MODEL MUNICIPAL ZONING ORDINANCE ON COMMUNITY COMPOSTING

With Commentaries*

* For a clean version without commentaries: Model Zoning Ordinance on Community Composting. For background information and supplemental resources: Model Zoning Ordinance on Community Composting Background Memorandum.

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1.0 Findings

1.1 As much as 40 percent of the food supply in the United States goes uneaten, and more than two-thirds of this wasted food is sent to landfills and incinerators, where it typically represents the largest component of disposed waste.¹

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¹ This model zoning ordinance (hereinafter “Model”) takes as its starting point the model zoning template and guidelines published by the U.S. Composting Council. U.S. Composting Council (hereinafter USCC), “Model Zoning Text Amendment for Composting Facilities,” 1st ed., 2022, https://www.compostingcouncil.org/page/ZoningTemplateDownload; and USCC, “Compost Zoning Guidelines,” 2022, https://www.compostingcouncil.org/page/ZoningGuidelinesDownload. The USCC model addresses zoning across a range of composting scales and types (i.e., small-scale, large-scale, and agricultural facilities as well as consolidation facilities). By contrast, this Model focuses exclusively on community composting, which the USCC model equates to small-scale. This Model refers throughout to “municipalities” (typically defined as cities and towns) but can be adapted for use in counties and other types of local jurisdictions where there is authority to amend the zoning code. This Model is limited to zoning for community composting as a permissible land use. As such, it does not establish operational requirements or otherwise address the ongoing regulation of community composting, though a municipality may choose to do so elsewhere in the municipal code. More information on food waste and community composting can be found in the Background Memorandum that accompanies this Model. See Darby Hoover et al., “Model Municipal Zoning Ordinance on Community Composting: Background Memorandum,” June 2024, https://www.nrdc.org/sites/default/files/2024-05/model-municipal-zoning-ordinance-community-composting-background.pdf.


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1.2 The amount of food wasted in the United States is worth approximately $428 billion per year.⁴ When food is wasted, water and other resources used to produce that food also are wasted.

1.3 Wasted food disposed of in landfills emits methane, a greenhouse gas that contributes to climate change and is far more potent, especially in the near term, than carbon dioxide.⁵ An estimated 58 percent of fugitive methane emissions from landfills is due to wasted food.⁶

1.4 Composting diverts wasted food and other organic matter from landfills and incinerators.⁷ This in turn can:

1.4.1 Reduce greenhouse gas emissions from landfilled and incinerated organic waste;
1.4.2 Decrease the harmful public health and environmental impacts of landfills and incinerators;
1.4.3 Lower municipal solid waste management costs associated with landfilling and incineration;
1.4.4 Reduce the need to expand existing landfills and build new landfills and incinerators, which are costly and disproportionately sited in environmental justice communities;⁸ and
1.4.5 Provide green jobs and job training.⁹

1.5 Composting produces a valuable soil amendment that can be used to enrich soil and plants and provides other environmental and economic benefits, including sequestering carbon; preventing erosion; reducing stormwater runoff; and decreasing the need for chemical fertilizers, pesticides, and irrigation.¹⁰

1.6 Community composting, with its community focus and relatively small size, can provide local environmental, economic, and social benefits to [MUNICIPALITY] and its community members, such as community engagement and education, local green job training and creation, and compost application to local soil.¹¹

1.7 Community composting can offer particular benefits to environmental justice communities, including by providing needed green spaces, filling gaps in municipal waste service offerings, and reducing contaminants in soil and groundwater through local compost application.¹²

1.8 The [MUNICIPALITY] zoning code has not expressly provided for community composting as a permissible land use, and this may pose an unintended barrier to the establishment of community composting facilities.¹³

2.0 Purpose¹¹

It is the intention of [CITY COUNCIL] to:

