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Managing Food Waste - Materials Management Plans This template is intended to support counties, cities, villages, and townships (CVTs) in developing a plan to manage food waste as part of the required materials management plans (MMP). The template is broken into the following tabs:

1) County - This tab has the template for Counties to use to create their food waste management plans for the MMP. This should be used to support MMP goals related to food waste and create an action plan to achieve those goals.

2) CVTs - This tab has a template for cities, villages, and townships to use to create their food waste management plans. Reaching the County's MMP goals will require CVTs to develop and implement food waste reduction strategies, therefore, this template supports implementation of the County's goals. The County should provide this template to its CVTs to support them in considering how they can contribute to the County's food waste reduction goals.

The template is intended to walk municipalities through the process of creating a food waste management plan. The first section, determining baseline waste and costs, is a critical focus area to complete so that tracking and measuring can be done. The strategies in the remaining focus areas can be picked and chosen from, however, it will likely be very difficult to reach the County's goal for food waste reduction if some sort of diversion program is not in place. Counties should encourage CVTs to create their own food waste reduction plans from the MMPs and commit to specific actions that will support the County's goals. Which actions to take should be considered using the information in columns B (description), C (cost), and I (resources) as well as the resources available in the community and compatibility between the strategy and community character, values, and experience. Strategies highlighted in **green** are those that are easiest to implement while also being effective in reducing food waste.

Once strategies have been identified, more specific objectives (targets, goals) for the strategy should be noted (Column D), along with a timeline for completion (Column E). Determining how progress on the strategy will be measured should also be noted (column F) and who's responsible for implementing the strategy and measuring/reporting on it. The "Data Tracker" tab of this template provides an outline of how a more detailed action plan could be structured.

If you have any questions, suggestions for this template, or general food waste inquiries, please contact Make Food Not Waste at info@makefoodnotwaste.org.

