2012-2016

McHenry County Solid Waste Plan

MCDH

McHENRY 1837 COUNTY

McHenry County Department of Health

2012-2016

Prepared by McHenry County Department of Health
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EXECUTIVE SUMMARY

The Solid Waste Planning and Recycling Act of 1988 requires each county to develop a waste management plan to manage the municipal solid waste generated within its borders. McHenry County adopted its first Solid Waste Management Plan in 1992 and has since adopted the required five year updates in 1997, 2002, and 2007.

Since the 15 Year Plan Update, recycling programs have evolved to include more materials such as electronics, construction and demolition debris, landscape waste and food scraps. At the same time, the County's population has grown from 183,241 in 1990 to 308,944 in 2011 (US Census Bureau.) McHenry County's solid waste generation per capita rate has remained fairly consistent; however, as the population increases the amount of solid waste generated will also increase.

McHenry County does not have an active municipal sanitary landfill; therefore, all of the solid waste that is land filled leaves the county. The farther that solid waste must travel, the greater the economic cost and environmental impact. However, McHenry County does have a significant waste management infrastructure including municipal solid waste and landscape waste transfer stations, landscape waste composting facilities, and a construction and demolition waste processing center. In addition, there are numerous recycling and reuse oriented businesses, institutions and organizations. These facilities can direct more material to be processed in McHenry County so that less waste must be transported to remote disposal sites.

The planning process was structured to provide opportunities for stakeholder engagement, review waste management and generation data, determine if methodological changes should be made to data collection and rate calculations, assess infrastructure and recycler capability, determine how best the county can increase recycling and solid waste diversion and remove barriers to recycling and re-use to promote a vibrant economy.

A consultant, Delta Institute, was obtained to provide technical assistance and facilitate the planning process. A Solid Waste Advisory Committee was established with representation from municipalities, municipal solid waste haulers, recyclers, entrepreneurs, farmers, businesses and environmental groups. Two surveys were conducted, one for the general public and one for solid waste haulers, to obtain additional input. 508 survey responses were received from the public, and 10 survey responses were received from licensed municipal solid waste haulers.

The residents of McHenry County have historically been very interested in solid waste management and recycling. The population of McHenry County is expected to continue to grow, and as the population increases, it is expected that the overall generated solid waste will increase. McHenry County has a current overall recycling rate of approximately 35%, which exceeds the state recycling standard of 25%. The overall recycling rate is a combination of the residential, commercial and construction and demolition debris recycling rates. Data is collected annually from the licensed municipal solid waste haulers (required) and collectors and recyclers (voluntary) to calculate the recycling rates. The process for data collection and rate calculations were reviewed during the planning process. The consultant recommends that staff continue to work toward improving voluntary participation by recyclers and collectors and that

staff collect data more frequently from solid waste haulers. This should result in higher quality and more comprehensive disposal and recycling information. A discussion of recycling rates and their calculation is included in the appendix.

McHenry County also has a comprehensive solid waste enforcement program. Enforcement authority is provided in the McHenry County Public Health Ordinance, Municipal Waste Hauler Licensing Ordinance, Pollution Control Facility Siting Ordinance, Residential Recycling Ordinance, and a delegation agreement with the Illinois Environmental Protection Agency. One of the Solid Waste Advisory Committee's recommendations is to review the individual ordinances for potential updates and to remove any unnecessary barriers to recycling.

McHenry County has an active solid waste & recycling education program for county residents. The McHenry County Environmental Education Program provides environmental education for thousands of K – 12 students each year. A variety of agencies and the Department of Health regularly provide recycling information to residents directly and through their websites. The Solid Waste Advisory Committee recommends that the Department expand its webpage with additional information and linkages to other websites to create one comprehensive solid waste management information site for county residents.

There are numerous local programs to promote and maximize recycling and re-use throughout the county. These include, The McHenry County Green Guide published by the Lou Marchi Total Recycling Institute at MCC, the McHenry County Green Awards, the McHenry County Green Team, franchised solid waste removal services in unincorporated areas of the county, and a variety of township, municipal, law enforcement and citizen programs that allow for recycling and/or proper disposal of latex paint, electronics, Christmas tree lights, pharmaceuticals, textiles, batteries, Styrofoam and CFLs.

An assessment of current landfill capacity to serve the Northern Illinois area was completed. Currently there is approximately 12 years of landfill capacity in the Chicago Metropolitan area, and approximately 16 years of landfill capacity in Northwestern Illinois. Solid waste from Northern Illinois is also transported to Southern Wisconsin which has limited landfill capacity; there is one landfill in Southern Wisconsin which has up to 10 years of capacity. Some local waste haulers are considering utilizing landfills in Indiana, where there is landfill capacity up to 92 years; however, transporting waste to remote areas may cost significantly more.

One of the greatest challenges is to identify funding sources for solid waste recycling and reuse programs. Recent funding reductions at the Illinois Environmental Protection Agency have had significant impacts on existing solid waste management programs including household hazardous waste collections, latex paint collection, and tire collections. This means that local governments, agencies and organizations will have to look at innovative ways to fund programming to ensure that residents continue to have access to recycling programs for a variety of products and materials.

One of the most important trends in this regard is the national product stewardship initiative. This requires manufacturers of products to provide a mechanism for those products to be recycled. The best example of this strategy is in the electronics industry where covered electronic devices were banned from landfills effective January 1, 2012. Manufacturers are required to collect electronic devices to be recycled at no cost to residents. This has resulted in multiple opportunities for residents to recycle a variety of electronics locally. On a state and national level, the greatest

opportunities for product stewardship legislation include mattresses, paints, medical sharps, pharmaceuticals and fluorescent lamps.

Waste management, pre-cycling, reuse and recycling also provide opportunities for economic development because local waste management of waste materials keeps jobs local by processing the materials nearby. The Illinois Department of Commerce & Economic Opportunity estimates that the combined direct, indirect and induced impacts of Illinois' recycling, recycling reliant and reuse industries contribute a total of 115,000 jobs with a payroll of 3.6 billion dollars. The US Department of Labor Statistics estimates that McHenry County is home to 177 waste management related full time jobs. A potential additional opportunity for economic development through waste management is through deconstruction as opposed to demolition. Deconstruction of structures allows for recycling or reuse of many of the building components. The feasibility of deconstruction is dependent upon regional and market factors. This is being done successfully in Cook County, and the Solid Waste Advisory Committee recommends that the potential to create a Deconstruction Ordinance for McHenry County be fully evaluated. Deconstruction is discussed further in the appendix.

The Solid Waste Advisory Committee recommends the following goals for solid waste management in McHenry County:

- Increase the McHenry County overall Solid Waste Recycling rate from 35% to 45% by December 31, 2017.
- Reduce the McHenry County Solid Waste disposal rate from 4.07 pounds per capita per day to 3.57 pounds per capita per day.

The Solid Waste Advisory Committee, Consultant and Staff recommend that following activities be undertaken to reach the target goals:

Policy

McHenry County should continue the coordinated county-wide approach to the management and disposal of all non-hazardous solid waste generated within McHenry County, including the management of recyclable and recoverable materials. An increased emphasis should be placed on non-residential solid waste including commercial, industrial waste and construction and demolition debris.

Administrative

- Establish a standing Solid Waste Advisory Committee, with broad based representation, to meet quarterly to discuss and provide input on the implementation of the recommendations in the Solid Waste Plan.
- Maintain and Expand collection of data on recycling activity in McHenry County. Identify significant recycling data points that reflect changes in recycling activity in McHenry County and develop programming that fosters increased diversion of recyclable materials.
- Update the Annual Waste Hauler Survey to monthly or quarterly data collection.

- Convert the Annual Waste Hauler Survey from paper submission to electronic data collection.

- Evaluate the potential to collect waste composition data from Licensed Municipal Solid Waste Haulers.

- Continue to expand the number of collectors and recyclers that provide accurate information on recycling/disposal rates to the Solid Waste Manager.

Public Outreach and Education:

- Provide leadership and support to municipalities and other entities in McHenry County seeking to improve overall waste management. Provide model documents such as franchised solid waste removal agreements, best management practices and other guidance.

- Revise current website to provide at a minimum:
    - Waste Hauler Specific Information
    - Recycling Information for Residents
    - Regulatory Information
    - Best Management Practices for municipalities, businesses and institutions
    - Residential Service Information
    - Information should include requirements, links to annual survey, events and opportunities, relevant ordinances, model contracts, flyers and other tools, franchise information.

- Continue to support and partner with the McHenry County Schools Environmental Education Program to provide quality solid waste education to school aged children in McHenry County.

- Incorporate new information technologies in promotional efforts (i.e. social media, websites, email services, etc.).

- Develop partnerships with the business community, solid waste haulers, institutions, service and professional organizations, and governmental entities to expand the outreach potential for focused educational efforts.

- Encourage municipalities, townships and civic groups throughout McHenry County to continue to advertise events and programs on their websites, in community newsletters, and e-list bulletin announcements to provide information to their residents.

- Establish quarterly meeting series for municipal leaders, property managers, waste haulers and recyclers to share best management practices. Utilize business forums hosted in conjunction with Chambers of Commerce to provide opportunities to help businesses to effectively manage waste.

- Continue to provide McHenry County Green Awards to highlight innovative or exemplary solid waste management by businesses, organizations or institutions.

- Continue to support the publication of the McHenry County Green Guide.

Legislative Initiatives

- Where appropriate support legislative initiatives of groups such as SWANA, Illinois Product Stewardship Institute working group and Illinois Recycling Association to support legislation that shifts the onus to manufacturers of items with significant end of life management costs from local governments.

- Engage the Task Force on Advancement of Materials Recycling to monitor any recommended changes to Solid Waste Planning for counties, funding opportunities, and new Illinois solid waste initiatives.

- Review the Municipal Waste Hauler Licensing Ordinance, Residential Recycling Ordinance, and Pollution Control Facility Siting Ordinances for potential updates and changes that may minimize barriers to recycling.

Finance and Waste-based Economic Development

- McHenry County should monitor and apply to federal, state and local sources for grants to be used for solid waste programming when such funding is consistent with the goals of the plan.

- Work with McHenry County Department of Health and municipalities to evaluate the potential to develop a deconstruction ordinance to require demolition contractors to recycle a specified percentage by weight of construction materials for demolition projects and to require that a specified percentage from residential projects is diverted for reuse.

- Encourage contiguous businesses to pursue shared service agreements with solid waste haulers to enable smaller businesses to afford higher quality services that maximize recycling opportunities.

- Consider strategic partnership with workforce development partners and McHenry County Community College to provide deconstruction training.

- Work with Department of Planning & Development and Economic Development Groups to identify potential partners in salvage store business, second hand or vintage retailers to accept and sell deconstruction materials.

Recycling

- Encourage all McHenry County municipalities to establish volume based pricing in solid waste franchise agreements.

- Work closely with municipalities to identify solid waste programming successes and potential model programs that can be shared with others.

- Encourage commercial and industrial establishments, institutions, governmental agencies and other non-residential entities to participate in source reduction activities and to provide street side recycling wherever waste containers are located.

- Depending on availability of funds and priorities, further the development of source reduction programs, special events and recycling for items including tires, electronics, batteries, plastic bags, etc.

- Encourage the development of programs to increase the collection of residential and composting of organic material including landscape waste, food scrap and livestock waste.

Landfilling

- Maintain contact with landfills in Region 1, Region 2 and southeastern Wisconsin to request landfill based information for waste originating in McHenry County.

Household Hazardous Waste

- Identify mechanisms to assure Household Hazardous Waste Collection opportunities independent of IEPA funds.

- Encourage and support municipalities and other agencies or entities in the establishment and maintenance of supplement Household Hazardous Waste Collection programs including Partner for Paint, fluorescent lamps, waste oil, etc.

- Continue to provide residents with information on the four (4) permanent household hazardous collection sites in Northern Illinois, which are open to all Illinois residents.

Franchised Solid Waste Services

- Evaluate the extent to which municipal solid waste franchising should be implemented in unincorporated areas of McHenry County.

INTRODUCTION

With the passage of the Solid Waste Planning and Recycling Act in 1988, counties were required to develop waste management plans to manage the municipal solid waste generated within their borders. McHenry County adopted its first Solid Waste Management Plan in 1992 titled *Solid Waste Management Plan, 1990 – 2010, Phase I and Phase II* and has since adopted the required five year updates in 1997, 2002 and in 2007.

Since the 15 Year Plan Update, recycling programs have evolved to include more materials such as electronic recycling, construction and demolition debris, landscape waste and food scraps. At the same time, the County's population has grown from 183,241 in 1990 to 308,944 in 2011 according to the U.S. Census. While population has grown quickly, McHenry County's waste generation per capita rate has increased steadily following national trends. Combined with the significant population growth, the impact of moderate increases in waste per capita disposed is significant. The need for waste management based on the three "R's" reduction, reuse and recycling is compounded by the lack of an active municipal sanitary landfill within McHenry County. The farther waste must travel, the greater the economic cost and environmental impact, such as higher transportation costs and air pollution related to fuel usage. While McHenry County does not have an active landfill, it hosts significant waste management infrastructure such as transfer stations and collectors and recyclers that together can direct more material to be processed in McHenry County and ideally transport less waste to remote disposal sites.

Recommendations for the next 5 years are discussed in the final chapter of the plan document. The recommendations reflect the changing role of county and local governments in solid waste management from the provision of services and facilities to policy formulation, public education and information, monitoring, regulation, oversight, coordination, support, technical assistance and finance.

SCOPE OF MCHENRY COUNTY SOLID WASTE MANAGEMENT PLAN UPDATE

The McHenry County Department of Health began the Solid Waste Management Plan update process in February of 2012 with an assessment of the capacity and needs of the Department and review of all preceding plan documents. After careful review of those documents, the Department of Health determined that the plan process should accomplish several objectives: provide opportunities for stakeholder engagement, review waste management and generation data to determine if methodological changes should be made, assess infrastructure and recycler capability, determine how best the County can increase recycling and solid waste diversion and remove barriers to recycling and reuse and promote a vibrant economy. In August, the Department of Health retained the Delta Institute, a not-for-profit organization to provide technical assistance during the solid waste management planning process. Delta Institute is a center of innovation that creates market opportunities to achieve environmental sustainability and economic development. In partnership with business, government and local communities, the organization develops and implements practical solutions to build regional economies that are job rich and inclusive. In addition to Solid Waste Management Plans, the Delta Institute is nationally recognized for its success with waste-based economic development.

The Delta Institute provided technical assistance to the County for the solid waste planning process. Delta Institute provided capacity analysis of landfills that serve Northern Illinois, identified anticipated and pending legislation that may impact solid waste management, evaluated the current waste generation methodology, provided an overview of emerging trends in solid waste management, assisted the county with surveys of municipal solid waste haulers and the general public, facilitated three Solid Waste Advisory Committee meetings, provided recommendations for the plan based on the input of the Solid Waste Advisory Committee and advised on the formatting of the larger plan.

The plan process provided many opportunities for stakeholder engagement. The Solid Waste Advisory Committee (Advisory) was recruited to reflect stakeholders such as municipalities, municipal solid waste haulers, recyclers, entrepreneurs, farmers, commercial interests and environmental quality. The Advisory met four times to review the process, identify needs, achieve consensus on goals and strategies for McHenry County and ultimately to ensure that the plan would move McHenry County in the right direction. Concurrently, the Department of Health conducted two surveys to collect input from a broader audience. A general public survey was conducted in October 2012 for residents, businesses, organizations and institutions to assist with identifying the most pressing needs for the Solid Waste Plan. A second survey was conducted in November 2012 to solicit input from municipal solid waste haulers. Municipal solid waste haulers were able to provide an “on-the-ground” view of solid waste management.

POLICIES

Regional Authorities and Roles

Since the 15 Year Update, Solid Waste Management has been transitioned from the Planning and Development Department to the McHenry County Department of Health. Now the Department of Health is the department responsible for implementing the plan and preparing update recommendations on behalf of the County. The Solid

Waste Manager is the contact staff person within the Department responsible for the plan implementation with oversight from the Director of the Division of Environmental Health.

Since transitioning solid waste management to the Department of Health the Solid Waste Manager has continued to raise awareness of important waste and recycling issues to support positive behavior change as well as effectively deliver programs mutually beneficial to public health and solid waste management. These include facilitating franchised solid waste service programs in unincorporated areas of the county and electronics recycling events. Additionally the Solid Waste Manager continues to support and promote a variety of other community recycling events including unwanted medication collection and holiday light recycling programs.

The County continues to support established programs in the areas of solid waste management planning, enforcement and education. McHenry County is responsible to the Illinois Environmental Protection Agency (IEPA) for the Five Year Solid Waste Plan Update and providing waste and recycling data through the annual survey. IEPA - maintains a delegate agency agreement with McHenry County to enforce non-hazardous solid waste issues within the county. In 2009, the County facilitated franchised solid waste removal services to residents in designated unincorporated areas. In addition, the County provides education and general solid waste management information through the Health Department. The McHenry County Schools Environmental Education Program (MCSEEP) provides an environmental educational lesson library to schools with a focus on recycling, positive behavior change and solid waste management.

PLAN ORGANIZATION

This Solid Waste Plan is organized into five (5) key sections:

- Solid Waste Generation and Management
- Education and Information
- Waste Based Economic Development
- Current Practices
- Recommended Plan Goals and Objectives

Several attachments have been appended to the document. Those have been provided in the appendix:

- Solid Waste Advisory Committee Meeting Agendas
- General Survey Results
- Municipal Solid Waste Hauler Survey Results
- Advisory Committee Ranking of Plan Recommendations
- Plan Recommendations Submitted to Advisory Committee
- Landfill Capacity Analysis
- McHenry County Solid Waste Collection and Waste Generation Data Management Recommendations

- Municipal Waste Hauler License Application and Annual Report
- Recycler/Collector Survey
- Methodology for Calculation of Recycling Rate and Disposal Rate
- Illinois EPA Annual Survey Analysis
- 20 Year Plan Update (IEPA Form)
- Previous Plan (15 YR Plan Update)
- McHenry County Solid Waste Ordinances Timeline
- Legislative Update
- Deconstruction Retailing in McHenry County: An Initial Investigation
- Example Innovative Waste Reduction and Diversion Programs

Demographics

Projections of population, households and employment for McHenry County were developed using Chicago Metropolitan Agency for Planning forecasts, Census data and where possible McHenry County's own projections. Demographic projections support the planning process by helping the County to understand its needs in the short, medium and long term.

Table 1 provides a snapshot of the most recent population demographics data via the 2010 U.S. Census for McHenry County.

Table 1: 2010 McHenry County Demographics

2010 Demographic Snapshot	
Total Population	308,760
Median Age	38.0
Percent Age 65 and Older	10.1
Percent Male	49.9
Percent Female	50.1
Percent White	91.7
Percent Hispanic/Latino	11.4
Percent Asian	3.1
Percent Black/African American	1.5
Percent American Indian/Alaska Native	0.7
Percent Native Hawaiian/Pacific Islander	0.1
Percent Other Race	4.8
Percent in Households	99.5
Average Household Size	2.81
Average Family Size	3.25

Source: 1.

Population Projections

The population in McHenry County is expected to grow, and this prediction is reflected in multiple different projections. Table 2 shows projections following the 2010 U.S. Census by both the Illinois Department of Commerce and Economic Opportunity (DCEO) and the Chicago Metropolitan Agency for Planning (CMAP). Both projections show an increase in overall population for the short-term (through 2020) as well as for the long term (2030).

Table 2: DCEO and CMAP Population Projections for McHenry County

	Projection	
Year	DCEO	CMAP
2011	345,090	332,500
2012	353,146	339,084
2013	361,203	345,668
2014	369,259	352,252
2015	377,315	358,836
2016	383,438	365,419
2017	389,561	372,003
2018	395,685	378,587
2019	401,808	385,171
2020	407,931	391,755
2030	443,398	457,594

Source: 2.

McHenry County has experienced significant growth and will continue its growth trajectory.

The vast majority of the total McHenry County population resides in households as opposed to group quarters. According to 2010 U.S. Census data and projections from the Chicago Metropolitan Agency for Planning for the year 2040, the number of households is forecasted to increase, as well as the total population in households. Meanwhile, the number of people living in group quarters is expected to decrease. These forecasts can be found in Table 3.

Table 3: Household Living Forecast for McHenry County

	Households	Total Population in Households	Total Population in Group Quarters*	Employment
2010 Census	109,199	307,113	310	91,229
2040 Forecast	184,253	527,353	296	187,829
Total Change	75,054	220,240	-14	96,600
% Change	69%	72%	-5%	106%

Source: 3.

**Group quarters may include college residence halls, residential treatment centers, skilled nursing facilities, group homes, military barracks, correctional facilities and workers' dormitories.*

This projected growth is commensurate with growth projected for neighboring counties in Illinois. Projected population data for each county bordering McHenry County in Illinois are provided in Table 4. These data are compiled from the Illinois Department of Commerce and Economic Opportunity's total population projections for Illinois counties.

Table 4: Population Projections for McHenry County and Neighboring Counties.

	Year			
County	***2015***	***2020***	***2025***	***2030***
McHenry	377,315	407,931	434,286	443,398
Boone	46,773	48,540	50,807	52,161
DeKalb	108,233	114,992	120,664	124,200
Kane	572,277	630,563	668,645	679,403
Cook	5,562,950	5,707,832	5,835,948	5,990,243
Lake	794,851	820,250	863,245	873,024

Source: 4,7.

Employment

McHenry County's employment is concentrated in the Manufacturing, Retail Trade, Health Care and Social Assistance, and job growth is expected to mirror population growth through 2040.

Table 5 shows the top three industries for employees in McHenry County according to the 2007 Economic Census.

Table 5: Top Three Employing Industries in McHenry County (2007)

Industry	Number of Employees in 2007
Manufacturing	21,462
Retail Trade	15,034
Health Care and Social Assistance	10,348

Source: 5.

Table 6 displays the forecasted increase in employment according to the 2010 Census and CMAP 2040 forecast.

Table 6: Overall Employment Forecast

2010 Census	91,229
2040 Forecast	187,829
Total Change	96,600
% Change	106%

Source: 3.

While agriculture is not one of the top three industries providing employment, McHenry County does have a considerable amount of land devoted to farming and agricultural activities. Table 7 provides a snapshot overview of agriculture in McHenry County according to the 2007 Census of Agriculture.

Table 7: Snapshot of Agricultural Activities in McHenry County (2007)

Number of Farms (farms)	1,035
Land in Farms (acres)	215,584
Average Farm Size (acres)	208
Median Farm Size (acres)	17
Total Cropland (farms)	830
Total Cropland (acres)	198,762
Average Net Cash Received Per Farm	$40,419

Source: 6.

SOLID WASTE GENERATION AND MANAGEMENT

Waste Generation

This section presents updated solid waste generation information for McHenry County. McHenry County conducts annual surveys of municipal solid waste haulers and recyclers to collect information on solid waste quantities, recycling and disposal during the license renewal process. Participation is required per the McHenry County Municipal Waste Hauler Licensing Ordinance. In addition to licensed municipal solid waste haulers, recyclers and other collectors are also surveyed. The data collected is used to determine solid waste generation, disposal and recycling rates. Table 8 summarizes solid waste generation for years 2008-2012.

Table 8: Solid Waste Generation (Actual)

Year 2012				
Measured in tons (includes waste hauler data and collector data)	Total Generated Waste	Total Recycled	Recycling Rate	Total Landfilled
Residential	145137.4	44529.7	31%	100607.7
Commercial and Institutional	128039.6	58498.4	46%	69541.2
Construction and Demolition	100809.4	68769.9	68%	32039.4
Total	373986.4	171798.0	46%	202188.3
Year 2011				
Measured in tons (includes waste hauler data and collector data)	Total Generated Waste	Total Recycled	Recycling Rate	Total Landfilled
Residential	167,235	53,006.6	32%	114,228.4
Commercial and Institutional	85,639.2	12,574.7	15%	73,064.5
Construction and Demolition	101,692.3	59,776.4	59%	41,916
Total	354,566.5	125,357.7	35%	229,208.9
Year 2010				
Measured in tons (includes waste hauler data and collector data)	Total Generated Waste	Total Recycled	Recycling Rate	Total Landfilled
Residential	169,620.95	57,326.95	34%	112,294.00
Commercial and Institutional	114,042.57	38,736.26	34%	75,306.31
Construction and Demolition	97,460.4	60,950.6	63%	36,509.7
Total	381,123.92	157,013.9	41%	224,110.0
Year 2009				
Measured in tons (includes waste hauler data and collector data)	Total Generated Waste	Total Recycled	Recycling Rate	Total Landfilled
Residential	168,605.55	54,309.37	32%	114,296.18
Commercial and Institutional	72,001.77	8,489.43	12%	63,512.34
Construction and Demolition	126,442.50	84,128.34	67%	42,314.16
Total	367,049.82	146,927.14	40%	220,122.68
Year 2008				
Measured in tons (includes waste hauler data and collector data)	Total Generated Waste	Total Recycled	Recycling Rate	Total Landfilled
Residential	196,792.80	73,267.10	37%	123,525.7
Commercial and Institutional	136,955.10	15,793.80	12%	121,161.3
Construction and Demolition	120,483.60	75,692.30	63%	44,791.3
Total	454,231.50	164,753.20	36%	289,478.3

Between years 2008 - 2012, residentially generated solid waste has typically represented between 43-47% of all waste with commercial representing between 20-34% and construction and demolition representing 25-34%. [It should be noted that multiple recyclable materials are reflected in the Total Recycled data which includes traditional recyclable materials (i.e. paper, glass, plastic, metal), landscape waste, electronics, textiles, construction and demolition debris, latex paint, etc. It excludes waste materials such as used motor oil burned for heating purposes (waste to energy).]

Table 9: Year 2012 Total Generated Solid Waste by Sector

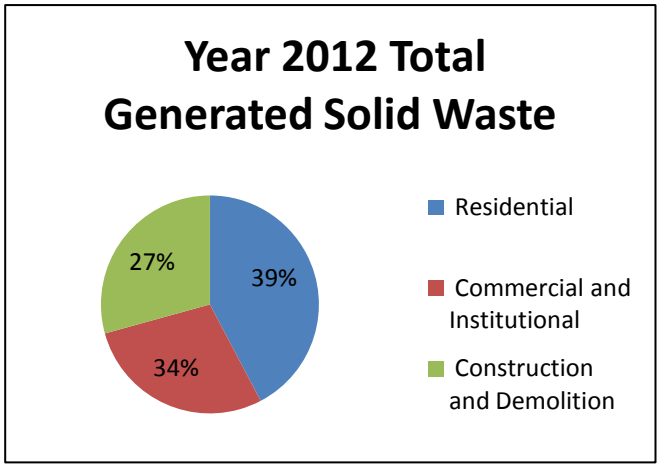


Table 10: Year 2011 Total Generated Solid Waste by Sector

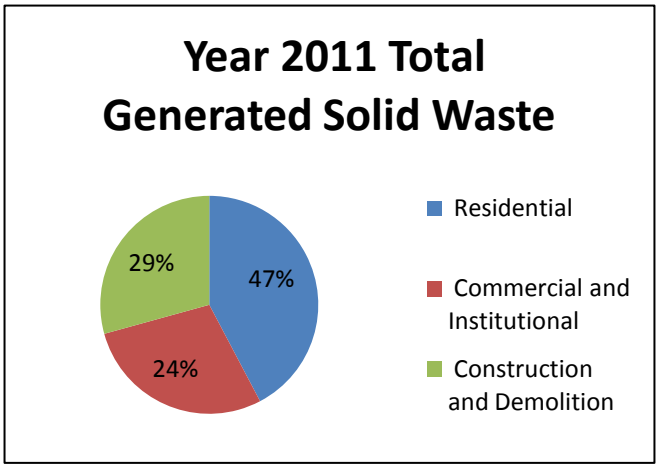


Table 11: Year 2010 Total Generated Solid Waste by Sector

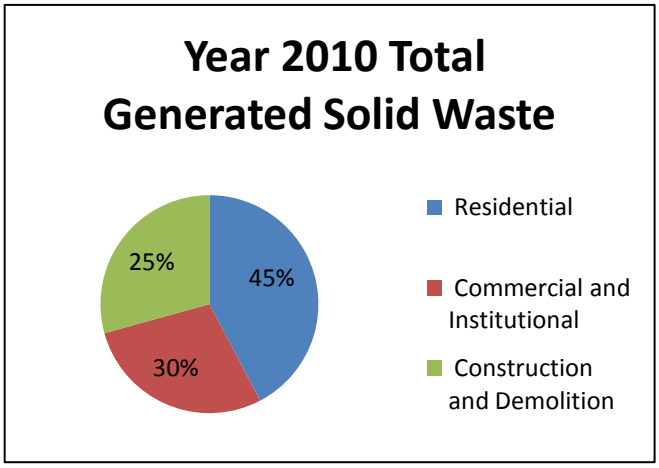


Table 12: Year 2009 Total Generated Solid Waste by Sector

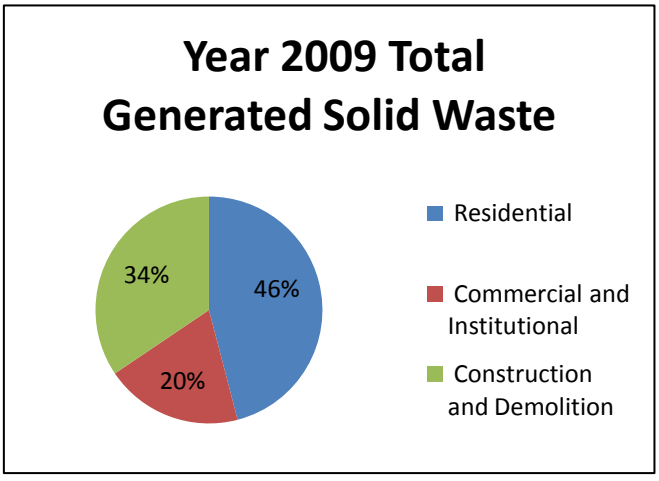


Table 13: Year 2008 Total Generated Solid Waste by Sector

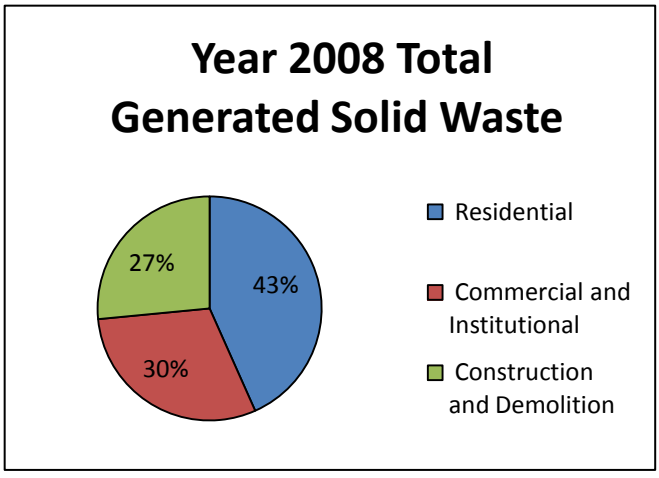


Table 14: PCD Generated Solid Waste Based on Illinois EPA Annual Survey

Year	Population	PCD
2001	268,208	6.3
2002	281,165	6.3
2003	286,091	6.07
2004	296,389	6.2
2005	303,990	5.97
2006	312,373	6.61
2007	315,943	6.49
2008	318,641	7.81
2009	318,641	6.31
2010	308,760	6.7
2011	308,944	6.29
2012	308,145	6.65

PCD= pounds per capita per day

Solid waste generation data is gathered from licensed municipal solid waste haulers and from recyclers and other collectors for the three (3) main sources of solid waste:

1. Residential
2. Commercial/Institutional
3. Construction & Demolition

Residential

The residential sector represents the largest portion of our total solid waste stream. The residential recycling rate has remained fairly consistent for that same time period ranging from 31-37% (See Table 15). In addition to regular curbside solid waste removal and recycling services from municipal solid waste haulers, there are multiple recycling and reuse options available to residents that are described in further detail in the Recycling and Reuse section of the plan.

