



WASTE TO



EMISSIONS

How reducing waste is a climate gamechanger

FEBRUARY 2023



Detroit, USA

GHG reduction potential in Road-to-Zero Wastescenario: 102%



Key statistics

- **Population in 2021: 632,464**
- **Total waste generation (2021): 465,759 tons of waste (including residential and commercial, illegal dumping, bulky waste streams)**
- **City declared diversion rate (2021): 4.15%**
- **Curbside recycling participation rate: 38%**



Written by: Cat Diggs. This case study was prepared as part of the report, "Zero Waste to Zero Emissions: How Reducing Waste is a Climate Gamechanger (GAIA, 2022)."

Please visit www.no-burn.org/zerowaste-zero-emissions to access the full report and detailed notes on data and methods.

History of Detroit's Waste Management and Diversion Systems:

Once the wealthiest city in the United States on a per capita income basis, Detroit has undergone [decades of socioeconomic downturn](#) and remains [the second poorest large city in the country](#) and the [most segregated](#). Despite the fact that Detroit is undoubtedly experiencing gradual economic resurgence, the city has been struggling with de-industrialization, disinvestment, and a declining population. Between 1986 and 2019, the city was host to one of the largest municipal waste incinerators in the U.S., which burned not only the city's waste, but that of surrounding suburbs and even Canada, at a substantial financial loss and with severe impacts on residents' health. The overcapacity of the incinerator discouraged investment in alternative approaches to waste management, resulting in very low rates of recycling, composting, or other forms of waste diversion. Detroit was the last major city in the U.S. to implement a citywide curbside recycling program for single-family homes starting in 2015. The City has yet to adopt a municipal organics management plan.

After decades of grassroots advocacy efforts and campaigns, such as the ultimately successful [Breathe Free Detroit campaign](#), spearheaded by the [Zero Waste Detroit \(ZWD\) Coalition](#) in collaboration with some of its key member organizations, the [East Michigan](#)



Compost Bin Training at Freedom Dreams on the Eastside of Detroit - Photos by Garrett MacLean (2022).

[Environmental Action Council](#), the [Great Lakes Environmental Law Center](#), and the [Ecology Center](#), residents finally succeeded in closing down the incinerator in 2019. Despite this major win, Detroiters continue to be disproportionately affected by the negative public health impacts of living near [US Ecology North and South](#), Detroit's two hazardous waste facilities, amongst many other polluting facilities. [Illegal dumping](#) and [litter](#) issues also continue to plague the city. Confronted with systemic injustice, Detroiters have come to be on the leading edge of grassroots community activism and organizing efforts, as well as artistic and cultural creation, to make their city a more sustainable, equitable, and just place to live.

In 2021, Detroit's Department of Public Works (DPW) estimates that the city generated a total of 465,759 tons of municipal solid waste (MSW), which gets collected by both contracted private haulers and DPW fleet. This number does not explicitly account for industrial waste and the 1,112,542 tons of [Construction and Demolition \(C & D\) waste](#) generated in 2021 by Wayne county, an important portion of which comes from Detroit. The current City-declared waste diversion rate of 4% is far below the [State's 19.3% rate](#). However, the official diversion rate does not reflect efforts led by Detroit-based grassroots community organizations, urban

farms, food rescue and donation programs, a local university, and local recycling, upcycling, and composting companies. In 2021, these grassroots networks have diverted at least ~2,575.7 tons of material, which have not been included in the 19,640 tons of materials that the city declared as being diverted that same year.

After the creation of the City's first Office of Sustainability in 2017, a citywide waste diversion goal was laid out in the 2019 [Detroit Sustainability Action Agenda](#) (DSAA) to "reduce the amount of waste sent to landfill by increasing the total diversion rate to 15% by 2024 and 30% by 2029" (Goal # 7). You can see the [City's DSAA 2-Year Progress Update](#) for Goal 7 on page 28 of the report. Detroit's opt-in curbside recycling program was officially rolled out in 2015 for single-family homes, following the creation of a 5-6 year City-led recycling pilot and the passing of a 2014 City Council Resolution to implement a voluntary recycling program. As of 2021, the program became accessible to businesses, multifamily buildings, public spaces, and municipal buildings.

Detroit now has 25 commercial customers, 3 of which are multifamily properties, and it services 80 municipal buildings, as well as 13 city parks. As of June of 2022, participation rate for opt-in residential recycling pickup was at 37.91%, which coincides with the [38% nationwide average](#) participation rates for such opt-in programs. However, for local groups the goal is for recycling services to be universally accessible in Detroit, rather than offered through an opt-in program. High contamination rates also remain an issue.

Much work remains to be done and ongoing partnerships between local groups and DPW are essential to Detroit's Zero Waste future. Crucial to these efforts also is [NextCycle Michigan](#), an initiative created by [Resource Recycling Systems \(RRS\)](#) and implemented by the state's Department of Environment, Great Lakes, and Energy (EGLE). Its aim is to increase the State's waste diversion rate to 45% by 2030 through its various programs and grant initiatives. Efforts are currently taking place to bring a Material Recovery Facility (MRF) into Detroit. DPW is also currently developing an opt-out curbside recycling pilot program.



Recycle Here! community drop-off center - Photo by Zech (2022)

A powerful grassroots response: An important portion of Detroit’s waste diversion and zero waste initiatives of the past 20+ years have been led by the city’s grassroots networks, including, but not limited to, 1) [Rosedale Recycles \(1990 - 2014\)](#), Detroit’s first monthly recycling drop-off site; 2) [Recycle Here!](#), Detroit’s only remaining public recycling drop-off center for individuals and small businesses founded in 2007 to mitigate citywide lack of access to curbside recycling services; 3) Years of advocacy efforts by [Zero Waste Detroit](#) to get the City to create its first recycling pilot program in 2009 and later to pass a resolution for its first curbside recycling program in 2014; 4) ambitious grassroots education and outreach campaigns by Zero Waste Detroit and [Green Living Science](#), which were contracted by DPW in 2015 to do outreach and education to residents. Together, they reached 37,982 community members in 8 years, playing a key role in bringing the single family home recycling participation rate up to 37.91% from a baseline of 9.34% in 2014; 5) the community-led [Recycling & Waste Reduction \(2016\)](#) and [Organics Recycling Committees of the Detroit Green Task Force](#), the independent advisory body founded in 2007 to advise Detroit City Council on sustainability principles and policies; 6) a growing decentralized compost network run by urban farmers, notably [Georgia Street Community Collective](#) and [Sustainable Community Farms](#), local advocates, notably [FoodPLUS Detroit](#), [Breathe Free Detroit](#), and small businesses, notably [Midtown Composting](#), [Pink Elephant Products and Events](#) and [Detroit Dirt](#); 7) a robust informal upcycling, sharing, reuse, donation and repair network.

See pages 12-25 for more detail about Detroit’s grassroots zero waste and policy landscape.



Green Living Science Pre-K Youth Education program (top) and Earth Day Celebration (bottom) - Photos by Mary Claire (2019) and T.J Samuels (2017)



Peoples Compost Initiative compost training [Georgia Street Community Collective, FoodPLUS Detroit, Wayne State University compost pilot site] - Photo by Carleton Peoples (2022)

Detroit in 2030 – Business as Usual vs. Road to Zero Waste

Detroit is at a pivotal point regarding waste. Recent years have seen the implementation of a city-wide curbside recycling program and the closure of its municipal incinerator. Will the City rest on its laurels? Or will it continue to push toward a zero waste future for its residents? To estimate a “business as usual” approach, GAIA used Detroit’s current (2021) greenhouse gas (GHG) emissions attributed to waste in order to project waste-related GHG emissions for the year 2030. Alternatively, GAIA estimated waste-related GHG emissions for 2030 if zero waste policies were to be implemented (Figure 1).

GAIA compared annual GHG emissions (in metric tons of CO₂ equivalents) estimated for Detroit by 2030 in two scenarios: 1) Business as Usual (BAU) based on the data from 2021 collected from the City of Detroit’s Department of Public Works (DPW), Resource Recycling Systems (RRS), and NextCycle Michigan, and 2) Road to Zero Waste based on consultations with DPW, RRS, and 30+ community partners, including Detroit-based grassroots community organizations, urban farms, food rescue and donation programs, a university, local recycling, upcycling, and composting companies, as well as policymakers. Assumptions that informed each scenario are detailed in the table below. To learn more about the contextual background behind these GHG calculations, refer to GAIA’s full 2021 report, [“Zero Waste to Zero Emissions: How reducing waste is a climate gamechanger”](#), which features a shorter version of the Detroit case study. For more about the calculation methods, refer to the report’s [Data and Methodology](#) appendix.

