Mayor Cooper's Sustainability Advisory Committee Report on Metropolitan Government of Nashville and Davidson County's Climate Action Plan

Overview of Recommended Food Waste Climate Mitigation Actions

Thousands of cities have joined the Global Covenant of Mayors for Climate and Energy (GCoM), a voluntary initiative pursuant to which municipalities set targets and develop climate action plans (CAP) for reducing their greenhouse gas emissions. In 2019, the recently-elected Mayor of the Metropolitan Government of Nashville and Davidson County (Metro or Nashville), John Cooper, announced that Nashville would participate in GCoM. He subsequently convened a Sustainability Advisory Committee³ (Committee) in February 2020 charged with providing advice on a range of sustainability issues. In January 2021, the Committee issued a report on its recommended climate mitigation actions.

The accompanying spreadsheet distills the food waste-related climate actions developed by the Committee. In some cases, the recommendations were edited to emphasize the food waste-related aspects of the actions.⁵

The purpose of this list is to serve as a resource and to encourage other municipalities to provide for food waste mitigation actions in their CAPs. Many of the actions are fungible and can be easily incorporated into a wide range of CAPs. Other recommended actions are tailored to Nashville-specific policies, ordinances, and waste management operations—particularly those actions listed in the "systemic changes to waste management system" category—and, therefore, may have more limited applicability. Those actions are included in the hopes that they can nevertheless inform other cities' efforts to include food waste mitigation actions in their CAPs.

Actions are organized into the following four categories:

- 1. Food waste prevention;
- 2. Rescue of surplus food;
- 3. Recycling of food scraps; and
- 4. Systemic changes to waste management system.

¹ GLOBAL COVENANT OF MAYORS FOR CLIMATE AND ENERGY, A DEFINITION OF COMPLIANCE FOR CITIES THAT USE CDP OR ICLEI'S CARBON CLIMATE REGISTRY FOR REPORTING (2018),

https://www.globalcovenantofmayors.org/wp-content/uploads/2018/05/GCoM-Definition-of-Compliance-2018.pdf,

² Nashville's former mayor Megan Barry had previously joined the Global Covenant of Mayors and submitted a plan, making this action a rejoining of the Global Covenant of Mayors.

³ Sustainability Advisory Committee, METRO GOVERNMENT OF NASHVILLE & DAVIDSON COUNTY, TENNESSEE, https://www.nashville.gov/Government/Boards-and-Committees/Committee-Information/ID/137/Sustainability-Advisory-Committee.aspx (last visited Oct. 14, 2020).

⁴ MAYOR COOPER'S SUSTAINABILITY ADVISORY COMMITTEE REPORT ON METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY'S CLIMATE CHANGE MITIGATION ACTION PLAN, https://www.nashville.gov/document/ID/1c2d2c06-6570-4b9d-857b-2e5053c1c1bf/2021-Report-to-the-Mayor-on-the-Metropolitan-Governments-Climate-Change-Mitigation-Action-Plan.

⁵ Many of the recommended actions are derived from the City's Zero Waste Master Plan: METROPOLITAN NASHVILLE AND DAVIDSON COUNTY, SOLID WASTE MASTER PLAN: ACHIEVING ZERO WASTE (2019). https://www.nashville.gov/Public-works/Waste-and-Recycling/Zero-Waste-Master-Plan.aspx.

Actions are accompanied by a **case statement** that describes the importance and benefits of a particular action. The spreadsheet also includes **strategy icons** that indicate if an action fits within five key strategies or approaches commonly employed by cities:

- 1. Policies and ordinances;
- 2. Public awareness and education;
- 3. Incentives and funding;
- 4. Leadership and recognition; and
- 5. Equity and justice.

Finally, the spreadsheet includes some estimates of Metro's **capital costs** (establishing a project/action) and Metro's **operational costs** (maintaining and operating such an action over the long term). These estimates are provided in the ranges of Minimal (less than \$100k), Moderate (\$100k to \$1 million) and Substantial (> \$1 million). These are rough estimates—actual costs could fall outside of the estimated ranges, depending on implementation context and approach.