Table 15: Residential Solid Waste Generation 2008-2011

Year	Population	Total Generated Solid Waste (Tons)	Total Recycled (Tons)	Recycling Rate	Total Landfilled (Tons)
2012	308,145	145,137.4	44,529.7	31%	100,607.7
2011	308,944	167,235	53,006.6	32%	114,228.4
2010	308,760	169,620.9	57,326.9	34%	112,294.00
2009	318,641	168,605.55	54,309.37	32%	114,296.18
2008	318,641	196,792.80	73,267.10	37%	123,525.70

Commercial/ Institutional (Non-Residential)

Commercial/institutional waste consists of solid waste generated by businesses, governmental agencies and institutions (i.e. schools, hospitals). Commercial/industrial solid waste also includes industrial lunchroom and office waste, but excludes special waste generated by manufacturing or industrial operations. It also excludes construction and demolition waste. Typically businesses independently contract with licensed municipal solid waste haulers for refuse and recycling collection services. Commercial/institutional solid waste generation is reported through the McHenry County Municipal Waste Hauler License Application and Annual Report and through recyclers and other collectors that provide data to McHenry County. Despite the requirement of licensed municipal solid waste haulers to provide data via the required reporting, accurate and complete data can be very difficult to capture. Commercial/institutional solid waste is frequently collected by a wider scope of haulers, some of whom do not regularly provide collection service in the County and are therefore not licensed. Data may also be unreported or under-reported as this data may be considered proprietary information, and shipments may be directly returned to distributors and unknown recyclers. The 2010 recycling data was much improved demonstrating a jump in overall disposal information and improved recycling and waste diversion. This increase is a result of a deliberate attempt to obtain more data through a voluntary survey from additional recyclers and collectors that were able to define the recycling activities associated with the commercial/institutional source.

Table 16: Commercial and Institutional Solid Waste Generation

Year	Population	Total Generated Solid Waste (Tons)	Total Recycled (Tons)	Recycling Rate	Total Landfilled (Tons)
2012	308,145	128,039.6	58,498.4	46%	69,541.2
2011	308,944	85,639.2	12,574.7	15%	73,064.5
2010	308,760	114,042.57	38,736.26	34%	75,306.31
2009	318,641	72,001.77	8,489.43	12%	63,512.34
2008	318,641	136,955.10	15,793.80	12%	121,161.30

Construction/Demolition

Improvements in recycling of construction and demolition waste have been significant thereby removing over half of the construction and demolition waste from the total landfilled solid waste. Because construction and demolition waste represents between 25-34% of the total solid waste stream, the addition of a large-scale permitted general construction & demolition debris recycling processing facility in Cary, Illinois and improvements in recycling have had a significant overall impact on recycling rates for the County.

Table 17: Construction and Demolition Solid Waste Generation

Year	Population	Total Generated Solid Waste (Tons)	Total Recycled (Tons)	Recycling Rate	Total Landfilled (Tons)
2012	308,145	100,809.4	68,769.9	68%	32,039.4
2011	308,944	101,692.3	59,776.4	59%	41,916
2010	308,760	97,460.4	60,950.6	63%	36,509.7
2009	318,641	126,442.50	84,128.34	67%	42,314.16
2008	318,641	120,483.60	75,692.3	63%	44,791.30

Waste Composition

McHenry County does not currently collect solid waste composition data; however, the 2009 Illinois Commodity/Waste Generation and Characterization Study provides acquired data for the types and quantities of materials generated, the generating sectors, the quantities that are potentially recoverable and those that are otherwise disposed within Illinois. The study incorporated samples from two landfills in Lake County. We assume that McHenry County's waste composition will be similar to that of Lake County Landfills and the Illinois Average. It would be reasonable to assume that McHenry County solid waste composition would be represented in Table 18 below because McHenry County solid waste is commonly disposed in Lake County municipal sanitary landfills.

Table 18: Composition of Landfilled Waste by Weight

Material		Lake County Landfills	Illinois Average
Paper		**21.6%**	**26.2%**
	Newspaper	2%	3.1%
	Corrugated	6.3%	11%
	Other Paper	13.3%	12.2%
Plastic		**19.4%**	**14.4%**
	#1-#7 Containers	3.5%	4%
	Plastic Film	5.3%	4.8%
	Other Plastic	10.6%	5.6%
Glass		**2.2%**	**3.2%**
Metal		**5.2%**	**5.3%**
	Aluminum Cans	.4%	.4%
	Tin Cans	1.1%	5.3%
	Other Metals	3.7%	3.9%
Organics		**18.2%**	**22.2%**
	Yard Waste	3.6%	2.8%
	Food Scraps	8.9%	13.4%
	Other Organics	5.7%	6%
Inorganics		**4.2%**	**2.6%**
	Computers/Electronics*	4.1%	1.4%
	Appliances	0%	0%

Tires	0%	.2%
Other Inorganic	.1%	1%
Textiles	**10.5%**	**7.7%**
HHW	**.2%**	**.5%**
Construction/Demolition*	**18.4%**	**18%**
Wood	13.3%	10%
Other	5.1%	8%
Total	**100%**	**100.1%**
Number of Samples	27	315

Source: CDM, Illinois Commodity/Waste Generation and Characterization Study, May 22, 2009 (SIC)

**Recent legislative initiatives should reduce percentage.*

It should be noted that since samples were evaluated, significant legislative reforms for electronics recycling and construction and demolition waste have occurred. This has resulted in the reduction of electronics, appliances, wood and other construction/demolition debris represented in the solid waste composition table. Additionally, it should also be noted that we assume that McHenry County's organics may represent a larger percentage than Lake County. This may be the case because Lake County has a greater number of food scrap composting sites than McHenry County.

Waste Management

The objective of solid waste management is to maximize waste reduction, recycling and reuse in order to minimize reliance on landfills for disposal, while protecting public health and the environment. The primary goal has been to exceed the Illinois waste recycling goal of 25%, which was established by the Illinois Solid Waste Planning and Recycling Act, and to meet the local goals established for the county.

The overall management strategies include improving source reduction, reuse and recycling options, household hazardous waste disposal services, infrastructure, data collection, alternative waste disposal and lastly disposal in landfills. The success of any of these strategies is contingent upon educational outreach to ensure source reduction is a priority.

Source Reduction

As the population in McHenry County increases, we would expect the overall generated solid waste to increase. As described in Table 13, the average pounds per capita per day (pcd) generated solid waste rate has remained fairly consistent over the last ten years with a range of 6.1 to 7.8 pounds per person per day-but even at a constant rate, population growth will prompt action. This population growth places an emphasis on source reduction strategies to reduce the amount of solid waste that is disposed in landfills, which is measured as pounds per capita per day (pcd) disposal rate. The more solid waste diverted from disposal in landfills would represent improved source reduction

efforts. This methodology will help to quantify source reduction, reuse, recycling and alternative disposal efforts. Tracking the useful metric of pcd disposal rate will be discussed in detail later in the plan.

Source reduction strategies include purchasing only the amount of materials required for a specific job to avoid creating waste; using reusable containers; using reusable bags instead of disposable bags; using a refillable water bottle instead of purchasing single use bottled water, and making an effort to purchase quality, long lasting products.

Management should be a reflection of the effectiveness of source reduction; however this number is greatly impacted by changes in demographics and economic factors.

Multi-sector waste minimization can be done with policy support and behavioral change such as green purchasing initiatives, which involve buying products with less packaging, products that last longer, etc. Consumer awareness of the design and manufacture of products with minimum toxic content, smaller volume of material, and a longer useful life is crucial to source reduction. The policy on procurement for McHenry County departments provides an example for other businesses and agencies throughout the County. Another popular source reduction strategy that has been promoted by the county is volume based pricing for solid waste disposal, where disposal of more waste is more costly. Variably priced containers incentivize source reduction at the residential and commercial/institutional levels.

Recycling and Reuse

There are numerous mechanisms to promote and maximize recycling and reuse throughout the region. McHenry County has a current overall recycling rate of approximately 35%. This includes residential, commercial/institutional and construction and demolition debris sectors. Recycling and reuse are integral to maximizing solid waste diversion. The County has local programs which promote recycling and reuse, such as the McHenry County Green Awards, McHenry County Green Team and The Official McHenry County Green Guide produced by the Lou Marchi Total Recycling Institute at McHenry County College. McHenry County's population has historically valued environmentally sound recycling efforts, and there are numerous programs and events in the County that are committed to providing a variety of recycling and reuse options and services. These recycling and reuse options and services are provided by municipalities, townships, township highway departments, local law enforcement agencies, churches, schools, businesses and environmental organizations.

Among the major efforts, the Lou Marchi Total Recycling Institute at McHenry County College publishes The Official McHenry County Green Guide annually. The Green Guide is a comprehensive recycling clearinghouse that provides over 200 resources for local recycling for a variety of products and materials. The Green Guide also offers a green living section that promotes businesses and organizations with local emphasis to help achieve more sustainable lifestyles. The Solid Waste Manager participates in regular meetings of the Lou Marchi Total Recycling Institute Advisory group which discusses solid waste issues and initiatives affecting McHenry County.

The McHenry County Green Awards, created in 1994, recognize exemplary solid waste reduction and recycling efforts of individuals, businesses, institutions and organizations in the County annually. Recipients are recognized at County Board meetings and on the Solid Waste webpage.

The County also has a "Green Team", which is made up of staff from several County departments that promote waste reduction, reuse and recycling in County departments. A recycled product procurement policy was established for the County in 2008. It is referenced as the McHenry County Green Policy. The Green Team also sponsors recycling events such as paper shredding, and recycling of cell phones and rechargeable batteries. The county's Green Team is intended to be a model for other businesses and governmental entities to encourage green initiatives.

One of the most important trends is the national product stewardship initiative. This requires manufacturers of products to provide a mechanism for those products to be recycled. The best example of this strategy is in the electronics industry where covered electronic devices were banned from landfills effective January 1, 2012. Manufacturers are required to collect covered electronic devices for recycling at no cost to residents. This has resulted in a variety of simple and economical ways for residents to recycle electronics. Multiple single day electronic recycling events have been held in McHenry County by a variety of groups and agencies over the last couple of years.

IEPA has suspended funding for countywide used/waste tires collections, although IEPA continues to fund the Consensual Tire Removal program. This program offers a onetime environmentally sound used/waste tire disposal option at no cost to individual property owners. The used/waste tire material can be used in such ways as road base, running tracks, rubber floor mats, belts, washers, gaskets, shoe soles, playground surfaces, horse arenas, and tire derived fuel (TDF) that is blended with coal to produce electricity. There are multiple tire retailers that will also accept used/waste tires from the general public for nominal recycling fees.

The Residential Recycling Ordinance requires residents of McHenry County to separate recyclable materials from other waste and mandates recycling of common recyclables including plastic, paper, aluminum, cardboard, and glass, which directly impacts recycling efforts countywide. Currently, there is no mechanism to require commercial or business operations to recycle.

The Municipal Waste Hauler Licensing Ordinance- requires licensure of municipal solid waste haulers in the business of collecting or hauling discarded materials on a continuous and regular basis in McHenry County. During the annual license renewal process, all municipal solid waste haulers are required to submit data regarding the amount and type of solid waste collected by them for the previous year. This data allows the Solid Waste Manager to evaluate recycling and solid waste generation rates and identify areas that need improvement in order to expand recycling and reuse initiatives.

Since 2009 the McHenry County Board has approved the implementation of franchised solid waste removal services in five (5) separate unincorporated areas of McHenry County. Residents are provided with comprehensive, economical solid waste removal and recycling services including seasonal landscape waste pick-up. The program includes a volume based pricing system and has been extremely successful. In the designated areas the solid waste recycling rates average a 5% increase over the overall county waste recycling rate.

Finally recycling and re-use may be achieved though economic development opportunities. Markets and incentives to reduce the amount of waste disposed in landfills grow from opportunities to add value to discarded products and gain value from sustainable practices. These types of opportunities may include recycling businesses or waste conversion technologies that keep materials out of the landfill.

Household Hazardous Waste Disposal Services

Illinois EPA (IEPA) has suspended funding for countywide household hazardous waste collections, although IEPA continues to fund the permanent facilities in Rockford, Gurnee, Naperville and Chicago, which are open to all Illinois residents. Despite funding constraints, there are currently five local police departments that provide alternative disposal for expired/unused medication for residents; Johnsburg, Spring Grove, Fox River Grove, Woodstock and Cary.

McHenry County also promotes the Drug Enforcement Administration's National Prescription Drug Take-Back Days where eleven (11) McHenry County law enforcement agencies provided host collection sites for residents to drop off unused, expired or unwanted solid dosage medication for disposal. McHenry County continues to explore funding potential independent of Illinois EPA funds.

McHenry County regularly receives household hazardous waste questions from residents. McHenry County is considering ways to assure household hazardous waste collection. Recommendations from the advisory committee suggest establishing permanent, regional collection centers that are certified to process household hazardous waste properly. Expanding waste management services to include hazardous waste material will require adequate funding and policy support from private and public stakeholders.

Disposal in Landfills

McHenry County does not have any active permitted sanitary landfills within County limits but supports efforts to maintain compliance with external landfill rules and regulations in order to minimize impacts on the community and environment. Solid waste management facilities are inspected regularly to ensure compliance with applicable regulations. McHenry County transfers non-recyclable solid waste to landfills in Illinois region 1, region 2, and southeast Wisconsin.

Capacity

McHenry County does not direct municipal solid waste haulers to use any one landfill in particular; however, it is known that municipal solid waste haulers typically use landfills in northern Illinois and southern Wisconsin. The Delta Institute performed a capacity analysis for landfills in northern Illinois and southern Wisconsin using data from Illinois Environmental Protection Agency and the Wisconsin Department of Natural Resources. The key finding is that based on current disposal rates there 12 years of capacity available in Region 2 that includes the Chicago Metropolitan Region

(Cook, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry and Will Counties) and there are 16 years of capacity remaining for Region 1, which includes the 12 most northwestern counties: Boone, Bureau, Carroll, DeKalb, JoDaviess, LaSalle, Lee, Ogle, Putnam, Stephenson, Whiteside and Winnebago. Additionally, landfills in Southeastern and South Central Wisconsin that currently accept solid waste from Illinois have limited capacity. (Tables displaying landfill capacity are provided in Appendix 2).

Some solid waste haulers have indicated that they may pursue using landfills in Indiana. According to the *2010 Indiana Municipal Solid Waste (MSW) Landfill Capacity & Life* prepared by Indiana Department of Environmental Management, the landfills with closest proximity to Illinois mostly have capacity ranging from 13-92 years. See below.

- Newton County 22 years
- White County 13 years
- St Joseph County 17 years
- Fulton County 92 years
- Elkhart County 65 years and 9 years
- Kosciusko County 26 years

Compliance

Since 1987 McHenry County has maintained a delegation agreement with the Illinois EPA for enforcement of non-hazardous solid waste activities. Department staff conducts regular inspections of specific IEPA permitted solid waste management facilities operating in McHenry County to ensure solid waste management facilities are operating within their IEPA approved permit provisions and the McHenry County Public Health Ordinance. On behalf of IEPA the Department monitors one (1) municipal solid waste transfer station, (4) landscape waste transfer stations, (2) composting facilities, general construction and demolition debris processing center, and two (2) asphalt shingle recycling facilities that have received beneficial use determinations (BUDS.) Beneficial Use Determinations will be discussed later in the plan.

Infrastructure

There is no active sanitary landfill operating in McHenry County, however; there are currently eight (8) Illinois EPA permitted solid waste management facilities and two (2) facilities for asphalt shingle recycling which have received Beneficial Use Determinations within McHenry County. There are additional general construction and demolition debris recycling facilities seeking permits from the Illinois Environmental Protection Agency. In addition, there are numerous recycling and reuse oriented businesses, institutions and organizations that together provide adequate infrastructure for solid waste management.

Municipal Solid Waste Transfer Station

Transfer stations play a vital role in overall solid waste management. Transfer stations are structures and/or processing facilities where regional solid waste collection vehicles deposit waste to be sorted by type and further transported for end disposal in municipal sanitary landfills, waste-to-energy facilities, or material recovery facilities. Larger and separately designated vehicles designed to travel longer distances collect the deposited waste and haul it to its final destinations.

Virginia Road Transfer Facility - Crystal Lake, Illinois

Located in Crystal Lake, Illinois, the Virginia Road Transfer Station began operations in December 2009 and accepts municipal solid waste, landscape waste, and other recyclable materials. This facility currently accepts landscape waste from the City of Crystal Lake and the Village of Algonquin.

Owned and operated by Waste Management, this facility has a maximum process capacity of 1,000 tons per day, while the tipping fee for customers is $54 per ton. From 2010 through 2012, the Virginia Road Transfer Facility processed approximately 454,628 tons of solid waste.

Landscape Waste Transfer Stations

Since July 1990, per the Illinois Public Act 90-0266, landscape waste has been permanently banned from disposal in Illinois landfills. The Illinois Environmental Protection Act prohibits any person from knowingly mixing landscape waste with municipal solid waste for disposal in landfills. The Act also prohibits any owner/operator of a sanitary landfill from accepting landscape waste for disposal, unless the landfill provides and maintains a separate, active landscape waste composting operation.

The landscape waste landfill ban was enacted largely due to diminishing landfill capacities in Illinois. This ban has helped to successfully reduce landscape waste composition in sanitary landfills. Additionally it helped the state to realize greater capacities for organic composting, as the ban resulted in the creation of additional markets for landscape waste composting facilities.

Currently, there are four (4) Illinois EPA permitted landscape waste transfer stations in McHenry County;

MDC Landscape Waste Transfer Station

Located in McHenry, Illinois, MDC Landscape Waste Transfer Station opened in 2004 and only accepts leaves generated within the City of McHenry. MDC Landscape Waste Transfer Station is owned by Meyer Material Co.; facility operation is handled by MDC Environmental. MDC Environmental provided fall leaf collection services for further transfer to approved landscape waste composting facilities. An estimated 6400 cubic yards of leaves were collected per year. This landscape waste transfer station has been inactive since approximately 2009.

Waste Management North McHenry

Located in McHenry, Illinois, Waste Management North McHenry opened in 1998 and has been inactive since approximately 2004.

Woodstock Yardwaste Collection Site

Located in Woodstock, Illinois, Woodstock Yardwaste Collection Site opened in 1993 and only accepts landscape waste generated within the City of Woodstock. Fall leaf collection service is provided by the City of Woodstock's Department of Public Works and leaves are transported to a local agricultural property for land application for beneficial use. In addition, brush is processed into wood chips and distributed to the residents and within city parks for beneficial use. The City of Woodstock's Department of Public Works collects an estimated 5000 cubic yards of landscape waste per year.

Petersen Pit Landscape Waste Transfer Facility

Located in Lakemoor, Illinois, Peterson Pit Landscape Waste Transfer began operations in 2011 and accepts landscape waste from the general public, landscape waste operators and solid waste haulers for further transfer to approved landscape waste composting facilities.

Landscape Waste Compost Facilities

Currently, there are two (2) active landscape waste composting facilities operating in McHenry County.

Crystal Lake Composting Facility

Located in Crystal Lake, Illinois, Crystal Lake Composting accepts leaves, brush, and tree limbs generated within the City of Crystal Lake. This facility has been open since June 1992 and is owned and operated by the Crystal Lake Public Works Department.

According to the Permitted Landscape Waste Compost Facility Annual Reports 2007-2011, Crystal Lake Composting Facility processed approximately 12,701 tons of landscape waste.

Thelen Sand & Gravel Compost Facility

Located in Fox Lake, Illinois, Thelen Sand & Gravel, Inc. owns and operates a composting facility that accepts grass clippings, leaves, brush and organics from the general public, landscape service operations and solid waste haulers. This facility has been open since August 1996 and is the largest landscape waste composting facility in the state of Illinois.

According to the Permitted Landscape Waste Compost Facility Annual Reports 2007-2011, Thelen Sand & Gravel Compost Facility processed approximately 401,192 tons of landscape waste.

General Construction and Demolition Material Processing Facility

Construction and demolition debris includes non-hazardous and uncontaminated materials that result from construction, demolition, and remodeling/repair work on structures and facilities. Construction and demolition recycling facilities generally accept most common, non-hazardous building materials, including: wall coverings; plaster; drywall; plumbing fixtures; non-asbestos insulation; roofing shingles and other roof coverings; reclaimed or other asphalt pavement; glass; plastics that are not sealed in a manner that conceals waste; electrical wiring and components containing no hazardous substances; and corrugated cardboard, piping or metals incidental to any of those materials and other related, commercial grade building components.

Lowe Enterprises C&D Material Processing Facility

Located in Cary, Illinois, and in conjunction with Fox Valley Disposal, Lowe Enterprises is currently the lone general construction and demolition debris recycling processing facility in McHenry County. Lowe Enterprises has a maximum process capacity of 400 tons of construction and demolition debris per operating day.

Beneficial Use Determinations

The Illinois EPA's current policy is to treat additional items such as asphalt shingles, more like traditional recyclables (i.e. paper, plastic, metal, etc.) and offer exemptions from some of the permitting requirements. These types of facilities are relatively new and require Illinois EPA approval. IEPA stipulates the specific conditions and limitations for each beneficial use determination facility. Also referred to as BUD facilities, there currently are two (2) BUD facilities in McHenry County that accept recycled asphalt shingles (RAS) as a raw ingredient in hot-mix asphalt.

Southwind RAS, LLC

Southwind RAS is located in Lake in the Hills, Illinois and began operations in 2013. This facility has a maximum single storage capacity of 10,000 tons of recycled asphalt shingles and unprocessed shingles.

C&D Recycling of Wisconsin

C&D Recycling of Wisconsin is located in Crystal lake, Illinois and began operations in 2012. This facility has a maximum single storage capacity of 5,000 tons of recycled asphalt shingles and unprocessed shingles.

Alternative Recycling Businesses

Per Sections 201.1 and 201.2 of the County's Residential Recycling Ordinance, McHenry County residents are required to separate recyclable materials from all other discarded materials to be landfilled and store recyclable materials separately in recycling containers. Collection of these mandated recyclables at residential dwellings must be provided by the licensed municipal solid waste haulers.

As an alternative, residents may also take recyclable materials to an established center. Lou Marchi Total Recycling Institute at MCC publishes The Official McHenry County Green Guide on an annual basis. This guide includes comprehensive recycling options for residents.

Alternative Disposal Technologies

Alternative disposal methods are primarily those that convert waste to energy (WTE) and reduce volume of waste disposed. Pharmaceuticals and tires are waste streams that are commonly used in WTE facilities. Technologies that convert WTE through biological conversion (i.e., anaerobic digestion), not including mass burn incineration or chemical conversion, should be considered as a potential solution to livestock/agricultural waste in McHenry County going into the future—when electricity prices will likely be higher thus rendering the technology feasible. Organic and non-organic WTE technologies can be coupled with sorting and recycling methods to ensure options for highest value re-use.

If alternative disposal technologies are considered for future waste management, a framework for decision making is needed for adequate planning. A proposed alternative technology facility should meet applicable requirements, such as those proposed by neighboring Lake County, which indicate when a technology is environmentally and economically feasible. These guidelines propose that an alternative technology should: utilize proven technology; minimize emissions; and avoid large economic risks. In addition to these guidelines, there are several questions that need to be addressed by regional authorities and planners:

Table 19: Alternative Technology Considerations

Planning Area	Questions
Facility Requirements	• What type of facilities are required as part of the technology? • How many facilities are needed and of what size, including both site acreage and disposal capacity (in tons per day)?
Siting	• What are the facility siting requirements? • Does a suitable site exist within the County?
Economics	• What are the capital, operation, and maintenance costs associated with the technology? • What are the probable revenues and life cycle costs? • What are the estimated tipping fees per ton and how do the estimated fees compare to current tipping fees for the disposal of McHenry County waste?
Technical Feasibility	• Is the technology proven for all or a portion of the waste generated for disposal in McHenry County? • Can it provide reliable long-term management of the targeted waste stream?
Ability to Implement	• Can the technology be successfully engineered? • What are the potential obstacles to implementation and how will these obstacles be addressed? • Can it be implemented in time to serve its intended purpose?

With new technological advances, alternative disposal technologies are becoming more applicable over time. These methods do not displace recycling and reuse, and should be considered as part of a comprehensive solution. It is recommended that McHenry County monitor and assess WTE developments over next five to ten years to ensure that opportunities are not missed.

Volume Reduction

Volume reduction refers to preventing materials from ever entering the waste stream. Volume reduction can refer to precycling or reuse. Precycling is the best option because the good can be reused in its primary form. A great example of a precycling program is *Hope4Hoopers*. Hope4Hoopers was created by two former collegiate basketball players. The pair have set up a series of high-level basketball camps and clinics for children ages 8-18 and the price to participate is one pair of used athletic shoes. Half of the shoes collected are donated locally to community programs supporting young athletes. The other half is shipped to the Philippines. In the first 9 months of the program which began in May 2011, more than 2000 pairs of shoes have been diverted from the waste stream.

Reuse, the second best option, can reuse the item in some other form. For example, From Blue to Green created by cotton fiber insulation manufacturer Bonded Logic teamed up with Cotton Incorporated (an organization of cotton growers, manufacturers, and retailers) in order to collect donations of used denim from a network of organizations across the country. Denim products are collected via corporate/organization-wide drives, a mail-in program, and partnerships with retailers and college campuses. Gathered denim is transformed into UltraTouch insulation containing 90% recycled denim. This insulation is then donated to Habitat for Humanity affiliates. The program, founded in 2006, has diverted over 622,000 pairs of jeans.

Composting of landscape waste and food scraps may present additional volume reduction opportunities.

Once a product can no longer be used it enters the waste stream where there are still many opportunities to reduce volume. Recycling reduces volume by taking glass, plastics, paper, cardboard and other source separated materials that can be used in the manufacture of new products.

Beyond recycling, compaction of materials is the next volume reduction opportunity. Compaction prepares waste for efficient transport by truck, boat or rail car to landfills or other waste disposal facilities. Compacted waste takes up less space in a landfill, thereby extending the life of the landfill. In some cases, compacted waste can be stored for later disposal. Waste to energy may present additional opportunities for volume reduction.[1]

[1] Blumberg, L., and R. Gottlieb. *War on Waste: Can America Win Its Battle With Garbage?* Covelo, CA: Island Press, 1989. Kharbanda, O. P., and E. A. Stallworthy. *Waste Management: Toward a Sustainable Society.* Westport, CT: Auburn House/Greenwood, 1990.Noyes, R., ed. *Pollution Prevention Technology Handbook.* Park Ridge, NJ: Noyes Press,

Revised procurement standards can also result in reducing the volume of solid waste disposed. Through purchase and use of longer lasting products entities can reduce their total solid waste disposed.

