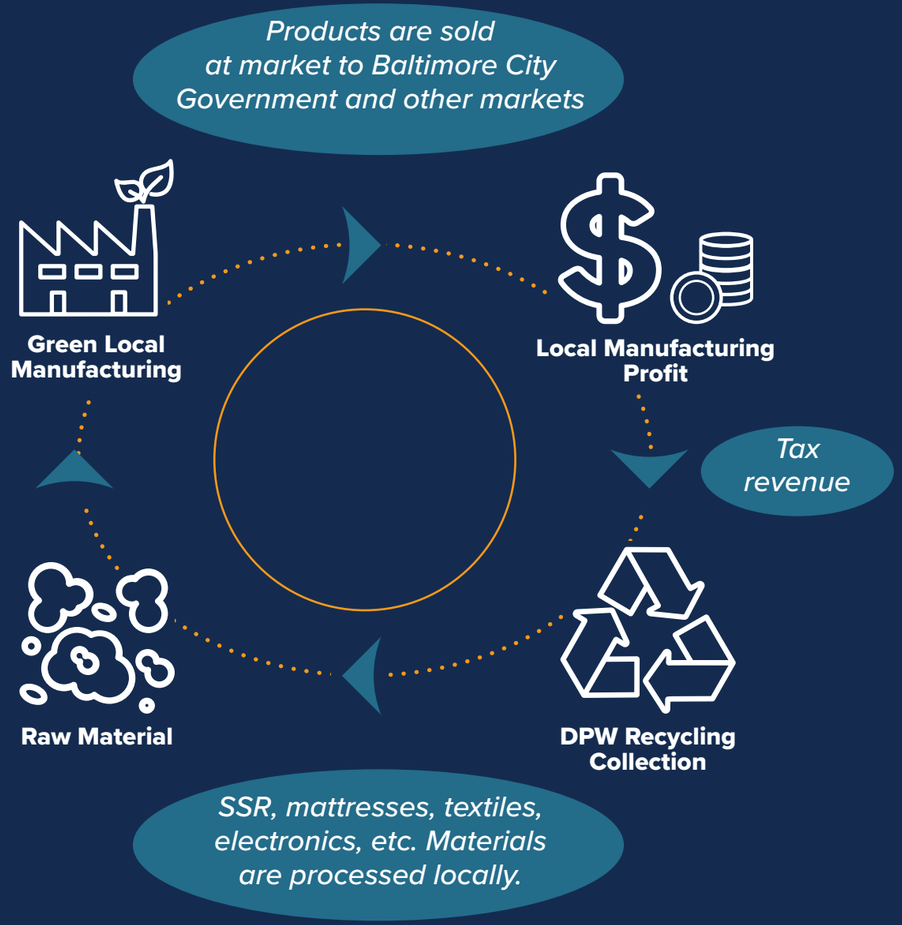
RESIDENTIAL DROP-OFF CENTERS
Expand reuse and recycling opportunities at existing facilities such as mattress recycling, textile donation, and bulk waste donation and reuse. Renovate Drop-Off centers to improve staff facilities and customer experience to increase waste diversion, capacity and functionality.

RECYCLING MARKETS
Incentivize and support growth of local recycling markets through interagency and public-private collaboration such as advocating for City procurement processes that mandate purchasing recycled materials and connecting businesses with local recyclers to promote recycling market development.

This is just a snapshot of Recycling Strategies in the SWMP. For more detail and the full Plan of Action read section 5 of the SWMP here:

BUILDING CIRCULAR ECONOMIES

Incentivizing and supporting the growth of local recycling markets will not only optimize and reduce GHG emissions for solid waste management systems (materials will travel shorter distances), but will circulate and increase money and opportunities into Baltimore by providing materials to local green manufacturing infrastructure:



PLAN OF ACTION
WASTE COLLECTION

The SWMP outlines multiple plans for the city's waste collection system, including improvements to mixed reuse and recycling curbside collection, bulk waste pick-up, and the small hauler program, a program for small commercial waste haulers to apply for a City permit to dispose of their loads at City facilities for a reduced fee. The program was designed to reduce instances of illegal dumping and allow for more efficient disposal of commercial waste. Examples are summarized below.

MIXED REFUSE & SINGLE STREAM RECYCLING (SSR)
Rightsize routes, equipment, and personnel in order to optimize trash and SSR collection and return to weekly SSR collection. Improve pay, benefits and retention of workers to relieve staffing shortages. Expand and improve on technology on-board technology and data collection.

