

City of Cambridge – Department of Public Works

**Curbside Organics Collection from Residents
Phase 1 Report - Executive Summary**

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Purpose of Study

The Massachusetts Department of Environmental Protection (MassDEP) awarded the City a 2 ½ year grant for up to \$67,000 through the Sustainable Materials Recovery Program to research, plan and possibly implement a pilot curbside food scraps collection program (“Program”) for residents. The City is motivated to implement a Program for several reasons: to reduce greenhouse gas emissions and further climate protection efforts; to control trash disposal costs; to achieve the City’s goals to reduce tons disposed by 30% by 2020 from 2008 levels, and 80% less by 2050, to respond to public support as demonstrated by a March 2011 City Council resolution in support of curbside composting; to help meet state goals to increase food scraps diverted from the waste stream; and to respond to MassDEP’s encouragement of a Program based on the new regulation changes that facilitate the siting and operation of composting facilities.

To achieve the City’s waste reduction goals, Department of Public Works (DPW) recognizes that food scraps is one of several materials to target in the waste stream. We need to take a broad look at how we manage the waste stream and put it in a larger context. As the City begins on the path towards zero waste, we recognize that certain programs and strategies complement one another.

More processing capacity is needed in the Boston area to accommodate increased diversion of food scraps. To achieve this, there are different approaches to curbside collection, including trucking it to regional compost facilities (p. 17-25), sending all municipal solid waste to a regional facility that can compost it (p.38-39), encouraging increased home composting, and neighborhood-scale composting with in-vessel technology (p. 10). Trucking food scraps to a regional composting facility is likely the main strategy.

Methodology

DPW gathered information for this report from MassDEP resources and conversations, facility visits, interviews with many people including processors, haulers, developers, other communities, and compostable product companies. We reviewed research and findings by other organizations and developed a cost calculator (p. 32) to analyze the costs of implementing a pilot or citywide Program. The calculator allows the user to choose different options to run different scenarios. DPW staff met several times to review costs and discuss logistics related to the possibility of collection by city crews or private haulers (p. 32-35).

DPW met with MassDEP in early September to discuss the report and criteria for determining whether to implement a possible pilot Program (p. 9). These considerations include proximity of potential composting facilities to Cambridge, status of whether these facilities are currently accepting food scraps or will expand with the new MassDEP regulation changes, what organic materials will be accepted by each facility, how food scraps can be delivered (separate or combined with yard waste), tip fees at these facilities, and the economics of collection by city crews or a private hauler.

Findings

Possible Compost Facilities

We identified 10 possible compost facilities that could take loads of food and/or combined food and yard waste (p.17-25). Tip fees range from \$40-\$80/ton. Currently operating sites that could accept loads include Rocky Hill Farm in Saugus, Brick Ends Farm in Hamilton, and WeCare Environmental in Marlborough. Potential sites waiting that intend to add food to their operations under the new MassDEP regulation changes include Wellesley Town Compost Site and Landscape Express in Woburn. Additional sites that are not yet built or fully operational include the Department of Conservation and Recreation Compost Site in Mattapan, Franklin Park Zoo in Boston, and Waste Management. Waste Management plans are uncertain but may involve its transfer station in Melrose or an alternative location within 25 miles of Cambridge.

Projected Tons for Pilot Collection and Citywide Program (p. 27)

If implemented, the pilot will run one day a week for one year. We estimate 2 TPD of food and 124 tons per year (TPY). This assumes 800 households generating 10 pounds of food scraps per week with an 85% participation rate and 70% setout rate. To ensure an efficient pilot route, we will choose a neighborhood within one collection day. We would target a range of housing types including single-family homes and residential buildings with up to 12 units.

Eligible households will be notified through various neighborhood outreach efforts that will include email, mail, posters, announcements, etc. (p. 44-46) Households participating in the pilot will receive a kitchen scrap container and a year's supply of 3-gallon compostable bags to line the container. Once full, participants would place the bag in a sturdy plastic curbside bin with a locking lid. Curbside organics bins will be available in different sizes.

If the pilot is successful, a voluntary citywide program would be phased in by collection day to get enough participation among households to achieve minimum route density. It is important to note that the tonnage estimates below would not be realized on the first week of a citywide program. If implemented, a citywide program is likely to see a 35% participation rate and 70% setout rate. Applying these rates of participation and set out to 31,500 eligible households with City trash service and households generating 10 pounds of food scraps per week, we estimate 8 TPD and 2,007 TPY.

If we collect food and yard waste together in the same truck, we estimate 14-33 TPD and 3,911 TPY. The TPD range is due to seasonal fluctuations (p. 26). We would need to choose a facility that accepts all yard waste currently accepted in the City's program, including brush up to 1 inch in diameter and up to 3 feet long. It is important to note that combined collection of food + yard may not make sense if tip fees for mixed loads cost more than for separate yard waste. In addition, several facilities have limitations on brush due to concerns about damaging grinding equipment, or because they do not have a grinder. However, compost operators in other parts of the country are grinding food and yard waste including brush without issue (p. 15-16).

Costs for Pilot (p. 32-35)

If the pilot is implemented as food only, a side loader truck is recommended. Since DPW does not have a side loader, a private hauler would be needed for the pilot. Costs for the different pilot scenarios with a private hauler have a net cost of \$5,600-\$41,700 after the MassDEP reimbursement (up to \$24,230 for collection costs and compost tip fees). All pilot scenarios (food only or food and yard) using City crews are fully reimbursable with grant funds. Some scenarios even show a net savings to the City before reimbursement. In addition to cost, however, distance and accessibility of the compost facility is ultimately going to determine if the pilot is feasible for city crews.

Should a citywide program be implemented, different scenarios are discussed in the full report. All citywide food and yard scenarios with City crews have a net savings of \$158,300-\$340,300, driven by the elimination of the yard waste contract, using existing Solid Waste Division staff, and reduction of trash disposal fees. Citywide food-only scenarios show a range of impacts, from a net cost of \$52,800 to a net savings of \$27,500, driven by the wide range of compost tip fees.

Background - MassDEP Regulation Changes (p. 7)

MassDEP promulgated the proposed regulations in late November 2012 making it easier for existing compost facilities to expand and new facilities to be developed. These changes to MassDEP regulations are a significant development and remove barriers to siting composting and anaerobic digester operations, allow small compost operations to accept 15-30 tons per day (TPD) of food and other organics and aerobic or anaerobic digestion facilities to accept up to 60 TPD. The timeframe for this process depends on the size of the facility.