Education and Information

McHenry County provides information and education through a variety of information channels to promote proper solid waste management and recycling. In addition to making information available through newsletters, flyers, website and social media, the County also has programs such as the McHenry County Green Awards, created in 1994, to recognize innovative solid waste reduction, recycling, and management efforts of businesses, institutions, organizations and individuals.

Information Campaign

The McHenry County Solid Waste Manager provides a wide variety of solid waste related information to county residents. Some solid waste information is maintained on the Health Department's webpage and additional information is relayed to the residents of McHenry County through a variety of media including press releases, newsletters, and flyers. It is common for other partners such as organizations, schools and municipalities to re- broadcast information and promotions on their own websites. Concurrently, the County must ensure that many other types of information specific to the management of waste are readily available. For example, the website provides links to regulations, service information regarding franchise services, and lists municipal solid waste haulers permitted to work in McHenry County on its website. Other information may be requested directly from the Solid Waste Manager.

McHenry County Schools Environmental Education Program

The McHenry County Schools Environmental Education Program (MCSEEP) is a Division of the Department of Planning and Development. The program focuses on environmental education for kindergarten through 12th grade students. MCSEEP incorporates the 4 R's (reduce, reuse, recycle, rot (composting) as the integral part of each lesson plan covering many environmental topics:

- Solid waste
- Water resource conservation
- Climate change
- Green careers

993.Porter, J. W., and J. Z. Cannon. "Waste Minimization: Challenge for American Industry." *Business Horizons* 35 (March-April 1992): 46–9.

Additionally, the program offers local environmental news, projects, contests, lesson plans and classroom resources for McHenry County schools.

REGULATORY COMPONENT

Local Ordinances

The Residential Recycling Ordinance requires residents of McHenry County to separate recyclable materials from other waste and mandates recycling of common recyclables like plastic, paper, aluminum, cardboard, and glass. This directly impacts recycling efforts countywide; however, currently there is no mechanism to require commercial operations to recycle.

The Municipal Waste Haulers Licensing Ordinance requires licensure of persons or companies in the business of collecting or hauling discarded materials on a continuous and regular basis in McHenry County. Annually, during the license renewal process, all municipal solid waste haulers are required to submit data regarding the amount and type of waste collected by them for the previous year. This data collection allows the county to track recycling and waste generation rates and identify areas that need improvement in order to expand reuse and recycling initiatives.

The Pollution Control Facility Siting Ordinance requires an application and local site approval for the development, construction or expansion of a Pollution Control Facility as defined per the Illinois Environmental Protection Act in unincorporated McHenry County. Local approval must be granted by the McHenry County Board. Pollution Control Facilities located within incorporated areas would obtain their local siting approval from their municipality.

The McHenry County Public Health Ordinance empowers the Health Department to respond to complaints of accumulations of rubbish and garbage and ensure that it is disposed of properly to prevent public health issues.

McHenry County has the authority to designate solid waste collection services in unincorporated areas through adoption of an ordinance by the McHenry County Board per 55 ILCS 5/5-1048.

State Legislation

Since the most recent solid waste plan update, legislation with significant solid waste management implications have been passed. These include:

The Electronic Products Recycling and Reuse Act (P.A. 95-0959; 415 ILCS 150/) Signed into law in September 2008, the Act advances a producer responsibility model for managing end-of-life electronics. Illinois is one of 22 states that have comprehensive e-waste laws (as of May 2009). The first phase of the law, which went into effect in early 2010, requires manufacturers/retailers to register with IEPA, provide information on their product's proper disposal and to collect covered electronic devices for recycling at no cost. In 2011, the legislation was modified to expand the list of covered

electronic devices that must be included. The second phase of the law, which went into effect January 1, 2012, banned covered electronic devices from Illinois landfills.

Illinois Composting Bill (S.B. 99, P.A. 96-418 415 ILCS 5/3.197) Passed in June 2009, the bill allows for the composting of food scraps on a commercial scale without triggering requirements for more heavily-regulated landfills, transfer stations or other pollution control facilities provided the food scrap composting facility adheres to specific volume, composting method and location requirements per the Illinois Environmental Protection Act. Responsible food scrap composting is an acceptable waste reduction and recycling practice.

Construction & Demolition Debris Legislation Public Act 96-1416, effective July 30, 2010 amends the Illinois Environmental Protection Act regarding the management of Clean Construction and Demolition Debris (CCDD). The new law creates a state tipping fee for CCDD disposal and provides additional standards for materials being accepted at CCDD facilities and uncontaminated soil-only fill sites.

More recently, the Task Force on the Advancement of Materials Recycling Act was made into law in July, 2012. Representatives Karen May and Robyn Gabel have sponsored HB4986 that is now Public Act 097-0853. The Task Force on the Advancement of Materials Recycling Act was created to review the status of recycling and solid waste management planning in Illinois with the goal of creating recommendations for expanding reduction, recycling, reuse and composting in a way that is environmentally responsible and protects public health and safety and promotes economic development. It should be noted that the task force will focus on county recycling and waste management planning; current and potential policies and initiatives in Illinois for waste reduction, recycling, composting, and reuse; funding for State and local oversight and regulation of solid waste activities; funding for State and local support of projects that advance solid waste reduction, recycling, reuse, and composting efforts; and the proper management of household hazardous waste. The review shall also evaluate the extent to which materials with economic value are lost to landfilling, and it shall also recommend ways to maximize the productive use of waste materials through efforts such as materials recycling and composting. This Act could lead to the provision of funding through the Department of Commerce and Economic Opportunity. At the same time because the Task Force will review requirements for County Solid Waste Planning, McHenry County will need to stay abreast of the Task Force.

As local, county and state governments experience greater resource constraint there is a move toward extended product stewardship initiatives. Product stewardship refers to the concept of the producers of a material funding the proper end of life disposal, recycling or refurbishing. The most recent successful example of this is the electronic recycling legislation which requires electronic manufacturers to fund residential electronic recycling.

Illinois has a product stewardship discussion group that includes solid waste managers throughout the state that works in partnership with the Product Stewardship Institute to look for opportunities for extended product stewardship legislation to enable local governments to overcome the cost of waste and hazardous waste management. Recent successful examples include electronic recycling and mercury thermostat legislation. There is extensive interest in a paint program working in partnership with the paints and coatings industry to subsidize or fully fund paint collection.

Additionally, this past year a plastic bag initiative was vetoed by Governor Quinn; however, the legislation could return in a modified form.

A nationwide scan indicates that the greatest opportunities for product stewardship legislation include: Mattresses, Paints, Sharps, Pharmaceuticals and Fluorescent Lamps. Additionally some states are advancing the concept of framework legislation that will result in potential programming for all products that fit criteria for product stewardship legislation.

Pending and Recent Legislation

Product	State
Mattresses	California
Mattresses	Connecticut
Plastic Bags	Illinois
Mercury Thermostat	Illinois
Paint	Illinois
Sharps	Maine
Fluorescent Lamps	Massachusetts
Paint	Minnesota
Batteries	New York
Auto Switch	New York
Carpet	New York
Fluorescent Lamps	New York
Paint	New York
Pharmaceuticals	New York
Pharmaceuticals	Pennsylvania
Batteries	Rhode Island
Fluorescent Lamps	Rhode Island
Mattresses	Rhode Island
Packaging	Rhode Island
Paint	Rhode Island
Paint	Vermont
Packaging	Vermont
Rechargeable Batteries	Washington
Paint	Washington
Pharmaceuticals	Washington
Sharps	Washington
Mercury Containing Devices	Wisconsin
Framework for product stewardship	Emerging Trend

WASTE-BASED ECONOMIC DEVELOPMENT

Waste and Recycling-based Economic Activity

Waste management, precycling, reuse, and recycling provide opportunities for economic development because local management of waste materials keeps jobs local by processing the materials nearby. Furthermore recycling is a significant source of jobs in Illinois. In Illinois, the combined direct, indirect and induced impacts of Illinois's recycling, recycling reliant and reuse industries contribute:

- A total of 111,500 jobs where 40,000 are direct, 34,000 are indirect and 37,500 are induced.
- Payroll of $3.6 billion
- $30.3 billion in additional gross receipts and
- Over $1 billion in state and local taxes. [2]

McHenry County is home to 177 waste management related full time jobs and is assumed to host 316 induced and indirect full time jobs (150 indirect and 166 induced). Indirect can represents employees working for producers of materials, equipment, and services used in related work. Induced represents those jobs created when spend their increased incomes on consumer goods and services.

Table 20: McHenry County Waste Related Employment[3]

Year	Number of Jobs
2001	118
2002	124
2003	157
2004	174
2005	186
2006	219
2007	220
2008	211
2009	184
2010	179
2011	177

[2] *2010 Recycling Economic Information Study Update for Illinois*, Final Report, November 2010 commissioned by Illinois Department of Commerce & Economic Opportunity prepared by DSM Environmental under contract to Illinois Recycling Association.

[3] 1. "Quarterly Census of Employment and Wages." *Bls.gov*. United States Department of Labor Statistics: Bureau of Labor Statistics, n.d. Web. 26 Nov. 2012. <http://data.bls.gov/cgi-bin/dsrv>.

2. "2012 NAICS Definition: Sector 56 -- Administrative and Support and Waste Management and Remediation Services 562 Waste Management and Remediation Services." *Http://www.census.gov/*. U.S. Census Bureau, North American Industry Classification System, 7 Nov. 2011. Web. 26 Nov. 2012. <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=562&search=2012%20NAICS%20Search>.

McHenry County has the opportunity to increase waste related jobs by attracting additional recycling and waste management activity. This can be done in a number of ways to sensibly expand waste management infrastructure to promote the larger goal of reducing waste disposed in landfills.

Currently, McHenry County municipal solid waste haulers have a limited number of composting facility options requiring significant transportation cost for compost. By revising the Pollution Control Facility Siting Ordinance to provide a tiered approach to requirements and fees for different types of pollution control facilities that require less oversight than sanitary landfills, the County can encourage the development of recycling facilities and increase the amount of waste handled locally.

In addition, McHenry County could consider encouraging deconstruction. Deconstruction differs from demolition by disassembling buildings and harvesting all functional parts for reuse rather than diverting demolition debris straight to the landfill. Deconstruction of buildings can offer substantial cost savings over demolition. Many parts of a building, including "doors, windows, plumbing and electrical fixtures, appliances, flooring, lumber and bricks" can be salvaged during deconstruction. However, in order for deconstruction to be feasible in any location, regional and market factors must be supportive enough to make the practice favorable over traditional demolition. A market assessment for deconstruction has been included in the appendices.

Finance

Currently solid waste management and education are funded by the County General Fund and tipping fees collected from the Virginia Road Municipal Solid Waste Transfer Station. On average $39,000 is received annually in tipping fees. 54% is allocated to support environmental education by McHenry County Schools Environmental Education Program and 46% is allocated to the Department of Health for Solid Waste Management. Additionally, solid waste enforcement activities are partially funded by a Solid Waste Enforcement Grant from the Illinois Environmental Protection Agency.

Implementation Status of 2007 Plan Update

15-Year Update Recommendations		Implementation Status
Source Reduction		
2007-1	Increase public awareness of recycling and conservation programs through the monthly "Recycling Round-Up" column in the Northwest Herald Newspaper.	*Not Implemented.* "Recycling Round-Up" column no longer published. The Department has transitioned to providing this information on the Department's webpage, in press releases, on electronic signs and social medial. The Official McHenry County Green Guide, published annually by the Lou Marchi Total Recycling Institute at MCC is also widely available to county residents. The guide includes comprehensive recycling options for residents.
2007-2	Develop a "green" policies initiative to be adopted by the McHenry County Board that calls for environmentally friendly practices to be employed when feasible by McHenry County Government.	*Implemented.* McHenry County implemented green procurement policy in 2008.
2007-3	Encourage programs that concentrate on waste reduction as the first priority in solid waste management efforts.	*Implemented.* The McHenry County Schools Environmental Education Program (MCSEEP) provides programming to kindergarten through Grade 12 students incorporating the 4 R's (reduce, reuse, recycle and rot (compost). Multiple community outreach programs conducted promoting reusable bags, home composting, waste free lunches, green living, waste reduction for businesses and food scrap composting.
2007-4	Promote the pay-as-you-throw system as the basis for residential waste collection in all municipalities within the county.	*Partially implemented.* Volume based pricing included in the 5 incorporated franchise agreements implemented by McHenry County. The County has no direct involvement when municipalities renew solid waste removal contracts, but county franchise information promoted on website as example.
2007-5	Educate municipal officials on pay-as-you-throw techniques and provide other assistance as needed.	*Partially Implemented.* Staff has met with some village administrators, near the designated areas to discuss the county's franchised solid waste removal program. The program has been promoted and available on the Solid Waste Program website

2007-6	Educate commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities on source reduction programs.	*Implemented.* MCDH met with food establishment operators to introduce food scrap recycling and composting; presented commercial waste reduction and recycling at workshop for industry sponsored by the Solid Waste Agency for Northern Cook County; developed flyers for County Green team; sponsored a contest for local schools to recognize source reduction and recycling efforts; and encouraged County Fair Association to implement recycling containers at annual county fair.
Recycling and Reuse		
2007-7	Pursue recycling and special waste disposal programs such as Household Hazardous Waste Collections and Used Tire Collections.	*Partially Implemented.* Regularly provide residents with information regarding the four (4) permanent household hazardous waste collection sites in Illinois, which are open to all Illinois residents; sponsored several single day collection events for electronics' alkaline and rechargeable batteries; met with Township Highway Commissioners regarding permanent electronic collection sites; promoted the Drug Enforcement Administration's National Take Back Initiatives; Algonquin Township Road District maintains a Partners in Waste Paint Solutions Program; five (5)local law enforcement agencies accept residential waste medications.
2007-8	Promote and encourage businesses that process recycled material and those that manufacture products with post-consumer recycled materials.	*Implemented.* Annual McHenry County Green Awards recognize waste reduction and recycling efforts of individuals, businesses, institutions and organizations. The Official McHenry County Green Guide, published by the Lou Marchi Total Recycling Institute and MCC promotes businesses that implement sustainable practices.
2007-9	Coordinate efforts with municipalities and the McHenry County Economic Development Corporation.	*Not implemented.* The original intent for this recommendation was to encourage business recycling in municipalities. MCDH will continue to explore this recommendation in the next plan update.
2007-10	The County Employee Recycling Committee should continue to promote the 3 Rs within county departments using incentives such as recognition awards and tools such as the intranet.	*Implemented.* The McHenry County Green Team maintains an intranet site regarding recycling for county employees, regularly promotes recycling through emails to employees and Earth Day recognition displays, expanded its Call2Recycle rechargeable and cell phone recycling collection containers, and sponsored a document destruction day for county residents.
2007-11	Continue the Reduce, Reuse, and Recycle Awards Program.	*Implemented.* The Annual McHenry County Green Awards recognize waste reduction and recycling efforts of individuals, businesses, institutions and organizations.

2007-12	Develop recycled product procurement policy for the county.	*Implemented.* McHenry County implemented a green procurement policy in 2008.
2007-13	Develop a recycling procedure for construction or demolition sites.	*Not Implemented.*
Disposal in Landfills		
2007-14	Create a forum for waste haulers to discuss solid waste issues and work toward greater accuracy and consistency in reporting annual hauling quantities.	*Partially Implemented.* Discussion on solid waste issues with licensed municipal waste haulers occurs daily with the Solid Waste Manager. No formalized forum established. Methodology for solid waste data collection will be evaluated in the plan update.
2007-15	Continue to implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.	*Implemented.* Regularly provide residents with information regarding the four (4) permanent household hazardous waste collection sites in Illinois, which are open to all Illinois residents; sponsored several single day collection events for electronics, alkaline and rechargeable batteries; met with Township Highway Commissioners regarding permanent electronic collection sites; multiple electronics recycling events held by a variety of groups and agencies throughout the county; participation by eleven (11) local law enforcement agencies in the Drug Enforcement Administration's National Take Back Initiatives; Algonquin Township Road District maintains a Partners in Waste Paint Solutions Program; five (5) local law enforcement agencies accept residential waste medications; multiple document destruction events held by organizations and banks in the community; electronics, CFS, batteries, and Styrofoam recycling offered by Environmental Defenders of McHenry County; multiple township and municipal recycling services including brush, paints, electronics, shoes, Christmas tree lights, clothing and used motor oil. A comprehensive list of recyclers and collectors provided in the Official Green Guide for McHenry County published by the Lou Marchi Total Recycling Institute at MCC.
2007-16	Secure landfill space to accept waste generated in McHenry County.	*Not implemented.*
2007-17	Encourage the development of transfer stations in McHenry County.	*Implemented.* The Virginia Road Transfer Station, which accepts municipal solid waste and a limited amount of landscape waste, began operations December 2009. One additional landscape waste transfer station, Peterson Pit Landscape Waste Transfer, began operations in 2011.

2007-18	Review and update the Guidelines for a New Solid Waste Disposal Facility in McHenry County as deemed necessary.	*Not implemented.*
2007-19	Verify that any proposed landfills in McHenry County are, at a minimum, designed, operated, and monitored in compliance with the most current RCRA Subtitle D regulations and other regulations subsequently adopted by the State of Illinois.	No sanitary landfills were proposed in McHenry County from 2007 – 2011.

New Recommendations and Implementation Efforts

The following recommendations support the overall goal of reducing waste disposed through increased recycling.

Target Goals

The Solid Waste Advisory Committee recommends the following goals for solid waste management in McHenry County:

- Increase the McHenry County overall Solid Waste Recycling rate from 35% to 45% by December 31, 2017
- Reduce the McHenry County Solid Waste disposal rate from 4.07 pounds per capita per day to 3.57 pounds per capita per day.

The Solid Waste Advisory Committee, Consultant and Staff recommend that following activities be undertaken to reach the target goals:

Policy

McHenry County should continue the coordinated county-wide approach to the management and disposal of all non-hazardous solid waste generated within McHenry County, including the management of recyclable and recoverable materials. An increased emphasis should be placed on non-residential solid waste including commercial, industrial waste and construction and demolition debris.

Administrative

- Establish a standing Solid Waste Advisory Committee, with broad based representation, to meet quarterly to discuss and provide input on the implementation of the recommendations in the Solid Waste Plan.

- Maintain and Expand collection of data on recycling activity in McHenry County. Identify significant recycling data points that reflect changes in recycling activity in McHenry County and develop programming that fosters increased diversion of recyclable materials.

- Update the Annual Waste Hauler Survey to monthly or quarterly data collection.

- Convert the Annual Waste Hauler Survey from paper submission to electronic data collection.

- Evaluate the potential to collect waste composition data from Licensed Municipal Solid Waste Haulers.

- Continue to expand the number of collectors and recyclers that provide accurate information on recycling/disposal rates to the Solid Waste Manager.

Public Outreach and Education:

- Provide leadership and support to municipalities and other entities in McHenry County seeking to improve overall waste management. Provide model documents such as franchised solid waste removal agreements, best management practices and other guidance.

- Revise current website to provide at a minimum:
    - Waste Hauler Specific Information
    - Recycling Information for Residents
    - Regulatory Information
    - Best Management Practices for municipalities, businesses and institutions
    - Residential Service Information
    - Information should include requirements, links to annual survey, events and opportunities, relevant ordinances, model contracts, flyers and other tools, franchise information.

- Continue to support and partner with the McHenry County Schools Environmental Education Program to provide quality solid waste education to school aged children in McHenry County.

- Incorporate new information technologies in promotional efforts (i.e. social media, websites, email services, etc.).

- Develop partnerships with the business community, solid waste haulers, institutions, service and professional organizations, and governmental entities to expand the outreach potential for focused educational efforts.

- Encourage municipalities, townships and civic groups throughout McHenry County to continue to advertise events and programs on their websites, in community newsletters, and e-list bulletin announcements to provide information to their residents.

- Establish quarterly meeting series for municipal leaders, property managers, waste haulers and recyclers to share best management practices. Utilize business forums hosted in conjunction with Chambers of Commerce to provide opportunities to help businesses to effectively manage waste.

- Continue to provide McHenry County Green Awards to highlight innovative or exemplary solid waste management by businesses, organizations or institutions.

- Continue to support the publication of the McHenry County Green Guide.

Legislative Initiatives

- Where appropriate support legislative initiatives of groups such as SWANA, Illinois Product Stewardship Institute working group and Illinois Recycling Association to support legislation that shifts the onus to manufacturers of items with significant end of life management costs from local governments.

- Engage the Task Force on Advancement of Materials Recycling to monitor any recommended changes to Solid Waste Planning for counties, funding opportunities, and new Illinois solid waste initiatives.

- Review the Municipal Waste Hauler Licensing Ordinance, Residential Recycling Ordinance, and Pollution Control Facility Siting Ordinances for potential updates and changes that may minimize barriers to recycling.

Finance and Waste-based Economic Development

- McHenry County should monitor and apply to federal, state and local sources for grants to be used for solid waste programming when such funding is consistent with the goals of the plan.

- Work with Department of Planning and Development and municipalities to evaluate the potential to develop a deconstruction ordinance to require demolition contractors to recycle a specified percentage by weight of construction materials for demolition projects and to require that a specified percentage from residential projects is diverted for reuse.

- Encourage contiguous businesses to pursue shared service agreements with solid waste haulers to enable smaller businesses to afford higher quality services that maximize recycling opportunities.

- Consider strategic partnership with workforce development partners and McHenry County Community College to provide deconstruction training.

- Work with Department of Planning & Development and Economic Development Groups to identify potential partners in salvage store business, second hand or vintage retailers to accept and sell deconstruction materials.

Recycling

- Encourage all McHenry County municipalities to establish volume based pricing in solid waste franchise agreements.

- Work closely with municipalities to identify solid waste programming successes and potential model programs that can be shared with others such as curbside recycling, composting, household hazardous waste disposal and electronic recycling.

- Encourage commercial and industrial establishments, institutions, governmental agencies and other non-residential entities to participate in source reduction activities and to provide street side recycling wherever waste containers are located.

- Depending on availability of funds and priorities, further the development of source reduction programs, special events and recycling for items including tires, electronics, batteries, plastic bags, etc.

- Encourage the development of programs to increase the collection of residential and composting of organic material including landscape waste, food scrap and livestock waste.

Landfilling

- Maintain contact with landfills in Region 1, Region 2 and southeastern Wisconsin to request landfill based information for waste originating in McHenry County.

Household Hazardous Waste

- Identify mechanisms to assure Household Hazardous Waste Collection opportunities independent of IEPA funds.

- Encourage and support municipalities and other agencies or entities in the establishment and maintenance of supplement Household Hazardous Waste Collection programs including Partner for Paint, fluorescent lamps, waste oil, etc.

- Continue to provide residents with information on the four (4) permanent household hazardous collection sites in Northern Illinois, which are open to all Illinois residents.

Franchised Solid Waste Services

- Evaluate the extent to which municipal solid waste franchising should be implemented in unincorporated areas of McHenry County.

APPENDIX

Solid Waste Advisory Committee Meeting Agendas

SOLID WASTE ADVISORY COMMITTEE AGENDA
July 25, 2012 - 6:00 P.M.
McHenry County Administration Building – Rooms A & B
667 Ware Road, Woodstock, IL 60098

- **CALL TO ORDER**
- **INTRODUCTIONS**
- **PRESENTATION**
    - Overview of Solid Waste Program and Solid Waste Plan Update Process – Kristy Hecke, McHenry County Solid Waste Manager
- **NEW BUSINESS**
    - General Discussion – Solid Waste Issues
- **OTHER BUSINESS**
    - Future Meeting Dates
- **ADJOURNMENT**

SOLID WASTE ADVISORY COMMITTEE AGENDA
September 26, 2012 - 6:00 P.M.
McHenry County Administration Building – Rooms A & B
667 Ware Road, Woodstock, IL 60098

- **CALL TO ORDER**
- **INTRODUCTIONS**
- **PRESENTATION**
  - Delta Institute Introduction
  - Solid Waste Planning Process
  - Status Reports

    1. Best Management Practices and Trends

    a. Summary/overview of current/anticipated/pending legislative activity related to Solid Waste Management in Illinois, which will or may impact solid waste management over the next five years (i.e. take-back programs for manufactured products such as paint, pharmaceuticals, household hazardous waste, waste to energy sites, etc.)

    b. Summary of the current/projected landfill capacities for the sanitary landfills serving the Northern Illinois region over the next five years.

    c. Evaluation of current methodology for collecting annual waste generation and waste diversion data for McHenry County. Recommendations for standardizing process.

    d. Overview of current and emerging solid waste management trends on a regional, state and national level, of waste reduction, waste diversion, and programming for residential and non-residential sectors. Approaches and funding sources.

    2. Setting Goals and Objectives

    a. Survey

    i. Development of a survey for waste haulers, non-residential facilities, governmental entities, schools, the general public, etc., to obtain broad scale input for the development of the Solid Waste Plan.

- **NEW BUSINESS**
  - General Discussion
- **OTHER**
  - October 24, 2012 meeting reminder
- **ADJOURNMENT**

SOLID WASTE ADVISORY COMMITTEE AGENDA
October 24, 2012 - 6:00 P.M.
McHenry County Administration Building – Rooms B & C
667 Ware Road, Woodstock, IL 60098

- **CALL TO ORDER**
- **PRESENTATION**
    1. Preliminary survey results
    2. Best Management Practices and Trends
        - **a.** Comparison to regional counties
        - **b.** National examples
- **NEW BUSINESS**
    1. Group discussion – Best Management Practices and Trends
    2. Breakout groups discussion
        - **a.** Identify gaps in solid waste management system
        - **b.** Current and future solid waste management needs
        - **c.** Target goals/objectives
        - **d.** Strategies and potential funding sources for meeting goals
- **OLD BUSINESS**
    - Plan process steps
- **ADJOURNMENT**

SOLID WASTE ADVISORY COMMITTEE / ENVIRONMENTAL HEALTH ADVISORY COMMITTEE
JOINT MEETING AGENDA
November 15, 2012 - 6:00 P.M.
McHenry County Administration Building – Room A
667 Ware Road, Woodstock, IL 60098

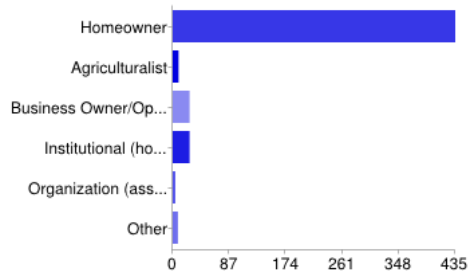
- **CALL TO ORDER**
- **PRESENTATION**
    1. Solid waste survey results
    2. Status of Solid Waste Management Planning Process
- **NEW BUSINESS**
    1. Group discussion
        a. Specific goals/objectives
        b. Strategies and potential funding sources for meeting goals
- **OLD BUSINESS**
- **ADJOURNMENT**

General Survey Results

508 responses

Summary See complete responses

Which category below best describes your viewpoint as you answer this survey?

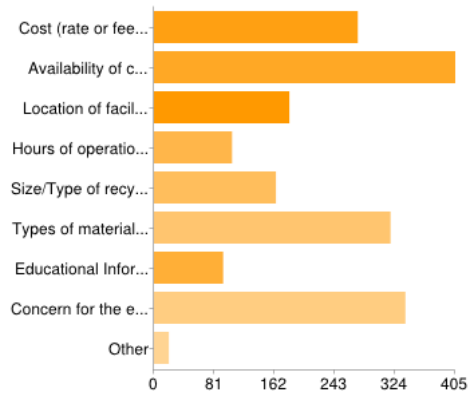


Homeowner	**435**	86%
Agriculturalist	**9**	2%
Business Owner/Operator	**26**	5%
Institutional (hospital, school, government) Representative	**26**	5%
Organization (association, club, volunteer group) Representative	**4**	1%
Other	**8**	2%

What is the zip code of your residence, farm, business, institution, or organization?

60604 60601 60098 60014 60097 60051 60098 60050 60050 60033 60098 60012 60050 60097 60098 60152 60050 60050 60051 60098 60098 60098

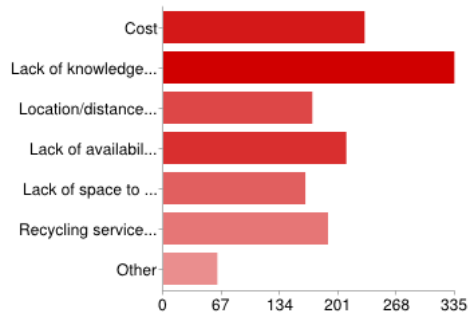
In your opinion, which of the following influence your participation in a recycling program? (Please select all that apply.)



Cost (rate or fee charged to recycle)	**274**	54%
Availability of curbside recycling	**405**	80%
Location of facilities or drop-off sites	**182**	36%
Hours of operation of facilities or drop off sites	**105**	21%
Size/Type of recycling container	**164**	32%
Types of materials accepted for recycling	**318**	63%
Educational Information being available regarding the recycling process	**93**	18%
Concern for the environment	**338**	67%
Other	**20**	4%

People may select more than one checkbox, so percentages may add up to more than 100%.