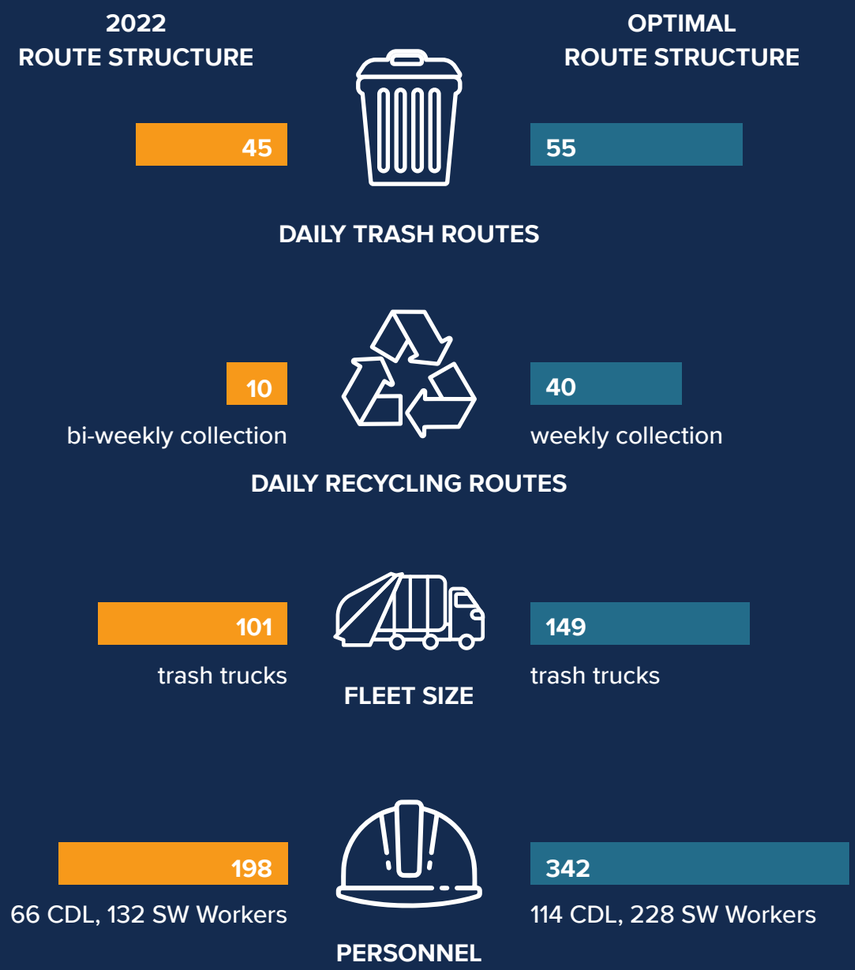
BULK WASTE
Expand route optimization to bulk pickup routes. Create systems to recycle and reuse white goods and other bulk waste collected curbside. Explore options to make bulk waste pickup more accessible to residents with disabilities who are not able to transfer bulk waste to the curb.

SMALL HAULER
Set up an automatic payment system so small haulers can register their accounts tied to their permits to make the payment process safer and more efficient. Expand the small hauler program to additional locations and transfer the permitting process from the Health Department to DPW.

This is just a snapshot of Waste Collection Strategies in the SWMP. For more detail and the full Plan of Action read section 5 of the SWMP here:

RIGHTSIZING COLLECTION ROUTES

Rightsizing mixed refuse and SSR routes and returning to weekly recycling collection will require significant increases to DPW's fleet and personnel:



publicworks.baltimorecity.gov/pw-bureaus/solid-waste/plan

PLAN OF ACTION
WASTE PROCESSING

The SWMP presents plans to expand its waste processing capacity by developing recycling processing infrastructure (MRFs) and composting facilities while also improving Camp Small, a wood waste processing facility run by Rec and Parks. In-city MRFs and compost facilities will reduce transportation and reliance on out-of-city facilities. In addition to improving food and yard waste diversion, in-city compost facilities will provide a use for the large amounts of wood-waste accumulating at Camp Small. Examples are summarized below.

MATERIALS RECOVERY FACILITY (MRF) INFRASTRUCTURE
Construct or support an in-city or regional recycling processing facility to reduce transportation costs and reliance on out-of-city vendors. The first step in this plan is to conduct a study to determine whether to develop a system of in-city small scale mini-MRFs or a regional MRF with surrounding jurisdictions.

COMPOST FACILITY
Construct or support the construction of in-city compost facilities to improve organics diversion. The city will take a phased-in, decentralized approach by developing several, small-scale composting facilities to meet the demand of increased residential and private sector organics diversion.