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Key for Strategy

ICON	STRATEGY
	Policies and ordinances
	Public awareness and education
\$	Incentives and funding
	Leadership and recognition
	Equity and justice
Icons are sourced	from flaticon.com

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Food Waste Reduction	Phase in a food waste ban that prohibits food scraps from trash collection—starting with large generators, then medium to small producers and, finally, residents. Establish curbside organics collection prior to residential food waste ban.	Mandates and bans are needed to achieve 75% diversion as they provide the motivation that drives increased participation. The most important modification associated with this strategy is the introduction of a food waste landfilling ban, as food waste is the largest single item remaining in the waste stream.		1	Minimal (less than \$100k)
Food Waste Reduction	Bring together local businesses to ask them to support zero waste in their business practices, including instituting protocols to prevent food from going to waste. This may include developing and implementing cooperative agreements with local businesses to create a regional business incentive package to support zero waste initiatives.	This strategy demonstrates Metro's commitment to helping businesses achieve zero waste and creating new local markets for recycled material feedstock and new products.		,	Moderate (\$100k - \$1M)
Food Waste Reduction	Explore a partnership with the State to launch a public awareness campaign on food waste prevention (similar to California's Food Waste Prevention Week) during which elected officials and Metro and State agencies: endorse food waste prevention measures, including through social media, conduct high profile events with businesses and nonprofits, utilize educational materials (from resources such as Save The Food), and more.	Leadership, outreach, and education are critical to achieving higher food waste prevention and source reduction, which is cited as the most effective way to prevent and divert wasted food according to the Environmental Protection Agency food recovery hierarchy.	60 60 60 60 60 60 60 60 60 60 60 60 60 6	1	Minimal (less than \$100k)
Food Waste Reduction	Issue a Mayoral executive order that: establishes a City food waste reduction goal (50 percent by 2030) as well as community programs to help achieve it; and charges Metro Departments and quasi-independent Metro agencies with developing strategies for addressing food waste. Program options include continuing the Mayor's Food Saver Challenge, developing educational materials, convening advisory committees, measuring food waste, promoting backyard composting, evaluating curbside pick-up programs, and establishing agency goals and strategies for food waste.	Reducing the amount of food going to waste and diverting it from disposal mitigates climate change, conserves natural resources, can help feed the over 100,000 food insecure members of the Nashville community, saves money (food waste costs the average U.S. household \$1800 per year), and produces beneficial products such as soil amendments.		Unknown	Unknown

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Food Waste Reduction	Support or work with Metro Council to adopt a food waste reduction resolution or ordinance that embraces the federal goal of reducing food loss and waste by 50% by the year 2030.	A resolution would raise awareness and build support for measures to address food waste, and align city goals with federal policy and the U.S. Conference of Mayors' Resolution on food waste reduction.		Minimal (less than \$100k)	Minimal (less than \$100k)
Food Waste Reduction	Develop new strategies to lower costs and increase waste reduction, reuse, and recycling, including working with local universities to encourage student research projects that study and recommend new waste reduction, reuse, and recycling strategies.	Actions demonstrate the City's desire to partner with higher education and to stay on the cutting edge of resource recovery technologies.	888 888	Minimal (less than \$100k)	Minimal (less than \$100k)
Food Waste Reduction	Require Metro departments to prevent waste, maximize recycling, and appoint a New Zero Coordinator for each major department. Require Metro departments to develop an action plan that provides waste reduction, recycling, and composting goals, administered through the Mayor's Office of Transportation and Sustainability.			Minimal (less than \$100k)	Minimal (less than \$100k)
Food Waste Reduction	Enter into working agreements with surrounding local governments, universities, school systems, and state/federal facilities to coordinate education and social media messaging in a consistent manner to local citizens. Develop and implement interlocal agreements with adjoining communities to create a regional zero waste education effort in the greater Nashville media market and regional school systems.	Regional collaboration helps to attain more efficient scale, more cost effective markets, and more local business development opportunities.	66 888 888	Minimal (less than \$100k)	Minimal (less than \$100k)
Rescue of Surplus Food	Develop and implement an ordinance that supports a surplus food capture program based on the research supported by the Natural Resources Defense Council study, Modeling the Potential to Increase Food Rescue. Expand current volunteer efforts.	Strategies will ensure that surplus food is rescued for consumption rather than disposed.		Minimal (less than \$100k)	Minimal (less than \$100k)
Recycling of Food Scraps	Provide the public with diversion opportunities at public events and festivals to enhance zero waste awareness that will translate to better recycling habits at the home and office. Adopt a Special Events Ordinance that requires public special events and festivals that currently require a Metro permit to achieve sustainability standards, such as providing recycling and organics collection, regulating vendor food serviceware and collateral, reducing litter, and other means to increase diversion toward making it a zero waste event.	These strategies support Nashville residents' commitment to recycling and composting, and reinforces Metro's commitment to zero waste.		Minimal (less than \$100k)	Moderate (\$100k - \$1M)