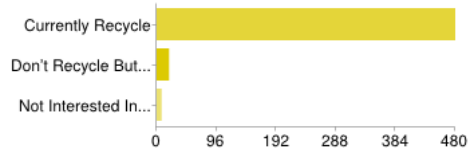
In your opinion, what are the barriers that prevent individuals or businesses from recycling? (Please select all that apply.)



Cost	**231**	45%
Lack of knowledge of what can be recycled and how to recycle it.	**334**	66%
Location/distance to facility	**171**	34%
Lack of availability of recycling programs	**210**	41%
Lack of space to store recyclables	**163**	32%
Recycling services not offered by solid waste hauler	**189**	37%
Other	**62**	12%

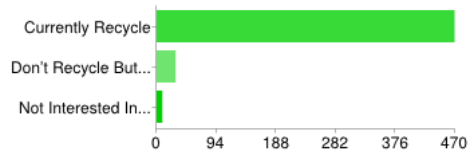
People may select more than one checkbox, so percentages may add up to more than 100%.

What types of consumer waste do you either regularly recycle or would like to recycle? - Paper and cardboard



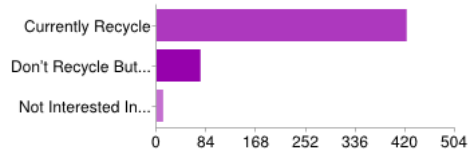
Currently Recycle	**480**	94%
Don't Recycle But Would Like To	**20**	4%
Not Interested In Recycling or Not Applicable	**8**	2%

What types of consumer waste do you either regularly recycle or would like to recycle? - Metals (i.e. aluminum cans)



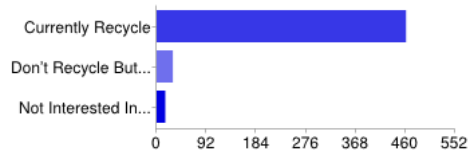
Currently Recycle	**469**	92%
Don't Recycle But Would Like To	**30**	6%
Not Interested In Recycling or Not Applicable	**9**	2%

What types of consumer waste do you either regularly recycle or would like to recycle? - Plastic (i.e. bags, packaging)



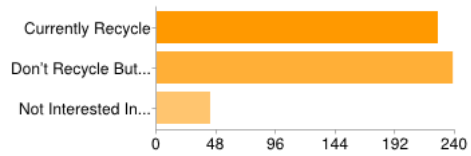
Currently Recycle	**422**	83%
Don't Recycle But Would Like To	**74**	15%
Not Interested In Recycling or Not Applicable	**11**	2%

What types of consumer waste do you either regularly recycle or would like to recycle? - Glass (i.e. bottles)



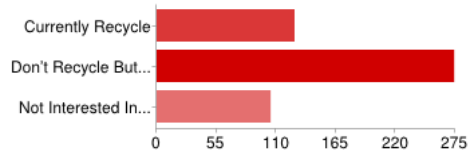
Currently Recycle	**461**	91%
Don't Recycle But Would Like To	**30**	6%
Not Interested In Recycling or Not Applicable	**16**	3%

What types of consumer waste do you either regularly recycle or would like to recycle? - Styrofoam



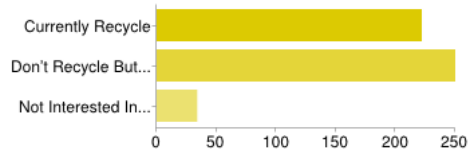
Currently Recycle	**226**	44%
Don't Recycle But Would Like To	**238**	47%
Not Interested In Recycling or Not Applicable	**43**	8%

What types of consumer waste do you either regularly recycle or would like to recycle? - Fluorescent (mercury) tubes/lamps



Currently Recycle	**127**	25%
Don't Recycle But Would Like To	**274**	54%
Not Interested In Recycling or Not Applicable	**105**	21%

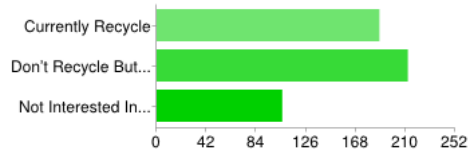
What types of consumer waste do you either regularly recycle or would like to recycle? - Electronics, (including batteries)



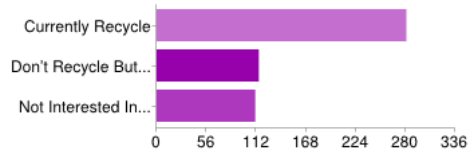
Currently Recycle	**222**	44%
Don't Recycle But Would Like To	**250**	49%
Not Interested In Recycling or Not Applicable	**34**	7%

What types of consumer waste do you either regularly recycle or would like to recycle? - Appliances (i.e. household, white goods)

Currently Recycle	**188**	37%
Don't Recycle But Would Like To	**212**	42%
Not Interested In Recycling or Not Applicable	**106**	21%

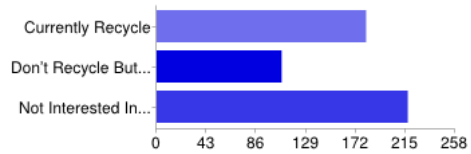


What types of consumer waste do you either regularly recycle or would like to recycle? - Clothes and shoes



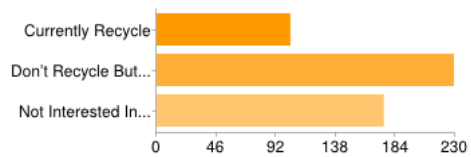
Currently Recycle	**281**	55%
Don't Recycle But Would Like To	**115**	23%
Not Interested In Recycling or Not Applicable	**111**	22%

What types of household hazardous waste do you regularly recycle or would like to recycle? - Used Motor Oil



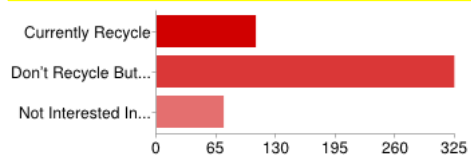
Currently Recycle	**181**	36%
Don't Recycle But Would Like To	**108**	21%
Not Interested In Recycling or Not Applicable	**217**	43%

What types of household hazardous waste do you regularly recycle or would like to recycle? - Pharmaceuticals (medications, sharps)



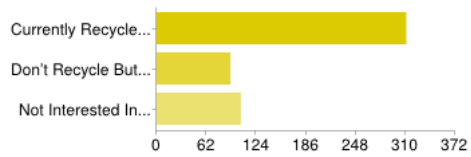
Currently Recycle	**103**	20%
Don't Recycle But Would Like To	**229**	45%
Not Interested In Recycling or Not Applicable	**175**	34%

What types of household hazardous waste do you regularly recycle or would like to recycle? - Household chemicals (i.e paint, Cleaners, insecticide)



Currently Recycle	**108**	21%
Don't Recycle But Would Like To	**324**	64%
Not Interested In Recycling or Not Applicable	**73**	14%

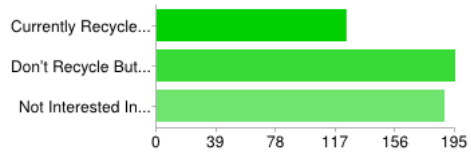
What types of organic waste do you regularly recycle or would like to recycle? - Yard/Landscape waste



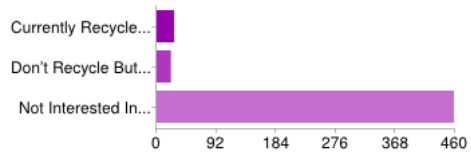
Currently Recycle/Compost	**311**	61%
Don't Recycle But Would Like To	**92**	18%
Not Interested In Recycling or Not Applicable	**105**	21%

What types of organic waste do you regularly recycle or would like to recycle? - Food Scraps

Currently Recycle/Compost	**124**	24%
Don't Recycle But Would Like To	**195**	38%
Not Interested In Recycling or Not Applicable	**188**	37%

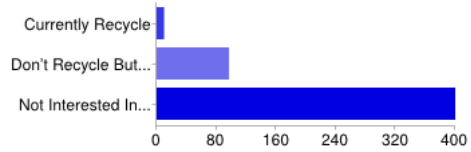


What types of organic waste do you regularly recycle or would like to recycle? - Livestock waste/manure



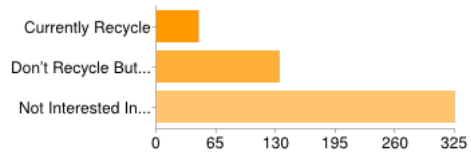
Currently Recycle/Compost	**27**	5%
Don't Recycle But Would Like To	**22**	4%
Not Interested In Recycling or Not Applicable	**458**	90%

What types of construction waste do you regularly recycle or would like to recycle? - Drywall



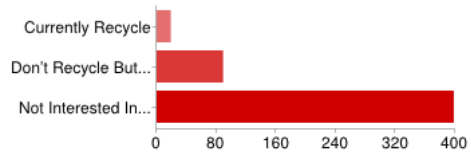
Currently Recycle	**10**	2%
Don't Recycle But Would Like To	**97**	19%
Not Interested In Recycling or Not Applicable	**400**	79%

What types of construction waste do you regularly recycle or would like to recycle? - Wood



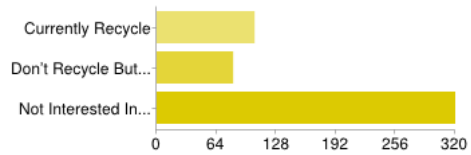
Currently Recycle	**46**	9%
Don't Recycle But Would Like To	**134**	26%
Not Interested In Recycling or Not Applicable	**325**	64%

What types of construction waste do you regularly recycle or would like to recycle? - Bricks



Currently Recycle	**19**	4%
Don't Recycle But Would Like To	**89**	18%
Not Interested In Recycling or Not Applicable	**398**	78%

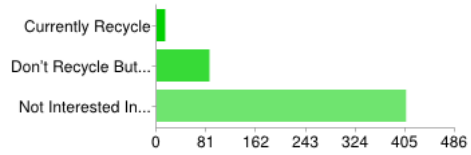
What types of construction waste do you regularly recycle or would like to recycle? - Metal



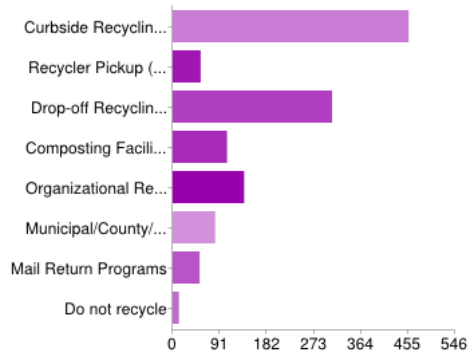
Currently Recycle	**105**	21%
Don't Recycle But Would Like To	**82**	16%
Not Interested In Recycling or Not Applicable	**320**	63%

What types of construction waste do you regularly recycle or would like to recycle? - Shingles

Currently Recycle	**14**	3%
Don't Recycle But Would Like To	**86**	17%
Not Interested In Recycling or Not Applicable	**406**	80%



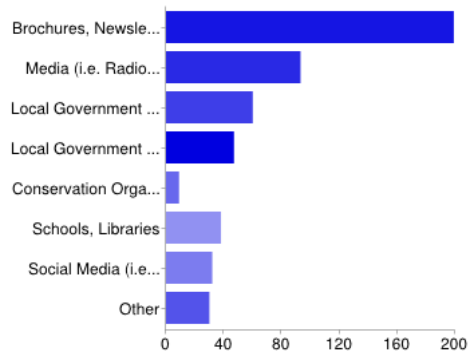
How do you typically recycle? (Please check all that apply.)



Curbside Recycling (consumer paper, metals, plastic, glass)	**456**	90%
Recycler Pickup (construction waste, business/commercial waste)	**54**	11%
Drop-off Recycling Center (clothing, electronics, household hazardous waste)	**308**	61%
Composting Facility (including home composting)	**105**	21%
Organizational Recycling Program (church, school, work, retailer i.e. Home Depot)	**138**	27%
Municipal/County/Neighborhood clean-up days	**82**	16%
Mail Return Programs	**52**	10%
Do not recycle	**12**	2%

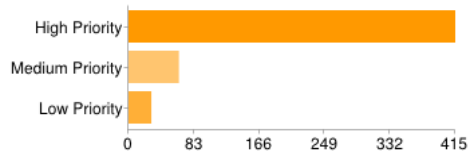
People may select more than one checkbox, so percentages may add up to more than 100%.

In your opinion, what is the most effective way to get information regarding recycling and recycling programs to the residents and businesses of McHenry County?



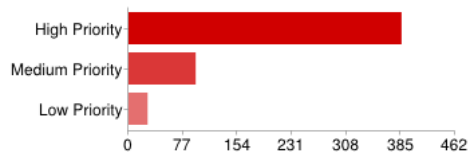
Brochures, Newsletters, Flyers (i.e. McHenry County Green Guide)	**199**	39%
Media (i.e. Radio, TV or Newspaper)	**93**	18%
Local Government Electronic Newsletters	**60**	12%
Local Government Websites	**47**	9%
Conservation Organizations	**9**	2%
Schools, Libraries	**38**	7%
Social Media (i.e. Facebook, Twitter)	**32**	6%
Other	**30**	6%

Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Paper, Cardboard



High Priority	**415**	82%
Medium Priority	**64**	13%
Low Priority	**29**	6%

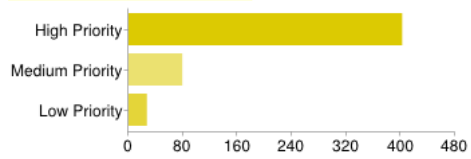
Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Metals



High Priority	**386**	76%
Medium Priority	**95**	19%
Low Priority	**27**	5%

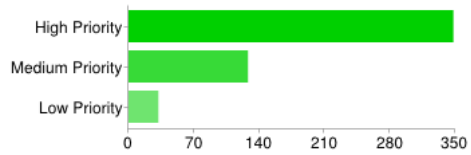
Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry

County Solid Waste Plan. - Glass



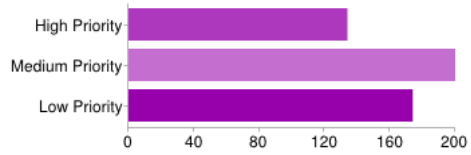
High Priority	**402**	79%
Medium Priority	**79**	16%
Low Priority	**27**	5%

Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Compact Flourescent Lamps (contain mercury)



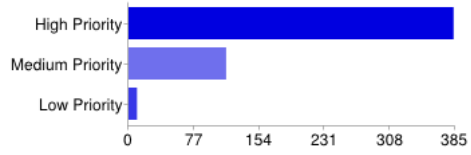
High Priority	**348**	69%
Medium Priority	**128**	25%
Low Priority	**32**	6%

Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Clothes and shoes



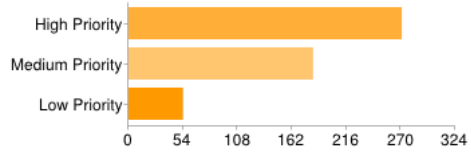
High Priority	**134**	26%
Medium Priority	**200**	39%
Low Priority	**174**	34%

Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Electronics (including batteries)



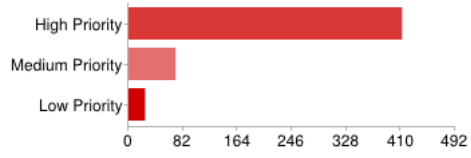
High Priority	**383**	75%
Medium Priority	**115**	23%
Low Priority	**10**	2%

Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Appliances (i.e. household, white goods)



High Priority	**271**	53%
Medium Priority	**183**	36%
Low Priority	**54**	11%

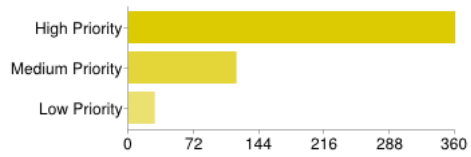
Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Plastics (including bags)



High Priority	**412**	81%
Medium Priority	**71**	14%
Low Priority	**25**	5%

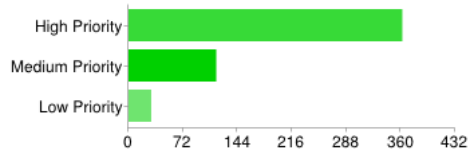
Please rate whether recycling/reuse of the following types of consumer waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Styrofoam

High Priority	**360**	71%



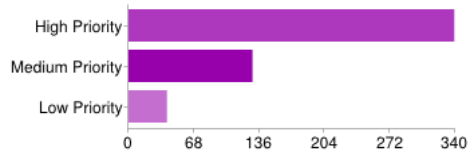
Medium Priority	**119**	23%
Low Priority	**29**	6%

Please rate whether recycling/reuse of the following types of household hazardous waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Motor Oil



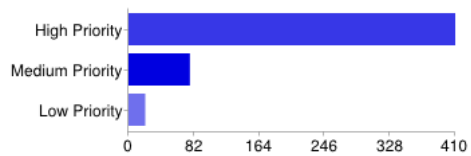
High Priority	**362**	71%
Medium Priority	**116**	23%
Low Priority	**30**	6%

Please rate whether recycling/reuse of the following types of household hazardous waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Pharmaceuticals (medications and sharps)



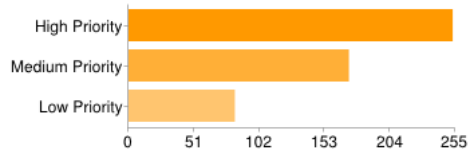
High Priority	**339**	67%
Medium Priority	**129**	25%
Low Priority	**40**	8%

Please rate whether recycling/reuse of the following types of household hazardous waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Household Chemicals (cleaners,insecticides, paint)



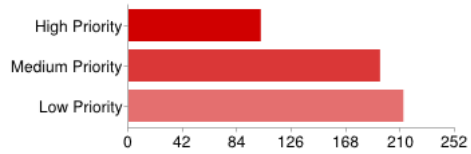
High Priority	**410**	81%
Medium Priority	**77**	15%
Low Priority	**21**	4%

Please rate whether recycling/reuse of the following types of organic waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Yard/Landscape Waste



High Priority	**253**	50%
Medium Priority	**172**	34%
Low Priority	**83**	16%

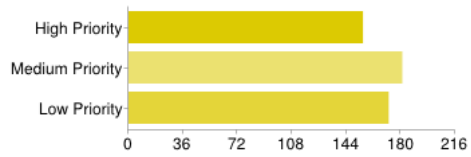
Please rate whether recycling/reuse of the following types of organic waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Food Scraps



High Priority	**102**	20%
Medium Priority	**194**	38%
Low Priority	**212**	42%

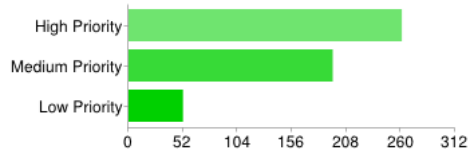
Please rate whether recycling/reuse of the following types of organic waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Livestock Waste/Manure

High Priority	**155**	31%



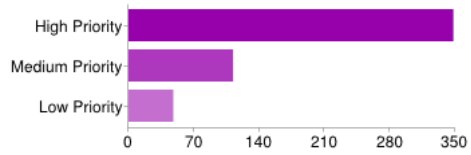
Medium Priority	**181**	36%
Low Priority	**172**	34%

Please rate whether recycling/reuse of construction/demolition & other types of waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Construction/Demolition Related Waste (drywall, bricks, shingles, metals, wood etc.)



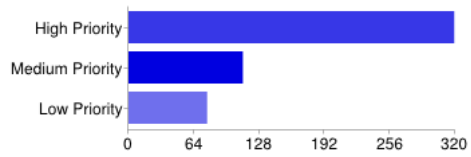
High Priority	**261**	51%
Medium Priority	**195**	38%
Low Priority	**52**	10%

Please rate whether recycling/reuse of construction/demolition & other types of waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Tires



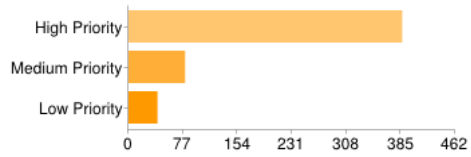
High Priority	**348**	69%
Medium Priority	**112**	22%
Low Priority	**48**	9%

Please rate whether recycling/reuse of construction/demolition & other types of waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Municipal Sludge (human waste)



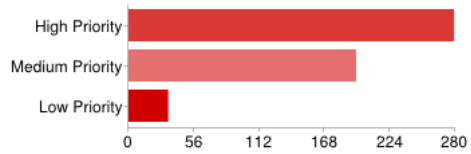
High Priority	**319**	63%
Medium Priority	**112**	22%
Low Priority	**77**	15%

Please rate whether recycling/reuse of construction/demolition & other types of waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Industrial Waste (i.e. solvents and chemicals)



High Priority	**387**	76%
Medium Priority	**80**	16%
Low Priority	**41**	8%

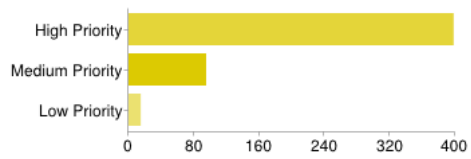
Please rate whether recycling/reuse of construction/demolition & other types of waste should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Packaging Waste



High Priority	**279**	55%
Medium Priority	**195**	38%
Low Priority	**34**	7%

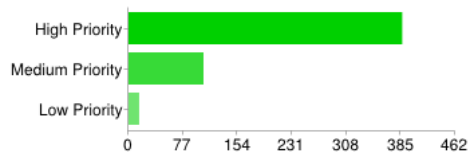
Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Increase Voluntary Recycling in the Residential Sector in General

High Priority	**398**	78%



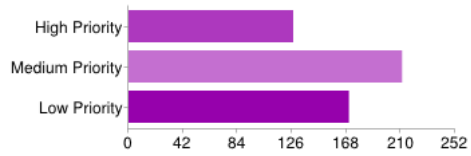
Medium Priority	**95**	19%
Low Priority	**15**	3%

Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Increase Availability of street recycling containers (parks, public buildings, wherever trash containers are located, festivals, fairs, etc.)



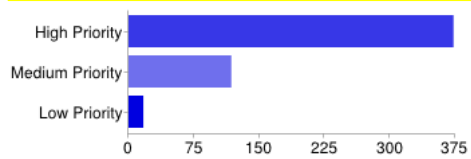
High Priority	**387**	76%
Medium Priority	**106**	21%
Low Priority	**15**	3%

Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Promote Residential Food Scrap Composting (i.e. via low cost compost carts)



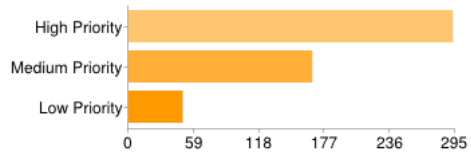
High Priority	**127**	25%
Medium Priority	**211**	42%
Low Priority	**170**	33%

Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Facilitate Household Hazardous Waste Management (drop, collection, curb)



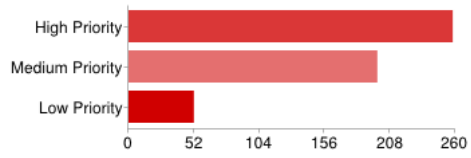
High Priority	**373**	73%
Medium Priority	**118**	23%
Low Priority	**17**	3%

Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Facilitate Grease and Oil Management



High Priority	**293**	58%
Medium Priority	**166**	33%
Low Priority	**49**	10%

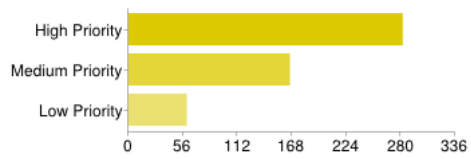
Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Promotion of additional Drop-Off Centers (i.e. for Clothing, Electronics, Household Hazardous Waste)



High Priority	**258**	51%
Medium Priority	**198**	39%
Low Priority	**52**	10%

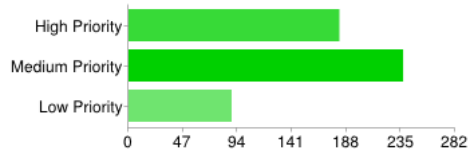
Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Single Day Recycling Events for a variety of products

High Priority	**282**	56%



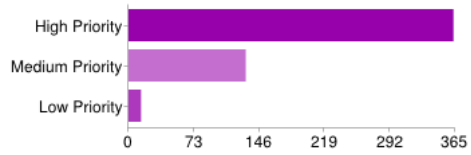
Medium Priority	**166**	33%
Low Priority	**60**	12%

Please rate whether the following residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Franchised solid waste removal services for large scale unincorporated residential areas



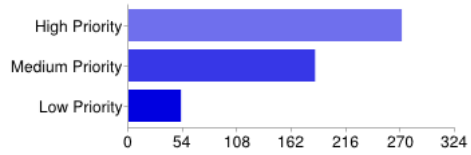
High Priority	**182**	36%
Medium Priority	**237**	47%
Low Priority	**89**	18%

Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Increase Voluntary Recycling in the Non-Residential Sector (manufacturing, food establishments, hospitality industry, etc.) in General



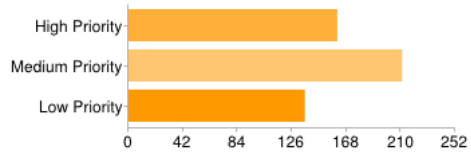
High Priority	**363**	71%
Medium Priority	**131**	26%
Low Priority	**14**	3%

Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Promote zero waste (100% recycling) in the Non-Residential Sector



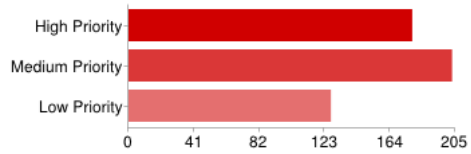
High Priority	**271**	53%
Medium Priority	**185**	36%
Low Priority	**52**	10%

Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Promote Non-Residential Food Scrap Composting



High Priority	**161**	32%
Medium Priority	**211**	42%
Low Priority	**136**	27%

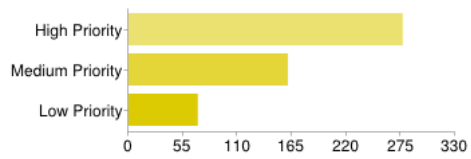
Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Livestock Waste/Manure Management/Composting



High Priority	**178**	35%
Medium Priority	**203**	40%
Low Priority	**127**	25%

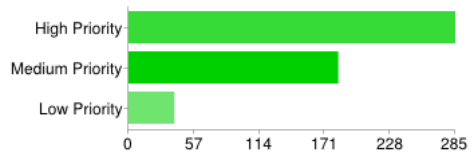
Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Support/Promotion of Product Stewardship (if you make it, you share responsibility for environmentally sound disposal/reuse/recycling.)

High Priority	**277**	55%



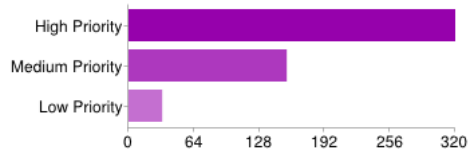
Medium Priority	**161**	32%
Low Priority	**70**	14%

Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Deconstruction – Dismantling materials like wood, brick, metal etc. from buildings (instead of demolishing buildings) and offering the salvaged building materials for resale to the commercial sector or to the general public.



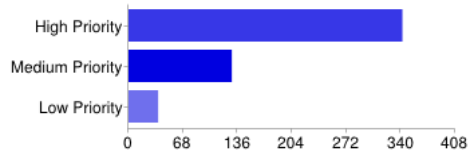
High Priority	**285**	56%
Medium Priority	**183**	36%
Low Priority	**40**	8%

Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Deriving value from waste – i.e. using the waste from one manufacturing process as input to another manufacturing process.



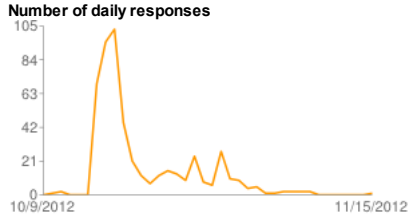
High Priority	**320**	63%
Medium Priority	**155**	31%
Low Priority	**33**	6%

Please rate whether the following non-residential solid waste initiatives should receive a low, medium or high priority in the update of the McHenry County Solid Waste Plan. - Waste to Energy – i.e. burning waste materials to provide energy, converting landfill methane to natural gas.



High Priority	**342**	67%
Medium Priority	**129**	25%
Low Priority	**37**	7%

Number of daily responses



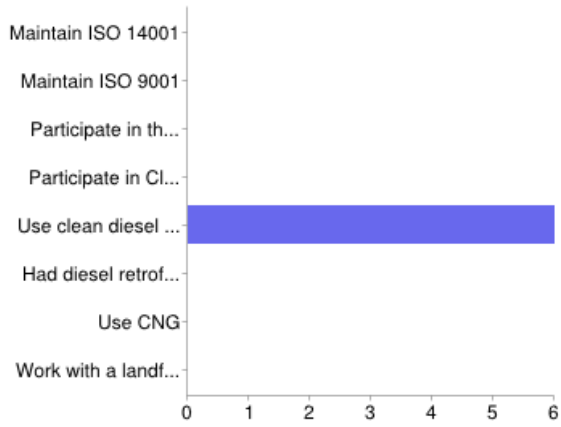
Municipal Solid Waste Hauler Survey Results

10 responses

Summary See complete responses

Information About your Company:

Does your company do any of the following?