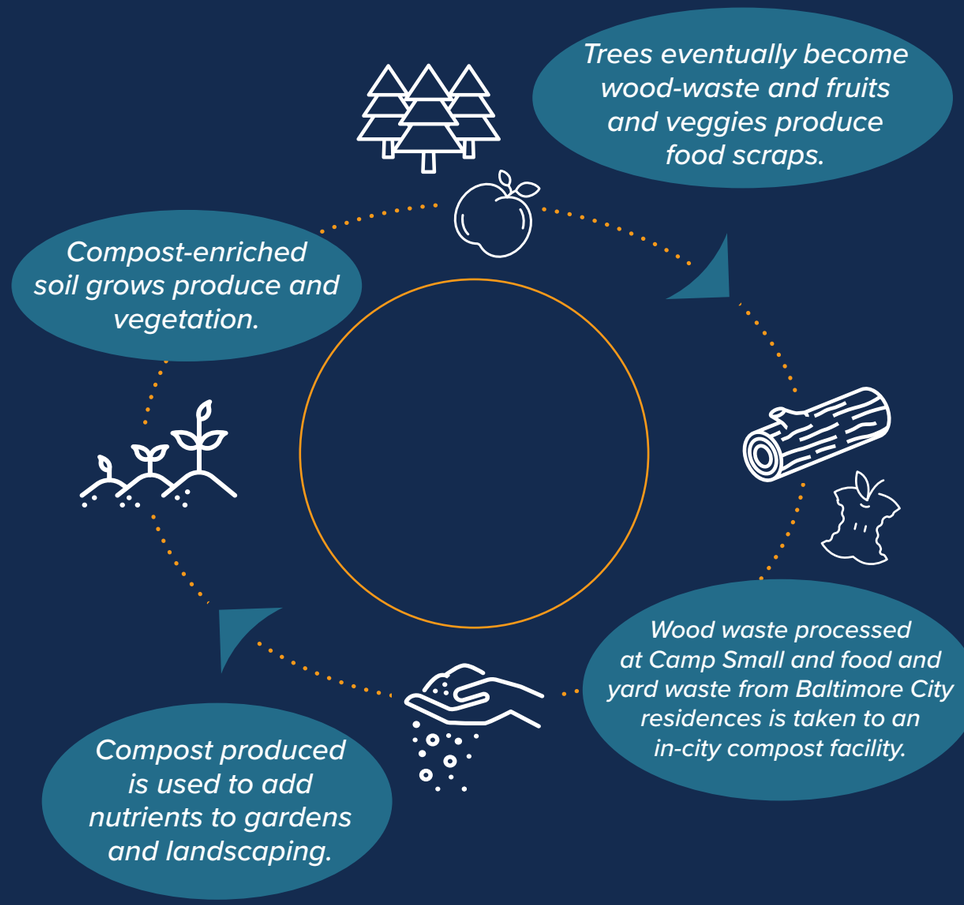
CAMP SMALL
Purchase additional equipment, hire additional personnel and improve education and outreach to increase the amount of wood that is processed and sold. Rec and Parks will collaborate with DPW to provide woody material for composting once City Compost facility is developed.

This is just a snapshot of Waste Processing Strategies in the SWMP. For more detail and the full Plan of Action read section 5 of the SWMP here:

PROCESSING TO ENRICH ECOSYSTEMS

Camp Small and Composting Facilities will work together to propel Baltimore's Circular Organics System.

- Wood waste from Camp Small will provide browns (carbon) for composting.
- Baltimore City food and yard waste will provide greens (nitrogen) for composting.



PLAN OF ACTION

DISPOSAL & TRANSFER

Most city-managed mixed refuse is disposed at WIN Waste, a privately operated incinerator. The remaining waste is disposed at the city-operated Quarantine Road Landfill (QRL), which will reach capacity in 2028. WIN Waste produces particulate matter and other pollutants that have a negative impact on the health of city residents. As such, the SWMP outlines strategies to expand and improve QRL, decrease the City's dependence on WIN Waste, and develop waste transfer infrastructure that will improve collection efficiency and provide long-term disposal alternatives to WIN Waste and QRL.

TRANSFER
Develop a resilient transfer network that includes multiple facilities including a new Eastside Transfer Station, improvements to the current Northwest Transfer Station (e.g. replacing aging equipment, updating facilities), and conducting a feasibility study in order to develop a long-haul disposal plan to reduce dependence on WIN Waste and QRL.