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Recycling of Food Scraps	Establish residential Save-As-You-Throw collection and add new materials to curbside recycling — the combination of actions complement one another. The SAYT pricing structure should minimize disproportionate financial impact on low-income communities and avoid incentivizing illegal dumping.	"Save-As-You-Throw / Pay-As-You-Throw" is the most effective and cost-effective residential recycling and composting strategy. It incentivizes recycling and organics diversion, resulting in a substantial amount of source reduction.	\$ =	•	Substantial (> \$1M)
Recycling of Food Scraps	Establish commercial Save-As-You-Throw collection by supporting ordinances that allow Every Other Week trash collection for the commercial sector and provide for programs explicitly for small businesses and schools, including recognition programs, grants for bins, space for recycling bins, and other initiatives.	The most significant barrier to recycling in the commercial sector is that trash and recycling costs more than trash alone. This hurts the business case for recycling. The Save-As-You-Throw strategy changes the economics and brings the service and incentives in line with those of the residential Save-As-You-Throw program. Recycling and food scraps collection service is provided to all businesses, and the cost is embedded in the trash bill.		,	Minimal (less than \$100k)
Recycling of Food Scraps	Establish incentive pricing to reduce collection costs by allowing residents to opt for Every Other Week trash collection with attendant lower costs. Eventually move to Every Other Week collection for everybody.	This strategy encourages residents to recycle and compost, and educates them about the costs of disposing waste.	\$	Minimal (less than \$100k)	Minimal (less than \$100k)
Food Waste Reduction	Develop and implement a multi-year public education campaign . This strategy should roll-out with the food waste ban and the Save-As-You-Throw collection program, and materials should be distributed through public education and social media venues.	Education is a key component of achieving higher participation and a higher capture rate, and strengthens the zero waste brand by reaching those not already engaged in diversion programs. Incorporating prevention education into recycling outreach also helps reduce the amount of material in the waste stream overall.	60 60 60 60 60 60 60 60 60 60 60 60 60 6	,	Substantial (> \$1M)

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Recycling of Food Scraps	Increase public education and engagement on recycling and composting , including for businesses and schools.	A well-designed, targeted education program will inform and encourage increased use of diversion alternatives and waste reduction measures while discouraging disposal. Outreach will be conducted using a range of communications methods, including radio, newspaper, newsletters, web, and social media. Partnerships will be needed to effectively reach out to businesses (e.g., Chamber of Commerce, Metro business or licensing departments, the Building Permit Division, and others) and schools (e.g., Metro Nashville Public Schools, local universities and colleges).	60 0 80 0 80 0	,	Moderate (\$100k - \$1M)
Recycling of Food Scraps	Lead by example: • Enhance public space recycling by supporting efforts by Metro Parks and Recreation to install or improve paired trash and recycling bins. • Institute requirements that events renting public spaces must comply with separation and recycling requirements. • Expand/update the recycling programs in Metro's buildings and events with appropriate education for workers and custodial staff.	Leading by example reinforces and makes clear to the public that Metro Nashville is committed to recycling in all public spaces, including food scraps where possible.			Moderate (\$100k - \$1M)
Recycling of Food Scraps	Utilize new color-coding system for waste and recycling operations to reduce contamination levels and as a form of zero waste messaging.	Color-coding increases recycling and reduces recycling contamination levels.		•	Minimal (less than \$100k)
Recycling of Food Scraps	Develop and implement enforcement procedures and rules to support universal implementation of mandatory recycling and organics collection. Perform frequent route monitoring for participation and contamination.	Enforcement actions demonstrate Metro Nashville's commitment to ensuring quality, contamination-free recyclable materials for use.			Moderate (\$100k - \$1M)
Recycling of Food Scraps	Require/reward commercial use of compost from yard waste & food scraps by changing building codes to require use of soil amendment that contains local compost — and include establishment of a consistent definition for "compost."	Metro will help drive demand for recovered materials compost, and improve the economics of collecting and processing yard waste and food scraps.		,	Minimal (less than \$100k)