Maintain ISO 14001	**0**	0
Maintain ISO 9001	**0**	0
Participate in the Green Waste Hauler Association	**0**	0
Participate in Clean Cities Initiative or Illinois Green Fleets	**0**	0
Use clean diesel fuel	**6**	10
Had diesel retrofits installed in trucks	**0**	0
Use CNG	**0**	0
Work with a landfill with onsite scavenging to capture additional recyclables	**0**	0

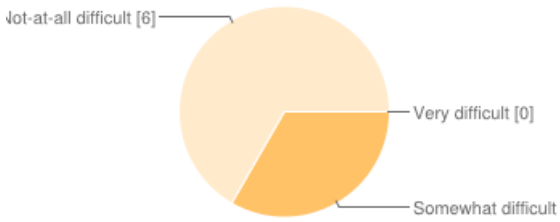
People may select more than one checkbox, so percentages may add up to more than 100%.

Please describe any other green services your company provides.

escrap drop off, organic recycling stable waste and food scraps,and we use a one pass truck for residential pick up. We also use biodiesel in all of our trucks.

Working with the County:

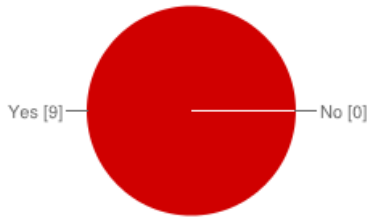
How difficult would it be for you to report recycling and waste data that you report as part of your annual waste hauler application on a monthly basis?



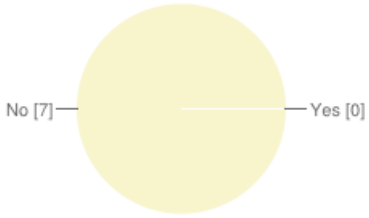
Very difficult	**0**	0%
Somewhat difficult	**3**	30%
Not-at-all difficult	**6**	60%

If provided with the opportunity to complete your annual survey electronically rather than on paper, would you?

Yes	**9**	90%
No	**0**	0%



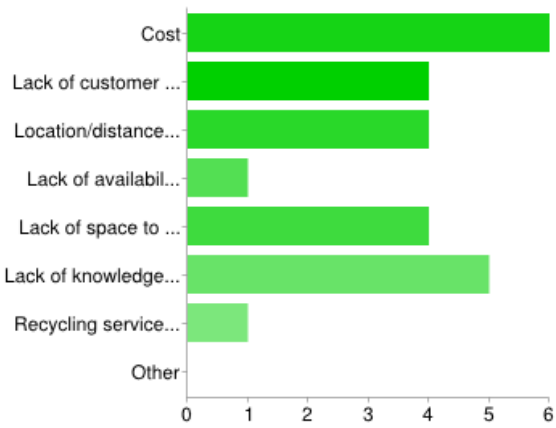
Can you provide waste composition data? If so, please email an example of composition data to bgifford@delta-institute.org.



Yes	**0**	0%
No	**7**	70%

Promoting Sustainable Solid Waste Management:

In your opinion, what are the barriers that prevent individuals or businesses from recycling?



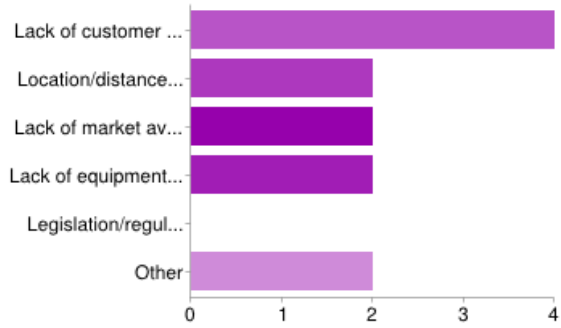
Cost	**6**	67%
Lack of customer demand	**4**	44%
Location/distance to facility	**4**	44%
Lack of availability of recycling programs	**1**	11%
Lack of space to store recyclables	**4**	44%
Lack of knowledge of what can be recycled and how to recycle it	**5**	56%
Recycling services not offered by solid waste hauler	**1**	11%
Other	**0**	0%

People may select more than one checkbox, so percentages may add up to more than 100%.

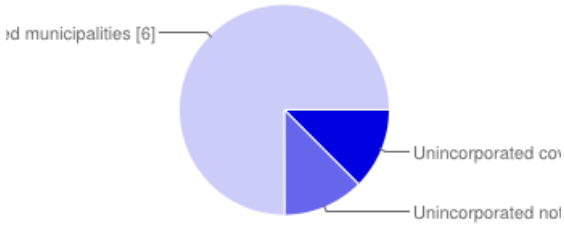
In your opinion, what are the barriers that minimize or prevent waste haulers from providing recycling services, especially in the non-residential sector?

Lack of customer demand	**4**	44%
Location/distance to facility	**2**	22%
Lack of market availability	**2**	22%
Lack of equipment and labor	**2**	22%
Legislation/regulation too restrictive or prohibitive	**0**	0%
Other	**2**	22%

People may select more than one checkbox, so percentages may add up to more than 100%.



In general, which geographic areas have higher residential recycling rates?



Unincorporated covered by franchise agreement	**1**	10%
Unincorporated not covered by franchise agreement	**1**	10%
Incorporated municipalities	**6**	60%

Please explain why you think that area has higher recycling rates.

Less density lower participation rate. Cost of fuel. Because everyone does it and or sees everyone else putting their recyclable out. Peer pressure, and kids that go to school. carts, better promotion of programs peer pressure N/A -Do not collect MSW, we provide roll off containers only only in certain areas, its a combination of nationality, income, attitude, education.

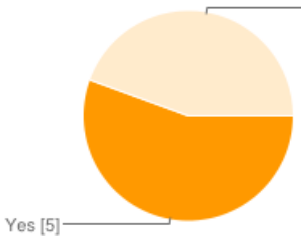
Please list geographic areas that you believe have especially high commercial recycling rates.

none specifically I would say that all commercial and industrial park areas in the county are missing out on higher recover rates of recyclables. It seems that the commercial/Industrial markets seems to think the only material to recycle is cardboard, everything else goes into compactor and brought to landfill. its scattered through the county

How do you think the County can help municipalities, businesses, institutions, and other groups increase their recycling rates?

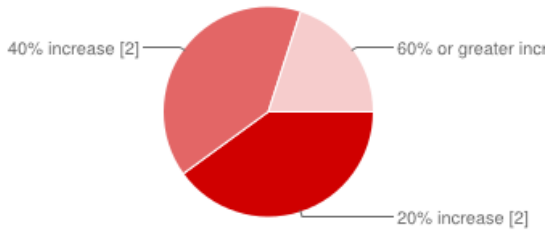
make it mandatory, at least for the municipalities, and schools. Give them some type of incentive, perhaps if they are among the leaders they can get a free bio in the paper. Advertising perk. additional cost is major barrier, not sure how that can be overcome Being a roll off company, 50% or better that we haul can be recycled. In many cases we haul to landfills because of logistics. There are not enough C&D facilities in the county to support what could be recycled.The ability for a waste hauler to offer recycling has to be affordable to operate and to offer different programs for the comm ...

Over the course of the year, does your business experience changes in the amount of recycling materials collected?



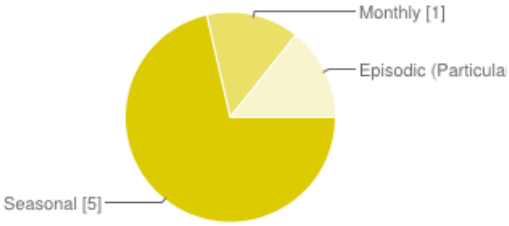
Yes	**5**	50%
No	**4**	40%

How significant are those changes?



20% increase	**2**	20%
40% increase	**2**	20%
60% or greater increase	**1**	10%

Please select the term that best explains these changes.



Seasonal	**5**	50%
Monthly	**1**	10%
Episodic (Particular groups of days)	**1**	10%

What do you think causes those changes in amount recycled?

Holidays The weather for us. We do construction and demolition recycling. summer - parties, no school, etc. In roll off we are more of seasonal base business that hauls roofing and construction materials over the summer months.

How many months of the year do you receive revenue from recyclables?

12 12 12 depends on commodities market 0 8 months 12 depends on market

How many months of the year do you break even?

12 12 8 0 0 8 months 0 depends on market

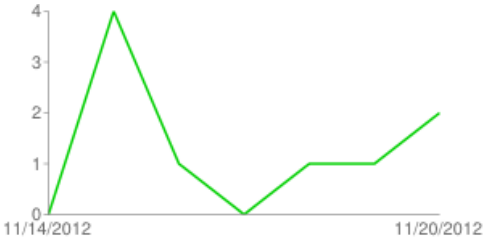
How many months of the year do you pay recyclers to take recyclables?

0 0 12 depends on commodities markets 0 never 0 12

Are there other recommendations that you would like to share for the solid waste plan?

I would like to see a local hazardous waste event. The epa was created for this purpose however politics got in the way. Even if we had one a year and had people pay for it. We need more outlets for recycling materials. The ability for haulers to get recyclables to a facility in a cost effective/logistic manner. education is key, but there should be a penalty or higher garbage cost for that refuse to recycle.

Number of daily responses



Number of responses without dates: 1

Advisory Committee Ranking of Plan Recommendations

Solid Waste Advisory Committee Recommendation Survey

19 responses
Summary See complete responses

Overarching Goal

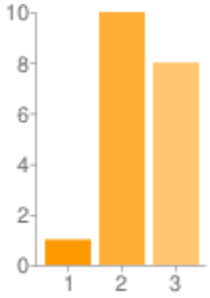
With the current overall recycling rate of 38%, which type of overarching goal do you support for the McHenry County Solid Waste Plan?

A combined sector recycling percentage (i.e. a goal to achieve a 45% combined recycling rate).	9 47%
A combined sector diversion percentage (i.e. a goal to achieve a 45% combined diversion rate).	4 21%
A combined sector recycling percentage plus a goal to reduce the Per Capita Disposal rate (pcd) by 1 lb, which would lower the average pcd for McHenry County from 6.7 lbs to 5.7 lbs.	5 26%

Public Information and Education

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.
Side idea...San Fransico implemented a very successful art internship program at their major landfill. They have waiting lists of artist wanting to participate in this very reputable endeavor. Could be fun.

Embrace and incorporate new information technologies in promotional efforts (e.g., social media, websites, email services, etc.).



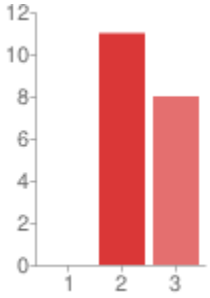
Low Priority High Priority

1 - Low Priority	1	5%
2	10	53%
3 - High Priority	8	42%

Many people want to do better but just don't have the right information. The more ways we get the word out the better.

Identify new and support ongoing activities of McHenry County's public information and

education programs to encourage waste reduction, reuse, recycling and recovery/re-buy (buying recycled products) and sustainability practices through McHenry County's websites and other publications, as well as community organizations such as PTA/PTO's, park districts, libraries, church, corporate and other community groups. The importance of buying recycled products should be emphasized when possible as this creates markets for additional materials and diverts these materials from final disposal.

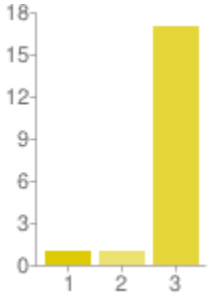


Low Priority High Priority

1 - Low Priority	0	0%
2	11	58%
3 - High Priority	8	42%

Effectiveness of the MCSEEP program is worth looking into. Is the county getting a bang for its buck?Comment a little off, but I would also encourage buy local. This supports our residence and saves transportation costs/fuel.

Provide leadership and support to municipalities and other entities in McHenry County seeking to improve overall waste management. McHenry County can model documents such as franchised waste management agreement, best management practices and other guidance available on its website.

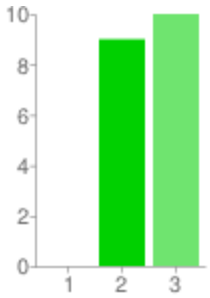


Low Priority High Priority

1 - Low Priority	1	5%
2	1	5%
3 - High Priority	17	89%

I feel that this is a very important role that the county can play, sharing best practices and an opportunity for municipalities to network. I suggest that in addition to the meetings there be a monthly e-newsletter sent to the municipalities with the latest updates in the waste management worldHousehold Hazardous Waste, make model documents and with a list of where to take these items for all of the McHenry County Fire Departments. Perhaps they will do drives for this.Absolutely!

Continue to provide McHenry County Green Awards to highlight stewardship.

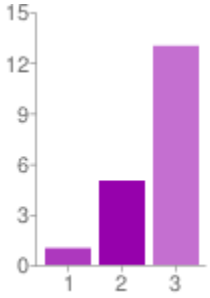


1 - Low Priority	0	0%
2	9	47%
3 - High Priority	10	53%

Low Priority High Priority

Add category where all businesses and organizations with certain recycling rates are included.Perhaps advertise this one a little more, and possibly have different classes, ie apartment buildings, office building, manufacturing, hospitals ect. ~ Get the competition going!!! But we need to get more people aware of the green awards.

Provide drop-in articles and blurbs on important waste management issues to municipalities while encouraging municipalities to create and distribute their own publications to raise awareness of important waste-related and environmental activities.

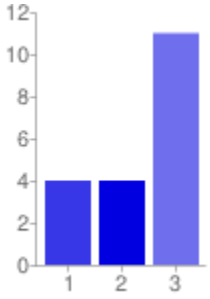


1 - Low Priority	1	5%
2	5	26%
3 - High Priority	13	68%

Low Priority High Priority

In an ideal world this sounds like a good idea, but in reality I can't envision too many people participating in quarterly meetings. The people who come will probably be the same group of people that are coming to these meetings and I unless learnings are somehow sent out to the community I don't see it really helping too many people. this can take the form of a monthly e-newsletter...Great idea, but if choosing only some goals, others would win out over this one.

Establish quarterly meeting series for municipal leaders, property managers, waste haulers and recyclers to share best management practices and lessons learned. Business forums hosted in conjunction with Chambers of Commerce provide opportunities help businesses effectively manage waste.

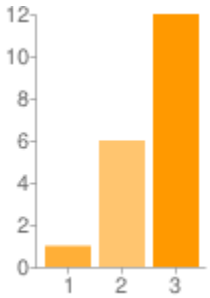


1 - Low Priority	4	21%
2	4	21%
3 - High Priority	11	58%

Low Priority High Priority

Survey municipal leaders, and others to see what topics are of high interest. Work with MCEDC and MCC Shah Business Center to co-sponsor business forums on managing waste.I would go with annually, and in the months of Jan. or Feb. ~ or Semi AnnuallyAbsolutely great idea. I would love participate and to learn from these.

Develop partnerships with the business community, waste haulers, institutions, service and professional organizations, and governmental entities to expand the outreach potential for focused educational efforts.

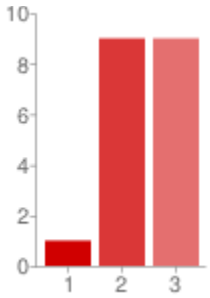


1 - Low Priority	1	5%
2	6	32%
3 - High Priority	12	63%

Low Priority High Priority

Work closely with the McHenry County Schools Environmental Education Program to expand educational efforts in the schools.Be careful of the newbie Green businesses out there.partner with McHenry County College in sponsoring educational opportunities for the groups mentioned above this is the Non For Profit groups, like Lou Marchi, and McHenry County Defenders. I would delegate this one.Yes, yes, yes! John Dunsing from Jewel Corporate would be a great resource.

Support efforts of environmental and civic groups that seek to raise awareness by directing them to high quality information sources and in term assist with publicizing their events when appropriate.



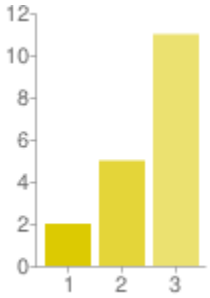
1 - Low Priority	1	5%
2	9	47%
3 - High Priority	9	47%

Low Priority High Priority

Work with McHenry County College through the Lou Marchi Total Recycling Institute to expand the McHenry County Green Guide.Have this info readily available on the website ~ direction to the High quality information sources.Great idea, but if choosing only some goals, others would win out over this one.

Encourage municipalities and civic groups throughout McHenry County to advertise events and programs on their websites, community newsletters, elist bulletin announcements as well as other

technologies and approaches to help provide information to their residents. Request that partners provide a point of contact to the Solid Waste Manager to maintain point of contact information.

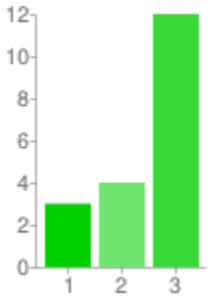


Low Priority High Priority

1 - Low Priority	2	11%
2	5	26%
3 - High Priority	11	58%

It would really be helpful to know ahead of time about upcoming electronics and paper shredding events.

Continue to support the McHenry County Schools Environmental Education Program that provides environmental educators, curricula, instruction and assists with field trips to recycling facilities.

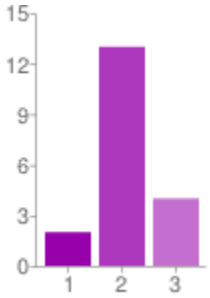


Low Priority High Priority

1 - Low Priority	3	16%
2	4	21%
3 - High Priority	12	63%

Comments above indicate a need for oversight.These kids are the Best motivators! Great idea, but if choosing only some goals, others would win out over this one. As a teacher in the public schools, I have just heard tht some folks don't find the program especially effective as is. I wonder how we could make it better.

Investigate opportunities for public outreach at special events.

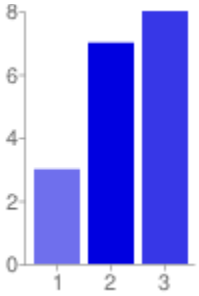


Low Priority High Priority

1 - Low Priority	2	11%
2	13	68%
3 - High Priority	4	21%

I think this needs a little more focus, again think this is for the Non-for Profits, and schools. Perhaps offer a ? for the best outreach for waste reduction in the school, keeping their community cleaner, greener at _____. School Goals

Establish internship program with NIU Master of Public Administration to assist with implementation of plan.

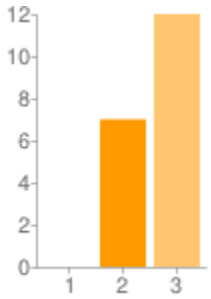


Low Priority High Priority

1 - Low Priority	3	16%
2	7	37%
3 - High Priority	8	42%

I would not limit internships to NIU and/or Public Administration program.Good idea!

Continue to include recycling and environmentally sound disposal options in waste related enforcement documents.



Low Priority High Priority

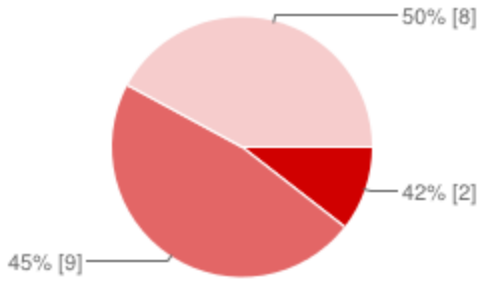
1 - Low Priority	0	0%
2	7	37%
3 - High Priority	12	63%

As far as carrots and sticks...is this more of a stick? I am all for sticks.

Recycling

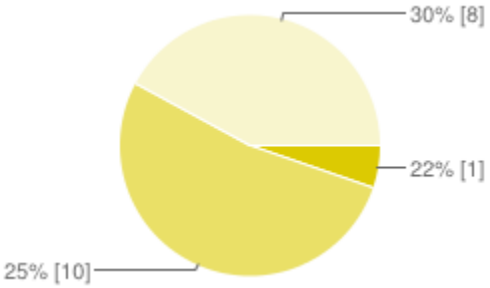
Please answer the first two questions and evaluate the remaining recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

With your current residential recycling rate of 33%, please select your preferred recycling rate for 2017:



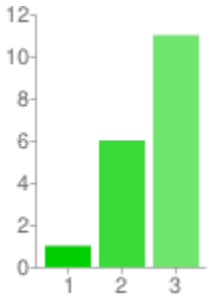
42% 2 11%
45% 9 47%
50% 8 42%

With your current commercial/institutional recycling rate of 19%, please select your preferred recycling rate for 2017:



22% 1 5%
25% 10 53%
30% 8 42%

Maintain and expand collection of data on recycling activity in McHenry County. Identify significant recycling data points that reflect changes in recycling activity in McHenry County and develop programming that fosters increased diversion of recyclable materials.

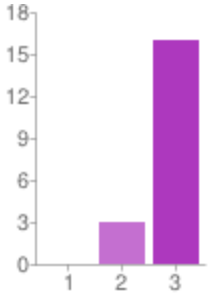


Low Priority High Priority

1 - Low Priority 1 5%
2 6 32%
3 - High Priority 11 58%

Work with haulers and municipalities to engage in performance benchmarking.I think expanding collection of data on recycling activity is a high priority not sure what is intended with programming that fosters increased diversion of recyclable materials what that would look like maybe medium priority for that part

Continue to expand recycling programs to achieve a 50% recycling goal by 2020 (current estimated municipal waste recycling rate is 38%).

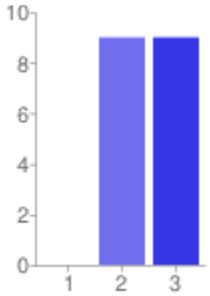


Low Priority High Priority

1 - Low Priority	0	0%
2	3	16%
3 - High Priority	16	84%

Why not? I think we need to convince our neighbors that this is completely doable and McHenry County should be a leader in this. Again, I believe many want to do better...just don't know why or how, therefore education and opportunity are key.

Convene a committee to investigate, evaluate and develop recommendations on how Solid Waste Advisory Committee and McHenry County can realistically achieve a 50% recycling rate by 2020. The committee shall complete its investigation, and prepare and approve final recommendations. The Solid Waste Advisory Committee will be responsible for coordinating the meetings and implementing the final report recommendations.

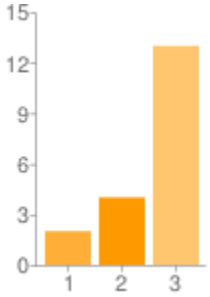


Low Priority High Priority

1 - Low Priority	0	0%
2	9	47%
3 - High Priority	9	47%

I'm a little confused about this recommendation...isn't this what this committee is doing now? I think it is a good idea to establish a solid waste advisory committee to assist the county to achieve the goal of 50% recycling rate.

Continue to support area recyclers in activities that expand their capabilities of diverting marketable materials from landfills when feasible.

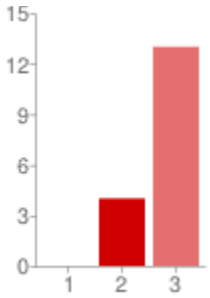


Low Priority High Priority

1 - Low Priority	2	11%
2	4	21%
3 - High Priority	13	68%

Any recommendation on who the recyclers are and example of support? Would this include letters of support for grants?Very important

Continue to maintain and enforce local and state solid waste hauling and recycling ordinances and if necessary, recommend changes be made to ordinances that may create barriers to recycling.

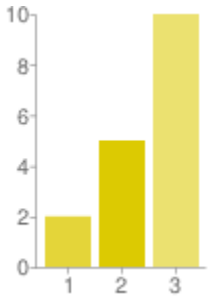


Low Priority High Priority

1 - Low Priority	0	0%
2	4	21%
3 - High Priority	13	68%

high priority to recommend changes be made to ordinances that may create barriers to recycling.....medium priority on enforcement...you need to enforce but wouldn't spend a lot of time and energy on thisYes, yes, yes!

Encourage all McHenry County municipalities to establish volume based pricing (i.e., programs that provide incentives to reduce the amount of waste disposed) as an option.

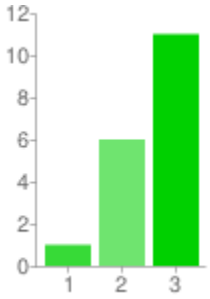


Low Priority High Priority

1 - Low Priority	2	11%
2	5	26%
3 - High Priority	10	53%

This is a huge driver for increasing recycling rates. This should be the highest priority!All governmental bodies should have to recycle. It's for the betterment of our County.Super important to me!!!!

Encourage McHenry County municipalities to implement cart-based recycling programs within their residential areas. Suggest providing larger carts for recycling and smaller carts for waste.

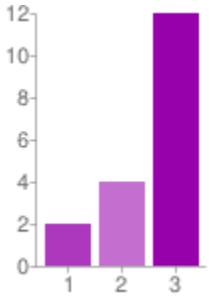


1 - Low Priority	1	5%
2	6	32%
3 - High Priority	11	58%

Low Priority High Priority

With this program, individual garbage bills should be reduced if they recycle more and make less garbage.

Assist unincorporated areas and municipalities with franchising residential, multifamily and/or commercial collection services as a means to control costs, increase recycling, reduce the amount of greenhouse gases associated with collection services, and enhance community sustainability efforts.

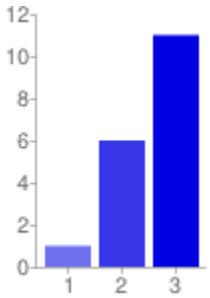


1 - Low Priority	2	11%
2	4	21%
3 - High Priority	12	63%

Low Priority High Priority

I think the franchising model is an excellent tool to increase the recycling rateIndifferent, I like the concept, but it may not be the greatest thing for small bus. Perhaps make the franchising smaller areas, but large enough to fill up one truck.McHenry County does not have statutory authority to require recycling for commercial sector.

Continue to encourage all municipalities to adopt the model commercial and multifamily refuse and recycling enclosure ordinance.

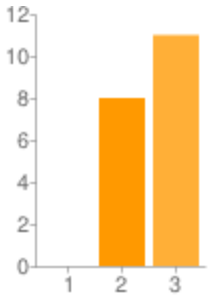


1 - Low Priority	1	5%
2	6	32%
3 - High Priority	11	58%

Low Priority High Priority

Where can this model enclosure ordinance be reviewed? Committee members suggested explore new construction.Yes!

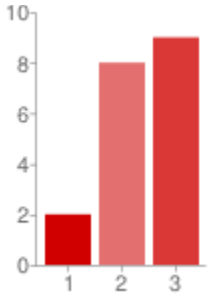
Identify and assist municipalities whose residential, commercial and/or multifamily recycling programs are underperforming or can be further optimized; conduct program evaluations and develop recommendations for improving programs.



Low Priority High Priority

1 - Low Priority	0	0%
2	8	42%
3 - High Priority	11	58%

Participate in the EPA Waste Wise Program and encourage commercial and industrial establishments, institutions, governmental agencies, and other nonresidential entities to participate in source reduction activities.

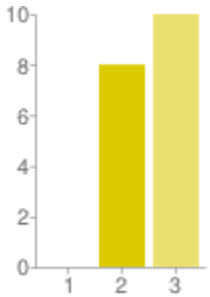


Low Priority High Priority

1 - Low Priority	2	11%
2	8	42%
3 - High Priority	9	47%

YESOnly if it is super effective.

Depending on availability of funds and agency priorities, continue to further the development of source reduction programs, special event and public area recycling programs, plastic bag recycling programs, compost bin distributions and residential electronics collections.

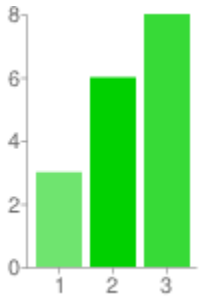


Low Priority High Priority

1 - Low Priority	0	0%
2	8	42%
3 - High Priority	10	53%

For these type of programs, I would suggest partnering with municipalities, townships, environmental groupsI think the residence should pay for their compost bins at a local store, so maybe partner with ACE or other smaller hardware stores to provide them, and you can refer the residence where to purchase them.Street-side recycling containers, fairs, festivals. Single day collections remain popular and can reach populations that may not have access to municipal or township programs.

Continue to maintain a Capacity Agreement with a qualified recycling firm (currently Waste Management Recycle America L.L.C.) to assure that sufficient capacity is available to Municipalities, and that Solid Waste Advisory Committee members and McHenry County townships that direct material to the facility are eligible to receive a Per Ton Payment for their recyclables per the terms of the existing Intermediate Processing Facility Capacity Agreement (effective January 1, 2009 for a three year term with two, 2-year renewal options).

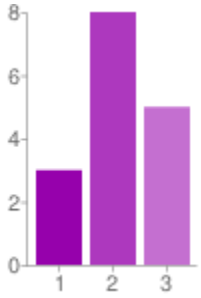


Low Priority High Priority

1 - Low Priority	3	16%
2	6	32%
3 - High Priority	8	42%

Don't know what this isDon't really understand this, but sounds important! Could this income pay for Hazardous Waste activities? There should always be a market for recyclables, we get calls all the time from companies wanting our plastics, papers/occ and electronics. Who currently has this Capacity Agreement?

Encourage Municipalities to enter into a Per Ton Payment Intergovernmental Agreement with Solid Waste Advisory Committee in order to be eligible to receive payment (Per Ton Payment) for their recyclables per the terms of the existing Capacity Agreement.