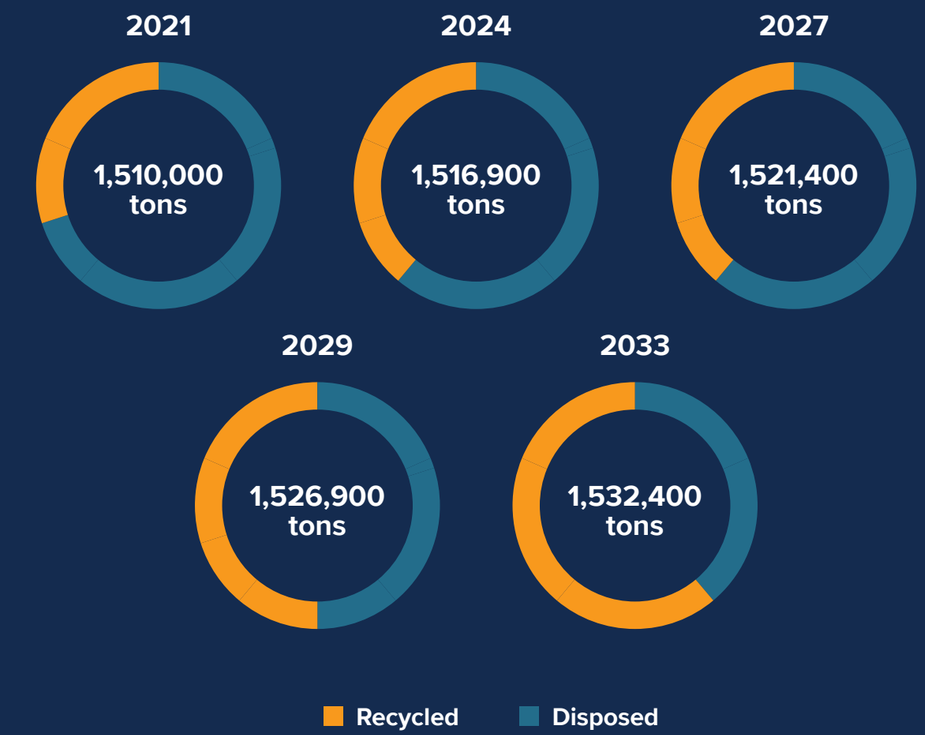
QUARANTINE ROAD LANDFILL (QRL)
Laterally expand onto the adjacent Millenium landfill to expand QRL's service life from 2028 to 2035. Improve operation of QRL by improving scale house software and payment system, replace aging equipment, improve pay benefits and retention of workers and increase diversion away from the landfill.

WINWASTE
Mayor Scott has included decommissioning the use of waste incineration in the next decade as goal 1.1 of his Action Plan and the plans set out in the SWMP to maximize waste reduction and diversion will decrease city-managed waste sent to WIN Waste. However, in order to significantly decrease WIN Waste's throughput, a coordinated adoption of waste diversion practices across public and private sectors is needed.

This is just a snapshot of Disposal & Transfer Strategies in the SWMP. For more detail and the full Plan of Action read section 5 of the SWMP here:

DISPOSAL FORECAST

The graph below illustrates projected waste generation over the SWMP planning period. If the waste reduction and diversion strategies in the SWMP are invested in and implemented across sectors we will see an increase in materials recycled and a decrease in materials disposed, decreasing, but not eliminating, our dependence on WINWaste, QRL and Long-Haul Transfer.



GAVIN
evolving influence

Geosyntec
consultants

For more information and to read the entire ***10-Year Solid Waste Management Plan*** *visit:*

publicworks.baltimorecity.gov/pw-bureaus/solid-waste/plan

BALTIMORE CITY
DEPARTMENT OF PUBLIC WORKS

10-YEAR SOLID WASTE MANAGEMENT PLAN

EQUITY • ENGAGEMENT • OUTREACH • ACCESS

Between December 2022 and May 2023 the Bureau of Solid Waste (BSW) led the 10 Year Solid Waste Management Plan (SWMP) update. The planning process consisted of 4 stages for the 60%, 90%, 99% and final drafts. BSW held public meetings and accepted comments at each stage.

PUBLIC MEETINGS

MEETING	DATE	VIRTUAL ATTENDEES	IN-PERSON ATTENDEES	TOTAL ATTENDEES
60% Draft	2/22/2023	69	n/a	69
90% Draft	3/13/2023	63	n/a	63
99% Draft	3/27/2023	77	n/a	77
Final Draft 1	4/10/2023	28	8	36
Final Draft 2	4/24/2023	62	81	143
TOTAL		299	89	388

RESIDENTS ATTENDED FROM

77% OF BALTIMORE CITY ZIP CODES

299 VIRTUAL ATTENDEES + **89** IN-PERSON ATTENDEES = **388 TOTAL ATTENDEES**

Public meetings included a presentation summarizing the SWMP Draft and public testimony. Five out of five meetings were offered online, and the last two were offered hybrid: online or in-person.

