

Waste and Recycling Programs: Hancock, Houghton, & Michigan Tech

Review and Recommendations: Executive Summary

This document provides a concise summary of a much more detailed report reviewing and assessing municipal solid waste programs in Houghton, Hancock, and at Michigan Technological University. The report was written by a team of graduate students taking a course in Sociology of the Environment at Michigan Tech during Fall semester 2015. They were supervised by Dr. Richelle Winkler. The project was inspired by members of the Copper Country Recycling Initiative. The full report is available online at <http://www.mtu.edu/social-sciences/research/reports/>. Picture at right by David Hall.



Managing municipal solid waste is a key task for municipalities, organizations and businesses, and households given the hundreds of millions of tons of waste we generate in the United States each year. Managing waste is expensive in terms of time, money, and environmental impacts. Garbage collection and disposal programs cost Hancock and Houghton about \$40,000 a month. The best way to reduce impacts is to reduce the amount of waste we generate through source reduction programs such as less packaging, designing smarter and smaller products that require fewer resources, using re-usable items rather than disposable ones, and reducing consumption. Composting, recycling, and other waste reduction programs also help residents reduce the amount of solid waste they send to local landfills, especially organic materials or materials that are recyclable or potentially hazardous.

Current waste reduction, recycling and composting programs available to residents of Hancock, Houghton, and at Michigan Tech include:

- A curbside recycling program in City of Hancock. The city collects recyclables from bins on the curb on the last Thursday of every month. Hancock residents can also bring their recyclables to the drop-off site at the city garage (Hancock Department of Public Works) located at 1601 Tomasi Dr. during business hours free of charge.
- A drop-off recycling site at the *Waste Management* transfer station on Enterprise Dr (off Sharon Ave) in Houghton where anyone can drop off recyclable materials (see Appendix A for a complete list and hours of operation) for a charge of \$4/vehicle.
- A new cardboard recycling program at the Houghton County Transfer Station (opening Dec 2015) where residents, business, and other organizations can drop off any form of cardboard. There will be no fee for a typical household, but businesses or other organizations dropping off a large volume will be charged a small fee.
- A recycling program at Michigan Tech where people can place recyclable materials in bins across campus. These materials are then picked up by *Waste Management* and eventually taken to *Eagle Waste & Recycling* in Eagle River, WI for sorting and processing.
- Michigan Tech composts its yard waste and a small amount of food waste. However, the brown and green wastes are not currently combined and maintained in a well-functioning compost pile that could fully feed Tech's gardens. The Master Gardener's goal is to instate this for 2016.
- Some yard waste composting in Hancock & Houghton. Hancock collects material during Spring and Fall Cleanup in biodegradable bags available for purchase from the city. At other times of the year, residents can drop off their compostable yard waste at the city garage. Houghton offers a similar drop off program for yard waste during Fall Cleanup at the city garage.
- The diversion of special wastes such as e-waste, appliances, tires, batteries, and oil from household trash. These services are available through a variety of private systems around the community that collect and recycle or safely dispose of these wastes.
- A state-sponsored bottle deposit system that collects and recycles aluminum beverage cans and glass bottles. Although the purpose of this system is to reduce litter, it does facilitate some materials recycling.

Hancock is the only community around the Keweenaw Peninsula to offer curbside recycling. Recycling rates in Houghton and Hancock are about 5% of the waste stream and Michigan Tech recycles about 14%, which is below Michigan’s state average (15%) and even more below the US national average (34%). Recycling rates are well known to increase dramatically when regular curbside collection programs are in place. Moreover, not all drop-off programs are created equal- those located in less convenient locations, with less convenient hours of operation, and/or greater fees are less likely to be utilized as much.

There are also major gaps locally with limited attention to composting and diverting organics, and that there is no easy way to dispose of hazardous wastes such as pesticides, solvents, and other chemicals in Houghton County.