FOOD WASTE REDUCTION ACTION TEMPLATE: COUNTY			To Be Completed by County					Helpful resources and Notes
Focus Area	Strategies	Project Cost Range (\$=low, \$\$=med, \$\$\$=high)	Objectives	Timeline	Method of Measurement (See NRDC resource)	Responsibility	Notes	
Determine County's baseline of waste and costs	Identify the baseline of overall food waste, amount of food waste per sector, and food rescue opportunities	\$						EPA Excess Food Opportunities Map, NRDC City-Wasted Food and Rescue Potential Calculator (EGLE Catalyst Community/NRDC/RRS webinar)
	Calculate GHG reduction opportunities moving food waste from landfills (MTCO2e) to prevention or compost or anaerobic digestion	\$						EPA WARM Model
	Calculate the social cost of carbon from food waste	\$						Formula: MTCO2e from WARM model * \$190 (Biden Administration Social Cost of Carbon)
	Calculate household spending on food that is uneaten	\$						Formula: \$759/resident/year
	Calculate amount of potential savings for restaurants	\$						Formula: average annual savings potential per restaurant (\$23,000) * # of restaurants
Understand current food rescue landscape of food rescue organizations, food banks, food pantries, farms, and community gardens	Compile list of local food system players	\$						Contact your nearest Feeding America organization, EPA Excess Food Opportunities Map
List organics recycling resources	Locate nearby yard waste collection sites that will accept food scraps and/or can be modified easily to accept food scraps	\$						Map of Sites
	Detail where in the County food scrap collection is happening (curbside and drop off) and capacity	\$						
	Calculate number of compost sites needed	\$						EGLE to provide support
Support Existing Programming	Understand County's waste management contract regarding food scrap collection opportunities, including contract dates, ability to change the contract, ability to negotiate for lowered rates if diversion occurs, etc.	\$						
	Identify culinary programs, economic development programs, DDAs and other business resources that exist to support organizations in training workers on food waste reduction practices, developing food diversion and rescue programs, etc	\$\$						
Outline Trackable Metrics	Residential	\$						Recommended: 10% reduction via prevention and a 50% participation in food scrap collection
	Commercial	\$						Recommended: 10% reduction in prevention, a 15% reduction through donation, and a 25% participation in food scrap collection
	County	\$						Reduce overall food waste by 50% at County properties through prevention, donation, and composting
	Waste Diversion Rate	\$						Percentage of food waste diverted from landfills to recycling, composting, or anaerobic digestion with composting of the remaining digestate
	Tonnage of Food Waste Collected	\$						Total amount (in tons) of food waste diverted from the waste stream over a specific time period
	Greenhouse Gas (GHG) Emissions Reductions: Amount of GHG emissions reduced by diverting food waste from landfill	\$						(WARM)
	Cost Savings	\$						Amount of money saved due to reduced landfill waste hauling fees
	Food Recovery Metrics	\$						Amount of food rescued and redistributed to those in need (measured in pounds or meals)
	Composting Outputs	\$						Volume of compost produced from diverted food waste
Lead by Example	Ensure that existing information and direction is clearly available on County website (i.e. share tables, food donation liability protection, relevant information related to composting in the County, any available financial programs, etc)	\$						Liability protection
	Require use of compost on County properties for landscaping and with new government facility construction	\$\$						State guidance on share tables
	Require County public events to be zero waste or adopt waste reduction strategies; include educational signage	\$						Compost Procurement Policy
	Alter County procurement policies to encourage vendor action on food waste, including preventive strategies and food donation	\$\$						Examples: Ferndale Special Events, Rockefeller Waste Free Events
	Communicate County's food waste reduction efforts to the public	\$						
	Collect food scraps at County events and County property	\$\$\$						
	Facilitate best practice sharing within the County by hosting a County-wide summit for municipalities and food waste management entities to gather and share information	\$\$						
	Have the County Executive make a public commitment	\$						Guide to making a public commitment
	Partner with local businesses (e.g., restaurants, grocery stores) to adopt food waste reduction measures by offering technical assistance such as waste audits	\$\$-\$\$\$						How to conduct a food waste audit
Recognize businesses who adopt food waste reduction practices; consider a competition	\$\$-\$\$\$						Guide to restaurant challenge	
Require health inspectors to be trained on food donation safety and liability and to share information with food service operators	\$						How to engage Health Inspectors, Model policies	
Adopt a county-wide color/shape/signage scheme for all waste management and encourage communities within the County to adopt it	\$\$-\$\$\$							
Create a voluntary or compulsory program for large food waste generators to track, report, and divert food waste	\$\$-\$\$\$							
Promote, support or create, if needed, food rescue organizations	\$-\$\$\$							
Decrease food waste in schools	Encourage schools to commit to reducing food waste	\$						
	Encourage schools to incorporate food waste reduction into curriculum	\$						WWF: Offer-v-serve, Share tables, composting
	Encourage schools to offer food scrap collection	\$						Model policies
	Encourage schools to implement share tables	\$						Share Tables for Schools guidance from State of Michigan
	Encourage schools to participate in offer v. serve	\$						Teaching resources (WWF)
	Encourage schools to perform a resource assessment of cooking equipment, kitchen space, staff skills, etc.	\$						Food Service Resource Checklist
	Encourage schools to conduct a food waste audit	\$						
	Encourage schools to conduct food preference surveys	\$						
	Encourage schools to track food waste in their school wellness portal	\$						
	Encourage schools to donate leftover food	\$						
	Encourage schools to participate in 10 Cents a Meal	\$						10 Cents a Meal for Michigan's Kids & Farms (tencentsmichigan.org)
	Encourage schools to do as much scratch cooking as possible	\$						
	Encourage schools to adopt county color/shape/signage scheme for waste management	\$						
	Encourage schools to have student and/or teacher/parent champions (Green Team)	\$						
	Encourage schools to submit action items to Michigan Green Schools certification	\$						Additional best practices (USDA)