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Recycling of Food Scraps	Adopt a compost procurement policy that provides for Metro agencies and departments (unless exempted) to purchase compost for use in public projects such as landscaping, construction, erosion control, stormwater management, and green infrastructure — provided it is not cost-prohibitive to acquire. Develop compost procurement implementing procedures with substantial input from Metro departments and stakeholders, and track and report on implementation progress.	Requiring the purchase of compost increases its use and provides myriad benefits. Economic benefits include: increased sales for local compost suppliers; reduced landfill disposal costs; development of new compost processing facilities and attendant jobs; and reduced need for irrigation and fertilizer. The environmental benefits from increased compost include: reduced greenhouse gas emissions (methane) and increased carbon storage; improved soil quality; improved water and nutrient retention capacity; reduced reliance on chemical fertilizers; and reduced stormwater runoff.		Unknown	Unknown
Recycling of Food Scraps	Provide a site for and develop an industrial park to host companies that reprocess locally-generated materials and create local green jobs with living wages, in regional collaboration through the Greater Nashville Regional Council.	Metro understands that to be successful in the long term, there must be a healthy and sustainable recycling industry. This strategy contributes to that goal.	(S)	•	Minimal (less than \$100k)
Recycling of Food Scraps	Improve access to convenience centers/sites where the public can drop off food scraps by establishing minimum requirements for access and services.	Convenience center sites are a vital diversion option for residents in more rural areas, as well as for residents in multi-family buildings that may have more limited access to services.		Moderate (\$100k - \$1M)	Substantial (> \$1M)
Recycling of Food Scraps	Significantly increase municipal solid waste surcharges and/or provide fee reduction incentives to recycled and source separate organic materials, such as reduced surcharges to residential and commercial haulers, to ensure clean separated streams and diversion at transfer stations and disposal sites.	Metro currently applies a surchage of \$6/ton on municipal solid waste, which is low compared to other cities. Incentive pricing and these types of surcharges change the economics of diversion and can even change waste generator behavior.	\$,	Minimal (less than \$100k)

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Recycling of Food Scraps	Community composting: • Support community composting, including Nashville Food Waste Initiative's (NFWI) community composting pilots, possibly by providing Metro-owned land to site a project and/or promoting and raising awareness of the pilot. • Inventory city-owned land or flood-prone land that could be used for community gardens and community composting projects (Boca Raton, Seattle). • Provide funding, equipment, and technical assistance for communities looking to compost (Boston, NRDC). • Provide education related to and promote community composting opportunities. • Clarify relevant regulatory requirements (including zoning and permitting), including whether the Community Garden Ordinance is still in force and what it entails. • Create a best practices or guidelines document for establishing community composting projects (Baltimore, Charlotte).	Community composting projects can be cheaper and quicker to design and launch than larger-scale and higher-diversion composting facilities and can reduce GHG emissions. Community composting plays an important role in building a robust and diversified organics recycling infrastructure and can make composting accessible to a broader group of constituents, including residents in underserved neighborhoods. Locating composting projects in residential areas can reduce the distance that food scraps must be transported for recycling, reducing associated GHG emissions. Community composting can also have cobenefits such as community building, increased demand for and interest in composting and sustainable practices, greater understanding of composting practices, preservation and rebuilding of local soils, and provision of useful skills and jobs training.	\$ 0.00 CM	· ·	Minimal (less than \$100k)
Recycling of Food Scraps	Food scrap recycling infrastructure: • Promote development of local food scrap recycling processing infrastructure by establishing a loan program or revolving fund for local small recyclers (including organics recyclers) to start or scale up (Charlotte). • Investigate feasibility of partnering with local farmers to transport residential food waste to farms for composting with agricultural waste produced on site (Boston). • Investigate ways to encourage development of local infrastructure, possibly including siting a local composting facility. Work with communities and infrastructure developers to ensure that infrastructure placement creates well-paying jobs and does not exacerbate conditions in underinvested neighborhoods (Baltimore). • Clarify regulatory requirements and streamline permitting processes for compost processing infrastructure (NFWI Landscape Analysis on Food Scrap Recycling). • Investigate feasibility of a local, stand-alone anaerobic digester (Denver).	Increased local processing capacity will be necessary as greater quantities of food scraps and other organic wastes are diverted from landfills. As processing operations can take time to go through permitting processes and come online, it is important to plan for the long term and ensure that existing processing capacity is not exceeded when strategies such as Save-As-You-Throw and organics waste bans are implemented. Additionally, keeping processing capacity local can decrease the cost of food scrap recycling, and it is important to have a robust and diversified processing infrastructure that can withstand disruptions to specific operations. Local processing infrastructure can have the co-benefit of providing well-paying green jobs, but must be sited and built with community input and with equity and environmental justice in mind.	\$	Unknown	Unknown