2.1 Amend the [MUNICIPALITY] zoning code to provide for community composting as a permissible land use;

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⁴ ReFED, “In the U.S., 38% of All Food,” accessed February 26, 2024.
¹⁰ See, e.g., Kourtnii Brown, “Why Community Composting Is Critical to California’s Infrastructure,” BioCycle, February 2023, https://www.biocycle.net/community-composting-california; (discussing a California pilot program that created 60 part-time jobs across 105 community composting organizations in 2022). See also Brenda Platt, “Composting Makes Sense: Jobs Through Composting & Compost Use,” Institute for Local Self-Reliance (hereinafter ILSR), May 8, 2013, https://ilsr.org/composting-sense-tables/; (finding that the composting industry in Maryland as a whole employs twice as many workers as landfilling and four times as many workers as incineration on a per-ton basis, and that “the smaller the facility, the higher the job-to-ton ratio”). Note: ILSR is a leading expert on community composting: the institute’s work informed this Model and the companion Background Memorandum and is frequently cited throughout both documents.
¹⁴ The purposes set forth here are adapted from those contained in the USCC model (§1).
2.2 Advance the many environmental, public health, equity, waste management cost, and job benefits of community composting;

2.3 Establish community composting as a land use distinct from industrial-scale composting and municipal solid waste management and disposal, due to its local character, limited size, and unique operational characteristics; and

2.4 Encourage the use of locally generated organic materials as a community resource that contributes to erosion control, drought protection, stormwater management, improved soil health, and carbon sequestration.

3.0 Declaration of policy

It is the policy of [MUNICIPALITY] that community composting is a permissable land use that may, consistent with this ordinance, be located in a district zoned residential, commercial, industrial, agricultural, or mixed-use.\(^{15}\)

4.0 Definitions\(^{20}\)

4.1 **Backyard composting**, or **home composting**,\(^{37}\) means composting where the organic material is processed on site in a residential setting\(^{2}\) and the compost is typically used at the same location.

4.2 **Community composting**\(^{49}\) means an approach to composting,\(^{20}\) using one or more basic configurations,\(^{21}\) that:

4.2.1 Sources organic material locally, distributes\(^{22}\) most or all of the compost locally or uses most or all of the compost on local soils, and typically engages the community in the composting process;

4.2.2 Occupies a smaller operational area and processes substantially less organic material than industrial-scale composting;\(^{23}\) and

4.2.3 Does not engage in on-farm composting (unless on an urban farm or in a community garden).\(^{24}\)

Community composting may involve activities such as receiving, storing, or transferring feedstocks; generating and distributing compost; undertaking related hauling activities; or a combination thereof.

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15 This Model is concerned with privately owned property within the five covered zoning districts. It does not address community composting on publicly owned parcels such as parks. Compare Pittsburgh, PA, Code of Ordinances ch. 454 (establishing the Adopt-a-Lot program, through which certain city-owned parcels of land may be used as gardens).

16 For consistency, municipal governments may prefer to rely on comparable definitions from existing ordinances, regulations, or policies.

17 See, e.g., EPA, “Approaches to Composting—Models of Composting,” last updated December 12, 2023, [https://www.epa.gov/sustainable-management-food/approaches-composting#models](https://www.epa.gov/sustainable-management-food/approaches-composting#models) (discussing backyard/home composting and linking to resources). The definition could be further narrowed by including quantitative limitations. See, e.g., Altoona, WI, Mun. Code ch. 8 88.34.20 (including a limit of 125 cubic feet in its definition of “Back-Yard Compost Site”).

18 This definition is intended to cover all types of residences, including single-family and multifamily homes. A municipality may, however, opt to establish a number of units above which multifamily homes would no longer fall under this definition.

19 Community composting takes many different forms, operates at varying sizes and scales, can be undertaken indoors or outdoors, and has flourished in a wide range of settings. Thus, this Model takes a nonprescriptive approach to defining community composting as a permissible land use and defines it primarily by its community scale and local character.

By contrast, the USCC model equates community composting to small-scale composting facilities, characterized primarily by cubic yardage limitations and area size: i.e., no more than 500 cubic yards of organic material on site at one time, and no more than 5,000 cubic yards processed annually, with a maximum composting facility use area of one acre. See USCC, “Model Zoning” at Preface, §8.2; 4; USCC, “Compost Zoning Guidelines” at §I.B.1. A municipality may opt to include such quantitative parameters in its definition of community composting or to tailor the definition in other ways to reflect local circumstances and community input. See also ILSR, “What Is Community Composting?” accessed April 19, 2024, [https://ilsr.org/composting/what-is-community-composting/](https://ilsr.org/composting/what-is-community-composting/).