Increase food scrap collection infrastructure and accessibility	Provide municipalities with information related to curbside collection and drop off programs									Best practices for drop off sites (BioCycle) City of Boston curbside collection program
Increase food scrap processing	Initiate the development of additional composting and A/D sites, if needed	\$\$\$								EGLF- Model policies
	Create a workforce development program in circular waste management	\$\$\$								
Engage the Community	Conduct a public education campaign related to prevention and composting	\$								(Link to MFNW forthcoming)
	Organize events, workshops, and social media outreach to encourage participation among households, businesses, schools, and community groups	\$\$								
Increase partnerships and regional collaboration	Provide pass through funding to local businesses, nonprofits and regional stakeholders to support efforts	\$-\$\$\$								Federal Grants Database
	Explore joint compost facility infrastructure with neighboring counties to reduce costs	\$								
Ensure food waste management services are available to all communities within the County	Provide targeted outreach and financial assistance for residents and food pantries who may face barriers to participation	\$-\$\$\$								
Provide for financial sustainability of food waste management	Provide support to local municipalities, businesses and nonprofits by applying for State and federal grants open to government entities on behalf of groups based in County	\$-\$\$								
Support innovative technologies	Consider the adoption of or pilots to test technological approaches including: apps and digital marketplaces, composting and aerobic digestion machines, upcycling into value-added food or non-food products, smart bins, and robotic food sorting/transporting systems	\$-\$\$\$								Too Good To Go , Flashfood , HARP aerobic digestion , BioBelly compost bins , Home bins ; Reencle , Mill , Orange Sparkle Ball , Michigan Materials Marketplace
Support municipalities	Share municipality guide	\$								See "Municipality" Tab
	Share best practices from other communities for municipalities looking to enhance food waste reduction efforts	\$								
Measure results	Use various methods to gather data related to goals	\$\$								Guide to Methods (NRDC)