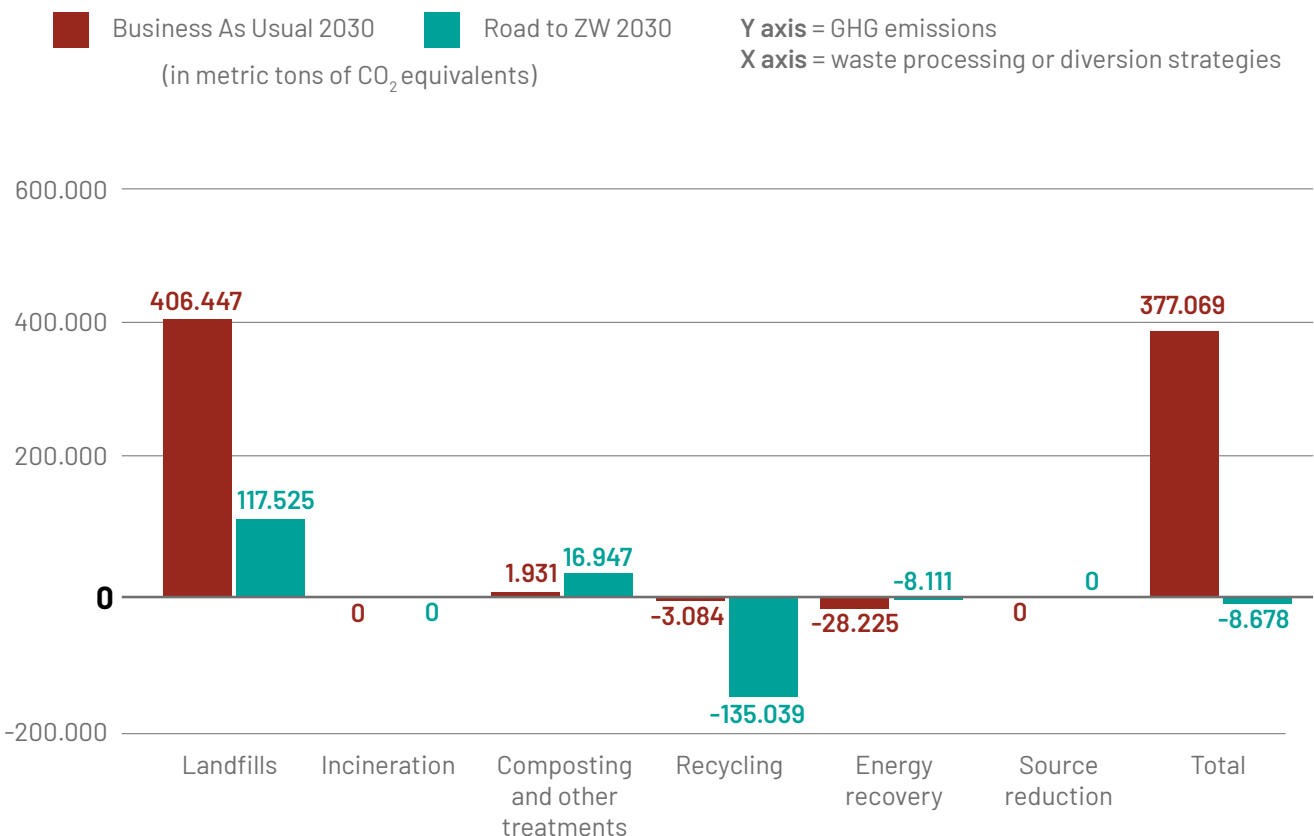


Figure 1

Treatment	Business As Usual 2030	Road-to-ZW 2030
Landfill	437,466 tonnes of municipal solid waste landfilled – The source of virtually all emissions	164,852 tonnes of municipal solid waste landfilled, a 62% reduction in landfilled waste and 71% reduction in landfill gas emissions
Incineration	none	none
Composting & other treatments	10,397 tonnes	80,338 tonnes
Recycling	5,731 tonnes through voluntary drop-offs and curbside recycling	208,405 tonnes through an increase in the city’s curbside recycling program. The emissions reductions of recycling alone are greater than the emissions from landfilling.
Energy recovery	-28,225 tonnes CO ₂ e from landfill gas to energy	-8,111 tonnes CO ₂ e from landfill gas to energy
Source reduction	none	none
Overall diversion rate	4%	59%

GHG reduction potential in Road-to-ZW scenario: 102%

Key takeaways

- 1 The major source of GHG emissions in Detroit is methane emissions from landfilled organic waste, which will amount to 406,447 metric tons of CO₂e by 2030 in the Business As Usual scenario.
- 2 In the Road to Zero Waste scenario, **Detroit would achieve an increase in overall diversion rate from 4% to 59%, avoiding annual GHG emissions by 385,747 tonnes CO₂e in 2030. This is equivalent to emissions from 48,590 homes’ energy use for one year.**
- 3 **This approach would reduce annual residual waste by 62%, landfill methane emissions by 71%, and overall GHG emissions by 102%, compared to the BAU 2030 scenario,** transforming Detroit’s waste sector from being a major emitter of GHGs (377,069 metric tons of CO₂e by 2030) to a net-negative sector (-8,678 metric tons of CO₂e by 2030).
- 4 The Road to Zero Waste scenario includes 80% diversion of organics, glass, metals, wood, paper and cardboard, and 15% diversion for plastic and textiles, with electronic waste and other recycling remaining approximately constant (overall 59% diversion).
- 5 Generational inequities and injustices need to be addressed in order for a more zero waste, climate resilient, and equitable Detroit to be truly possible. Supporting the powerful grassroots work already taking place in Detroit is the key to strengthening meaningful zero waste and sustainability solutions.

Recommendations & Vision for 2030

- **Increased City leadership and engagement to promote zero waste** through 1) More effective tracking of Detroit's MSW streams (waste audits to better understand the city's material recovery potential, inclusion of grassroots diversion efforts into City-declared diversion rate, C & D waste quantification, difference between residential v. commercial waste generation); 2) Performing a cost-benefit analysis for increasing waste diversion services; 3) Mass promoting those services to residents through messaging platforms (buses, signage, ads); 4) Drafting the Citywide Recycling Plan required by City Charter; 5) Putting all things waste, recycling, compost under one governance roof; 6) Investing in existing and much needed new waste diversion infrastructure; 7) Building City staff capacity for sustainability and community outreach initiatives; 8) Building more partnership with Wayne County for funding, education, and outreach.
- **Overcoming state and local policy roadblocks for zero waste by**, 1) Amending Detroit's Solid Waste & Illegal Dumping Ordinance into a Sustainable Materials Management one; 2) Increasing landfill tipping fees to incentivize waste reduction, composting and recycling; 3) Removing the [renewable energy credits](#) being provided by the State to waste-to-energy facilities; 4) Implementing an equitable Extended Producer Responsibility law in Michigan; 5) [Repealing the ban on the ban](#) (also known as Preemption Law) on single-use plastic (SUP) bags so municipalities like Detroit can regulate SUPs; 6) Developing union-led workforce development opportunities in the field.
- **Increasing public awareness through education and outreach** by 1) Making climate and zero waste curriculums mandatory in Detroit Public Schools; 2) Developing mature citywide litter prevention, park ambassador, and citizen science campaigns; 3) Increasing outreach to residents to help improve their waste reduction and diversion practices.
- **Increasing Detroit's recycling diversion rate** by 1) Making recycling services available to all by 2030; 2) Reducing contamination through further resident education and glass recycling improvements; 3) Increasing MRF capacity in Detroit to help triple the state's recovery rate by 2030; 4) Expanding the already highly beneficial [Bottle Return Law](#) (which currently only includes carbonated drinks) by applying it to all beverage containers and other recyclable materials and by allowing non-food and beverage retailers to collect those materials; 5) Having a drop-off recycling center in every district of the city with education available on site to collect residents' hard-to-recycle materials (film plastics, e-waste, textiles) and returnables; 6) Building a Construction & Demolition waste recovery yard to divert as much of those streams out of landfill as possible.
- **Implementing a citywide integrated network of multiscale (household, community, industry) compost systems** by 1) Creating enabling policy and infrastructure (by increasing the city's infrastructural organics management capacity, updating the Urban Agriculture Ordinance to allow urban farmers to sell and distribute the compost that they make); 2) Getting buy-in from the community through trainings and public awareness efforts, as well as tax incentives for backyard composters; 3) Implementing on-site organics management projects (aerobic digesters) for large scale institutions, like hospitals, to reduce the environmental and financial costs of transportation for food waste collection; 4) Using the compost made in the city for various public, personal, and commercial uses within the city (landscaping, local food production, green stormwater infrastructure, C & D projects, animal feed, etc.).
- **Increasing food rescue capacity for the city** by 1) Having a centralized food donation infrastructure like in Milan (Italy); 2) Training the public and businesses about food waste prevention and reduction; and 3) Implementing a citywide food waste ban.
- **Localizing our supply chains and building micro circular economies** through the creation of 1) Nonprofit trading posts for the recirculation of goods (ex. teaching materials); 2) Fix-it and reuse centers with youth education opportunities; 3) Reusable to-go containers programs for restaurants; 4) Hyperlocal labor, materials processing, and end-markets, as well as delivery systems for locally grown food and secondhand goods; 5) Partnerships amongst business entities to upcycle materials (ex. shredded textiles sold as insulation to utilities and energy efficiency companies).
- **Utilizing matching funds from the State's NextCycle Michigan program**, which can provide financial assistance to meet many of these goals. The City of Detroit has applied for funding with NextCycle and there are significant plans and ideas to implement many of the above recommendations.