Additionally, state laws or regulations may set parameters, such as feedstock throughput, for purposes of regulating compost facilities; where this is the case, a municipality may choose to consider those thresholds in determining its definition of community composting.

20 Community composting may be sponsored or undertaken by a range of potential actors—e.g., one or more individuals, a business, a nonprofit organization, a municipality, a registered neighborhood organization or homeowners association, or a community garden.


22 A community composting facility that distributes its compost may or may not sell it. If the municipality intends to allow the on-site sale of compost, the municipality may choose to add an express provision to that effect if such sales would not otherwise already be permissible.

23 This Model characterizes the size and scale of community composting relative to industrial composting facilities (rather than using a specific quantitative threshold) because, as noted, community composting facilities can vary greatly in size and amount of material processed. See Brenda Platt, James McSweeney, and Jenn Davis, Growing Local Fertility: A Guide to Community Composting, April 2014, 29 and table 2, [https://ilsr.org/size-matters-report-shows-small-scale-community-based-composting/](https://ilsr.org/size-matters-report-shows-small-scale-community-based-composting/).

A municipality may also choose to define “industrial.” The USCC model, for example, characterizes a composting facility as industrial (or “commercial” or “large-scale”) if it receives, stores, generates, or distributes more than 5,000 cubic yards of organic material at any one time and occupies more than one acre. See USCC, “Model Zoning” at Preface and §8.2, 5. See also EPA, “Approaches to Composting” (reporting that “commercial and industrial composting happen at large-scale composting facilities designed to handle a high volume of organic materials” and that these facilities “often rely on tipping fees, contracts with local governments and compost sales to support their operations”).

While community composting is distinct from industrial/commercial composting, community composting may properly be carried out on a for-profit basis by community composters who are small businesses and entrepreneurs. See, e.g., Platt, McSweeney, and Davis, Growing Local Fertility, 7 (noting that “many but not all community composting programs are non-profit mission driven enterprises”).

24 This Model excludes from the definition of community composting on-farm composting (outside of an urban agriculture or community garden context), as it can raise considerations different from those raised by community composting. See discussion at notes 37 and 38.
4.3 **Community composting facility** means the premises or portion thereof, together with any structures thereon, used for community composting.

4.4 **Compost** means the dark, crumbly, earthy-smelling, biologically stable soil amendment produced by composting.

4.5 **Composting** means the controlled, aerobic biological decomposition of organic material.

4.6 **Organic material, or feedstock**, means any compostable material used in the production of compost, including garden or landscaping waste and food scraps.

5.0 **Application of other laws**

5.1 Subject to [STATE] law governing municipal solid waste management and composting activities, this ordinance governs the zoning of community composting as a permissible land use in the zoning district categories specified in §7.0.

5.2 Satisfying zoning requirements for community composting does not relieve an operator or owner from:

5.2.1 Complying with all applicable municipal, state, and federal laws and regulations relating to, without limitation, public health, the environment (including stormwater management), municipal solid waste management, and hauling;

5.2.2 Obtaining any permits, licenses, or other permissions required pursuant to such other laws and regulations;

5.2.3 Operating in a manner so as to avoid creating a public or private nuisance.

6.0 **Prohibitions**

6.1 It is prohibited for a community composting facility to receive, handle, or store the following:

6.1.1 Hazardous or toxic waste;

6.1.2 Biosolids; or

6.1.3 Any nonorganic material.

6.2 The prohibition contained in §6.1.3 does not apply to de minimis amounts of nonorganic material present as a contaminant in some feedstocks in the ordinary course of operations.

