



# Department of Environmental Protection

One Winter Street Boston, MA 02108 • 617-292-5500

DEVAL L. PATRICK  
Governor

TIMOTHY P. MURRAY  
Lieutenant Governor

RICHARD K. SULLIVAN JR.  
Secretary

KENNETH L. KIMMELL  
Commissioner

## Massachusetts Waste Characterization Data Material Category Profiles<sup>1</sup>

|  |                |
|--|----------------|
| <b>Food Waste and Compostable Paper</b>      | <b>pp. 2-3</b> |
| <b>Cardboard (including waxed cardboard)</b> | <b>pp. 4-5</b> |
| <b>Other Paper</b>                           | <b>pp. 6-7</b> |
| <b>Textiles</b>                              | <b>p. 8</b>    |
| <b>Carpet</b>                                | <b>p. 9</b>    |

---

<sup>1</sup> Based on data from Municipal Waste Combustor Class II Recycling Program Waste Characterization Studies, February & March 2011, available at <http://www.mass.gov/dep/recycle/priorities/wrr.htm>. Disposal tonnages based on 2010 MSW disposal of 4.7 million tons. Overall MSW disposal is about 55% commercial and 45% residential.

## Food Waste and Compostable Paper

### Overall

|                   |                                |
|-------------------|--------------------------------|
| Food waste        | 15.1 % of solid waste disposal |
| Compostable Paper | 6.2 % of solid waste disposal  |

### **Food Waste and Compostable Paper**

- 21.3% of solid waste disposal
- Just over 1 million tons per year disposed in solid waste

### Commercial/Institutional

|                   |                                |
|-------------------|--------------------------------|
| Food waste        | 13.7 % of solid waste disposal |
| Compostable Paper | 5.0 % of solid waste disposal  |

### Residential

|                   |                                |
|-------------------|--------------------------------|
| Food waste        | 15.5 % of solid waste disposal |
| Compostable Paper | 7.0 % of solid waste disposal  |

Percentage by Truck Type

|                    | <b>Food Waste</b> | <b>Compostable Paper</b> | <b>Combined</b> |
|--------------------|-------------------|--------------------------|-----------------|
| Roll-off Compactor | 18.6 %            | 6.4 %                    | 25.0 %          |
| Rear Load Packer   | 15.4 %            | 7.6 %                    | 23 %            |
| Front Load Packer  | 14.4 %            | 6.7 %                    | 21.1%           |
| Roll off Closed    | 2.1 %             | 0.9 %                    | 3.0 %           |
| Roll off Open      | 8.3% <sup>2</sup> | 2.4%                     | 10.7%           |

- The truck types containing the highest percentages of food waste are:
  - Roll-off compactors (18.6 %) – primarily ICI loads - large businesses and institutions
  - Rear load packers (15.4%) – primarily residential loads – may include small businesses
  - Front load packers (14.4) – primarily ICI loads – small to medium businesses
  
- Roll-off containers generally contain small amounts of food waste, especially given that the 8.3% average for open roll-offs is driven by one load. If that load is removed the average drops to 3.6%.
  
- The truck types containing the highest percentage of food waste and compostable paper combined are:
  - Roll-off compactors (25.0 %)
  - Rear load packers (23.0 %)
  - Front load packers (21.1 %)

- 25 % of the waste in roll-off compactors is food waste or compostable paper
- 18.6 % of the waste in roll-off compactors is food waste
- Rear load (23 %) and front load packers (21 %) also contain large amounts of food waste and compostable paper

---

<sup>2</sup> This 8.3% figure is dramatically affected by one load with a very high percentage of food waste. If this load is removed from the analysis, this percentage drops to 3.6% and the combined percentage drops to 6.0 %.

## Cardboard

### Overall

|   |  |
|---|--|
| Uncoated Corrugated Cardboard/Kraft Paper | 8.7% of solid waste disposal<br>410,000 tons per year disposed |
| Waxed Cardboard                           | 1% of solid waste disposal<br>50,000 Tons per year disposed    |

#### **Total Cardboard**

- 9.7% of overall solid waste disposal
- 460,000 tons per year disposed in solid waste

### Commercial/Institutional

|   |                               |
|---|-------------------------------|
| Uncoated Corrugated Cardboard/Kraft Paper | 13.8% of solid waste disposal |
| Waxed Cardboard                           | 1.1% of solid waste disposal  |

- Cardboard represents the largest percentage of commercial waste disposal at 13.8%
- Food waste is just behind at 13.7% - see <http://www.mass.gov/dep/recycle/priorities/wcsfood.pdf>

### Residential

|   |                              |
|---|------------------------------|
| Uncoated Corrugated Cardboard/Kraft Paper | 4.9% of solid waste disposal |
| Waxed Cardboard                           | 0.9% of solid waste disposal |