A few examples of ongoing local efforts to build a just, sustainable, and equitable zero waste Detroit

Detroit Composting for Community Health, is a program that was launched November of 2021 to inform implementation of multi-scale citywide composting policy and program development in Detroit, by sharing the efforts of three community composting pilots. The project was made possible through funding from the [Robert Wood Johnson Foundation](#), support from the [Eastside Community Network](#), collaboration with the Detroit City Council Green Task Force, and engagement of pilot project partners, FoodPLUS Detroit, Sustainable Community Farms, Breathe Free Detroit, and the [Mother Earth Foundation](#), an international partner from the Philippines.

The Breathe Free Detroit pilot community trains residents located near the now closed incinerator in backyard composting, as well as in community garden compost system management. The FoodPLUS Detroit and Sustainable Community Farms pilots are engaging urban farms, surrounding community residents, as well as partnering with Neighborhood Associations and local academic

institutions; using diverse composting models to advance multiscale composting efforts.

Unlike a centralized municipal-scale system that relies on a single composting facility located miles outside of the city, an integrated multiscale decentralized composting system relies on small to medium scale facilities that collect compostables locally. These facilities are spread throughout a city's districts and neighborhoods so that they create local jobs, reduce emissions from truck transportation, and provide healthy soils to use for urban gardens and farms, backyards, green spaces, green stormwater infrastructure and construction projects.

The goal of this program is to help City officials: 1) Understand how much money can be saved through investments in composting infrastructure; 2) Demonstrate diverse compost models, identify equipment/supplies for residential programs, and document problems/solutions to share with city departments and residents; 3) Suggest programs that the city can adopt to support effective residential composting practices; 4) Create budget comparisons for bulk equipment/supplies purchases as part of a larger infrastructure investment for city-wide composting.



Compost Bin Training at Freedom Dreams on the Eastside of Detroit - Photo by Garrett MacLean (2022).



Compost Bin Training at Freedom Dreams on the Eastside of Detroit - Photo by Garrett MacLean (2022).

Green Living Science (GLS)'s [Recycling Ambassador Program](#) was founded in 2015/2016 to employ Detroiters to engage their own neighborhoods and communities about how to become sustainability leaders. Ambassadors act as intermediaries between GLS and community members. GLS gives the Ambassadors that they hire the tools that they need to share information with their neighbors and to sign them up for free recycling carts. GLS currently employs 20 Ambassadors, who represent all 7 of Detroit's Districts. In 2021, they launched the High School Recycling Ambassadors program so that youth could engage their families and peers on sustainability practices. GLS is working to launch a Parks Ambassador program in the near future.



GLS Earth Day Celebration - Photos by TJ Samuels (2019)



Photo credit - The Coalition to Oppose the Expansion of US Ecology (now called the Detroit-Hamtramck Coalition to Advance Healthy Environments)

The fight for a Host Community Agreement (HCA) between US Ecology South and the City of Detroit, one of 2 of the company's hazardous waste facilities in Detroit

The [Detroit-Hamtramck Coalition for Advancing Healthy Environments](#) advocates for their East Side Detroit and Hamtramck communities rights to healthy and safe environments, as they struggle against numerous pollution sources in their neighborhoods, including US Ecology. For decades, Detroiters have fought against corporate polluters who profit off using their neighborhoods as dumping grounds. US Ecology has consistently been among the worst of these polluters. The hazardous waste facility has been issued many violation notices for noxious odors since 2014. The odor is known to have a negative effect on the health of people with asthma and other chronic conditions. Thousands of people live within a mile of the waste facility. Many of them close their windows, stay inside, and adjust their schedules due to the noxious odors that come from the facility.

In 2022, hundreds of signatures were gathered in [a petition](#) to support a Host Community Agreement (HCA). An HCA would be a legal agreement between the City of Detroit and a polluting facility (in this case, US Ecology Detroit South) that establishes community-specific guidelines and regulations tailored to the community's needs. The concessions that can be included in these agreements are

specific to the problems at the facility and can go beyond what the Michigan Department of Environment, Great Lakes, and Energy (EGLE) is authorized to regulate in state law. Yet the Coalition has been confronted with the lack of legal requirements for hazardous waste facilities to sign onto HCAs and was not able to establish an HCA yet with US Ecology South.

The Coalition is simultaneously working to increase access to public health services to Detroit and Hamtramck communities, through mobile health clinics (funded by [Wayne Mobile Health](#)) and a cumulative health impact research project (funded by the [Kresge Foundation](#)).

The [FinitePhoenix](#) & [Henry Ford Health](#) Onsite Organics Processing Pilot, was developed in a partnership between Roger Cargill, President of FinitePhoenix, a company which works with tribal governments, municipalities, and food production entities to provide onsite organics management. Chip Amoe, Director of Sustainability at Henry Ford Health, [My Green Michigan](#), a food scrap collection company for Southern Lower Michigan, and [Michigan State University](#) (MSU). The pilot's purpose is to provide the Henry Ford downtown Detroit location with onsite organics processing capacity through an aerobic (oxygenated) digester, in order to reduce food waste sent to landfill, as well as greenhouse gas emissions from hauling the food to a landfill or suburban composting facility. Unlike an anaerobic (oxygen-devoid) digester, that



Photo credit - The Coalition to Oppose the Expansion of US Ecology (now called the Detroit-Hamtramck Coalition to Advance Healthy Environments)

would produce a lot of wastewater and odors, while requiring a large financial investment, a lot of maintenance, and a standardized feedstock of organics, an aerobic digester would be less expensive, would require less maintenance, could process a variety of organics, and would produce a dehydrated soil amendment devoid of infectious disease or pathogens. Once the pilot is launched, it is estimated that **531,300 pounds** of food scraps and compostable ware would be diverted each year.

Henry Ford Health and FinitePhoenix are currently running this pilot in partnership with MSU, which is analyzing the feedstock profile brought to them by My Green Michigan from the hospital, in their pilot aerobic digester. MSU is also testing whether the feedstock can be processed within the set target of 24 hours. The goal would be to replicate this pilot to other large scale entities like the Renaissance Center, the Eastern Market, the MotorCity Casino and even certain residential areas. The entertainment industry and food retail industries provide a major food waste diversion opportunity for cities like Detroit.

Detroit's grassroots networks leading the charge on zero waste solution-making

The grid on pages 12 to 25 provides a detailed breakdown of the City's Department of Public Works (DPW)-declared waste diversion collection efforts v. grassroots collection efforts, which are not declared by the City as part of its 4% diversion rate. The grid also features litter prevention and pickup efforts, as well as citywide nonprofit-led waste prevention, reduction, compost and recycling education and policy programs. Zero waste represents a booming job market and Detroit's grassroots efforts reveal what community resilience looks like in action!

***Due to the limited time to complete this case study, the list below with is not fully exhaustive, but provides a comprehensive look at Detroit's diverse waste diversion and zero waste landscape.*



GLS High School Recycling Ambassadors Program - Photo by Natalie Jakub (2021)