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25 This Model uses the word “facility,” a term likely to be recognized by municipal planners, to help distinguish the aspects of community composting most closely associated with land use (rather than the operational elements of community composting that lie outside the zoning context, such as hauling activities). See also, e.g., USCC, “Model Zoning” at §2 (using the term “facility” for all covered types and scales of composting activities).

26 A limitation to this approach is that, especially at smaller scales, community composting may rely on little, if any, infrastructure that one might colloquially deem a “facility.” Another possibility is to use the term “project” in lieu of “facility.”

27 Adapted from EPA, “Composting.” See also the USCC definition: “Compost is the product manufactured through the controlled aerobic, biological decomposition of biodegradable materials. The product has undergone mesophilic and thermophilic temperatures, which significantly reduces the viability of pathogens and weed seeds (in accordance with EPA 40 CFR 503 standards) and stabilizes the carbon such that it is beneficial to plant growth. Compost is typically used as a soil amendment, but may also contribute plant nutrients.” (AAPFCO definition, official 2018) Finished compost is typically screened to reduce its particle size, to improve soil incorporation.” USCC, “Compost Definition,” accessed May 10, 2024.

28 EPA, “Composting.”

29 The municipality may choose to tailor this definition to address what it deems to be acceptable (or unacceptable) feedstock for community composting. ILSR, for example, recommends excluding meat, cooked food, dairy, grease, and oil, “except at sites where attentive management from an experienced operator is involved.” Brolis and Platt, Community Composting Done Right.

30 For states in which community composting is subject to state-level regulation of municipal solid waste management or composting activities—either expressly or because exemptions from state law for community composting have not been adopted—such state-level regulation may affect (and could even preempt aspects of) municipal authority to zone for community composting facilities pursuant to the Model. In such instances, the municipality must conform the zoning of community composting to applicable state-level requirements.

31 With respect to other applicable municipal laws, the municipality would be well served to carefully consider whether the Model aligns with current zoning requirements pertaining to municipal solid waste. For example, in some jurisdictions, it may be necessary to include the following language in enacting the Model (as well as follow any applicable legislative procedures for repeal in the jurisdiction): “A community composting facility is not subject to municipal zoning requirements applicable to municipal solid waste management.”

32 Community composting is often subject to other laws, especially with respect to siting and operations. For example, state or local governments may establish a minimum temperature that compost must reach during processing as an environmental or public health measure to prevent pathogens. See, e.g., Cal. Code Regs. tit. 14, §17868.3. A municipality can further tailor this provision of the Model based on the governing state and local legal framework.

33 Further discussion of the legal and policy context pertaining to this Model can be found in the companion Background Memorandum.

33 This provision covers basic prohibited materials. A municipality may choose to include additional prohibitions.
7.0 Community composting as a permissible land use

7.1 Primary use. Community composting constitutes a primary use:

7.1.1 In a district zoned commercial; and

7.1.2 In a district zoned industrial.

7.2 Accessory use. Community composting constitutes an accessory use:

7.2.1 In a district zoned agricultural; and

7.2.2 On a lot in any zoning district that supports an approved urban agriculture land use or community garden land use.

7.3 Conditional use.

7.3.1 Community composting constitutes a conditional use in the following zoning districts (unless the community composting facility constitutes an accessory use pursuant to §7.2.2):

7.3.1.1 Residential; and

7.3.1.2 Mixed use.

7.3.2 Issuance of a conditional use permit under this section is subject to the applicant:

7.3.2.1 Meeting the conditional use standards contained in §8.0; and

7.3.2.2 Meeting the general conditional use standards set forth at [INSERT SECTION(S) OF MUNICIPAL ZONING CODE, IF ANY, CONTAINING GENERAL STANDARDS FOR ISSUANCE OF CONDITIONAL USE PERMITS]; and

7.3.2.3 satisfying directly any applicable standards in the municipal zoning code to separately allow this land use.

7.4 Mixed-use development. Community composting could constitute a mixed-use development under §7.3.1.2. Mixed-use development combines land uses such as residences, retail space, and office space.

7.5 Additional consideration. The mixed-use development could also support activities such as child-care facilities and gas stations. Additional permits may be required, depending on the type of use involved.