FOOD WASTE REDUCTION ACTION TEMPLATE: MUNICIPALITIES			To Be Completed by Municipality					
Focus Area	Strategies	Project Cost Range (\$=low, \$\$=med, \$\$\$=high)	Objectives	Timeline	Method of Measurement (See NRDC resource)	Responsibility	Notes	Helpful Resources
Determine Community's baseline of waste and costs	Identify the baseline of overall food waste, amount of food waste per sector, and food rescue opportunities	\$						NRDC Residential Food Waste Assessment - Survey, Kitchen Diary, and Bin Audits - see pages 139-169 for the survey and diary information and pages 4-6 for bin audit details NRDC Toolkit for Tackling Food Waste in Cities - See Strategy 10, Findacomposter.com EPA WARM Model Formula: MTCO2e from WARM model * \$190 (Biden Administration Social Cost of Carbon) Formula: \$759/resident/year Formula: average annual savings potential per restaurant (\$23,000) * # of restaurants New York State Pollution Prevention Institute Food Waste Calculator
	Identify large food waste generators-those generating more than 2T of food waste weekly	\$						
	Calculate GHG reduction opportunities moving food waste from landfills (MTCO2e) to prevention or compost or anaerobic digestion	\$						
	Calculate the social cost of carbon from food waste	\$						
	Calculate household spending on food that is uneaten	\$						
	Calculate amount of potential savings for restaurants	\$						
Understand current food rescue landscape of food rescue organizations, food banks, food pantries, farms, and community gardens, and work to increase capacity among these outlets	Compile list of local food system players	\$					Contact your nearest Feeding America organization, EPA Excess Food Opportunities Map NRDC Toolkit for Tackling Food Waste in Cities - See Strategy 8 NRDC Toolkit for Tackling Food Waste in Cities - See Strategy 8 NRDC Toolkit for Tackling Food Waste in Cities - See Strategy 8	
	Assess ability to rescue and store more food, and demand to distribute/use more food, and what types (for example, a pantry may be able to take nonperishables that don't need to be refrigerated, but can't take anything that needs refrigeration unless they get additional cool storage space)	\$						
	Identify needs to be able to rescue and redistribute more food (staff, infrastructure, funding, demand)	\$						
	Facilitate connections between organizations and networks to address gaps and increase partnerships and collaboration	\$						
Help fund rescue-related infrastructure and needs via grants and other funding sources	\$\$							
List organics recycling resources	Locate nearby yard waste collection sites that will accept food scraps and/or can be modified easily to accept food scraps	\$					Map of Sites Formula: [(Number of pounds of residential food waste)(.5) + (Number of pounds of commercial food waste)(.25)]/4,400,000 (see county)	
	If food scrap collection is happening (curbside and drop off) in the community, gather information about where it occurs, how it is run, participation levels, and its capacity	\$						
	Calculate number of compost sites needed	\$						
Support Existing Programming	Understand Community's waste management contract regarding food scrap collection opportunities, including contract dates, ability to change the contract, ability to negotiate for lowered rates if diversion occurs, etc.	\$						
	Identify culinary programs, economic development programs, DDA's and other business resources that exist to support organizations in training workers on food waste reduction practices, developing food diversion and rescue programs, etc	\$\$						
Outline Trackable Metrics	Residential	\$					Recommended: 10% reduction via prevention and a 50% participation in food scrap collection Recommended: 10% reduction in prevention, a 15% reduction through donation, and a 25% participation in food scrap collection Reduce overall food waste by 50% at City/Township properties through prevention, donation, and composting Percentage of food waste diverted from landfills to recycling, composting, or anaerobic digestion with composting of the remaining digestate Total amount (in tons) of food waste diverted from the waste stream over a specific time period (WARM) Amount of money saved due to reduced landfill waste hauling fees Amount of food rescued and redistributed to those in need (measured in pounds or meals) Volume of compost produced from diverted food waste	
	Commercial	\$						
	Community	\$						
	Waste Diversion Rate	\$						
	Tonnage of Food Waste Collected	\$						
	Greenhouse Gas (GHG) Emissions Reductions: Amount of GHG emissions reduced by diverting food waste from landfill	\$						
	Cost Savings	\$						
	Food Recovery Metrics	\$						
Composting Outputs	\$							
Lead by Example	Ensure that existing information and direction is clearly available on Community website, and promote the website (i.e. composting guidelines, share tables, food donation guidelines and liability protection, any available financial programs, etc)	\$					Liability protection State guidance on share tables Compost Procurement Policy Examples: Ferndale Special Events; Rockefeller Waste Free Events Guide to making a public commitment	
	Require use of compost on Community properties for landscaping and with new government facility construction	\$\$						
	Require Community-sponsored and hosted public events to be zero waste or adopt waste reduction strategies; include educational signage	\$						
	Alter Community procurement policies to encourage or require vendor action on food waste, including preventive strategies and food donation	\$\$						
	Communicate Community's food waste reduction efforts to the public via an online dashboard	\$						
	Collect food scraps at Community-owned properties	\$\$\$						
	Facilitate best practice sharing within the region by attending a County-wide summit for municipalities and food waste management entities to gather and share information	\$\$						
Have the City Mayor or Township Supervisor make a public commitment	\$							