CITY-WIDE DIVERSION EFFORTS

Organization or initiative + Type of material recovered	Services Provided	Amount of material diverted from landfill or litter picked up in 2021 and beyond
CITY DECLARED TOTAL DIVERSION AMOUNT IN 2021 = 19,639.79 tons		
<p>Recycle Here! - 5960 Lincoln St, Detroit, MI 48208</p> <p>Source separated recyclables from residents and small businesses</p>	<p>In 2007, Matthew Naimi, Detroit social entrepreneur, founded Recycle Here!, a public-private partnership with the City of Detroit to offer Detroiters a free municipal drop-off program when the City had yet to implement a citywide curbside program. Through this effort, he hired staff and volunteers to educate the public on how to properly source separate their own materials (plastics, metal, glass, paper, books, cardboard, electronics, batteries, styrofoam, etc.) and their giveaways. Recycle Here! continues to service thousands of Detroiters living in multifamily homes, as well as residents and small businesses who have yet to be eligible for or to sign up for the City's curbside program.</p>	<p>Throughout the 15 year existence of the program (Jan. 2007 - Jan. 2022), RH has diverted 32,909,147 pounds (i.e. 16,455 tons) of material away from incineration and landfills by sending it to various end markets to be processed into new materials. RH has engaged about 974,665 recyclers since 2007. Matt estimates that RH reaches 30,000 households a month through its drop-off program. In 2021, RH diverted ~1004 tons of material from landfill.</p>
<p>Resource Recovery and Recycling Authority of Southwest Oakland County (RRRASOC) - 20000 Eight Mile Rd, Southfield, MI 48075</p> <p>Single-stream curbside recycling materials</p>	<p>Established in 1989, RRRASOC provides the communities of Farmington, Farmington Hills, Milford, Milford Township, Novi, South Lyon, Southfield, Walled Lake and Wixom with a number of recycling services, including recycling drop-off centers and household hazardous waste collection events.</p> <p>All of Detroit's single-stream curbside recycling from both residential and commercial pickups gets hauled to RRRASOC by private haulers, to be sorted, bailed and sent to end-markets for processing.</p>	<p>In 2021, of the 69,883.65 tons of materials received by RRRASOC, 68,920.61 tons of recyclables (glass, paper, plastic, ferrous and non-ferrous metals, and residuals) were bailed and shipped to end-markets. 38% of the materials were shipped in-state and the 62% remaining were shipped out-of-state.</p> <p>Of that total about 6,282.86 tons of material came from Detroit's residential and commercial pickups. Through an independent data research effort, it was estimated that the contamination rate for the Detroit single-stream curbside recycling program was at 22% in 2019.</p>
<p>Mulch Guys - 14300 Prairie Street, Detroit, MI 48238</p> <p>Yard waste & natural wood</p>	<p>Established in 2008, Mulch Guys is a DPW-licensed composting company located in Detroit. It specializes in turning natural woods from yard waste pickups in Detroit and other local contracts into high grade mulch products, which they sell to wholesalers, like Scott's, for local and national distributions. They pride themselves in wasting as little of the wood resources they receive and process, as possible.</p>	<p>Michael Deming, President of the company, estimates that in 2021, they recovered 250-300,000 yards of natural wood, 14,000 yards of which came from Detroit yard waste pickups, which they are contracted by DPW to process.</p>

<p>K & E Composting LLC - 6875 McClement Rd, Brighton, MI 48114</p> <p>Yard waste</p>	<p>K & E is a Michigan Department of Environment, Great Lakes, and Energy (EGLE)-registered compost facility located in Brighton, Michigan, about 50 miles from Detroit. It is run by Jason Grostic.</p>	<p>K & E receives its yard waste from Mulch Guys. Both companies are contracted by Detroit's DPW to process and compost the city's yard waste. Jason estimates that his company produced about 11,000 yards of finished compost in 2021.</p>
<p>Environmental Rubber Recycling (ERR) - 6515 Dort Hwy Flint, Michigan 48505</p> <p>Tires</p>	<p>"Environmental Rubber Recycling turns scrap tires into a lightweight substitute that can outperform traditional stone aggregate in civil engineering and backfill applications, septic field installations and stormwater management." They "service all of the Greater Flint area and much of Southeast Michigan." - ERR website</p>	<p>In 2021, Detroit's DPW sent its 930.79 tons of collected tires, which Detroit residents can drop off at the city's waste drop-off locations, or which DPW collects as illegal dumping, to ERR to be processed. ERR is located about 72 miles from downtown Detroit.</p>
<p>US Ecology South - 2000 E. Ferry St, Detroit, MI 48211</p> <p>Household Hazardous Waste drop-off</p>	<p>US Ecology Detroit South, situated in the city's Poletown East neighborhood, offers treatment services for hazardous and non-hazardous materials. The City of Detroit partners with US Ecology South for its residential Household Hazardous Waste drop-off program. US Ecology has a second location in Detroit - US Ecology North, a hazardous wastewater treatment facility in the City Airport neighborhood. They "accept inorganic waste streams including acids, alkalis and heavy metals generated during steel finishing, electroplating, chemical manufacturing and remedial activities" (US Ecology website). These 2 US Ecology facilities have been located in Detroit for a long period of time and although they provide important treatment services, they have overburdened nearby communities with their polluting activities. There are ongoing environmental justice struggles surrounding this company (see page 10 for more detail).</p>	<p>In 2021, DPW declared as part of its diversion rate that 63.758 tons of hazardous materials, including pesticides, paints, electronics, batteries, light bulbs, sharps, asbestos, flammables, oils, and other chemicals. These materials were received by US Ecology South for processing. While the 14.984 tons of electronics received by the facility were distributed to Human I-T, a company dedicated to refurbishing and recycling e-waste, it is unclear what takes place with other materials, such as batteries and light bulbs. Many of the chemicals received by the facility are probably neutralized before being sent to the landfill. It is therefore unclear how much of the 64 tons declared by the City as diverted from landfill have actually been diverted.</p>

**NON-CITY DECLARED
ESTIMATED 2021 DIVERSION AMOUNT FOR INITIATIVES THAT SHARED 2021 DATA:
~2,574.7 US tons = ~5,149,335.9 pounds**

EVENTS RECYCLING//ORGANICS DIVERSION//FOOD WASTE RESCUE/PREVENTION

<p>Pink Elephant Products and Events 3LC (PEPE) - 9413 John R St, Detroit, MI 48202</p> <p>Organics, hard-to-recycle materials, and event zero waste services</p>	<p>Detroit's one-stop sustainability shop was established by social entrepreneur and zero waste advocate, Ellen Lyle. PEPE focuses on selling eco-friendly and refillable beauty and household products to its customer base, as well as fresh and locally sourced food. PEPE also manufactures its own line of sustainable products.</p> <p>PEPE offers residential compost and hard-to-recycle materials drop-off services, as well as zero waste event services (compost, recycling, food rescue) for nonprofits and corporate events, cultural events, weddings, etc.</p>	<p>In 2021, PEPE recovered 3,580.5 pounds of mixed recycling and 4,600.4 pounds of organic through its zero waste event services.</p> <p>PEPE recovered 2,142 pounds of mixed recycling (including film plastics, textiles, styrofoam, expanded polyethylene, and TerraCycle accepted products) and 1,852 pounds of organics through its retail store resource recovery services.</p>
<p>Schupan - 2619 Miller Rd, Kalamazoo, MI 49001</p> <p>Event Sustainability services (waste reduction, recycling, and composting)</p>	<p>"Incorporated in 1968 by Nelson L. Schupan, Schupan & Sons has grown from a 6-person scrap metal recycler to an over-500-employee metals and plastics business specializing in industrial and electronics recycling, fabrication and distribution, beverage container processing and materials trading. The company has 15 locations throughout Michigan, Ohio, Indiana and Illinois." - Schupan website</p>	<p>Schupan has played a major role in providing recycling and waste reduction services to major events and festivals in Detroit through its SustainAbility Services. These events include, Movement Festival, the Detroit Jazz Festival, the Detroit Marathon, MOPOP, etc. Since 2015, Schupan has diverted 5.1 million pounds of material from the landfill through their event and venue-based programming. Of that total, 40,000 pounds were diverted in 2021. This comprises recycling, composting and donations.</p>
<p>Midtown Composting - 4272 Alter Rd, Detroit, MI 48215</p> <p>Residential and commercial compost pickups + small business recycling pickup</p>	<p>Founded in September of 2017 as a project emerging out the EcoWorks Youth Energy Squad Project, Midtown Composting is providing residential and commercial composting collection services to 360 customers, most of which are residential and 5 of which are commercial, in the Metro Detroit area.</p> <p>Midtown Composting also provides a handful of Detroit businesses, including Sister Pies, Marrow Detroit, Yum Village, Strawberry Solar, Seasons Market & Cafe, Pie Sci Pizza, Green Garage, with recycling collection services.</p> <p>Their goal is to quadruple their customer base in the next few years.</p>	<p>In 2021, Midtown Composting has diverted about 10 yards of compost a week, that is a total of about 520 yards of compost throughout the whole year, which is the equivalent of about 650,000 pounds of compost. Their numbers have increased to about 15 yards a week in 2022. The owners of Midtown Composting send the organic materials that they collect to Country Oak Farm in Otisville, MI, about 74 miles from the city. The finished compost is used for landscaping and gardening purposes. Midtown Composting brings 500-1000 bags of compost back to Detroit each year. They give their members 2 free bags and sell the rest.</p> <p>Through their recycling services, they have collected 14,000 pounds of cardboard, 100 pounds of metal, 600 pounds of glass, and 6-7 yards (i.e. ~280 pounds) of plastics in 2021.</p>