Percentage by Truck Type

|                    | <b>Uncoated Corrugated<br/>Cardboard/Kraft Paper</b> | <b>Waxed<br/>Cardboard</b> | <b>Combined Cardboard</b> |
|--------------------|--|----------------------------|---------------------------|
| Roll Off Compactor | 13.5%  | 1.9%                       | 15.4%                     |
| Front Load Packer  | 12.5%  | 1.2%                       | 13.7%                     |
| Rear Load Packer   | 4.9%   | 1.2%                       | 6.1%                      |
| Roll Off Open      | 4.9%   | 0.9%                       | 5.8%                      |
| Roll Off Closed    | .1%  | 0.2%                       | 0.3%                      |

- The truck types containing the highest percentages of Uncoated Corrugated Cardboard/Kraft Paper are:
  - Roll-Off Compactors (13.5%) – Primarily commercial/institutional loads
  - Front Load Packers (12.5%)- Primarily commercial/institutional loads

## Other Paper

This sheet reviews data for all categories of paper **except for cardboard, waxed cardboard, and compostable paper**. For data on cardboard and waxed cardboard, see <http://www.mass.gov/dep/recycle/priorities/wcsocc.pdf>. For data on compostable paper, see <http://www.mass.gov/dep/recycle/priorities/wcsfood.pdf>.

### Overall

9.8 % of solid waste disposal  
460,000 tons per year disposed in solid waste

### Commercial/Institutional

9.2 % of solid waste disposal

### Residential

10.2 % of solid waste disposal

- The subcategories of paper are<sup>3</sup>:
  - High Grade Office Paper
  - Magazines/Catalogs
  - Newsprint
  - Other Recyclable Paper
  - Remainder/Composite Paper

---

<sup>3</sup> Material profiles for *Uncoated Corrugated*, *Waxed Cardboard*, and *Compostable Paper* were completed separately and are not included in this data.

Percentage by Material

|                           | Residential | Commercial/Institutional |
|---------------------------|-------------|--------------------------|
| High Grade Office Paper   | .8%         | 1.6%                     |
| Magazines/Catalogs        | 1.8%        | 1.5%                     |
| Newsprint                 | 2.1%        | 1.5%                     |
| Other Recyclable Paper    | 3.8%        | 3.2%                     |
| Remainder/Composite Paper | 1.7%        | 1.5%                     |

- The materials with the highest percentage in the residential sector are:
  - Other Recyclable Paper (3.8%)<sup>4</sup>
  - Newsprint (2.1%)
- The materials with the highest percentage in the commercial/institutional sector are:
  - Other Recyclable Paper (3.2%)<sup>3</sup>
  - High Grade Office Paper (1.6%)

Percentage by Truck Type

|                    | Paper  |
|--------------------|--------|
| Roll Off Compactor | 11.1 % |
| Rear Load Packer   | 10.8 % |
| Front Load Packer  | 10.3 % |
| Roll Off Closed    | 2.5 %  |
| Roll Off Open      | 8.4 %  |

- The truck types containing the highest percentages of combined paper waste are:
  - Roll Off Compactor (11.1%) – Primarily ICI loads
  - Rear Load Packer (10.8%) - Primarily residential loads
  - Front Load Packer (10.3%) – Primarily ICI loads

---

<sup>4</sup> While *Other Recyclable Paper* showed the highest percentage in both the Residential and ICI sectors, it should be noted that this material category contains a large number of specific types of paper, including manila folders, manila envelopes, index cards, white envelopes, notebook paper, carbonless forms, junk mail, chipboard and uncoated paperboard, phone directories, non glossy catalogs, offshore cardboard and deep-toned or fluorescent dyed paper.

## Textiles

### Overall

- For purposes of the waste characterization sorting, textiles include includes clothing, curtains, towels and other fabric materials.
- 4.9% of solid waste disposal
- 230,000 tons per year disposed in solid waste

### Residential

5.8% of solid waste disposal

### Commercial/Institutional

3.7% of solid waste disposal

### Percentage by Truck Type

|                    | <b>Textiles</b> |
|--------------------|-----------------|
| Rear Load Packer   | 5.8%            |
| Roll Off Open      | 4.8%            |
| Front Load Packer  | 4.1%            |
| Roll Off Compactor | 0.8%            |

- Rear load packer trucks, which are generally residential loads, had the highest percentage of textiles at 5.8%.

## Carpet and Carpet Padding

### Overall

2.9% of solid waste disposal  
137, 245 tons per year disposed in solid waste

### Commercial/Institutional

3.4% of solid waste disposal

### Residential

2.4% of solid waste disposal

### Percentage by Truck Type

| <b>Truck Type</b>  | <b>Carpet Waste</b> |
|--------------------|---------------------|
| Front Load Packer  | 4.3%                |
| Rear Load Packer   | 3.6%                |
| Roll Off Open      | 1.8%                |
| Roll Off Compactor | 0.2%                |

- The truck types containing the highest percentages of carpet waste are:
  - Front Load Packer (4.3%) – Primarily ICI loads
  - Rear Load Packer (3.6%) – Primarily residential loads