Environmental Benefits, Economic Incentives, and Motivation

Environmental benefits of recycling programs include reducing the amount of energy required to extract and process raw materials, reducing pollution associated with landfills (leachate and methane emissions), reducing carbon emissions that contribute to global climate change, conserving resources for future generations, and encouraging the development of systems and technology for using resources efficiently. Still, many of the benefits are diffused throughout society and not easily captured for profit, particularly when the same firms who operate in recyclables have a larger economic interest in managing garbage. Whether recycling programs generate profit in the private sector depends upon variable markets, differences between different types of materials and their market value, fuel costs, and transportation requirements, and existing levels of investment into infrastructure and systems that ultimately increase efficiency and reduce costs. *Waste Management* currently has little financial incentive to encourage greater participation in recycling programs because it makes more money from its garbage and landfill operations, it incurs transportation costs moving the materials to sorting/processing facilities, market rates for plastics and other recyclable materials are variable and currently low, and because it has not invested in the infrastructure or design work at the transfer station to efficiently handle recycling.

Municipalities, businesses, and households do have economic incentive to recycle, compost, and otherwise reduce waste. These programs reduce the amount of waste that goes into the landfill and the associated tipping fee charged for its disposal. Tipping fees in the western Upper Peninsula are relatively high at \$76/ton, but are negotiable by contract to organizations bringing garbage in bulk to as low as \$38.65/ton for Houghton County. Tipping fees provide an economic incentive to reduce waste. Given that drop-off fees for recyclable materials under the current contracts range from \$40/ton for Michigan Tech to \$70/ton for Hancock, the lower cost of recycling and its ability to divert waste from the garbage stream could save money in tipping fees. Other service providers may charge less for recycling drop off and sometimes pay to purchase recyclable materials depending on markets and programs, which would provide further economic incentive to increase the ratio of recyclables to garbage in the waste stream.

Average costs incurred for garbage and recycling are summarized in the table below for Hancock and Houghton and compared to a peer community with a comprehensive curbside recycling program (Ironwood, MI).

Cost Comparison for Garbage and Recycling in Hancock, Houghton, and Ironwood, MI

MCD	Service Provider	Households	Garbage tonnage	Recycle tonnage	Costs per HH/month		
					Garbage	Recycle	Total
City of Hancock	City/Waste Management	1,830	94.3	4.0	\$15.00	\$0.62	\$16.00
City of Houghton	Waste Management	1,156	92.0	n/a	\$11.00	\$4.00	\$15.00
City of Ironwood	Eagle Waste	2,400	n/a	n/a	\$10.16	\$1.58	\$11.74

Sources: Personal Communications with City Managers and Utilities Managers from Cities of Hancock, Houghton, and Ironwood (Fall 2015).

Just as residents are generally willing to pay for the added convenience of garbage collection, many are also willing to pay the relatively modest cost for the convenience of having curbside recycling collection. Curbside collection saves households time and money in having to transport materials themselves. Most people who participate in recycling programs are not motivated by direct economic benefits. Rather, they participate to reduce the impact they have on the environment and out of pride for their community.

The Time is Now...

Several recent developments suggest that **now could be a very good time to institute new (or revised) programs:**

1. People are demanding more convenient recycling access. Evidence includes: findings in a 2011 survey of Houghton residents, increased tonnage collected by the Hancock program in recent months, and ongoing critique of a the new \$4/vehicle fee for recycling drop-off at *Waste Management* transfer station.
2. A highly efficient and large capacity recycling sorting and processing center opened in Eagle River, WI in 2013 with the goal of servicing northern Wisconsin and the Upper Peninsula. This has reduced transportation costs and introduced a new regional service provider with a strong economic interest in promoting recycling.
3. The 2014 Michigan Recycling Plan of Action is providing resources in the form of grant money and expertise to help institute programs and political will and leadership promoting the importance of recycling.
4. Current garbage/recycling contracts for both City of Hancock and Houghton will expire in summer 2016 and both cities have expressed some interest in collaboration.
5. Instituting enhanced recycling programs may not add any additional cost and could possibly save money.

Recommendations

Given that official encouragement, convenience, and financial incentives are major motivators in the success of any voluntary recycling and waste reduction programs, we recommend that the City Councils for Houghton and Hancock and the leadership at Michigan Tech University make recycling and waste reduction a clear priority. More specifically, we recommend the following actions.