COMMENTS

Comments were collected on multiple platforms at every stage of the planning process. All feedback was reviewed and analyzed for common priorities to inform the SWMP. Most comments fell into actions and improvements in the following categories:

768 TOTAL COMMENTS

BALTIMORE CITY DEPARTMENT OF PUBLIC WORKS

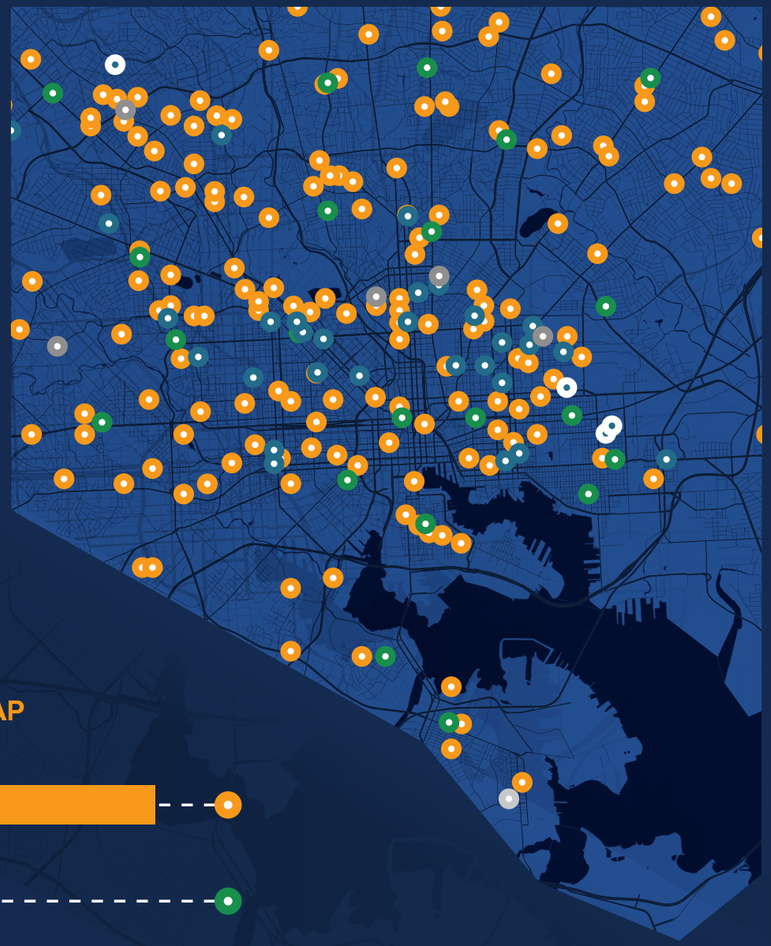
FOR MORE INFORMATION VISIT THE SWMP WEBPAGE

COMMUNITY OUTREACH

BSW removed barriers to engagement by offering:

- **7 Press Releases**
- **3 Newsletters with 86,521 total subscribers**
- **Social Media: Twitter, Facebook, LinkedIn, NextDoor**
- **Water Bill Insert sent to 225,000 households**
- **Outreach by Neighborhood Associations, Faith-Based Partners, Libraries, Nonprofits/ Businesses, and at DPW Events**

BALTIMORE



OUTREACH LOCATIONS MAP

- Neighborhood Associations
- Faith-Based Partners
- Libraries
- DPW Events
- Nonprofits/Businesses

ACCESSIBILITY

BSW removed barriers to engagement by offering:

- **HYBRID STRUCTURE** - Five out of five meetings offered online, two out of five offered hybrid online or in person.
- **CLOSED CAPTIONING** - for all online and in person meetings.

MORE ACCESSIBILITY STRATEGIES

- Individuals' needs were logged during the registration process.
- Alternative slide decks were provided for attendees with low vision.
- Information about physical accessibility was distributed prior to the events.
- Printed copies of SWMP were provided upon request.

LANGUAGE ACCESS

TRANSLATION

BSW translated outreach materials into five languages:

- Spanish
- Arabic
- Chinese
- French
- Korean

INTERPRETATION

BSW provided interpretation at Public Review Meetings for registrants who indicated a need.

French:
3/27/23

Spanish:
4/10/23 & 4/24/23

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