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Recycling of Food Scraps	Community gardens: Consider the value of community gardens to promote local food production and serve as community composting sites (Austin Food For All). Explore opportunities to expand community gardens at schools, rooftops, and vacant land including flood properties that could be made available for farming, and include composting at these locations (Seattle). Educate the community on organic composting through community garden workshops (Boca Raton). Locally recycle organic waste from food and make compost available for local food production at community gardens (San Diego County). Clarify and reduce regulatory (zoning and permitting) requirements related to community gardens as well as composting at them (Charlotte). Provide funding (through grants or loans) and technical assistance for community gardens (Charlotte).	Community gardens are a low-cost way to expand green space, grow community, increase access to local, organic food, and address food insecurity. Gardens are also an ideal site for hands-on learning experiences such as composting education workshops. Community composting lends itself easily to community gardens — gardens that include composting sites can directly use that compost for food production.		•	Minimal (less than \$100k)
Systemic Changes to Waste Management System	Establish Solid Waste Authority Planning & Funding Authority, and Tracking System.	This is the cornerstone of Metro's Zero Waste Plan for reducing greenhouse gases though waste managment strategies. The service, oversight, planning, enforcement, and funding of local authorities is critical to the success of nearly all strategies.	\$	•	Moderate (\$100k - \$1M)
Systemic Changes to Waste Management System	Avoid laws, rules, or contracts that penalize reduction/diversion of waste sent to landfills or other facilities that hinder the City's ability to meet its carbon reduction and zero waste goals, such as a waste-to-energy facilities.	Certain actions may block or reduce the effectiveness of one or more of these recommendations.		Unknown	Unknown
Systemic Changes to Waste Management System	Establish contracted franchise zone collection for residential sector with Every Other Week trash collection.	Best practices from other communities indicate that contracted franchise zones for collection of waste, recyclables, and compost will increase diverted tonnage by providing unified control of collection at greater economies of scale. This strategy eliminates the routing of multiple haulers operating on the same streets and reduces inefficiencies, road wear, noise, and emissions.		Moderate (\$100k - \$1M)	Moderate (\$100k - \$1M)
Management System	Create a new job position to promote recycling and reuse within the framework of the Mayor's Office of Economic and Community Development and through regional collaborationg with the Greater Nashville Regional Council. Utilize the City's economic development tools and levers.	This position brings new recycling and reusing industries to Davidson County, including food scrap recycling.		Minimal (less than \$100k)	Minimal (less than \$100k)

CATEGORY	ACTIONS	CASE STATEMENT / BENEFITS	STRATEGY	METRO CAPITAL COST RANGE	METRO OPERATIONAL COST RANGE
Systemic Changes to Waste Management System	State and regional initiatives: • Support state and regional collaboration for food waste reduction policies and infrastructure by advocating at the county and state level for improved waste reduction policies and infrastructure, and by coordinating with regional partners on infrastructure development. A regional solid waste authority can help facilitate the development of local infrastructure and policy. • Support state legislation providing additional liability protections for food donors and sellers of recovered food (Baltimore Food Waste & Recovery Strategy). • Join campaigns for standardizing food labeling dates in state and federal policies and educating the public on date labeling, donor liability, and food thrift (Cleveland).	Local efforts will be limited without state and regional policies that support the infrastructure or policymaking needed to achieve food waste reduction. For example, if cities are unable to site new composting facilities due to land availability or funding, state/regional partnerships can pool together funding and facilitate development and logistics for infrastructure outside city limits. This is especially pertinent in Nashville, where it might be more expensive and politically difficult to site infrastructure than in surrounding jurisdictions. Similarly, state legislation on liability protection for food donors and other food waste reduction policies will amplify and support city-level efforts.		Unknown	Unknown
Systemic Changes to Waste Management System	Increase methane capture efficiency at landfills by identifying and piloting strategies for open and capped landfills to increase the methane capture efficiency. For all future landfills, include methane capture process requirements during procurement RFP when selecting solid waste vendors for the Urban Services District.	Rather than being released as emissions, methane produced from organic waste in landfills can be captured and used to produce energy, with the eventual goal of keeping organics out of landfills so there is no longer methane production in the long term.		Unknown	Unknown