<p>Wayne State University Office of Campus Sustainability (WSU OCS) - 5454 Cass Avenue Detroit, MI 48202</p> <p>Organics and household recycling</p>	<p>WSU's OCS is working towards increasing access to recycling and composting opportunities in Detroit and improving the University's waste diversions rates, amongst other campus-wide sustainability efforts.</p> <p>WSU's OCS waste diversion and reduction programs include: 1) Waste Recovery Stations (weekly household recycling and food waste collection efforts to educate students, faculty, staff, and community members on proper recycling and sorting techniques and on the impact they have by diverting their materials from landfill); 2) A partnership with Green Living Science to help register Detroiters for curbside recycling carts; 3) The integration of a compost bin into their existing campus-wide 2-bin system for trash and recycling and improved signage to reduce contamination and increase diversion rates; 4) A compost pilot project partnership with FoodPLUS Detroit (FPD) and Georgia Street Community Collective (GSCC), started in 2020 to compost Wayne State University's food and yard waste locally, and support citywide compost awareness through integrated university-community events</p>	<p>From 2021 to 2022, WSU OCS led efforts to restructure its recycling program to increase waste diversion rates. In 2021, through their recycling collection efforts, they diverted 4.1 tons (8,200 pounds) mixed recycling.</p> <p>Through their Compost Pilot Project, they diverted 25,000 pounds of food waste from the landfill in just under 2 years. They will close the loop by purchasing and using finished compost from GSCC in their campus garden/landscaping beds.</p> <p>In 2022 a Zero Waste Feasibility Study was completed and their back-of-house food waste diversion program was expanded.</p> <p><i>Side note that the 25,000 pounds of food waste diverted from landfill since the fall of 2020 is the same figure referenced in the Georgia Street Community Collective and ReMark composting grid entries</i></p>
<p>Georgia Street Community Collective - 8902 Vinton Ave, Detroit, MI 48213</p> <p>Organics drop-off made into finished compost</p>	<p>Georgia Street Community Collective (operator of an urban farm, community garden, and community center) was founded in 2007 by Mark Covington, a lifelong resident of Detroit's City Airport neighborhood, to provide residents of his community with access to health and education services, leadership skills development, safety, and a revitalized sustainable neighborhood.</p> <p>Mark began an informal composting system in 2009 to remediate the soil he was growing food on. He collected his compost feedstock from landscaping companies, residents, and local restaurants. Between 2017 and 2019, he started receiving his feedstock from Midtown Composting. In 2020, GSCC and FoodPLUS Detroit established a partnership with Wayne State University (WSU) to develop an integrated composting program and system.</p>	<p>Through this partnership with WSU, GSCC has participated in diverting 25,000 pounds of pre-consumer organics (kitchen food scraps) from the landfill. GSCC is also piloting residential drop-off accepting coffee grounds, egg shells, veggies and fruit scraps, leaves, grass clippings, paper, cardboard, carbons, leaves, and woodchips from neighbors who've been trained on food scrap collection, as well as a few additional residents in GSCC's city-wide network.</p> <p>GSCC currently operates two compost systems and is growing its processing capacity through the following efforts: 1) Expanding capacity of the established farm system, which uses materials from WSU and residential drop-offs as compost feedstock, in order to use finished compost to grow food for the neighboring community.</p>

<p>GSCC (continued)</p>	<p><i>Side note that the 25,000 pounds of food waste diverted from landfill since the fall of 2020 is the same figure referenced in the WSU and ReMark composting entries</i></p>	<p>2) Extending the established community-scale compost system located adjacent to the community garden to include a residential drop-off. The system will initially service a 2-block radius of the neighborhood. Services will include free finished compost and harvested food from the community garden, in exchange for food scraps, creating a neighborhood "closed loop system". The community system launched in June 2022 as the training/demonstration system for FPD's Peoples Compost initiative with GSCC serving as the host site. The goal is to launch the residential drop-off pilot in the fall of 2022.</p>
<p>ReMark Composting Solutions (Start-up) - 18452 Monte Vista Street, Detroit, MI, 48221</p> <p>Residential drop-offs and commercial pick-up/delivery made into finished compost</p>	<p>Birthered out of opportunity, ReMark Composting Solutions is a community-based large-scale facility founded by Renee V. Wallace and Mark Covington (ReMark) to meet the needs of Wayne State University, other large food waste generators, targeted groups (chefs, caterers, food rescuers), and residents in the neighboring community. After conducting a successful proof of concept pilot in 2020-2021 they evolved from pilot project partners to co-founders to develop a minority-owned and operated compost system in Detroit. ReMark will provide compost blends that are soil-based "city solutions" for climate change and other environmental conditions and needs in Detroit (local food production, stormwater management projects, demolition backfills, tree planting, landscaping, new/renovated developments, roads, etc.).</p>	<p>September/October 2022 marks the transition from year 2 to year 3 of the pilot operation. While the ReMark site is under development, WSU's pre-consumer food scraps will continue to be processed at GSCC's on-farm composting system. The system continues to be expanded to create capacity to go beyond the over 25,000 lbs collected to-date. In addition to processing food scraps, we also accept campus yard waste, and BPI-certified compost service ware used at university sponsored events.</p> <p><i>Side note that the 25,000 pounds of food waste diverted from landfill since the fall of 2020 is the same figure referenced in the GSCC and WSU composting entries</i></p>
<p>Sustainable Community Farms - 6429 Garfield St. Detroit, MI 48207</p> <p>Urban farm compost drop-off and collection</p>	<p>Sustainable Community Farms was founded by life-long Detroiter, Michelle V. Jackson, to provide residents of her community with opportunities to learn about healthy eating habits, urban farming, and composting practices.</p>	<p>Michelle estimates that she has collected 200 yards of compost from residents in the last 14-15 months, that is 250,000 pounds. She has just added a second drop-off site on the Eastside of the city.</p>

<p>Detroit Dirt</p> <p>Organics collection made into finished compost</p>	<p>Detroit Dirt (DD) was founded by Pashon Murray in 2010 to advocate for grassroots zero waste solution-making and to develop a low-carbon economy in Detroit. DD “processes food waste, green waste, spent grains, and herbivore manures and make high-quality compost using an aerobic process” (DD website). DD established partnerships with companies like Blue Cross Blue Shield, the Detroit Zoo, and General Motors, to collect their organics. DD uses the compost it generates for neighborhood beautification and blight removal projects, provides education opportunities to youth and residents, and creates jobs for the community.</p>	<p>Detroit Dirt went on hiatus in the last couple of years of the pandemic because its CEO, Pashon Murray, has been providing waste reduction consulting services to corporations. Composting services will resume in 2023.</p>
<p>Make Food Not Waste - 8625 E. Jefferson Ave. Detroit, MI 48214</p> <p>Source reduction, food upcycling, and redistribution</p>	<p>Make Food Not Waste (MFNW) was founded in July 2017. Its missions “is to keep food out of landfills and slow climate change by creating lasting solutions to food waste through education, food upcycling, and advocacy” (MFNW website). To make this possible, MFNW has developed a number of programs over the years, including 1) an Upcycling Kitchen where local chefs use rescued unwanted food from farms, grocery stores and other food retailers, to make delicious meals to help address food insecurity in Detroit; 2) training in a restaurant/hospitality food waste certification program called The PLEDGE on Food Waste; and 3) statewide FLWR (Food Loss and Waste Reduction) planning.</p>	<p>Between January 2021 and September 2022, MFNW’s Upcycling Kitchen has prevented 90,000 pounds (~54,000 lbs in 2021) of food from going into landfill and has prepared 75,000 free meals for Detroit residents. MFNW distributes meals at its site and through partners, Motor City Mitten Mission & Everybody Eatz, who serve those without housing and those who need meals delivered. MFNW is currently working with 30 local food service operations on The PLEDGE on Food Waste certification. Learn more, here.</p>
<p>US Food Rescue Detroit</p> <p>Food rescue and redistribution</p>	<p>Food Rescue US - Detroit (FRUSD) was founded in June 2019 with a unique app-based model that uses volunteers to pick up surplus food from donors and deliver immediately to receiving agencies. FRUSD is committed to reducing food waste and food insecurity in Wayne, Oakland, and Macomb counties. They currently have 51 food donor partners, 77 social service agency partners, and 461 registered volunteers. To date, FRUSD has distributed almost 8 million pounds of food to the community. During the 2020-2021 COVID-19 pandemic FRUSD distributed food boxes at the convention center every week for a year. It also distributed 7500 holiday food bags in December 2020, and completed a community food hub pilot project in October 2021 with an agency partner in Northwest Detroit.</p>	<p>In 2021, FRUSD rescued 3,408,068 pounds of food from going to landfill. The COVID-19 pandemic played a huge role in influencing the volume of food being rescued by the agency since they had greater access to food given the unprecedented need. At this stage in their growth, having been recently established in Detroit, FRUSD was able to rescue more than what they would have been able to on a typical year. To quote Darraugh Collins, Site Director of FRUSD, “Typical years wouldn’t be that high for us, at least not in this stage of our growth. I started this site in June 2019, so we are still new on the scene.”</p>