	Update site development standards to include food waste management in plans	\$							
	Permit food upcycling facilities, including soup kitchens, in more areas throughout the city to process surplus food	\$							
	Advocate for adding capacity or retrofitting anaerobic digesters at wastewater treatment facilities to accept food waste, where applicable	\$\$\$							
Address food waste in residential settings	Speak to community groups on food waste reduction strategies for households, including understanding date labels, properly storing food, preservation techniques, etc.	\$							
	Provide pop-ups/demos at community partners and community events on ways to reduce food waste at home	\$-\$\$							
	Train residents in ways to safely reduce food waste at home	\$-\$\$							Composting Food Scraps in Your Community: A Social Marketing Toolkit US EPA
	Introduce a food waste comparison metric for benchmarking households of various sizes	\$							
	Host a food waste reduction competition among households	\$\$							
	Create household food waste prevention toolkits that include low tech tools to prevent food waste including reminder magnets/stickers, a refrigerator thermometer, grocery list pad, recipes, and "use up" tape	\$\$							Report on items for food waste reduction in households
	Provide countertop caddies with signage/educational materials and liners to all households	\$\$							
	Implement a food scrap collection program	\$\$\$							
	Provide curbside food scrap pick up comingled with yard waste for single family residents	\$\$\$							Composting Council's Curb to Compost Toolkit
	Provide curbside food scrap pick up with carts for all single family residences	\$\$\$							Curbside pick up, particularly that with rolling carts, has been found to have the highest participation rates.
	Provide food scrap collection sites on city property for all residents to drop off food scraps.	\$\$							Food Waste Drop-Off Program Best Practices BioCycle
	Create a recognition program for households who are properly sorting food scraps	\$							Gold Star Program for Residences in Australia Rewards programs for recycling
	Develop clear guidelines for backyard and community composting	\$							Minnesota Composting Council and Association of Recycling Managers Model Composting Ordinance for backyard and small compost sites , NRDC , and the Environmental Law Institute (ELI) , Model Municipal Zoning Ordinance on Community Composting with Commentary
	Create a demonstration composting site to educate residents on how to compost	\$\$							
	Create a program to bulk purchase home composting supplies	\$							
Address food waste in commercial settings	Consider moving to a Pay As You Throw (PAYT) model for trash collection fees to incentivize diversion	\$							Northeast Resource Recovery Association Pay-As-You-Throw (PAYT) Toolkit
	Unbundle waste collection service fees and reduce fees for those who compost	\$							NRDC Model Ordinance Establishing a Pay-As-You-Throw Program for Residential Municipal Solid Waste
	Increase frequency of food scrap collection and decrease frequency of landfill collection	\$							
	Promote food scrap collection programs	\$-\$\$							Best practices for drop off sites (BioCycle)
	Partner with local businesses (e.g., restaurants, grocery stores) to adopt food waste reduction measures by offering technical assistance such as waste audits	\$\$-\$\$\$							How to conduct a food waste audit
	Recognize businesses who adopt food waste reduction practices; consider a competition	\$							Guide to restaurant challenge
Address food waste in commercial settings	Promote and encourage the use of apps and technologies that connect surplus food to interested people	\$							
	Facilitate conversations among business owners in close proximity about shared food scrap collection services or aerobic digesters	\$							
	Adopt a community-wide color/shape/signage scheme for all waste management	\$\$-\$\$\$							
	Create a voluntary or compulsory program for large food waste generators to track, report, and divert food scraps	\$\$-\$\$\$							New York State Pollution Prevention Institute Food Waste Calculator
	Promote food scrap collection programs	\$							Best practices for drop off sites (BioCycle)
	Provide countertop caddies and liners	\$\$							City of Boston curbside collection program
Increase capacity of food rescue organizations and food pantries	Promote food rescue organizations	\$							Forthcoming from Michigan Sustainable Business Forum
	Work with food rescue organizations and pantries to apply for funding for operations and capacity building	\$\$							
	Support opportunities and spaces to upcycle food	\$-\$\$\$							
Encourage schools to commit to reducing food waste	Encourage schools to commit to reducing food waste	\$							
	Encourage schools to incorporate food waste reduction into curriculum	\$							WWF: Offer-v-serve, Share tables, composting
	Encourage schools to offer food scrap collection	\$							Model policies
	Encourage schools to implement share tables	\$							Share Tables for Schools guidance from State of Michigan
	Encourage schools to participate in offer v. serve	\$							
	Encourage schools to perform a resource assessment of cooking equipment, kitchen space, staff skills, etc.	\$							Food Service Resource Checklist