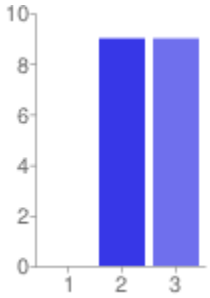
Low Priority High Priority

1 - Low Priority	3	16%
2	8	42%
3 - High Priority	5	26%

I don't understand this one.Don't know what this isagain, don't really understand this I hope this is a low figure, tricky, curbside recyclables don't weight that much. I would think this would only apply if McHenry County had a MRF, something our company has wanted to do. We have the perfect area for a MRF, one in Grayslake, Melrose Park, Chicago, they use to have one in Love Park. McHenry County Needs a MRF.Not personally knowledgable on this

Encourage the development of additional general construction or demolition (C&D) debris recycling facilities as permitted by Section 22.38 of the Illinois Environmental Protection Act. With the enactment of Public Act 96-0611, general C&D debris recycling facilities can be located in McHenry County, without having to obtain local siting approval in accordance with Section 39.2 of the Illinois Environmental Protection Act, and instead will be regulated by applicable zoning requirements. As a result, Solid Waste Advisory Committee will develop

zoning guidelines for such facilities that address the location, design, operation and closure of such facilities.

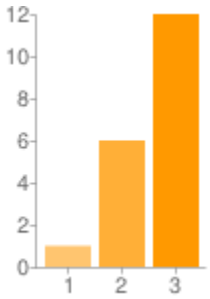


Low Priority High Priority

1 - Low Priority	0	0%
2	9	47%
3 - High Priority	9	47%

I am not familiar with responsibility or authority to develop these guidelines.we should make sure that the Unified Development Ordinance that is currently being worked on include such zoning guidelines....Yes, We are probably opening one soon. Hmmm, zoning guidelines? I would think industrial, or manufacturing zoned property.ditto

Encourage the development of programs to increase the collection and composting of residential and commercial organic material (such as landscape waste, food scrap and livestock waste).

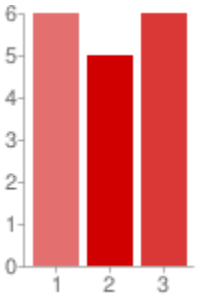


Low Priority High Priority

1 - Low Priority	1	5%
2	6	32%
3 - High Priority	12	63%

Yes, perhaps a Best Practices Guide, I am sure they already have one for the industry, so I would like to see the County make it available and least the link for that info ~ reason being if it is not taken proper care of then there will be odors.Great idea, but if choosing only some goals, others would win out over this one.

Evaluate recent increases in landscape waste collection and composting costs, and determine if McHenry County needs to take any action to better control and/or reduce the costs associated with both collecting and managing the material.

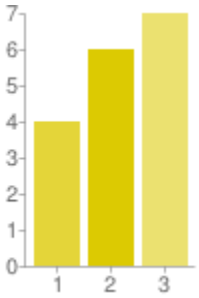


1 - Low Priority	6	32%
2	5	26%
3 - High Priority	6	32%

Low Priority High Priority

I don't understand this one.I am not familiar with an increased in landscaping and composting cost.Not sure what action the county could do to control/reduce costsIt's business, this would be an issue for a college report.

Encourage10 schools to instititute food scrap programs with assistance from DCEO.

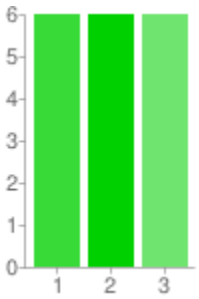


1 - Low Priority	4	21%
2	6	32%
3 - High Priority	7	37%

Low Priority High Priority

would suggest working with the Environmental Education Program for schools to implement this project.Excellent

50% of schools institute food scrap recycling.

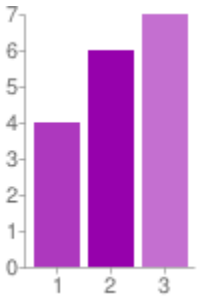


1 - Low Priority	6	32%
2	6	32%
3 - High Priority	6	32%

Low Priority High Priority

A 25% goal would be more achieveable.of course I would love to see this but seems a bit ambitious....Love it

Encourage food scrap recycling for restaurants.

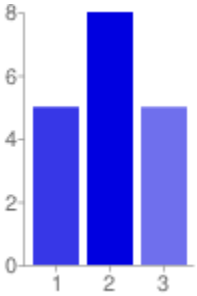


1 - Low Priority	4	21%
2	6	32%
3 - High Priority	7	37%

Low Priority High Priority

Need a carrot or a stick for this to actually happen. $ speaks.

10% of restaurants use food scrap recycling.



1 - Low Priority	5	26%
2	8	42%
3 - High Priority	5	26%

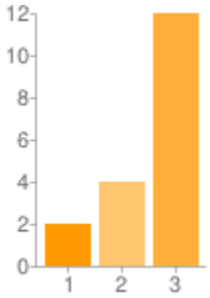
Low Priority High Priority

Work with McHenry Co. Restaurant Association and other business organizations.After the schools have done it, so that the food scrap recyclers industry can grow, and provide more cost effective options for the restaurants.

Household Chemical Waste (HCW) Management

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

Encourage procurement department and other purchasers to revise procurement guidelines to minimize reliance of hard-to-manage materials and to seek out environmentally preferable, less toxic products with less costly life management.

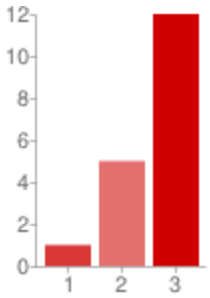


1 - Low Priority	2	11%
2	4	21%
3 - High Priority	12	63%

Low Priority High Priority

DefinitelyEmphasis on promotion of HHW avoidance and use of safer alternatives.So important. Fix the problem rather than simply managing it.

Identify mechanisms for providing Household Hazardous Collection events independent of IEPA funds.

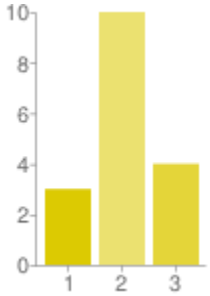


1 - Low Priority	1	5%
2	5	26%
3 - High Priority	12	63%

Low Priority High Priority

I believe Kane County has a doorside HHW collection program that local jurisidicitons participate in.Discuss possible agreements with SWALCO.At Fire Stations :)Many people ask for this.

Pursue product stewardship programming to encourage manufacturers of products that are costly to manage to manage such as toxics to voluntarily collect products in McHenry County.

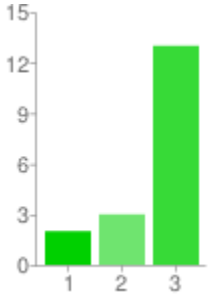


1 - Low Priority	3	16%
2	10	53%
3 - High Priority	4	21%

Low Priority High Priority

This doesn't seem feasible so wouldn't want to spend a lot of time and energy on.Don't understand.Good PR for them

Encourage and support municipalities in the establishment of supplemental HCW programs such as waste oil collection programs (i.e. McHenry Zurich and McHenry Barrington Programs), Partner for Paint programs (i.e., Algonquin Township Partner for Paint programs (i.e., Algonquin Township Road Dist. Program) and fluorescent lamp collection centers (i.e. Highland Park, Riverwoods and Third McHenry Programs).

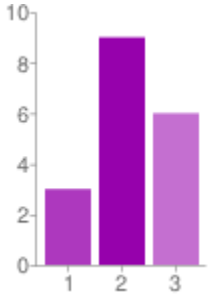


1 - Low Priority	2	11%
2	3	16%
3 - High Priority	13	68%

Low Priority High Priority

Should be the non-for profits

Focus on efforts to reduce the volume of latex paint coming into the HCW Program by working more closely with existing latex paint recycling firms/programs such as Earth Paints Collection Systems and the Algonquin Township Road Dist. Program.

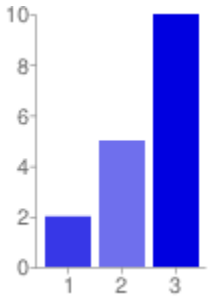


Low Priority High Priority

1 - Low Priority	3	16%
2	9	47%
3 - High Priority	6	32%

Encourage another latex paint recycler. The stores do already take this, Loyds, ACE ect.

Provide funding for periodic tire collection events. Conduct these events in affiliation with the IEPA tire collection program and cosponsor with the McHenry County Farm Bureau. Sponsor these events on even calendar years (2013, 2015, and 2017).

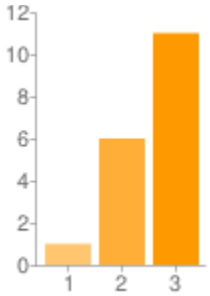


Low Priority High Priority

1 - Low Priority	2	11%
2	5	26%
3 - High Priority	10	53%

STAR tire in Rockford, $1.00 ea. for car tires. Have the residence at least pay for their tires and hopefully get enough to cover the trucking costs.

Maintain a listing of environmental contractors and disposal programs (i.e. IEPA's laboratory waste collection program) to use as a referral for business, institutions and school districts.

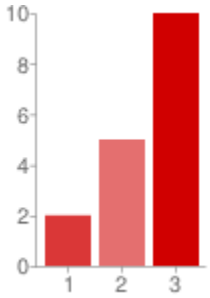


Low Priority High Priority

1 - Low Priority	1	5%
2	6	32%
3 - High Priority	11	58%

Put list in the McHenry Co. Green Guide.Knowledge is goodPeople want to know how to do the right thing.

Consider offering Municipalities assistance in conducting one-day collection events for neighboring Illinois counties as another potential revenue source.



Low Priority High Priority

1 - Low Priority	2	11%
2	5	26%
3 - High Priority	10	53%

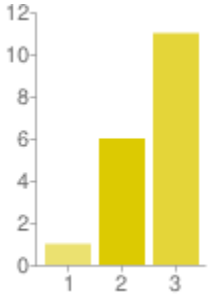
Not a clear statementI think working with Lake County might be a possibility... Let's just focus on McHenry County, there is enough to do here

---

Finance and Waste-Based Economic Development

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

McHenry County should monitor and apply to federal, state and private sources for grants and loans to be used for capital assistance when such funding is consistent with the goals of the Plan.

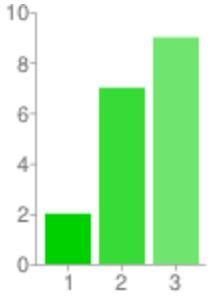


Low Priority High Priority

1 - Low Priority	1	5%
2	6	32%
3 - High Priority	11	58%

Always, maybe partner with a college class to work on this.Easier for 501c3 non-profit organizations, but definitely encourage partnerships.

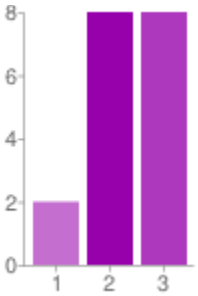
Municipalities should be encouraged to consider other available sources of assistance grants and funds to finance and operate local recycling projects.



Low Priority High Priority

1 - Low Priority	2	11%
2	7	37%
3 - High Priority	9	47%

Identify contiguous businesses to pursue shared service agreements with waste haulers to enable smaller businesses to afford higher quality services that incorporate food scrap and other recycling opportunities.

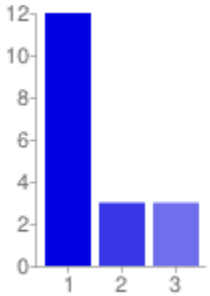


Low Priority High Priority

1 - Low Priority	2	11%
2	8	42%
3 - High Priority	8	42%

Work with local Chambers and the MCC Sustainability Center to have a forum around this topic.Start with the Schools and then growFantastic idea!

Department of Health and Department of Planning and Development in partnership with waste haulers should consider transforming underutilized lands to store recyclables when recycling markets lack liquidity.

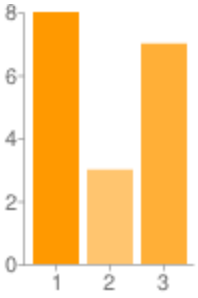


Low Priority High Priority

1 - Low Priority	12	63%
2	3	16%
3 - High Priority	3	16%

This is a gamble that may not be worth the effort and cost.again,with limited staff and time, not a high priorityI think that is more of a regulation, there are plenty of empty warehouses

Work with Department of Planning and Development and Economic Development Groups to identify potential partners in salvage store business, second hand or vintage retailers to accept and sell deconstruction materials.

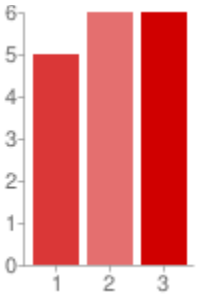


1 - Low Priority	8	42%
2	3	16%
3 - High Priority	7	37%

Low Priority High Priority

Maybe just spread the word about decon salvagingGood Idea

Partner with not-for-profit entity to issue tax letter to businesses and residents providing salvage materials from deconstruction.

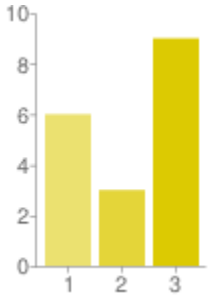


1 - Low Priority	5	26%
2	6	32%
3 - High Priority	6	32%

Low Priority High Priority

You mean a tax credit for creating salvagable materials instead of it going to a landfill and or C& D recycling facility? Sounds like a tax law

Assess passing a deconstruction ordinance to require demolition contractors to recycle 70% by weight of debris for all demolition projects (excluding sheds and garages) and that residential properties also demonstrate 5% by weight is being diverted for reuse.



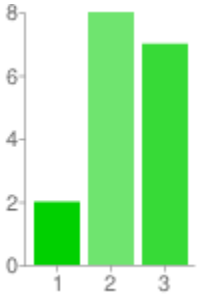
1 - Low Priority	6	32%
2	3	16%
3 - High Priority	9	47%

Low Priority High Priority

I like the idea of a deconstruction ordinance not sure of the percentages whether they are reasonable and attainable Might be to high of a rate to start with, perhaps a sliding scale, 1st. year 30%, 2nd. year 50% and once evaluated go to 70% by weight is easy, concrete, shingles, Yes!

Consider strategic partnership with workforce development partners and McHenry County

Community College to provide deconstruction training.

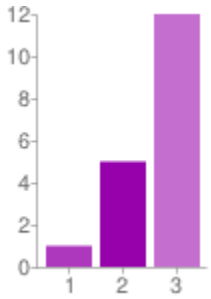


1 - Low Priority	2	11%
2	8	42%
3 - High Priority	7	37%

Low Priority High Priority

Love it!!!!

Continue to support the Publication of the McHenry County Green Guide.

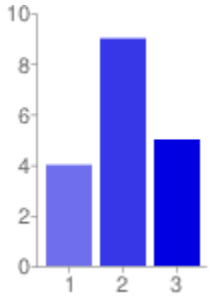


1 - Low Priority	1	5%
2	5	26%
3 - High Priority	12	63%

Low Priority High Priority

This can be put on the health department new web siteBut business need to be vetted more accurately (or at all). I fear some included might not be as above board as they sound.

Partner with Department of Planning and Development to track jobs and other economic activity from in recycling and waste management.



1 - Low Priority	4	21%
2	9	47%
3 - High Priority	5	26%

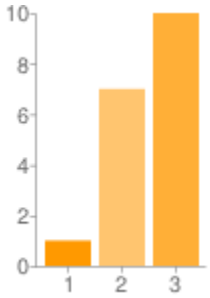
Low Priority High Priority

Good idea for a college, high school classThis should be MCEDC, not P&D

Landfilling

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

Maintain contact with landfills in Illinois Region 1, Region 2, and southeastern Wisconsin to request landfill based information for McHenry based waste.

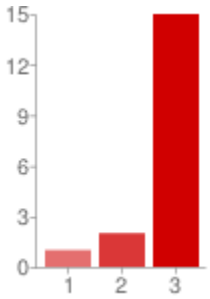


Low Priority High Priority

1 - Low Priority	1	5%
2	7	37%
3 - High Priority	10	53%

Already in place I think. yes continueAre the landfills able to report exclusively Mchenry County waste? How? How reliable/confident is the data?not knowledgable

Continue to implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.

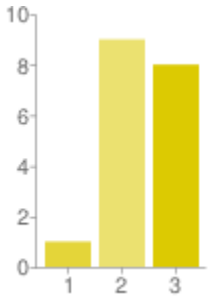


Low Priority High Priority

1 - Low Priority	1	5%
2	2	11%
3 - High Priority	15	79%

Within the Governmental bodies. Education!

Continue to use prevailing guidance for McHenry County and the siting authority (the unit of local government with siting jurisdiction in accordance with Section 39.2 of the Illinois Environmental Protection Act) will continue using the three guidelines that were outlined in the 1989 Plan for evaluating landfilling technology. These guidelines are: utilize proven technology; minimize emissions; and avoid large economic risks.



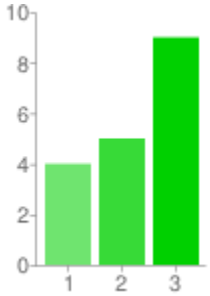
Low High

1 - Low Priority	1	5%
2	9	47%
3 - High Priority	8	42%

Priority Priority

1989 seems like a long time ago....have their been any new guidelines developed?not knowledgable

Encourage existing and new landfill owners that receive McHenry County material to design and implement landfill technologies such as leachate recirculation systems to extend life expectancy, reduce long term toxicity and conserve resources when possible and environmentally appropriate.

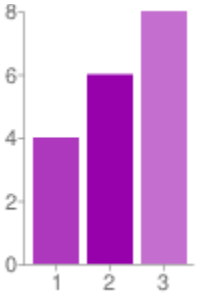


1 - Low Priority	4	21%
2	5	26%
3 - High Priority	9	47%

Low Priority High Priority

They are a business, they already do that on their own to sustain their business and the permits they hold

Encourage existing and new landfill owners that receive McHenry County material to design and implement landfill gas collection and management systems that capture and utilize the maximum amount of landfill gas for energy recovery as opposed to direct flaring of some or all of the landfill gas.

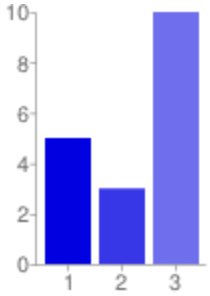


1 - Low Priority	4	21%
2	6	32%
3 - High Priority	8	42%

Low Priority High Priority

They are already doing that for the income. Sounds like an EPA issue with the permits. If their was a landfill in McHenry County I would agree.

Work with other County Waste Managers and joint action agencies such as SWALCO to encourage incorporation of onsite scavenging technologies at landfills to recover more recyclables.



Low Priority High Priority

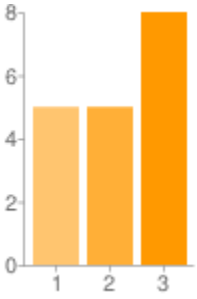
1 - Low Priority	5	26%
2	3	16%
3 - High Priority	10	53%

IEPA issue, rule and regs ~ The colleges could write a report to be submitted to the epa, or the legislation environmental committee that would enable this activity. Unless of course we have "Home Rule"Yes. Let's not bury valuable materieals.

Solid Waste Transfer

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

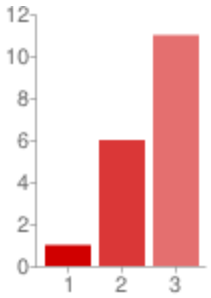
Transfer station operations - related to the unloading of refuse, recyclables and landscape waste, temporary storage of the materials on the tipping floor, and the loading of transfer trailers – must be located within a portion of the transfer station that can be completely enclosed. (This does not require the transfer station to keep its incoming and outgoing doors closed during operations unless proximity to a Federal Aviation Administration (FAA) regulated airport requires that doors open and close with the acceptance of waste. This does prohibit the development of a three sided and/or an open top structure as a transfer station in Lake County.) Developers are strongly encouraged to incorporate green/sustainable building principles into the design and operation of the facility and the overall site.



Low Priority High Priority

1 - Low Priority	5	26%
2	5	26%
3 - High Priority	8	42%

Transfer station developers must include in the design and operation of the facility the transfer of recyclables and landscape waste. Transfer station developers are encouraged to evaluate the processing of the solid waste into a renewable resource that could be transported to off-site markets.

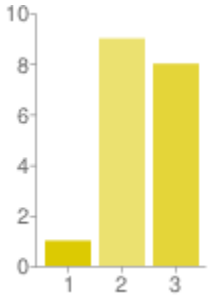


Low Priority High Priority

1 - Low Priority	1	5%
2	6	32%
3 - High Priority	11	58%

Yes!

McHenry County and the siting authority (the unit of local government with siting jurisdiction in accordance with Section 39.2 of the Illinois Environmental Protection Act) will continue using the three guidelines that were outlined in the 1989 Plan for evaluating transfer station technology. These guidelines are: utilize proven technology; minimize emissions; and avoid large economic risks.

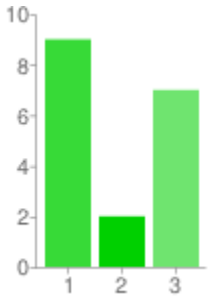


Low Priority High Priority

1 - Low Priority	1	5%
2	9	47%
3 - High Priority	8	42%

not knowledgable

Work with transfer stations, recyclers, and waste haulers to asses feasibility of storing recyclables when markets for recycled materials undermine financial feasibility of recycling.



Low Priority High Priority

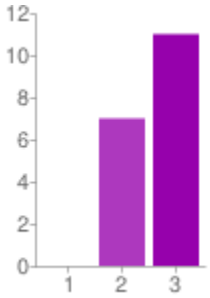
1 - Low Priority	9	47%
2	2	11%
3 - High Priority	7	37%

zoning issues

Administration

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

McHenry County Department of Health should continue the coordinated county wide approach to the management and disposal of all nonhazardous waste generated within McHenry County, including the management of recyclable and recoverable materials. Place increased emphasis on non-residential waste, including commercial, industrial waste and construction and demolition debris.

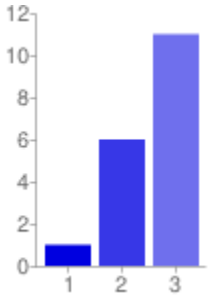


Low Priority High Priority

1 - Low Priority	0	0%
2	7	37%
3 - High Priority	11	58%

would add landscape and food scrapes to the listI don't know what "County wide approach" means.I support that

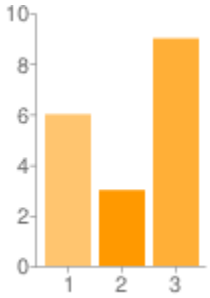
McHenry County Department of Health should continue providing centralized management of the plan implementation process.



Low Priority High Priority

1 - Low Priority	1	5%
2	6	32%
3 - High Priority	11	58%

Update Annual Waste Hauler Survey to monthly or quarterly data collection.

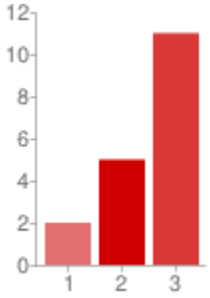


Low Priority High Priority

1 - Low Priority	6	32%
2	3	16%
3 - High Priority	9	47%

Getting accurate data is critical...quarterlyThis is a great idea

Convert Annual Waste Hauler Survey from paper submission to electronic data collection.

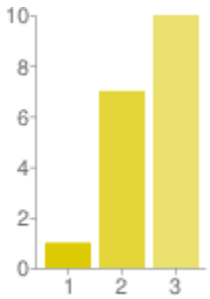


Low Priority High Priority

1 - Low Priority	2	11%
2	5	26%
3 - High Priority	11	58%

Whatever makes it more convenient to tabulate for you.dependent upon hauler survey encouraged to avoid potential for human data entry error

Issue guidance to waste haulers for providing composition data to Solid Waste Manager.



Low Priority High Priority

1 - Low Priority	1	5%
2	7	37%
3 - High Priority	10	53%

It's already part of our routine. Perhaps when they get the solid waste hauling permit they can get a piece of paper that tells them the year end requirements.dependent upon hauler survey

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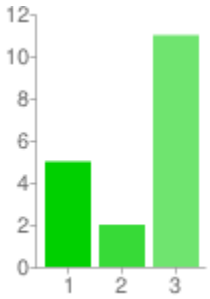
Legislative Initiatives

Please evaluate the following recommendations according to priority: 1 being of low priority, 2 being of medium priority, and 3 being of high priority.

Engage with SWANA, Illinois Product Stewardship Institute working group and Illinois Recycling Association to monitor legislative initiatives involving recyclables.



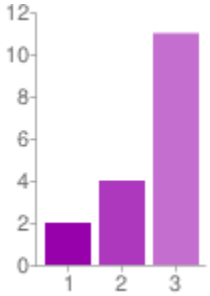
Low High

1 - Low Priority	5	26%
2	2	11%
3 - High Priority	11	58%

Priority Priority

This is where the rules can change in our favor. Definitely. Governmental buildings and institutions mandatory recycling manufacturing and business mandatory recycling

Where appropriate support legislative initiatives of groups such as SWANA, Illinois Product Stewardship Institute working group and Illinois Recycling Association to support legislation that shifts the onus to manufacturers of items with significant end-of-life management costs from local governments.

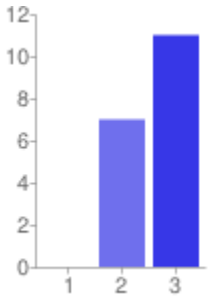


1 - Low Priority	2	11%
2	4	21%
3 - High Priority	11	58%

Low Priority High Priority

Don't understand this one. Make sure that when a manufacture makes something that he has to know how to dispose of it/recycle it?I feel that this is so incredibly important and just. Businesses make decisions about packaging, etc. based only on their bottom line. They NEED to be made responsible for for end of life issues related to their products so that it becomes part of THEIR bottom line, not the taxpayers!!

Consider revising application fees and process to tiered approach for Pollution Control Siting Ordinance to make process easier for recyclers and waste managers.

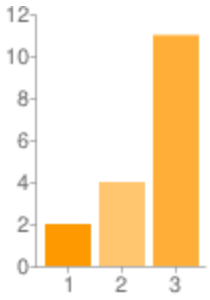


1 - Low Priority	0	0%
2	7	37%
3 - High Priority	11	58%

Low Priority High Priority

I don't know what the county fees are. They have to complete so much for the IEPA that to some degree it's redundant. As long as the property is located in an industrial / manufacturing zoning, they should just have the basic business fees.Yes!!

Partner with municipalities to remove barriers to commercial and institutional recycling, such as adjusting screening requirements for dumpsters that create space limitations making incorporation of recycling and organics containers infeasible.

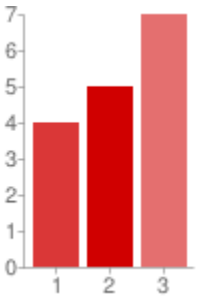


1 - Low Priority	2	11%
2	4	21%
3 - High Priority	11	58%

Low Priority High Priority

Didn't know there were any barriers. Yes!!

Create ordinance to transfer authority of waste management to tenants from property owners.

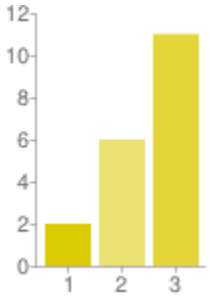


1 - Low Priority	4	21%
2	5	26%
3 - High Priority	7	37%

Low Priority High Priority

Opinion of State's Attorney before proceeding not sure of this one....I don't know. ~ What if the property owner signed an agreement with a bad person/business , I think it's better to keep it with the property owners, they are the ones who have control of the tenants, so it is part of their job to enforce county regs.Yes!

Incorporate green business owners and operators recognition to annual green awards to reward commercial and industrial recycling.



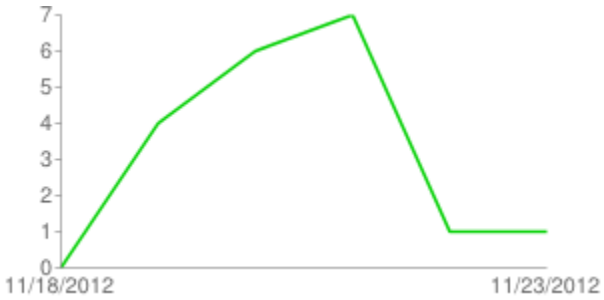
1 - Low Priority	2	11%
2	6	32%
3 - High Priority	11	58%

Low Priority High Priority

I thought they already did thisThis survey is much too long! Most are good ideas, and most are High Priority, but--- TOO LONG! Kristy, what company/ individuals created this? Alice Howenstine The most vital goal should be to get toxics out of the waste stream througth education and regulation, Expanded composting would assist with upping the recycling rate percentage.Good AwarenessThis is already addressed in recommendation under Public

Info./Education for the McHenry County Green AwardsMaybe even establish some type of award/recognition businesses can advertise having earned so that...

Number of daily responses



Plan Recommendations Submitted to Advisory Committee

Cover Sheet for Draft Recommendations

Introduction

Because the core notion of sustainability revolves around the wise use of resources, including preservation of environmental assets, effective waste management is integrally important to the sustainability of McHenry County. McHenry County's Solid Waste Management Plan seeks to reduce waste disposed at landfills, increase recycling to 50% and promote overall environmental health. While promoting environmental health, McHenry County strives to promote a vibrant, job rich, opportunities and paving the way for promoting waste-based economic development by deriving value from the waste stream.