MAJOR METRO DETROIT FOOD DONATION + RESCUE + (RE)DISTRIBUTION INITIATIVES

The figures below have not been explicitly included in the non-City declared diversion figure because donated and rescued food for these agencies originated from food retailers located all over Southeast Michigan and the U.S. It is currently difficult for agencies of this size to track how much of the food they rescued or was donated to them originated directly from Detroit

<p>Forgotten Harvest (FH) - 15000 Eight Mile Rd, Oak Park, MI 48237</p> <p>Food rescue and redistribution</p>	<p>Forgotten Harvest is Metro Detroit's largest food rescue organization. Forgotten Harvest was formed in 1990 to fight two problems: hunger and waste. Forgotten Harvest rescued over 42 million pounds of food last year by collecting surplus prepared and perishable food from over 530 locations, including grocery stores, fruit and vegetable markets, restaurants, caterers, dairies, farmers, wholesale food distributors, and other Health Department-approved sources. This donated food, which would otherwise go to waste, is delivered free of charge to over 220 emergency food providers in the metro Detroit area. Learn more about Forgotten Harvest and how to help drive hunger from our community at www.forgottenharvest.org.</p>	<p>41,942,607 pounds is the total amount of food Forgotten Harvest Rescued in 2021-2022 fiscal year. 17,337,673 pounds of that amount was rescued through FH's local grocery store rescue program that is generously sponsored by the Kroger Zero Waste Zero Hunger Foundation. This food was sourced from grocery partners like Kroger, Meijer, Sam's Club, Costco and Walmart throughout Metro Detroit. 60% of FH's rescued food gets redistributed to our pantry partners within Wayne County. To learn more, see FH's 2020-2021 Annual Report.</p>
<p>Gleaners Community Food Bank - 2131 Beaufait, Detroit MI 48207</p> <p>Food distribution, upcycling and redistribution</p>	<p>Gleaners Community Food Bank, Feeding America's 2019 Food Bank of the Year, has been helping families solve food insecurity in households across Southeast (SE) Michigan since 1977 by empowering community members through food and food programs, nutrition education, advocacy, innovative solutions, and community engagement.</p>	<p>In 2021, Gleaners partnered with 628 agencies, including soup kitchens, food pantries, and shelters, to solve hunger in the community. They distributed 71,415,542 pounds of donated, purchased, and rescued food to community members, including food insecure children, families, elders, veterans, and low-income folks, across 5 counties in SE Michigan. That is the equivalent of 163,000 meals a day, which include 20 million pounds of fresh produce and 879,000 gallons of fresh fluid milk.</p> <p>372,570 pounds of food donations came from food drives. Of the 71+ million pounds distributed, 49% were shelf-stable grains, protein, etc., 31% was produce, 9% was fresh dairy, and 7% was meat. Learn more, here.</p>

UPCYCLING & SECOND-HAND RECIRCULATION OF GOODS

<p>Arts & Scraps -16135 Harper Ave, Detroit, MI 48224</p> <p>Secondhand materials</p>	<p>Arts & Scraps (A & S) is a nonprofit located on the Eastside of Detroit whose mission is to reimagine education by using “recycled materials to help people of all ages and abilities think, learn and create” (A&S website).</p> <p>A & S has a community store, through which it resells much of the second hand materials it receives to the community.</p>	<p>Through its Community Store and Warehouse space, A & S has diverted 19+ tons (38,000 pounds) of industrial/commercial cast offs and creative, office supply and educational/teaching/learning materials from landfills in 2021. The Community Store resourced 275 local teachers, artists, entrepreneurs and nonprofits in Detroit, as well as 3,818 customers.</p>
<p>NexTiles - 313 E Baltimore St. Detroit, MI 48202</p> <p>Pre-consumer auto and fashion textiles</p>	<p>NexTiles is a Detroit-based automotive and apparel manufacturing textile recycling and secondary use company founded by Detroit native, Madeline Walker Miller. Recycled textiles are turned into a circular building insulation materials for Detroit households and energy efficiency projects throughout the city to reduce residents energy burdens and GHG emissions.</p>	<p>In 2021, NexTiles diverted 50,000 pounds of pre-consumer manufacturing waste from landfill & incineration. In 2022, they are launching a pilot program to increase their collection capacity and use their in-house industrial shredder to test local waste material for building insulation.</p>
<p>Human I-T -1400 Oakman Blvd, Detroit, MI 48238</p> <p>Electronics refurbishment and redistribution</p>	<p>Human I-T’s mission is to address the digital divide by providing historically underserved communities with devices, internet access, digital skills training, and tech support so that they can have equal access to opportunity. A second core part of Human I-T’s mission is to divert technology from the landfill by refurbishing and redistributing as much of it as possible.</p> <p>Through their programs, they have distributed 30,408 devices (laptops, computers and tablets) to Detroiters, helped 2,945 households get connected with affordable high-speed internet programs, and completed 17,750 tech support tickets.</p>	<p>Since Human I-T established a Detroit location in October of 2020, they have diverted 1,292,502 pounds of e-waste (excluding appliances) from landfills, of which 644,431 pounds is from Michigan-based pickups/donations. In 2021, they diverted 641,381 pounds (of which 29,968 pounds came from the US Ecology drop off) and have already reached 515,000 pounds in 2022. Of all the materials they take in, they are able to repurpose roughly 40% of them, while the other 60% are recycled via R2-certified recyclers (EPA -certified responsible e-waste processing).</p>
<p>Architectural Salvage Warehouse of Detroit (ASWD) - 5110 Bellevue St, Detroit, MI 48211</p> <p>Construction and Demolition material rescue and recovery</p>	<p>ASWD is a Detroit-based nonprofit and resale organization, which “deconstructs buildings in Southeast Michigan to keep environmental resources out of the waste stream, and to make decent, affordable housing materials available to low- and moderate-income families” (ASWD website). It began its operations between 2003 and 2005.</p> <p>Their efforts include deconstruction, soft skimming, job creation and training, and sales of salvaged materials. Their earnings go toward historic preservation projects in Detroit.</p>	<p>ASWD is a local leader and pioneer in the field of deconstruction, through which they are able to salvage 85% of C & D materials for reuse, recycling, and secondary use. ASWD advocates for environmental stewardship through their deconstruction and salvaging efforts. They continue to safely divert several thousands of tons of reusable building materials from landfilling each year. They simultaneously prevent their customers and workers from being exposed to lead paint, asbestos, silica, general nuisance dust, and other hazards through leading industry safety procedures.</p>

EDUCATIONAL, ADVOCACY & POLICY EFFORTS

Organization or entity	Services provided & mission	Notable Detroit-Based Accomplishments
<p>Zero Waste Detroit (ZWD) - 2727 2nd Ave #149, Detroit, MI 48201 [Organizational Fiduciary - The Michigan Environmental Council]</p> <p>Recycling and waste reduction education</p>	<p>ZWD, a coalition of over 20 community, environmental, and environmental justice organizations, was founded in 2006 to help move Detroit away from incineration and landfilling into zero waste.</p> <p>ZWD played an instrumental role in getting the City of Detroit to launch a citywide curbside recycling program.</p> <p>ZWD also contributed significantly to the shutting down of Detroit's incinerator (Detroit Renewable Power) in 2019.</p> <p>ZWD wrote the Solid Waste chapter of the 2017 Detroit Climate Action Plan to indicate the negative impacts of the city's incinerator and waste sector on residents' health and wellbeing, notably through its emissions of pollutants and greenhouse gases. This chapter offers steps to reduce the health impact of the waste sector.</p>	<p>ZWD created and instituted the 24/7 hotline to the Michigan Department of Environmental Quality (now known as EGLE) for residents to report incinerator odor violations. ZWD led the largest march against the incinerator during the US Social Forum. Through their efforts, they were successful in getting the Consent Judgment against Detroit Renewable Power (DRP) that fined them \$4,500 a day for every day they were out of attainment. It was this financial impact that influenced DRP's decision to close down.</p> <p>In tandem, ZWD advocated for all of the City's deputy Mayors to develop a new business model for Solid Waste management, which led to the creation of a successful pilot recycling program in 2009. This pilot program eventually led to the rolling out of a citywide opt-in curbside recycling program for single-family homes in 2015. Margaret Weber, a long-standing leader of ZWD, launched Rosedale Recycles, Detroit's first monthly drop-off recycling site in 1990. It lived on until 2014.</p> <p>Along with Green Living Science (more below), ZWD is contracted by DPW to provide residents with education on the curbside recycling program and to sign them up for carts. Since 2015, ZWD has reached 19,852 residents. Now that the program is accessible to multifamily buildings, businesses, places of worship, public spaces, and municipal buildings, ZWD has engaged over 40 business and multifamily buildings and conducted over 100 contamination checks.</p>
<p>Green Living Science (GLS) - 1331 Holden St, Detroit, MI 48202</p> <p>Recycling and waste reduction education</p>	<p>GLS is an outgrowth of Recycle Here!, Detroit's drop-off recycling center and neighborhood recycling program. GLS began its work with Detroit Public Schools in 2007, in partnership with their Office of Math and Science. The organization became an incorporated 501(c)3 in 2011. Over the years, GLS has expanded its programs to serve youth, businesses, and community members by educating them on the impact waste has on our environment and planet. GLS's vision for Detroit is that of a robust circular economy and humans as stewards of their environments.</p>	<p>Through its youth education programs (field trips, tours of Recycle Here!, in-class lessons, assemblies, summer camps, etc.), GLS has served 300,000 students since 2007.</p> <p>When Detroit's single-stream curbside recycling program was rolled out in 2015, GLS became contracted by the City to provide education to residents about proper recycling practices in exchange for a free recycling cart. Between 2015 and 2022, GLS has reached 18,130 residents through their outreach programs, including their Recycling Ambassadors Program, through which they train local recycling champions to sign up their neighbors for recycling carts while training them on proper recycling practices.</p> <p>Through Bee Green Business, an education and certification program, founded in 2014, GLS has certified over 42 local businesses of varying scales.</p>