Decrease food waste in schools	Encourage schools to conduct a food waste audit	\$					Guide to Conducting Food Waste Audits: A Resource for Schools. Food Waste Audit for Schools - Sustainable New Jersey
	Encourage schools to conduct food preference surveys	\$					
	Encourage schools to track food waste in their school wellness portal	\$					
	Encourage schools to donate leftover food	\$					
	Encourage schools to participate in 10 Cents a Meal	\$					Teaching resources (WWF)
	Encourage schools to do as much scratch cooking as possible	\$					
	Encourage schools to adopt county color/shape/signage scheme for waste management	\$					
	Encourage schools to have student and/or teacher/parent champions (Green Team)	\$					
	Encourage schools to submit action items to Michigan Green Schools certification	\$					Additional best practices (USDA)
Increase food scrap processing	Initiate the development of additional composting and A/D sites, if needed	\$\$\$					EGLE: Model policies, NRDC Toolkit for Tackling Food Waste in Cities - See Strategy 10
	Create a workforce development program in circular waste management	\$\$\$					
Engage the Community	Promote the food waste initiative through Community communications such as newsletters, social media, and the press	\$					
	Identify, train, and promote local champions	\$					
	Create advisory committees provide feedback on how food waste initiatives are going for businesses and residents	\$					
	Conduct a public education campaign related to prevention and composting	\$\$-\$\$\$					(Link to MFNW forthcoming)
	Create ways for people to make a public commitment to address food waste such as yard signs, flags, and door signs, online pledges, etc.	\$\$					
	Organize events, workshops, and social media outreach to encourage participation among households, businesses, schools, and community groups	\$\$					
Increase partnerships and regional collaboration	Provide pass through funding to local businesses, nonprofits and community stakeholders to support efforts	\$-\$\$					Federal Grants Database
	Explore joint compost facility infrastructure with neighboring communities to reduce costs	\$					
Ensure food waste management services are available to all communities within the County	Provide targeted outreach and financial assistance for residents and food pantries who may face barriers to participation	\$-\$\$\$					
Provide for financial sustainability of food waste management	Apply for State and federal grants open to government entities on behalf of groups based in the Community	\$-\$\$\$					
Support innovative technologies	Consider the adoption of or pilots to test technological approaches including: apps and digital marketplaces, composting and aerobic digestion machines, upcycling into value-added food or non-food products, smart bins, and robotic food sorting/transporting systems	\$-\$\$\$					Too Good To Go , Flashfood , HARP aerobic digestion , BigBelly compost bins , Home bins: Reencle, Mill, Orange Sparkle Ball , Michigan Materials Marketplace
Measure results	Conduct a waste characterization study	\$\$					Guide to Methods (NRDC)

Example					
	Year 1	Year 2	Year 3	Year 4	Year 5
Strategy - Residential Food Waste Mangement					
Goal: 10% reduction via prevention and a 50% participation in food scrap collection					
Action Steps	Collect baseline data to understand existing prevention and diversion habits	Implement and promote food scrap collection program	Monitor/evaluate food scrap collection program success; measure participation rate and adjust promotional methods/training/location of bins/etc. to increase participation as need to reach goal	Monitor/evaluate food scrap collection program success; measure participation rate and adjust promotional methods/training/location of bins/etc. to increase participation as need to reach goal	Monitor/evaluate food scrap collection program success; measure participation rate and adjust promotional methods/training/location of bins/etc. to increase participation as need to reach goal
Measurement	Resident survey with questions about current practices for managing food waste	Implementation and promotion of food scrap collection program	Resident survey with questions about current practices for managing food waste	Resident survey with questions about current practices for managing food waste	Resident survey with questions about current practices for managing food waste
Tracking Data	Survey developed and launched; received 503 responses that indicate that....	Whether or not the food scrap collection was implemented, how many households it services, number of people participating, pounds of food scraps collected, etc.	Number of households served with food scrap collection program, number of people participating, pounds of food scraps collected, etc.	Number of households served with food scrap collection program, number of people participating, pounds of food scraps collected, etc.	Number of households served with food scrap collection program, number of people participating, pounds of food scraps collected, etc.
Strategy -					
Goal:					
Action Steps					
Measurement					
Tracking Data					
Strategy -					
Goal:					
Action Steps					
Measurement					
Tracking Data					
Strategy -					
Goal:					
Action Steps					
Measurement					
Tracking Data					