Waste and Recycling Programs
in
Hancock and Houghton, Michigan
and
Michigan Technological University

Review and Recommendations

Partnership with Copper
Country Recycling Initiative

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Report available at:
http://www.mtu.edu/social-sciences/research/reports/
Avg waste per person per day in US

1960: 2.32 lbs
1984: 3.08 lbs
1995: 3.50 lbs
2014: 4.6 lbs

Approx 55% of the 220 million tons goes to landfills which are 2\textsuperscript{nd} largest source of human-related methane emissions in us

Managing waste is \textbf{Expensive}- in $s, time, and environmental costs
The Local Situation in a Nutshell

- Report focused on Houghton, Hancock & Michigan Tech
- The Players:
  - **Waste Management** - landfill, garbage pick-up, recycling drop off and transport
  - **Eagle Waste & Recycling** - recycling sorting and processing is main business. Also does garbage pickup and hauling
  - **Houghton County** - Transfer station and new cardboard recycling drop-off (free to households)
Houghton & Hancock

- Houghton and Hancock together generate 186.3 tons garbage that gets landfilled monthly- costs about $40,000/month
- Cities recycle < 5% of household waste. US = 34%; MI= 15%
- Hancock has curbside pickup once/month- underutilized
- Houghton drop-off at $4/vehicle
- All garbage in area goes to K&W Landfill
  - Leachate- 2 to 6 x 10,000 gallon trucks/day
  - Organics in landfill major cause
  - No interest in reducing waste- can expand- great site for landfill
- Houghton, Hancock, and MTU all currently have contracts with Waste Management
  - Houghton and Hancock contracts expire June 2016 & August 2016, respectively
  - Houghton recently put out RFP that includes curbside recycling
## Cost Comparison for Garbage & Recycling in Houghton, Hancock, Ironwood (monthly)

<table>
<thead>
<tr>
<th>MCD</th>
<th>Service Provider</th>
<th>Households</th>
<th>Garbage tonnage</th>
<th>Recycling tonnage</th>
<th>Costs per HH/month</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Garbage</td>
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<td></td>
<td></td>
<td></td>
<td>Recycling</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td>Total</td>
</tr>
<tr>
<td>Hancock</td>
<td>City/Waste Management</td>
<td>1,830</td>
<td>94</td>
<td>5.0</td>
<td>$15.00</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>$0.62</td>
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<td></td>
<td></td>
<td></td>
<td><strong>$16.00</strong></td>
</tr>
<tr>
<td>Houghton</td>
<td>Waste Management</td>
<td>1,156</td>
<td>92</td>
<td>n/a</td>
<td>$11.00</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>$4.00</td>
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<td></td>
<td></td>
<td><strong>$15.00</strong></td>
</tr>
<tr>
<td>Ironwood</td>
<td>Eagle Waste</td>
<td>2,400</td>
<td>n/a</td>
<td>n/a</td>
<td>$10.16</td>
</tr>
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<td></td>
<td></td>
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<td>$1.58</td>
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<td></td>
<td><strong>$11.74</strong></td>
</tr>
</tbody>
</table>
Michigan Tech

- Generates about 915 tons of landfilled garbage annually
- Recycles about 14% of waste (compared to state avg 15% and national avg 34%)
- Composts yard waste and some limited food waste (pre-consumer). We don’t mix greens and browns now and so not very useful in gardens
- Gardener wants compost- purchases material now
- Food services has done a great deal to reduce waste- LEAN
- MTU contract with Waste Management until 2019
## Michigan Tech - Cost of Waste Management (monthly)

<table>
<thead>
<tr>
<th>MTU</th>
<th>Garbage</th>
<th>Recycling</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weighted Cost/ton</td>
<td>$68.86</td>
<td>$39.81</td>
<td>$29.05</td>
</tr>
<tr>
<td>Avg. Tonnage</td>
<td>83.2</td>
<td>12.37</td>
<td>12.37</td>
</tr>
<tr>
<td>Totals</td>
<td>$5,729.15</td>
<td>$492.45</td>
<td>$359.35</td>
</tr>
</tbody>
</table>

Based on 11 months, because there was no garbage pick-up in July 2014
Key Points

- Municipalities and MTU have economic incentive to reduce waste, compost, and recycle
- We are currently doing poorly
- Sustainability talk but lack of data or action
Major Gaps in Community & Campus

- Regular, easy, and promoted curbside pickup
  - Participation rate in MI drop off= 9%; regular curbside= 67%
- Attention to data- measuring progress & expenses
- Hazardous waste disposal- no real options locally
- Composting- could do so much more and this is cheap and makes a big difference!
- Planning- we have no waste management plan or goals
- Integrating major institutions- businesses, schools, etc.
What Can we (MTU) Do?

- MTU recycling rate is a bit embarrassing
- The university might see itself as a sustainability leader for broader community
- Make reducing waste/composting/recycling and generally setting a sustainability example a priority. This is part of our educational mission.
  - Policies integrated across departments/units
  - Data analysis
  - Plan for sustainability with clear goals, policies, and measures of progress
  - Remind us all the time this is important- currently not part of culture, so will take some work
  - First Year Orientation could integrate sustainability activities- how we do things on this campus to live sustainably