[FoodPLUS Detroit](#) (FPD)
- 18452 Monte Vista
Street, Detroit, MI 48221

**Food waste diversion,
compost education and
training, and compost
system development**

FoodPLUS Detroit (FPD), led by compost and sustainable food systems advocate and consultant, Renee V. Wallace, conducts pilot projects to inform compost policy and behavior changes, and to model compost infrastructure development. This citywide compost systems building effort is called the "Peoples Compost Initiative". The organization increases awareness of compost and its beneficial uses through information sharing, event-based experiences, and demonstrations/training systems.

FPD applies a "3EP's" systems building approach to its compost initiatives: 1) Enabled Policy, advocating for policy changes that allow for diverse scale composting informed by local, state, and national practices; 2) Enabled Public, ensuring that residents and other local stakeholders have an understanding of why compost is important to all of us and willingly supporting the people doing it on our behalf; 3) Enabled Practice, supporting composters to do composting well at all scales (household, community, industrial), using different methods (piles, bins, technology, etc.).

FPD has played a key role in the development of numerous composting models in Detroit:

- 1) A university-community model pilot through a partnership with Wayne State University and Georgia Street Community Collective (GSCC), which diverted 25,000 pounds of food waste from landfill in under 2 years. FPD engaged both communities in developing and implementing the model through trainings and community-campus events;
- 2) A household community model through household and backyard composting in the city's District 2;
- 3) A community-scale composting training and demonstration system established and implemented at Georgia Street Community Collective.

[Breathe Free Detroit](#)

- 3434 Chene St. Unit
#7312 Detroit, MI
48207

**Anti-incineration
campaign,
environmental justice,
and zero waste
advocacy**

Breathe Free Detroit (BFD) was the community and grassroots campaign, spearheaded by Zero Waste Detroit, East Michigan Environmental Action Council, the Great Lakes Environmental Law Center, the Ecology Center, and many local residents, that successfully shut down Detroit's waste incinerator- Detroit Renewable Power - in 2019. BFD "continues to pursue a just transition to zero waste and just transition for residents living near the facility" (BFD website). In this context, BFD created the publication, [Rooted We Rise](#), a resource guide to combat gentrification and community displacement in communities living near the incinerator. BFD collaborates with Zero Waste Detroit, Department of Public Works, the Green Task Force, and other organizations to develop shared strategies for promoting zero waste in Detroit, including a citywide comprehensive Zero Waste Plan that includes waste reduction, recycling and composting as part of a broader solution to our climate crisis.

Some key milestones behind the major win of DRP's closure include Breathe Free Detroit and the Great Lakes Environmental Law Center's [report](#) detailing the harmful emissions released by the plant; a petition with 15,000 signatures arguing for the plant's closure; and a threat of a Citizen Lawsuit for over 800 violations of the Clean Air Act. BFD continues to advocate for Environmental Justice while working with federal, state, and local policy makers; centering community issues of redlining, racism, legacy pollution, gentrification, and lack of community protections from polluting facilities. BFD makes sure false solutions like incineration and other forms of waste burning are not adopted in any environmental policy.

Detroit Green Task Force [Recycle & Waste Reduction Committee](#) (RWRC)

Recycling and Waste reduction policy and advocacy

The RWRC (originally known as the Zero Waste Committee) was launched in 2016. Its purpose is to work to positively influence policy and to inform the public on waste reduction practices. The RWRC works “to enhance the city's recycling infrastructure and educate the community on how to reduce, reuse and recycle”. It is composed of 2 subcommittees: 1) State and Local Policy; 2) Construction and Demolition. RWRC's goals for 2022 included working with the City to “develop policies that divert more building materials from landfills” through closed loop systems and new construction, as well as policies for new developments to incorporate double or triple waste stream systems; 3) continued work surrounding the 2021 Event Waste Reduction Resolution (RWRC website).

The RWRC meets every month and is currently co-chaired by Natalie Jakub, Executive Director of Green Living Science, and Nishaat Killeen, Senior Project Manager at Michigan Saves. It brings together numerous stakeholders in the recycling and waste reduction space from nonprofits and advocates, to small and larger businesses, policy makers, and innovators.

Some of the RWRC's notable accomplishments of the past few years are: 1) A Resolution to support Event Waste Reduction passed by Detroit City Council (2021) and leading to the RWRC's publication of an [Event and Waste Reduction Guidebook](#); 2) The creation of and airing of a Public Service Announcement (PSA) on local television and radio to educate the public about anti-littering (2019); 3) Waste and Recycling goals and benchmarks resolutions passed by City Council (2018); 4) America Recycles Day – November 15th resolution passed (2018); 5) The creation of and airing of a PSA on local television and radio to educate the public about recycling (2018); 6) Janitorial contracts required to include recycling disposal in municipal buildings (2017); 7) Helped facilitate recycling in several city buildings – including all firehouses; 8) Promoted recycling to garner 6% increase in the city's participation rate, which is now close to 38%.

Detroit Green Task Force - [Organics Recycling Committee](#) (ORC)

Composting & food waste diversion policy and advocacy

"The ORC is working to build Detroit's soil by advocating for development of a diverse scale city-wide composting system that reclaims, diverts, and re-purposes food waste, yard waste, paper waste, and other compostables".

They "envision using those "resources" to produce compost locally, and for using compost to create sustainable soil-based solutions to meet municipal and citizen's needs, and address environmental issues. Detroiters need good compost-enhanced soil for growing healthy local food; for landscaping our parks, open spaces and new development; for managing stormwater (green infrastructure), controlling erosion and run-offs; for backfilling demolition sites; for planting trees; for cleaning our air" (ORC website).

The Committee meets monthly and is chaired by Michelle Jackson, founder of Sustainable Community Farms and Small Ville Learning Farm. Its core team is made up of Breathe Free Detroit, Detroit BSEED, the Detroit City Planning Commission, EGLE, FoodPLUS Detroit, Georgia Street Community Collective, Gleaners Food Bank, and Wayne State University.

The Committee's top priorities and projects are to work to inform city officials on composting policies and best practices through pilots, outreach, education, and engagement efforts. They are also working to build awareness events, through platforms like the Earth Day Celebration. They have recently been honing in on how to utilize compost for the development of rain gardens throughout the city.

Some of the ORC's key accomplishments over the years include:

- 1) Contributing actively to building the City's first [Event and Waste Reduction Guidebook](#);
- 2) Educating over 1,500 residents on the issue of lead in soil, water, and paint;
- 3) Developing an Earth Day guidebook in partnership with the University of Michigan, Michigan State University, and [Bailey Park Neighborhood Development Corporation](#), which they print and distribute to residents;
- 4) Getting support from City Council members on the Part 115 legislation;
- 5) Co-developing the Robert Wood Johnson composting pilot, which key members of the Committee actively participate in.

The ORC has been very intentional about connecting their efforts of promoting access to healthy food through the fostering of healthy compost-enriched soils, to the goals laid out in the Detroit Sustainability Action Agenda. They continue to engage City Council members on issues of food waste prevention and diversion to garner their support on these crucial sustainability and public health issues. Some members of the ORC also actively participate in the Zero Waste Detroit youth program and are planning to work with 2 local schools to develop curriculum on recycling, composting, and a number of environmental justice topics.

[Resource Recycling Systems \(RRS\)](#) & [NextCycle Michigan](#)
- 416 Longshore Dr
#1624, Ann Arbor,
MI 48105

Waste reduction, waste diversion, and recycling consulting, technical support, capacity-building, partnership-building, policymaking, grantmaking, data research

RRS is a consulting firm founded in Ann Arbor, Michigan, in 1986, whose vision is to “to create a world where resources are managed to maximize economic and social benefit while minimizing environmental harm. A world where abundance keeps pace with societal needs.” Their team is made up of leading specialists in the fields of engineering, economy, and communications, amongst others, who possess cutting-edge skills in materials and recovery, life-cycle management, and applied sustainable design. They serve a number of industries, including public agencies, recovery infrastructure, manufacturers and commercial businesses, trade groups, retail, partnerships, universities, healthcare, funders, and investors.