1. **Institute programs that make recycling simple, easy, and cheap.** Recycling should be the easiest option for residents. This is our first and most important recommendation. It could most likely be achieved by expanding the current curbside recycling program in Hancock and instituting a new curbside program in Houghton and by expanding the current drop-off sites to more additional and more convenient locations with longer hours.
2. **Local municipalities should partner with one another** to support mutual goals and achieve economies of scale. Current contracts for both the City of Houghton and the City of Hancock expire during summer 2016. The cities could coordinate contract periods and request coordinated Requests for Proposals that would ensure a service provider a larger market. Alternatively, the cities might work together by sharing trucks or otherwise coordinate a shared system of garbage and/or recycling collection informally or more formally through establishing a joint solid waste management authority that might expand to include more local villages. At minimum, we recommend that the cities work together to discuss, compare, and jointly address the similar opportunities and challenges facing each community. Coordination between Houghton County and its various municipalities and townships could also greatly improve local services and help to ensure that the needs of all of our local communities are met. The county and its municipalities could, for instance, work together to implement a policy whereby any haulers are required to use the Houghton County Transfer Station as an initial drop site for materials collected.
3. **Work with businesses and schools.** Businesses and other community-based organizations (like schools, hospitals, etc.) should be included in solid waste planning and recycling programs. These organizations have economic incentive to reduce their own waste, they could partner in source reduction programs (such as charging customers for disposable plastic or paper bags and/or offering bulk purchasing opportunities), and/or they could host drop-off recycling bins at high-traffic local business locations where people go anyway, such as Walmart or local grocery stores.
4. **Encourage composting.** Composting is a key way to divert up to 50% of materials (yard and food wastes) from the household waste stream and to convert these materials into useful fertilizer and its easy to do in a small space in your own backyard, saving costs of transportation and service provision. transportation an. Composting at home, or close, eliminates transportation and service costs. The Cities and/or Michigan Tech should implement a composting drive where they bring composting bins to town in a mass shipment and offer them to residents and groups at reduced costs and in prime locations around the community, or offer an immediate rebate program to local businesses who already sell compost bins. A drive like this in conjunction with information campaigns and block leaders championing the cause in their neighborhoods could greatly increase participation through leadership and facilitation. Similarly Hancock could better promote its composting program and consider opening it to Houghton residents as well, and Michigan Tech could expand its composting program on campus.

5. **Hazardous & E-waste information campaign and drop-off sites.** Hazardous wastes should not go into the landfill, but currently local residents have few opportunities for appropriately disposing of household hazardous wastes. An information campaign informing people of what materials are hazardous and where to dispose of them is important. Michigan Tech should develop an e-waste collection center on campus to make e-waste drop-off more convenient. The cities should offer biannual hazardous waste clean-up periods where residents can drop off hazardous wastes.
6. **Recycling advocates should engage in waste reduction and recycling discussions** with community and university leaders. Community and university leaders communicated to our research team that if there were more pressure from community members, they would be more inclined to pursue waste reduction and recycling opportunities. Residents who would like to advocate for more waste reduction and recycling programs should attend city council meetings and raise the issue, organize together to work toward clearly defined, attainable, and well-research goals, raise awareness and generate public pressure.
7. **Reduce, Reuse and Share.** Municipalities and businesses can create environments that encourage reuse in multiple ways, such as adding water bottle refill stations, allowing for bringing your own mug, and instituting policies such as plastic bottle-free campus (see <https://www.banthebottle.net/>) or otherwise removing disposable options. Individuals and purchasing units can: Buy used items rather than new; look for products that use less packaging and buy in bulk, which can both reduce packaging and save money; buy reusable over disposable items; choose items that include recyclable material; and trade and share with neighbors and friends through clothing swaps, tool sharing programs, and similar systems.
8. **Michigan Tech should serve as a community sustainability leader.** Promoting sustainability is part of Michigan Tech's vision and mission statements according to the Strategic Plan. But, the university has not developed clearly defined sustainability goals nor does it keep and publish data on sustainability metrics. Michigan Tech's recycling rate is about 14%. This is below the state of Michigan's (low) average and embarrassingly low for a university. The university could increase participation on campus through structural changes combined with leadership and information programs. In addition, Michigan Tech should envision itself as a sustainability leader not only on campus but also as a community partner that helps local municipalities to meet their waste reduction and recycling goals.

The students who wrote this report included:

Miranda Aho
 Zoë Coombs
 Emily Prehoda

Nicholas Bolton
 Himamshu Ghimire

Erin Burkett
 Chris Henderson

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With questions or concerns, please contact:

Dr. Richelle Lynn Winkler
 Department of Social Sciences
 Graduate Program in Environmental and Energy Policy
 Michigan Technological University
 rwinkler@mtu.edu