Background

With the passage of the Solid Waste Planning and Recycling Act in 1988, counties were required to develop waste management plans to manage the municipal waste generated within their borders. McHenry County adopted its first Solid Waste Management Plan in 1992 titled Solid Waste Management Plan, 1990 - 2010, Phase I and Phase II and has since adopted the required five year updates in 1997, 2002 and in 2007 completed its third and 15 year update to the plan. Since the 15 Year Update, Solid Waste Management has been transitioned from the Department of Planning to the McHenry County Department of Public Health. Now the Department of Health is the entity responsible for implementing the plan and preparing update recommendations on behalf of the county. The Solid Waste Manager is the contact staff person within the department responsible for the plan implementation with oversight from the Director of Public Health.

Since transitioning solid waste management to the Department of Health, the Solid Waste Manager has worked in tandem with the Department Director to leverage Department Resources to support raising awareness of important waste and recycling issues to support positive behavior change as well as effectively deliver programs mutually beneficial to public health and waste management such as introducing the leaf burning ban while promoting leaf collection and expanding electronic recycling in hopes of keeping harmful toxics out of the waste stream. The county continues to support established programs in the areas of solid waste management planning, education, and enforcement. Programs such as special collection events (e.g., household hazardous waste and used tire collections) will be pursued as funding allows. Since the 15 Year Plan Update, Recycling programs have increased dramatically with the increase in the number of items that can be recycled; the County's population in 1990 was approximately 183,421, today it is over 300,000 and is expected to grow to 457,594 by 2030; and citizens and businesses have a renewed awareness of the need to conserve resources and protect the environment. The McHenry County Plan has continued to evolve during the past 20 years, which is one of the practical and useful benefits of updating the Plan every five years.

Organization of Recommendations

The Recommendations are organized into the following major sections:

Public Education and Information
Recycling
Household Hazardous Waste
Waste-Based Economic Development
Landfill
Solid Waste Transfer
Administrative
Legislative Initiatives

Public Information and Education

Recommendations	Target Date	Responsible Parties	Indicators
• Develop a new website or revise the current website to provide the following five types of information: Waste hauler specific information (Requirements, Link to Annual Survey, Link to any required documents), Recycling information for residents (Events and opportunities, Information about what they should recycle, reuse or otherwise separate from other garbage such as toxics), Regulatory information (All county specific ordinances), Best Management Practices for municipalities, businesses and institutions (Make model contracts, flyers and other tools available and Provide information for basic considerations for contracting with waste haulers.), Residential Service Information (Service information from franchises) and Environmental Education School Program	Year 1	MCH DPH, MCH DPD, MCH Information officer	Website traffic, Ease of collecting data for all parties, fewer calls for information to Solid Waste Manager.
• Embrace and incorporate new information technologies in promotional efforts (e.g., social media, websites, email services, etc.).	Year 1	MCH DPH, MCH DPD, MCH Information officer	Increased participation in programming.
• Identify new and support ongoing activities of McHenry County's public information and education programs to encourage waste reduction, reuse, recycling and recovery/re-buy (buying recycled products) and sustainability practices through McHenry County's websites and other publications, as well as community organizations such as PTA/PTO's, park districts, libraries, church, corporate and other community groups. The importance of buying recycled products should be emphasized when possible as this creates markets for additional materials and diverts these materials from final disposal.	Ongoing	MCH DPH	Increased program participation.
• Provide leadership and support to municipalities and other entities in McHenry County seeking to improve overall waste management. McHenry County can model documents such as franchise waste management agreement, best management practices and other guidance available on its website.	Year 1	MCH DPH	Increased use of best management practices resulting in better quality management.
• Continue to provide McHenry County Green Awards to highlight stewardship.	Ongoing	MCH DPH	6 awards are given each year.

Public Information and Education

Recommendations	Target Date	Responsible Parties	Indicators
• Provide drop-in articles and blurbs on important waste management issues to municipalities while encouraging municipalities to create and distribute their own publications to raise awareness of important waste-related and environmental activities.	Year 2	MCH DPH	25 municipalities public 4 articles per year in newsletters for total of 100 articles
• Establish quarterly meeting series for municipal leaders, property managers, waste haulers and recyclers to share best management practices and lessons learned. Business forums hosted in conjunction with Chambers of Commerce provide opportunities help businesses effectively manage waste.	Year 2	MCH DPH, MCH DPD, MCH Information officer, Chambers of Commerce, Waste Haulers, Recyclers	4 meetings per year.
• Develop partnerships with the business community, waste haulers, institutions, service and professional organizations, and governmental entities to expand the outreach potential for focused educational efforts.	Year 2	MCH DPH, MCH DPD, MCH Information officer, Chambers of Commerce, Waste Haulers, Recyclers	Increase use of BMPs amongst businesses
• Support efforts of environmental and civic groups that seek to raise awareness by directing them to high quality information sources and in term assist with publicizing their events when appropriate.	Ongoing	MCH DPH, Civic and Environmental Groups.	Increased activity to support environmental health.
• Encourage municipalities and civic groups throughout McHenry County to advertise events and programs on their websites, community newsletters, elist bulletin announcements as well as other technologies and approaches to help provide information to their residents. Request that partners provide a point of contact to the Solid Waste Manager to maintain point of contact information	Year 2	MCH DPH, MCH DPD, MCH Information officer, Chambers of Commerce, Waste Haulers, Recyclers, Municipalities	Increased availability of events and participation in those events.
• Continue to support the Environmental Education Program that provides environmental educators, curricula, instruction and assists with field trips to recycling facilities.	Ongoing	MCH DPH, MCH DPD, EEP, SCHOOLS, Recycling Facilities	6 school events, 4 field trips per year.
• Investigate opportunities for public outreach at special events.	Ongoing	MCH DPH, MCH DPD, EEP, SCHOOLS, Recycling Facilities	Increased awareness

Public Information and Education

Recommendations	Target Date	Responsible Parties	Indicators
• Increase awareness of new recycling and reuse opportunities as they become available.	Ongoing	MCH DPH, Civic and Environmental Groups.	Increased awareness
• Establishment internship program with NIU Master of Public Administration to assist with implementation of plan	Year 2	MCH DPH	Increased awareness
• Continue to include recycling and environmentally sound disposal options in waste related enforcement documents.	Ongoing	MCH DPH	Increased awareness

Recycling

Recommendations	Target Date	Responsible Parties	Indicators
• Maintain and expand collection of data on recycling activity in McHenry County. Identify significant recycling data points that reflect changes in recycling activity in McHenry County and develop programming that fosters increased diversion of recyclable materials.	Ongoing	MCH DPH	Improved information
• Continue to expand recycling programs to achieve a 50% recycling goal by 2020 (current estimated municipal waste recycling rate is 38%).	Year 1	MCH DPH, MCH DPD, MCH Information officer	Reduce waste diverted to landfill
• Convene a committee to investigate, evaluate and develop recommendations on how Solid Waste Advisory Committee and McHenry County can realistically achieve a 50% recycling rate by 2020. The committee shall complete its investigation, and prepare and approve final recommendations. The Solid Waste Advisory Committee will be responsible for coordinating the meetings and implementing the final report recommendations.	Ongoing	MCH DPH	Reduce waste diverted to landfill
• Continue to support area recyclers in activities that expand their capabilities of diverting marketable materials from landfills when feasible.	Ongoing	MCH DPH	Support recycling activities.
• Continue to maintain and enforce local and state solid waste hauling and recycling ordinances and if necessary, recommend changes be made to ordinances that may create barriers to recycling.	Ongoing	MCH DPH	Overall environmental quality
• Encourage all McHenry County municipalities to establish volume based pricing (i.e., programs that provide incentives to reduce the amount of waste disposed) as an option.	Year 2	MCH DPH, Municipalities	Improved recycling rate
• Encourage McHenry County municipalities to implement cart-based recycling programs within their residential areas. Suggest providing larger carts for recycling and smaller carts for waste.	Year 2	MCH DPH, Municipalities	Improved recycling rate
• Assist unincorporated areas and municipalities with franchising residential, multifamily and/or commercial collection services as a means to control costs, increase recycling, reduce the amount of greenhouse gases associated with collection services, and enhance community sustainability efforts.	Year 2	MCH DPD	Increase use of BMPs

Recycling

Recommendations	Target Date	Responsible Parties	Indicators
• Continue to encourage all municipalities to adopt the model commercial and multifamily refuse and recycling enclosure ordinance.	Ongoing	MCH DPH, Municipalities	Improved recycling rate
• Identify and assist municipalities whose residential, commercial and/or multi-family recycling programs are underperforming or can be further optimized; conduct program evaluations and develop recommendations for improving programs.	Year 2	MCH DPH, Municipalities	Improved recycling rate
• Participate in the EPA Waste Wise Program and encourage commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities to participate in source reduction activities.	Year 1	MCH DPD	More resources
• Depending on availability of funds and agency priorities, continue to further the development of source reduction programs, special event and public area recycling programs, plastic bag recycling programs, compost bin distributions and residential electronics collections.	Ongoing	MCH DPH	Improved recycling rate
• Continue to maintain a Capacity Agreement with a qualified recycling firm (currently Waste Management Recycle America L.L.C.) to assure that sufficient capacity is available to Municipalities, and that Solid Waste Advisory Committee members and McHenry County townships that direct material to the facility are eligible to receive a Per Ton Payment for their recyclables per the terms of the existing Intermediate Processing Facility Capacity Agreement (effective January 1, 2009 for a three year term with two, 2-year renewal options).	Ongoing	MCH DPH, MUNICIPALITIES	Improved recycling rate
• Encourage Municipalities to enter into a Per Ton Payment Intergovernmental Agreement with Solid Waste Advisory Committee in order to be eligible to receive payment (Per Ton Payment) for their recyclables per the terms of the existing Capacity Agreement.	Year 2	MCH DPH, MUNICIPALITIES	Improved recycling rate

Recycling

Recommendations	Target Date	Responsible Parties	Indicators
• Encourage the development of additional general construction or demolition (C&D) debris recycling facilities as permitted by Section 22.38 of the Illinois Environmental Protection Act. With the enactment of Public Act 96-0611, general C&D debris recycling facilities can be located in McHenry County, without having to obtain local siting approval in accordance with Section 39.2 of the Illinois Environmental Protection Act, and instead will be regulated by applicable zoning requirements. As a result, Solid Waste Advisory Committee will develop zoning guidelines for such facilities that address the location, design, operation and closure of such facilities.	Year 2	MCH DPH	Increase capacity for C&D.
• Encourage the development of programs to increase the collection and composting of residential and commercial organic material (such as landscape waste, food scrap and livestock waste).	Year 2	MCH DPH	Increased capacity for composting
• Evaluate recent increases in landscape waste collection and composting costs, and determine if McHenry County needs to take any action to better control and/or reduce the costs associated with both collecting and managing the material.	Year 2	MCH DPH	Better cost management
• Encourage10 schools to instititute food scrap programs with assistance from DCEO.	Year 1	MCH DPH	Diversion
• 50% of schools institute food scrap recycling	Year 5	MCH DPH, SCHOOLS, DCEO	Diversion
• Encourage food scrap recycling for restaurants.	Year 1	MCH, DPH, CHAMBERS OF COMMERCE, RESTAURANT ASSOCIATIONS	
• 10% of restaurants use food scrap recycling	Year 5	MCH, DPH, CHAMBERS OF COMMERCE, RESTAURANT ASSOCIATIONS	

Household Chemical Waste (HCW) Management

Recommendations	Target Date	Responsible Parties	Indicators
• Encourage procurement department and other purchasers to revise procurement guidelines to minimize reliance of hard-to-manage materials and to seek out environmentally preferable, less toxic products with less costly life management	Year 2	MCH DPH, Purchasing Department	Reduced Toxics
• Identify mechanisms for providing Household Hazardous Collection events independent of IEPA funds.	Ongoing	MCH DPH, Municipalities, Waste Haulers	Reduced toxics
• Pursue product stewardship programming to encourage manufacturers of products that are costly to manage to manage such as toxics to voluntarily collect products in McHenry County.	Ongoing	MCH, SWANNA, IRA, PSI ILLINOIS WORKING GROUP	Reduced toxics
• Encourage and support municipalities in the establishment of supplemental HCW programs such as waste oil collection programs (i.e. McHenry Zurich and McHenry Barrington Programs), Partner for Paint programs (i.e., Algonquin Township Road	Year 1	MCH DPH, Municipalities	Improved programming
• Focus on efforts to reduce the volume of latex paint coming into the HCW Program by working more closely with existing latex paint recycling firms/programs such as Earth Paints Collection Systems and the Algonquin Township Road Dist. Program.	Ongoing	MCH DPH	Improved programming
• Provide funding for periodic tire collection events. Conduct these events in affiliation with the IEPA tire collection program and cosponsor with the McHenry County Farm Bureau. Sponsor these events on even calendar years (2010, 2012, and 2014).	Year 2	MCH DPH, Municipalities	Improved recycling rate
• Maintain a listing of environmental contractors and disposal programs (i.e. IEPA's laboratory waste collection program) to use as a referral for business, institutions and school districts.	Ongoing	MCH DPH	Encourage better toxics management

Household Chemical Waste (HCW) Management

Recommendations	Target Date	Responsible Parties	Indicators
• Consider offering Municipalities assistance in conducting one-day collection events for neighboring Illinois counties as another potential revenue source.	Year 2	MCH DPD, MUNICIPALITIES	Better toxics management

Finance and Waste-Based Economic Development

Recommendations	Target Date	Responsible Parties	Indicators
• McHenry County should monitor and apply to federal, state and private sources for grants and loans to be used for capital assistance when such funding is consistent with the goals of the Plan.	Ongoing	MCH	More resources to pursue plan.
• Municipalities should be encouraged to consider other available sources of assistance grants and funds to finance and operate local recycling projects.	Ongoing	MCH DPH, DCEO, MUNICIPALITIES	More resources to pursue solid waste plan objectives.
• Identify contiguous businesses to pursue shared service agreements with waste haulers to enable smaller businesses to afford higher quality services that incorporate food scrap and other recycling opportunities.	Year 1	MCH DPH, Municipalities, Chambers of Commerce, Restaurants,	Restaurants receive affordable waste management that includes compost services.
• Department of Health and Department of Planning and Development in partnership with waste haulers should consider transforming underutilized lands to store recyclables when recycling markets lack liquidity.	Year 2	MCH DPH, MCH DPD, WASTE HAULERS, RECYCLERS	Increased liquidity in recycling market leading to more recycling.
• Work with Department of Planning and Development and Economic Development Groups to identify potential partners in salvage store business, second hand or vintage retailers to accept and sell deconstruction materials.	Year 1	MCH DPH, MHC DPD, CHAMBERS OF COMMERCE	Economic activity from creative reuse.
• Partner with not-for-profit entity to issue tax letter to businesses and residents providing salvage materials from deconstruction.	Year 1	MCH DPH, MHC DPD, CHAMBERS OF COMMERCE	Market is created for deconstructed materials resulting in economic opportunity and increased diversion.

Finance and Waste-Based Economic Development

Recommendations	Target Date	Responsible Parties	Indicators
• Assess passing a deconstruction ordinance to require demolition contractors to recycle 70% by weight of debris for all demolition projects (excluding sheds and garages) and that residential properties also demonstrate 5% by weight is being diverted for reuse.	Year 1	MCH DPH, MHC DPD, CHAMBERS OF COMMERCE	Market is created for deconstructed materials resulting in economic opportunity and increased diversion.
• Consider strategic partnership with workforce development partners and McHenry County Community College to provide deconstruction training.	Year 2	MCH DPH, MHC DPD, CHAMBERS OF COMMERCE, COMMUNITY COLLEGES, WORKFORCE DEVELOPMENT	Workforce is positioned for deconstruction jobs.
• Continue to support the Publication of the McHenry County Green Guide	Ongoing	MCH DPH, Civic and Environmental Groups.	Increased activity to support recycling based economic activity.
• Partner with Department of Planning and Development to track jobs and other economic activity from in recycling and waste management.	Year 1	MCH DPH, MCH DPD	Better understanding of green jobs in McHenry County

Landfilling

Recommendations	Target Date	Responsible Parties	Indicators
• Maintain contact with landfills in Illinois Region 1, Region 2, and southeastern Wisconsin to request landfill based information for McHenry based waste.	Year 1	MCH DPH, LANDFILLS	Direct contacts with landfills
• Continue to implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.	Year 1	MCH DPH, MCH DPD, MCH Information officer	Increased diversion
• Continue to use prevailing guidance for McHenry County and the siting authority (the unit of local government with siting jurisdiction in accordance with Section 39.2 of the Illinois Environmental Protection Act) will continue using the three guidelines that were outlined in the 1989 Plan for evaluating landfilling technology. These guidelines are: utilize proven technology; minimize emissions; and avoid large economic risks.	Ongoing	MCH DPH	Guidelines are followed
• Encourage existing and new landfill owners that receive McHenry County material to design and implement landfill technologies such as leachate recirculation systems to extend life expectancy, reduce long term toxicity and conserve resources when possible and environmentally appropriate.	Year 1	MCH DPH	Improved Environmental Health
• Encourage existing and new landfill owners that receive McHenry County material to design and implement landfill gas collection and management systems that capture and utilize the maximum amount of landfill gas for energy recovery as opposed to direct flaring of some or all of the landfill gas.	Ongoing	MCH DPH	Improved Environmental Health
• Work with other County Waste Managers and joint action agencies such as SWALCO to encourage incorporation of onsite scavenging technologies at landfills to recover more recyclables.	Year 2	MCH DPH, SWANNA, SWALCO, SWANC, SSMMA, WCMA, WILL COUNTY SOLID WASTE MANAGER, KANE COUNTY SOLID WASTE MANAGER	Increased diversion.

Solid Waste Transfer

Recommendations	Target Date	Responsible Parties	Indicators
• Solid waste transfer stations, if developed in accordance with the applicable requirements of the McHenry County Solid Waste Management Plan will be considered consistent with the Plan. These recommendations are not applicable to landscape waste transfer stations or general construction and demolition debris recycling facilities as permitted under Section 22.38 of the Illinois Environmental Protection Act, but are applicable to any transfer station that meets the definition of a pollution control facility under the Act.	Ongoing	MCH DPH, MCH DPD, MCH Information officer	Environmental quality and quality of life maintained.
• A transfer station site should be large enough to provide for a facility large enough to safely and efficiently manage the anticipated volume of waste, adequate buffering and screening, stormwater management, and safe traffic flow. If the site is proposed for additional functions, including but not limited to, vehicle and equipment storage, vehicle maintenance, office space, processing of recyclables, or processing of waste into a fuel it must be demonstrated that the site is large enough for all proposed functions.	Ongoing	MCH DPH, MCH DPD, MCH Information officer	Environmental quality and quality of life maintained.
• Identify new and support ongoing activities of McHenry County's public information and education programs to encourage waste reduction, reuse, recycling and recovery/re-buy (buying recycled products) and sustainability practices through McHenry County's websites and other publications, as well as community organizations such as PTA/PTO's, park districts, libraries, church, corporate and other community groups. The importance of buying recycled products should be emphasized when possible as this creates markets for additional materials and diverts these materials from final disposal.	Ongoing	MCH DPH	Increased program participation.

Solid Waste Transfer

Recommendations	Target Date	Responsible Parties	Indicators
	Ongoing	MCH DPH	Environmental quality and quality of life maintained.
• Transfer station operations - related to the unloading of refuse, recyclables and landscape waste, temporary storage of the materials on the tipping floor, and the loading of transfer trailers – must be located within a portion of the transfer station that can be completely enclosed. (This does not require the transfer station to keep its incoming and outgoing doors closed during operations unless proximity to a Federal Aviation Administration (FAA) regulated airport requires that doors open and close with the acceptance of waste. This does prohibit the development of a three sided and/or an open top structure as a transfer station in Lake County.) Developers are strongly encouraged to incorporate green/sustainable building principles into the design and operation of the facility and the overall site.			
• Transfer station developers must include in the design and operation of the facility the transfer of recyclables and landscape waste. Transfer station developers are encouraged to evaluate the processing of the solid waste into a renewable resource that could be transported to off-site markets.	Ongoing	MCH DPH	Environmental quality and quality of life maintained.
• McHenry County and the siting authority (the unit of local government with siting jurisdiction in accordance with Section 39.2 of the Illinois Environmental Protection Act) will continue using the three guidelines that were outlined in the 1989 Plan for evaluating transfer station technology. These guidelines are: utilize proven technology; minimize emissions; and avoid large economic risks.	Ongoing	MCH DPH	Environmental quality and quality of life maintained.
• Work with transfer stations, recyclers, and waste haulers to asses feasibility of storing recyclables when markets for recycled materials undermine financial feasibility of recycling.	Year 2	MCH DPH, MCH DPD, Waste Haulers, Recyclers	Improved liquidity in recycling market thereby increasing overall recycling and improved diversion.

Administration

Recommendations	Target Date	Responsible Parties	Indicators
• McHenry County Department of Health should continue the coordinated county wide approach to the management and disposal of all nonhazardous waste generated within McHenry County, including the management of recyclable and recoverable materials. Place increased emphasis on non-residential waste, including commercial, industrial waste and construction and demolition debris.	Ongoing	MCH DPH	Solid waste plans and state required reports are submitted in timely fashion.
• McHenry County Department of Health should continue providing centralized management of the plan implementation process.	Ongoing	MCH DPH	
• Update Annual Waste Hauler Survey to monthly or quarterly data collection.	Year 1	MCH DPH	Quarterly summaries created.
• Convert Annual Waste Hauler Survey from paper submission to electronic data collection.	Year 1	MCH DPH	Improved data quality and fewer errors from handwritten forms.
• Issue guidance to waste haulers for providing composition data to Solid Waste Manager	Year 2	MCH DPH	Increase diversion by creating better targeted programs.

Legislative Initiatives

Recommendations	Target Date	Responsible Parties	Indicators
• Engage with SWANA, Illinois Product Stewardship Institute working group and Illinois Recycling Association to monitor legislative initiatives involving recyclables.	Year 1	MCH DPH, SWANA, IPSI, IRA	Support initiatives beneficial to waste management.
• Where appropriate support legislative initiatives of groups such as SWANA, Illinois Product Stewardship Institute working group and Illinois Recycling Association to support legislation that shifts the onus to manufacturers of items with significant end-of-life management costs from local governments.	Year 1	MCH DPH, SWANA, IPSI, IRA	Support initiatives beneficial to waste management.
• Consider revising application fees and process to tiered approach for Pollution Control Siting Ordinance to make process easier for recyclers and waste managers,	Year 2	MCH DPH, LEGISLATIVE AFFAIRS COMMITTEE	Promotes recycling facilities.

Landfill Capacity Analysis

Delta Institute

To: Kristy Hecke
From: Eve Pytel
Date: September 26, 2012
Subject: Landfill Capacity

Technical Memorandum

The Delta Institute performed a capacity analysis for landfills in northern Illinois and southern Wisconsin using data from Illinois Environmental Protection Agency and the Wisconsin Department of Natural Resources. The key finding is that based on current disposal rates that there is 12 years of capacity available in Region 2 that overlays with the Chicago Metropolitan Region and includes Cook, DuPage, Grundy, Kane, Kankakee, Kendall, Lake, McHenry and Will County and there is 16 years of capacity remaining for Region 1, which represents the 12 most northwestern counties: Boone, Bureau, Carroll, DeKalb, JoDaviess, LaSalle, Lee, Ogle, Putnam, Stephenson, Whiteside and Winnebago. Additionally, landfills in Southeastern and South Central Wisconsin that currently accept waste from Illinois have small capacity; however, only one of those landfills has a project site life of 10 years.

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Northern Illinois Landfill Capacity

IL EPA Region	County	Name	Years Remaining	Waste Accepted 2011	Capacity Info
Region 2	Lake	Countryside Landfill Inc.	10	1,396,208 (423,093)	14,131,000 (4,282,000)
Region 2	Grundy	Envirotech Inc	2	278,700 (84,455)	629,000 (191,000)
Region 2	Will	Laraway Recycling and Disposal Facility	16	1,024,384 (310,419)	16,095,000 (4,877,000)
Region 2	Will	Prairie View Recycling and Disposal Facility	18	2,757,419 835,582	48,970,000 (14,839,000)
Region 2	Cook	River Bend Prairie Landfill	1	823,604 249,577	982,000 (298,000)
Region 2	Lake	Veolia ES Zion Landfill*	8	1,613,178 488,842	12,851,000 (3,894,000)
Region 1	Dekalb	DeKalb County Landfill	6	326,361 98,897	1,827,000 (554,000)

Region 1	Ottawa	LandComp Landfill	44	387,922	117,552	17,429,000	(5,282,000)
Region 1	Lee	Lee County Landfill Inc.	38	1,514,879	459,054	58,283,000	(17,662,000)
Region	County	Title	Years Remaining	Waste Accepted 2011		Capacity Info	
Region 1	Whiteside	Prairie Hill Recycling and Disposal Facility	20	2,139,008	(648,184)	42,152,000	(12,773,000)
Region 1	Ogle	Rochelle Municipal Landfill No. 2	75	201,899	(61,182)	15,146,000	(4,590,000)
Region 1	Ogle	Veolia ES Orchard Hills Landfill Inc.	17	5,096,351	(1,544,349)	91,715,000	(27,792,000)
Region 1	Winnebago	Winnebago Landfill	3	5,699,422	(1,727,098)	17,142,000	(5,195,000)

*2012 certified gate cu. yds. (tons)

This summary is based on the Illinois Environmental Protection Agency Twenty-Fifth Annual Landfill Capacity Report – 2011 for Reporting Period: Jan. 1 to Dec. 31, 2011
http://www.epa.state.il.us/land/landfill-capacity/2011/region-1.pdf
http://www.epa.state.il.us/land/landfill-capacity/2011/region-2.pdf

Wisconsin Landfill Capacity

Facility Name	DNR Region	County	LF Size	Initial or Original Capacity	Cap. as of Jan.2011 In Cu Yds	Cap. as of Jan. 2012 In Cu Yds	Estimated Site Life In Years
VEOLIA ES MALLARD RIDGE LANDFILL INC	SE	Walworth	LF3	5,197,000	4,477,719	4,819,916	10
JANESVILLE CTY LF (NEW)	SC	Rock	LF3	4,765,000	2,836,279	2,551,564	
WM WI - PHEASANT RUN RECYCLING & DISPOSAL	SE	Kenosha	LF3	3,470,000	186,423	45,853	1
VEOLIA ES GLACIER RIDGE LF LLC	SC	Dodge	LF3	3,885,800	7,296,700	6,716,428	3
W M W I - METRO RECYCLING & DISPOSAL	SE	Milwaukee	LF3	5,175,000	411,195	2,919,840	4
WM WI - PHEASANT RUN RECYCLING & DISPOSAL	SE	Kenosha	LF3	487,000	9,003,683	8,984,269	2
KESTREL HAWK LF	SE	Racine	LF3	5,000,000	2,084,066	1,873,085	8

*Wisconsin Capacity Report for licensed landfills

http://dnr.wi.gov/topic/Landfills/fees.html

McHenry County Solid Waste Collection Data and Waste Generation Data Management Recommendations

McHenry County Solid Waste Data Collection

McHenry Data Collection Strategy
Annual Hauler & Recycler Surveys

Haulers +

- 44 licensed waste haulers (Refuse, Recyclables, Landscape Waste)
- Data Measurement: Tons MSW usually per landfill scales
- Close to (100%) responded (2010)

Recyclers + Collectors

- 280 organizations from McHenry County Green Guide (Recyclables)
- Data Measurement: Gallons, Tons, Lbs, CuYds (manually converted)
- 44 (16%) responded (2010)

= Total Refuse

- 381,124 tons Discarded in 2010

Strengths & Challenges

- ◊ Aims for comprehensive collection
- ◊ Haulers – Approx. 100% of list reports
- ◊ Small number of residential haulers (7) creates higher chance of quality residential data.