RRS incubated [NextCycle](#), a “collaborative initiative that identifies, recruits, vets, and accelerates projects that focus on waste prevention, material reuse, recycling/composting collection and processing, and developing material end markets”, in the states of Washington, Colorado and now Michigan. ([RRS](#))

RRS and NextCycle are playing a crucial role in helping stakeholders in Detroit track their waste generation and diversion rates, as well as plan for zero waste through grantmaking, innovation, and partnership development efforts.

As an example, RRS supported GLS in carrying out Detroit's first recycling audit effort in 2019 to establish the contamination rates of the City’s curbside program and to identify areas of improvement. GLS also received 2 micro grants from NextCycle, one to support their recycling ambassadors program and the other to support research to explore comprehensive recycling in Detroit. GLS has contracted RRS to carry out this research.

NextCycle Michigan, whose launch was announced by their key funder, the Department of Environment, Great Lakes, and Energy (EGLE) in the spring of 2021, is helping build a robust circular economy in Michigan through partnership and innovation. Its goal is to triple the State’s waste diversion rate to 45% by 2030. NextCycle MI “has a variety of pathways to advance recycling, recovery, and reuse initiatives in the state through its Innovation Challenges, traditional grants, data, and partner connections” [NextCycle MI](#).

You can learn more about NextCycle’s accomplishments by watching their [2021 year in review](#).

[Michigan Recycling Coalition](#) (MRC), PO Box 10070, Lansing, MI 48901

Waste reduction, waste diversion, and recycling advocacy, and policymaking, and best practices

MRC “represents recycling and composting interests statewide. The Coalition is a recognized authority on waste reduction, beneficial utilization, recycling, and composting through the experience of its staff and committees” (MRC website).

MRC have been a long-standing partner for Detroit’s network of waste reduction, recycling, and zero waste advocates. They have been leading the charge of advocating for the amendment of Michigan’s Solid Waste Disposal Law through [Part 115](#), an 8 bill package, which was recently passed by the State legislature.

LITTER PICKUP & PREVENTION

Organization or entity	Service provided & Mission	Quantity of litter picked up
<p>Belle Isle Conservancy - 300 River Place Drive, Suite 2800, Detroit, MI 48207</p> <p>Ecosystem conservation and litter prevention and collection</p>	<p>Belle Isle Conservancy's "mission is to protect, preserve, restore and enhance the natural environment, historic structures, and unique character of Belle Isle as a public park for the enjoyment of all – now and forever". The Keep Belle Isle Beautiful anti-litter campaign was created in 2017 to put in place community cleanups and educational efforts, to address the litter issues confronting the park and its surrounding waterway (Belle Isle Conservancy website).</p> <p>The campaign is a member of the Detroit River Coalition, the only binational environmental resource and networking hub, coordinating communities for the purpose of litter removal and protection of the shared Detroit River.</p>	<p>In 2021, Keep Belle Isle Beautiful programming removed 8,302 pounds of litter pollution from the 982-acres island park and its waterways with the help of 1,208 volunteers. Overall, between 2018 - 2021, the Belle Isle Conservancy removed just under 20,000 pounds of litter pollution from the park and its waterways. They have made art installation with litter collected.</p> <p>In 2021, the coalition removed over 25,000 pounds of plastic pollution and other littered items from the Detroit River and its binational coastline. In 2022, the coalition hosted an Art + Earth exhibition at the Belle Isle Aquarium, which displayed the work of 36 Detroit, Michigan, and Ontario-based artists, including eleven K-12 students.</p>
<p>Plastic Oceans</p> <p>Ecosystem conservation and litter prevention and collection</p>	<p>Plastic Oceans International's mission is to end plastic pollution worldwide and to foster sustainable communities across the world. Their Blue Communities program seeks to support local groups in their efforts to address the plastics crisis through cleanups, conservation education, and other advocacy efforts.</p>	<p>In 2021, through Plastic Oceans' Blue Communities Detroit program, which partners with the Social Forestry Project and Green Living Science, 2,452 pounds of litter was cleaned up in several parks and along the Detroit River shoreline. Globally, their Blue Communities partners cleaned up 27,329 pounds of litter in 2021.</p>
<p>Motor City Makeover - Department of Neighborhoods</p> <p>City-led litter collection and prevention</p>	<p>Motor City Makeover 365 is a 30-year old City of Detroit program, which consists of an annual citywide volunteer cleanup and beautification initiative. Through MCM365, the City of Detroit supports block clubs, community groups, and other organizations in their summertime district by district clean ups. Residents must register with the City in order to receive supplies and schedule pickups. Year-round beautification projects, such as flower plantings, recycling workshops and anti-litter campaigns, are encouraged by the City.</p>	<p>In 2021, a total of 693 tons of litter were picked up by 5306 volunteers and 478 groups.</p>

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Provided data for case study's GHG calculations:

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- **David J Refkin ***, Associate Senior Consultant & colleagues - Resource Recycling Systems and NextCycle Michigan
- **Natalie Jakub *** - Executive Director - Green Living Science
- **Mike Csapo** - General Manager - Resource Recovery and Recycling Authority of Southwest Oakland County
- **Matthew Naimi *** - Founder & Director of Operations - Recycle Here!
- **Renee V. Wallace *** - Executive Director - FoodPLUS Detroit & Co-Founder of ReMark Composting Solutions
- **Michael Deming** - President - Mulch Guys
- **Jason Grostic** - Founder and Owner - K & E Composting LLC

Further outreach efforts (grassroots diversion efforts, visioning sessions, landscape analysis)

*Some leaders in the section above have contributed to the visioning and deep dive work as well and have a * next to their name*

Main point of contact for GAIA + provided advising support for the project

- **KT Andresky** - Campaign Organizer - Breathe Free Detroit

Shared data and background information and/or took part in the visioning process for a zero waste Detroit by 2030

In alphabetical order of last name

- **Chip Amoe** - Director of Sustainability - Health Ford Health
- **Vanessa Butterworth** - Senior Digital Director - Caring Across Generations
- **Sharon Buttry** - Coordinator - the Detroit-Hamtramck Coalition for Advancing Healthy Environments
- **Darraugh Collins** - Site Director - Food Rescue US - Detroit
- **Roger Cargill** - President - FinitePhoenix
- **Mark Covington** - Executive Director - Georgia Street Community Collective & Co-Founder of ReMark Composting Solutions
- **John Demerjian** - Resource Recovery Coordinator - Wayne County Department of Public Services (Environmental Services Division)
- **Michael Edwards** - Co-founder - Midtown Composting
- **Chris Ivey** - Director of Marketing and Communications - Forgotten Harvest
- **Michelle V. Jackson** - Executive Director - Sustainable Community Farms
- **Nishaat Kalleen** - Senior Project Manager - Michigan Saves
- **Kathleen Klein** - Community Relations Representative - WM
- **Leo Kowalyk** - Senior Business Development Executive - Human-I-T Detroit
- **Jessica Loding** - Chief Sustainability Officer/Director of Events - Schupan SustainAbility
- **Ellen Lyle** - Founder & Owner - Pink Elephant Products and Events LLC
- **Kristina Manolescu** - Owner - Midtown Composting

- **Grace Maves** – Project Manager – Wayne State University Office of Campus Sustainability
- **Madeline Miller** – Founder & CEO – NexTiles LLC
- **Genevieve Nowak** – Director of Environmental Initiatives and Affairs – Belle Isle Conservancy & Founder of the Detroit River Coalition
- **Samantha Pickering** – Director of Education – Plastic Oceans International
- **Ramsay Ritchie** – Sustainability Officer – Wayne County Economic Development
- **Kya Robertson** – District Manager – District 5 (Department of Neighborhoods, which includes the Motor City Makeover initiative)
- **Deborah Stewart Anderson** – Zero Waste Detroit Coordinator – Michigan Environmental Council
- **Arts & Scraps Staff**
- **Kristin Sokul** – Senior Director of Advancement Communications, Marketing and Media/PR – Gleaners Community Food Bank of Southeastern Michigan
- **Danielle Todd** – Executive Director – Make Food Not Waste
- **Sandra Turner-Handy** – Senior Policy Advisor to the President – Michigan Environmental Council

Other important initiatives that are featured in the longer version of the Detroit case study

- **Pashon Murray** – Founder & Consultant – Detroit Dirt
- **Architectural Salvage Warehouse of Detroit**
- **Detroit Green Task Force Recycling & Waste Reduction Committee** and **Organics Recycling Committee**
- **Michigan Recycling Coalition**

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