34 This section provides for community composting as a permissible land use by way of deeming it a primary or accessory, or conditional use, depending on the category of zoning district. Although this is the same general approach taken by the USCC model, the USCC model would always allow for community composting as either a primary or accessory use. See USCC, “Model Zoning” at tables (first two rows). This Model recognizes that some municipalities may not be prepared to allow community composting by right across all zoning district categories, particularly in residential zones or for relatively large community composting facilities. Daniel R. Mandelker, “Zoning for Mixed-Use Development,” Real Property, Trust and Estate Law Journal 58 (Spring 2023): 25, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4510458 (noting that “the by right system of zoning is no longer dominant”). See also, e.g., Bradley Adams, “Composting in Agricultural, Residential, and Commercial Districts,” in Remarkable Cities and the Security and Sovereignty of Food and Nutrition: 41 Ways to Regenerate the Local Food System (Washington, DC: Environmental Law Institute, 2023), 49 (“Composting regulations across local governments vary in that some subject varying types of composting operations to a permit process, while others allow composting as a by-right or accessory use, and still others employ a combination of the two approaches.”)

35 A primary use, sometimes also known as a principal use or a permitted use, is a use by right for the category of zoning district. Although a zoning permit may still be required, issuance is typically routine and not subject to detailed local review.

36 An accessory use is incidental and subordinate to the primary use on a given lot. As with a primary use, an accessory use is by right for the type of zoning district. A separate use permit is typically not required. The municipality would include in this subsection all zoning district categories (or circumstances, as in the case of urban agriculture or community garden land uses) in which community composting is deemed an accessory use.

37 Section 7.2.1 provides that community composting may be carried out as an accessory use in an agriculturally zoned district. This provision does not address zoning for “on-farm composting,” generally understood as composting on a farm (not just in an agricultural zoning district) to manage a farm’s excess organic waste, to create compost for use on the farm, or both. This is because on-farm composting and community composting are typically different enough (e.g., in terms of scale, appropriate feedstocks) that they are better addressed as distinct land uses. See, e.g., USCC, “Model Zoning” at §8.2.0 (providing for zoning for “agricultural composting facilities,” which can operate at a larger scale than community composting facilities and more readily accommodate crop residues, manure, animal mortalities, etc.).

38 Although agricultural composting considerations are beyond the scope of this Model, on-farm composting is highly beneficial, and the municipality may wish to amend its zoning code to separately allow this land use.

39 Urban farms and community gardens are exceptions to this Model’s carve-out for on-farm composting. As such, §7.2.2 applies only where a municipality has provided for the zoning of urban agriculture or community gardens. See, e.g., Balt. City Code art. 32 §14-339(g) (composting on-site is allowed as an accessory use to urban agriculture, subject to stated conditions) and §14-307(d) (composting on-site is allowed as an accessory use to open-space farms, subject to stated conditions). Mani. Code of Chicago §17-9-0117-C (providing for urban farm accessory composting operations). See also Sustainable Economies Law Center, Compost Legal Research Roadmap, accessed May 25, 2024, https://static1.squarespace.com/static/5ebdd3df36467a3be075ec5e/t/5ec1cc3f1eba8512a9430422/1589759002499/Compost-Law-Handout-%28z%29.pdf (noting that many community composters use urban farm sites, where composting is often considered an accessory use and is therefore permissible); Angel Areoyo-Rodríguez and Christopher Germain, Urban Agriculture, Composting and Zoning: A Zoning Code Model for Promoting Composting and Organic Waste Diversion Through Sustainable Urban Agriculture, Ohio EPA, Div. of Materials & Waste Mgmt., GD #1011, revised November 2018, 6, https://dam.assets.ohio.gov/image/upload/epa.ohio.gov/Portals/34/document/guidance/GD%201011_UrbanAgricultureCompostingZoning.pdf (endorsing treatment of composting activities as an accessory use to community gardens).

40 Conditional use permitting is a standard feature of municipal zoning and can apply to such common uses as child-care facilities and gas stations. Conditional use indicates extra steps not required for by-right land uses. The details vary across jurisdictions, but conditional use permits typically require the applicant to satisfy certain standards (which may include standards that apply to all conditional uses in a zoning district category or jurisdiction, as well as standards that are specific to the type of conditional use) and receive approval from the planning commission or city council (which may involve a public hearing).

41 The mixed-use district, though increasingly common, is not a zoning district category found in all municipal zoning codes. Mixed-use development combines land uses such as residences, retail space, and office space.
7.3.2.3 Receiving approval from [INSERT PLANNING COMMISSION, CITY COUNCIL, OR OTHER ENTITY] pursuant to [INSERT SECTION(S) OF MUNICIPAL ZONING CODE ESTABLISHING PROCESS FOR CONDITIONAL USE PERMIT APPLICATION AND REVIEW].

8.0 Conditional use standards

The permitting of a community composting facility as a conditional use for residential and mixed-use districts is subject to the following:

8.1 Compliance with applicable municipal, state, and federal laws and regulations governing such facilities consistent with §5.2; and

8.2 Submission of a plan that, at minimum:

8.2.1 Shows the locations of structures and bins as well as tipping and loading areas;

8.2.2 Demonstrates adequate landscaping or other acceptable forms of buffering to screen outdoor aspects of the community composting facility, if any, from adjacent residential properties;

8.2.3 Demonstrates that the community composting facility will not negatively impact existing water infrastructure, surface water, groundwater, and floodplains; and

8.2.4 Addresses potential odor, pest control, and traffic impacts.

9.0 Area, setback, and bulk requirements

The area, setback, and bulk requirements for a community composting facility are those required for other structures and facilities within the zoning district in which the community composting facility is located.

10.0 Exception for backyard composting

This ordinance does not apply to backyard composting.

11.0 Policy to be incorporated into comprehensive plan

The [DEPARTMENT OF PLANNING (OR OTHER APPROPRIATE DEPARTMENT)] shall ensure that, at the next scheduled review of [MUNICIPALITY’S COMPREHENSIVE/MASTER PLAN], a policy establishing community composting as a permissible land use is incorporated into the plan.

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41 Several of the specific conditional use standards for community composting in this section are adapted from USCC, “Compost Zoning Guidelines,” §§I.A.3, 4, 5, 7 (operational requirements for all sizes of composting facilities). In general, this Model’s conditional use standards are framed more as performance standards than as prescriptive requirements. The intent is to afford maximum flexibility to community composters while also safeguarding neighbors and the surrounding residential community. A municipality may choose to remove or modify some of these standards or even to increase the stringency. For example, a municipality could choose to require that a municipal engineering review be conducted. See USCC, “Compost Zoning Guidelines,” §I.A.5.

42 A municipality may also, or alternatively, choose to require compliance with best practices for community composting published by a highly respected composting organization such as ILSR or USCC. See, e.g., Brolis and Platt, Community Composting Done Right; USCC, “Compost Zoning Guidelines.”

43 A well-trained site manager or operator is crucial for avoiding problematic odors and pests. While beyond the scope of this Model and the zoning context, a municipality may choose to require that a site manager or operator have relevant experience or training from a trusted educator such as ILSR or the USCC-affiliated Compost Research & Education Foundation (CREF). See ILSR, “NSR Master Composter Program,” accessed May 2, 2024, https://ilsr.org/neighborhood-soil-rebuilders-learn-more; CREF, “Compost Training Programs,” accessed May 2, 2024, https://www.compostfoundation.org/Education/COTC.

44 A municipality may choose to prescribe more detailed area, setback, and bulk requirements, which would likely need to be tailored by type of community composting facility and by zoning district category, and which would benefit from input from experienced composters and other relevant stakeholders. Such an approach could limit the flexibility that is typically inherent in community composting.

45 This Model follows the USCC model in exempting backyard composting from coverage. A municipality may choose to expressly provide for backyard composting by including a new substantive provision identifying backyard composting as a land use that is accessible to any primary land use that involves habitation.

46 This provision will be inapplicable in some municipalities, especially those that do not have planning departments or use comprehensive plans.