- ◊ Haulers – Some data estimated or incomplete
  - Some Tons based on truck scales (?)
- ◊ Recyclers & Collectors – 84% do not report
- ◊ Difficult to guard against double counting
- ◊ Potential for conversion errors

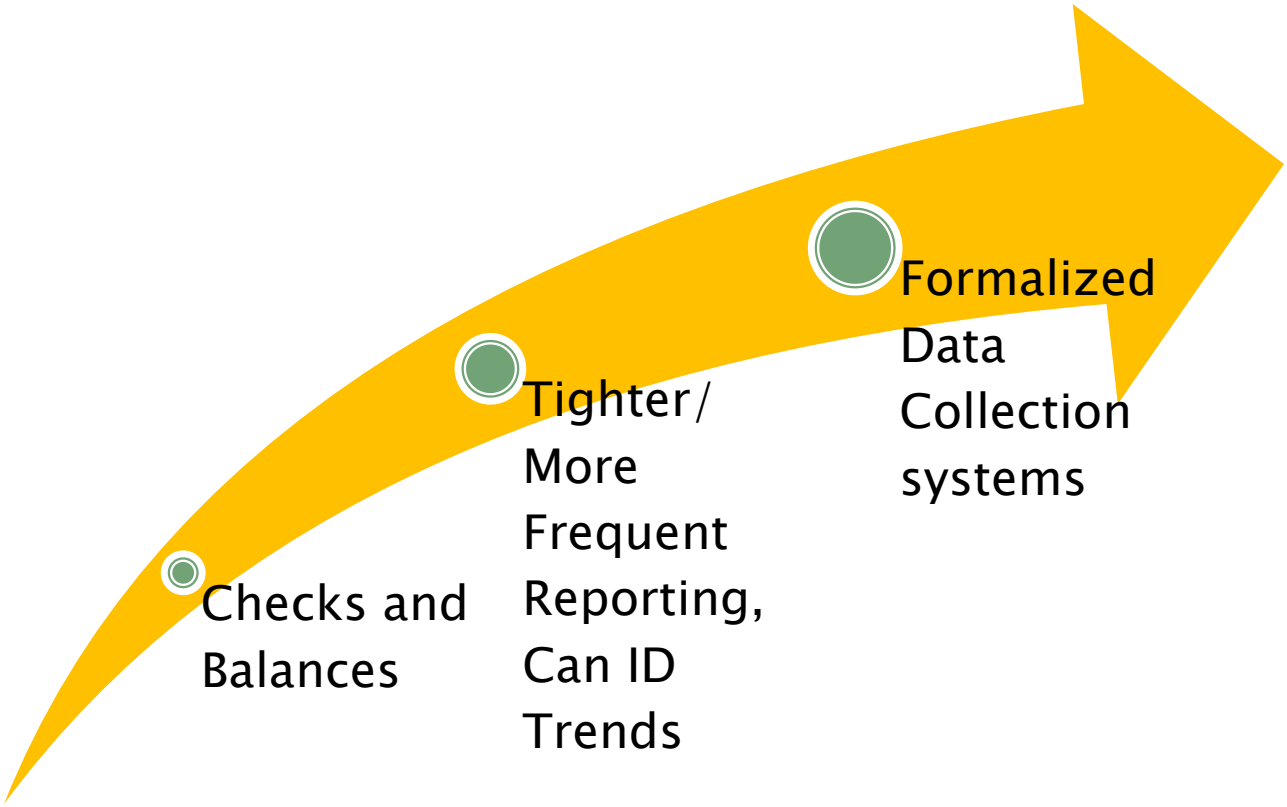
Enhanced Data Collection Strategies Other Counties

- Collection of refuse totals directly from landfills (IL landfills must report to IEPA so higher chance of data being reliable.)
- Landfill disposal data compared to hauler collected disposal data. (Can help check accuracy.)
- Hauler Franchises (i.e. held by some Lake County municipalities) promote higher level of data integrity during collection.

Enhanced Data Collection Strategies Other Counties

- Cashiering System at Transfer Stations or a fee based reporting system facilitates tracking.
- Recyclers (outside of IL) reporting to government agencies helps promote reliability and accessibility of data.
- Quarterly, monthly and sometimes daily data reporting promotes accuracy and completeness compared to annual reporting.
- Electronic data reporting eliminates data entry errors.

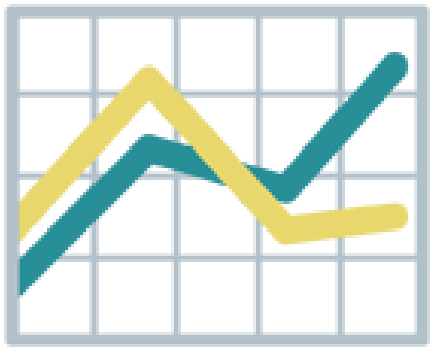
Opportunities of Other Strategies



Can Result in…

Greater control leading to
more complete and reliable data

Large Trend in Data Analysis



Key Metric = Waste Disposal
per capita per day (pcd).

Reason for Trend

- Due to varying definitions of recycling (recycling, reuse, refurbishment, source reduction):
  - Comprehensive amounts “recycled” very difficult to track
  - Recycling Rate less meaningful as accurate metric.
- Recyclers and collectors hesitant to report for confidentiality and competitive reasons

Recommendations For McHenry Data Collection and Management

Recommendations

- Collect disposal data from landfills. Use landfill data for overall disposal calculations.
- Collect disposal data from haulers for residential, commercial and C&D waste. Use data to ID trends and to compare to landfill data. Use *only* residential hauler data for calculations.
- Create extra checks and balances (i.e. documentation) on residential waste reported by 7 haulers to guarantee quality of residential data.
- Begin *On line* (electronic) monthly reporting ideally for haulers and recyclers/collectors.
- Automate any and all calculations (conduct unit conversion calculations via an Excel spreadsheet.)
- Use PCD Disposal Rate for MSW as primary tracking metric.

Recommendations – Calculation of PCD Goal Disposal Rate

Step 1: Collect Data from Recommended Sources

Tons Disposed Waste **(From Landfills)**

+

Tons Recycled Waste **(From Recyclers)**

Tons Generated Waste

Recommendations – Calculation of PCD Goal Disposal Rate

Step 1a: Convert Collected Data as Needed

Calculate conversions of units i.e. gallons, CuYds to tons via automated method i.e. Excel spreadsheet using established and reliable conversions i.e. IEPA densities.

Recommendations – Calculation of PCD Goal Disposal Rate

Step 2: Convert Data to PCD

PCD Baseline Disposal Rate =
Tons Disposed Waste (from Landfills) X 2,000 lbs per ton ÷ 365 days per yr ÷ Census Population

PCD Baseline Recycled Rate=
Tons Recycled Waste (from Recyclers) X 2,000 lbs per ton ÷ 365 days per yr ÷ Census Population

PCD Baseline Generated Waste = PCD Disposal + PCD Recycled

Recommendations – Calculation of PCD Goal Disposal Rate

Step 2: Convert Data to PCD

For Census Population

2011 = 2010 Census Population x 1.02
2012 = 2011 Calculation X 1.02
2013 = 2012 Calculation X 1.02
Etc. through 2019

In 2020 use 2020 Census Population

Recommendations – Calculation of PCD Goal Disposal Rate

Step 3: Determine Baseline Diversion Percentage and Use to Set Target Diversion Percentage:

Baseline Diversion Percentage = 1-(PCD Baseline Disposal Rate/PCD Baseline Generated Rate) i.e. 30%

Target Diversion Percentage i.e. 40% set based on assessment of McHenry County's ability to divert (i.e. recycle, reuse, reduce, refurbish)

Recommendations – Calculation of PCD Goal Disposal Rate

Step 4: Determine Goal PCD Disposal Rate

PCD Goal Disposal Rate =

PCD Baseline Generated Rate X (1–Target Diversion Percentage)

Recommendations – Calculation of PCD Goal Disposal Rate

Step 5: Calculate Reduction Factor

Reduction Rate Factor % =

(PCD Goal Disposal Rate ÷ PCD Baseline Disposal Rate)

Recommendations – Calculation of PCD Goal Disposal Rate

Step 6: Split PCD Goal Disposal Rate Between Residential and Commercial/C&D

a. Collect Tons *Residential* Disposed Waste **(From 7 Haulers)**

b. Convert Data to PCD Baseline *Residential* Disposal Rate

c. Subtract from PCD Baseline Disposal Rate to derive PCD Baseline *Commercial / C&D* Disposal Rate

Recommendations – Calculation of PCD Goal Disposal Rate

Step 6: Split Goal PCD Disposal Rate Between Residential and Commercial/C&D

d. *PCD Goal* Residential Disposal Rate = Reduction Rate Factor X PCD *Baseline* Residential Disposal Rate

e. *PCD Goal* Commercial Disposal Rate = Reduction Rate Factor X *PCD Baseline* Commercial/C&D Disposal Rate

Assess Feasibility

To assess feasibility of recommendations, some questions should be answered

Questions to Answer ??????

- Are Residential, Commercial and C&D waste always collected separately (i.e. via separate vehicles or separate compartments in vehicles) or are the 3 streams sometimes comingled?
- Is residential waste reported by 7 Haulers only residential waste or is their comingling of some commercial/C&D waste?
- Are recyclers/collectors willing to provide data quarterly or monthly?
- Which if any recyclers/collectors (that accept recyclables from other counties besides McHenry) have the ability to collect/report on material collected from McHenry County only?

Questions to Answer ??????

- Are haulers willing to provide data monthly?
- Are haulers and recyclers/collectors willing to use an on-line electronic data collection portal?
- What on-line application works best and is most cost effective for McHenry County? i.e. Re-TRAC (custom), Google Doc etc.
- Can Haulers identify which recyclers they transport recyclables to?

Questions to Answer ??????

- Can it be determined from haulers a comprehensive list of all landfills used for disposal?
- Is McHenry County willing to contact landfills for disposal data?
- How is the Transfer Station used (i.e. by which haulers? does data collection occur?)

Strategy to Answer Questions

- Extra survey for haulers, collectors/recyclers
- Phone calls with haulers, collectors/recyclers
- In person individual and group meetings

Municipal Waste Hauler License Application and Annual Report

2012
McHENRY COUNTY
MUNICIPAL WASTE HAULER LICENSE APPLICATION AND ANNUAL REPORT

This application must be completed by ALL haulers of discarded materials within McHenry County.

MUNICIPAL WASTE HAULER LICENSING ORDINANCE, SECTION 401:
No person or company shall engage in the business of collecting or transporting discarded materials from a residential dwelling unit or commercial customer in the County without first procuring a license to do so from the County.

COMPLETION REQUIRES:
Accurate calculation and payment of fees, a report of hauling and recycling operations, a report of areas serviced and communities under contract, and certification of all information provided – **signed and notarized**.

Send completed application to:
ATTN SOLID WASTE MANAGER
MCHENRY COUNTY DEPARTMENT OF HEALTH
2200 NORTH SEMINARY AVENUE
WOODSTOCK IL 60098

***Completed applications and payments must be and received by* MARCH 1, 2012**
or* LATE FEES *will be incurred

COMPANY INFORMATION (please type or print)

Name of Hauler: _____

Completed by:

Name: _____ Title: _____

Mailing Address: _____

_____

Telephone: _____

Cell: _____

FAX: _____

e-mail / website: _____

OFFICIAL USE ONLY

/ /

_____
LF

☐ LVR ☐ HQ
☐ PR ☐ VR
☐ SA ☐ CERT
☐ C/FAC

PERMIT #: _____

LICENSING AND VEHICLE REGISTRATION FEES

Haulers are required to pay licensing and vehicle registration fees each year. Use the table below to calculate your fees. *If you have begun conducting business on or after July 1, 2012, go directly to the "HALF-YEAR FEES" section below.*

HAULER LICENSE FEE ($50). . . . . $ 50.00

VEHICLE REGISTRATION FEE ($25 per vehicle) +

$25 x _____ = _____
(no. of vehicles)

SUB-TOTAL _____

LATE FEE (if applicable)

Completed applications submitted after the required **due date of March 1, 2012**, shall be subject to the following late fees:

One (1) to seven (7) calendar days late ***(March 2 – March 8, 2012) → 25% late fee***
Eight (8) to thirty (30) calendar days late ***(March 9 – March 31, 2012) → 50% late fee***
Thirty-one (31) or more calendar days late ***(After April 1, 2012) → 100% late fee***

(If late fee applies, multiply above sub-total by 0.25, 0.5, or 1.0) _____

sub-total + late fee = **TOTAL DUE** _____

HALF-YEAR FEES

Use this section ONLY IF YOU ARE STARTING TO CONDUCT BUSINESS in McHenry County **on or after July 1, 2012**. (Late fees do not apply.)

HALF-YEAR HAULER LICENSE FEE ($25) . . . . . $ 25.00

HALF-YEAR VEHICLE REGISTRATION FEE ($12.50 per vehicle) +

$12.50 x _____ = _____
(no. of vehicles)

HALF-YEAR TOTAL DUE _____

PAYMENT OF ALL FEES MUST ACCOMPANY THE LICENSE APPLICATION

MAKE CHECK PAYABLE TO:
McHenry County Department of Health

HAULING SERVICE

The table below contains all the ZIP codes in McHenry County. Please identify where you have provided service in the last **calendar year (2011)** by placing a checkmark in all boxes that apply. If you service areas in a municipality for a given ZIP code, place a checkmark in the box under "Incorporated." Denote service in unincorporated areas by placing a checkmark in the box under that heading. Please write the number of customers served in each in each ZIP code by category and total them at the bottom.
For your reference, a map of McHenry County ZIP codes is on the back of this page.

Note: Many ZIP codes extend beyond county borders. Report service only <u>within</u> McHenry County.

SERVICE AREA			NUMBER OF CUSTOMERS BY CATEGORY		
ZIP	Incorporated	Unincorporated	Residential	Commercial/ Institutional	Construction/ Demolition
60010	❑	❑			
60012	❑	❑			
60013	❑	❑			
60014	❑	❑			
60021	❑	❑			
60033	❑	❑			
60034	❑	❑			
60039	❑	❑			
60042	❑	❑			
60050	❑	❑			
60051	❑	❑			
60071	❑	❑			
60072	❑	❑			
60081	❑	❑			
60097	❑	❑			
60098	❑	❑			
60102	❑	❑			
*60135**	❑	❑			
*60140**	❑	❑			
60142	❑	❑			
60152	❑	❑			
60156	❑	❑			
60180	❑	❑			
*61038**	❑	❑			
	TOTALS				

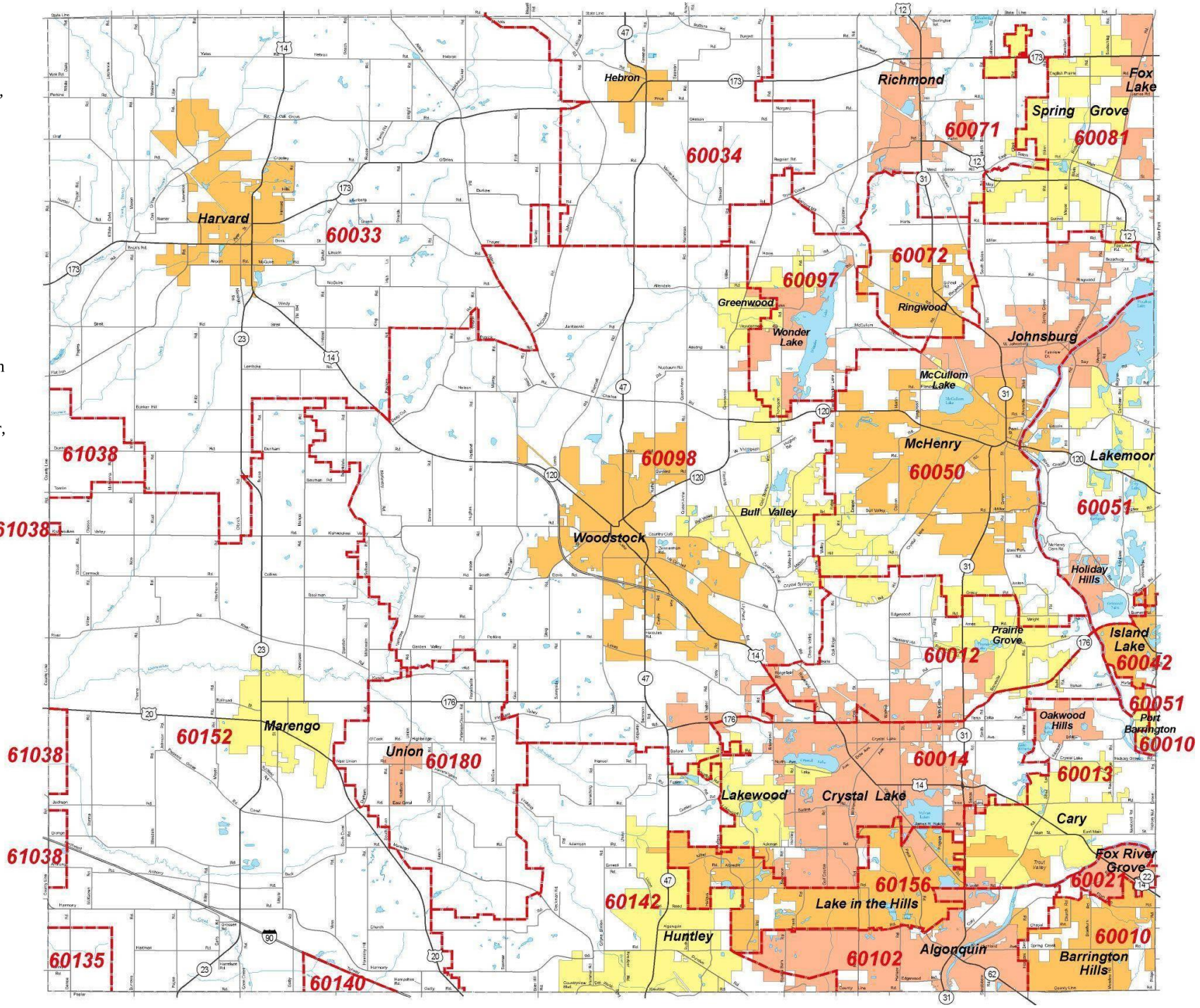
What type of services do you offer?

- ☐ Regular "Curbside" pick-up
- ☐ Roll-off containers
- ☐ Special pick-ups only

**** Only a small portion of these ZIP codes are in McHenry County. Be sure to report service only <u>within</u> McHenry County.***

McHenry County ZIP Codes and Municipalities

60010 Barrington Hills, Port Barrington
60012 Crystal Lake, Bull Valley, Prairie Grove
60013 Cary, Oakwood Hills, Port Barrington, Trout Valley
60014 Crystal Lake, Lakewood
60021 Fox River Grove
60033 Harvard
60034 Hebron
60039 Crystal Lake *(P.O. Box only)*
60042 Island Lake
60050 Bull Valley, Holiday Hills, Johnsburg, Lakemoor, McCullom Lake, McHenry
60051 Holiday Hills, Johnsburg, Lakemoor, McHenry
60071 Richmond
60072 Ringwood
60081 Spring Grove, Fox Lake
60097 Bull Valley, Wonder Lake
60098 Bull Valley, Greenwood, Woodstock, Wonder Lake
60102 Algonquin, Barrington Hills
60135 *Genoa**
60140 *Hampshire**
60142 Huntley
60152 Marengo
60156 Lake in the Hills
60180 Union
61038 *Garden Prairie**



** Municipality is not in the County, only a portion of the ZIP code area*

CURRENT COMMUNITY CONTRACTS

List all McHenry County communities with whom you currently have a contract. Denote the type of service contracted (municipal solid waste and/or municipal recyclable materials) by placing a checkmark (☑) in the appropriate box(es).

☐ **Check this box if you have no current contracts in McHenry County**

McHENRY COUNTY COMMUNITY	CONTRACTED SERVICE	EXPIRATION DATE
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	
	☐ SOLID WASTE ☐ RECYCLABLES	

DISPOSAL/ RECYCLING/ COMPOSTING FACILITIES

List the facilities that you will use for disposal and/or recycling of ALL discarded materials collected in McHenry County.

FACILITY NAME	ADDRESS	TELEPHONE #

HAULING QUANTITIES

Please indicate the quantities of materials that you have hauled over the last year. The figures must be reported in tons and be separated by type of customer and by type of material.

MATERIALS HAULED IN McHENRY COUNTY BETWEEN **JANUARY 1, 2011 – DECEMBER 31, 2011**

	TYPE OF CUSTOMER		
MATERIAL	RESIDENTIAL	COMMERCIAL / INSTITUTIONAL	CONSTRUCTION / DEMOLITION
RECYCLABLE	TONS	TONS	TONS
LANDSCAPE WASTE	TONS	TONS	TONS
COLLECTED FOR LANDFILL	TONS	TONS	TONS

CERTIFICATION

I hereby certify that the information provided in the submitted application and the annual report is complete, true and accurate to the best of my knowledge. I also certify that municipal waste collection services are provided in accordance with the McHenry County ***Municipal Waste Hauler Licensing Ordinance***.

Company Name: _____

Authorized Signature: _____Date_____

Print or type name: _____

SUBSCRIBED AND SWORN TO ME BEFORE THIS

_____DAY OF _____, 2012

_____
Notary Public

Return your completed application and payment by <u>March 1, 2012</u>, to:

ATTN SOLID WASTE MANAGER
MCHENRY COUNTY DEPARTMENT OF HEALTH
2200 N. SEMINARY AVE.
WOODSTOCK, ILLINOIS 60098

If assistance is needed in completing this application, call: (815) 334-4585

VEHICLE REGISTRATION FORM
McHENRY COUNTY MUNICIPAL WASTE HAULER LICENSING PROGRAM

Please provide the following information for all vehicle(s) operating in McHenry County used to collect and transport discarded materials. If more space is needed, use table on the back of this page or make additional copies.

Name of Hauler: _____ **License Year: 2012-2013**

Where are these vehicles stored when not in use? Street Address: _____ City: _____

License Plate No.	Make	Model	Year	Number of Axles	Body Type (*front loader, roll-off, etc.*)	Empty Vehicle Weight	Capacity (*cubic yards*)

License Plate No.	Make	Model	Year	Number of Axles	Body Type (*front loader, roll-off, etc.*)	Empty Vehicle Weight	Capacity (*cubic yards*)

Recycler/Collector Survey

RECYCLABLE MATERIALS COLLECTED

1. Please mark the materials including estimated amount(s) that you collected **January 1, 2012 – December 31, 2012.**
2. Please do not report recyclables removed by your licensed municipal waste hauler who also reports to McHenry County.
3. You are encouraged to recycle more than the recyclable materials stated below.

*****Please mark the primary customer/source that you service:**

☐ **RESIDENTIAL** ☐ **COMMERCIAL/INSTITUTION** ☐ **CONSTRUCTION/DEMOLITION**

RECYCLABLE MATERIAL	DESCRIPTION **Recycling: …*any process by which materials that would otherwise be disposed of or discarded are collected, separated or processed and returned to the economic mainstream in the form of raw materials or products.***	QUANTITY (gallons, pounds, tons, cubic yards)
○ **Batteries**	*rechargeable, alkaline, lead-acid*	
○ **Christmas Trees**		
○ **Clean Construction or Demolition Debris (CCDD)**	*uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement*	
○ **Electronics**	***CEDs:*** *TVs, computers, monitors, printers VCRs/DVD players, video game consoles* ***EEDs:*** *cords & cables, mobile phones, etc.*	
○ **Fluorescent lamps**		
○ **Food Scraps**		
○ **General Construction or Demolition Debris (GCDD)**	*non-hazardous, uncontaminated materials resulting from the construction, remodeling, repair, and demolition of utilities, structures, and roads: shingles, wood, drywall, etc.*	
○ **Glass**		
○ **Landscape Waste**		
○ **Metals**	*ferrous, non-ferrous, white goods & appliances, aluminum, steel, tin*	
○ **Paint, latex**	*recycled - not fuel blended*	
○ **Paper**	*cardboard, paperboard, newspaper, magazines, mixed…*	
○ **Plastics**	*Plastics #1 – 7: PET, PETE, HDPE, V, LDPE, PP, PS*	
○ **Plastic Shopping Bags**		
○ **Textiles (i.e. clothing)**		
○ **Tires**	*recycled - not incinerated*	
○ **Toner Cartridges**		
○ **Used Motor Oil**	*recycled - not burned for heating purposes*	
○ **Other Recyclables** (*please list*)		

Amount of solid waste that <u>you</u> transported & discarded at a transfer station or landfill: _____

Methodology for Calculation of Recycling Rate and Disposal Rate

Methodology for Calculation of Recycling Rate and Disposal Rate

Data Sources:
Municipal Solid Waste Hauler Survey (required)
Survey of McHenry County Collectors and Recyclers (voluntary)

Waste Categories:
Residential
Commercial/Institutional
Construction and Demolition

Municipal Solid Waste includes garbage, general household and commercial solid waste, general commercial and office waste, landscape waste and construction and demolition debris. **Municipal Solid Waste** does not include special waste, hazardous waste, industrial process waste, potentially infectious medical waste or pollution control waste. These types of wastes are subject to separate and additional disposal requirements.

The **Recycling Rate** is the percentage of **Municipal Solid Waste** that is collected, separated or processed and returned to the economic mainstream in the form of raw materials or products.

Recycled materials included in the calculation of the **Recycling Rate** include:

Manure	Alkaline and rechargeable batteries
Lead Acid batteries	Aluminum
Paper	Glass
Plastics	Metals
General Construction & Demolition Debris	Landscape waste
Food scraps	Fluorescent Lamps
Tires (recycled)	Latex Paint
Textiles	Styrofoam
Electronics	Christmas Trees

The **Recycling Rate** equals the total tons recycled divided by the total tons of generated municipal solid waste times one hundred.

Example: 2011 Overall **Recycling Rate**:

Total Recycled = 125,357.7 tons

Total Generated Municipal Solid Waste = 354,566.5 tons

Recycling Rate = $\frac{125357.7}{354566.5}$ = .353552 X 100 = **35.4%**

The **PCD Disposal Rate** is the amount (pounds) of municipal solid waste that is disposed in a sanitary landfill per person per day.

The **PCD Disposal Rate** equals the total tons of landfilled municipal solid waste times 2000 pounds divided by 365 days per year divided by the county population.

Example **PCD Disposal Rate**:

Total Landfilled Municipal Solid Waste = 229208.8 tons X 2000 pounds = 458,417,600 pounds

$$\text{Pounds Per Day} = \frac{458{,}417{,}600 \text{ pounds}}{365 \text{ days}} = 1255938.6$$

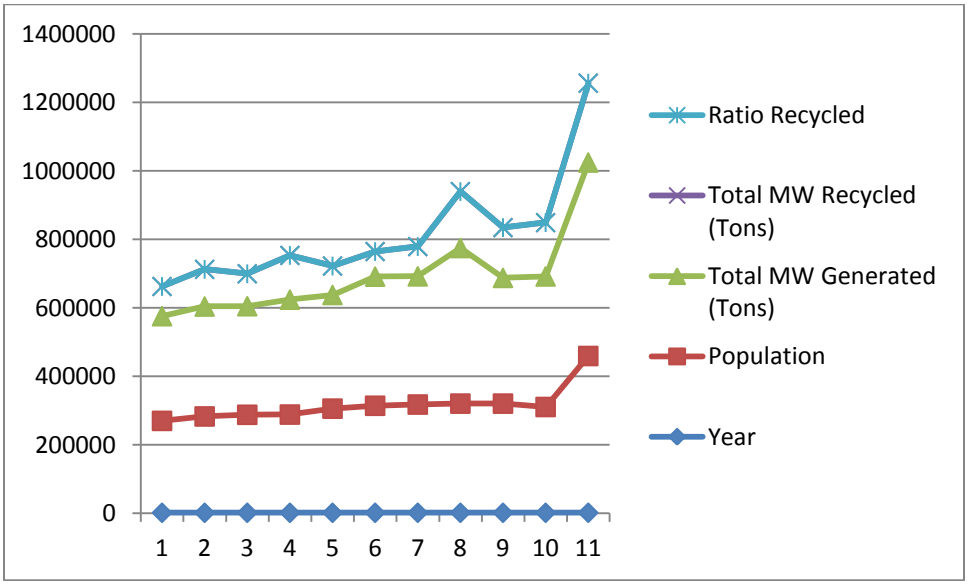
$$\textbf{PCD Disposal Rate} = \frac{1255938.6 \text{ pounds per day}}{308944 \text{ persons}} = \textbf{4.07 pounds per person per day}$$

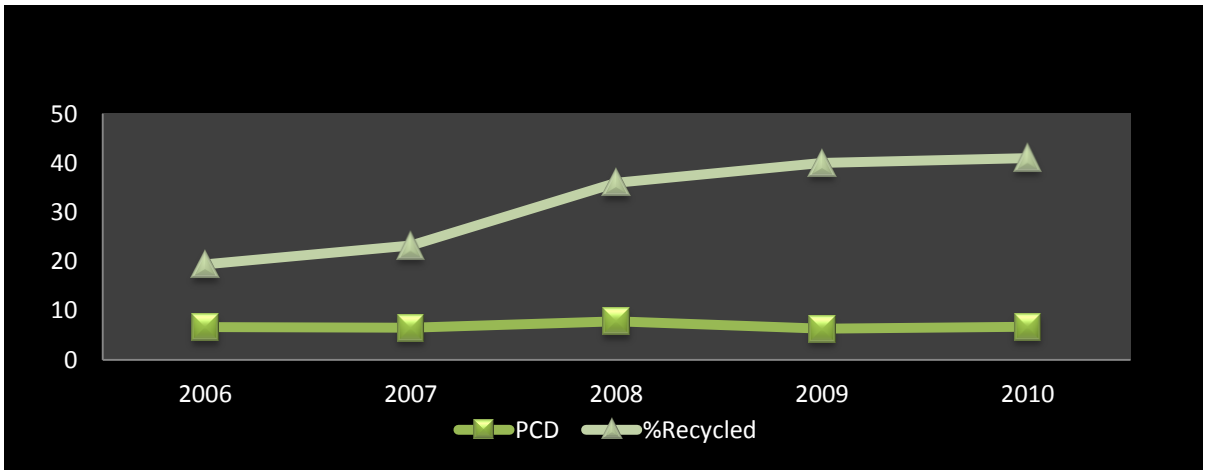
Illinois EPA Annual Survey Analysis for McHenry County

To: Kristy Hecke
From: Eve Pytel
Date: November 27, 2012
Subject: Charts developed from IEPA Annual Survey Data

Technical Memorandum

Data submitted to Illinois Environmental Protection Agency was analyzed to determine long term trends. In general, McHenry County is moving in the right direction increasing recyclables; however, it should be noted that in the years 2002-2007 different methodologies and different vastly different materials were included as recyclables.





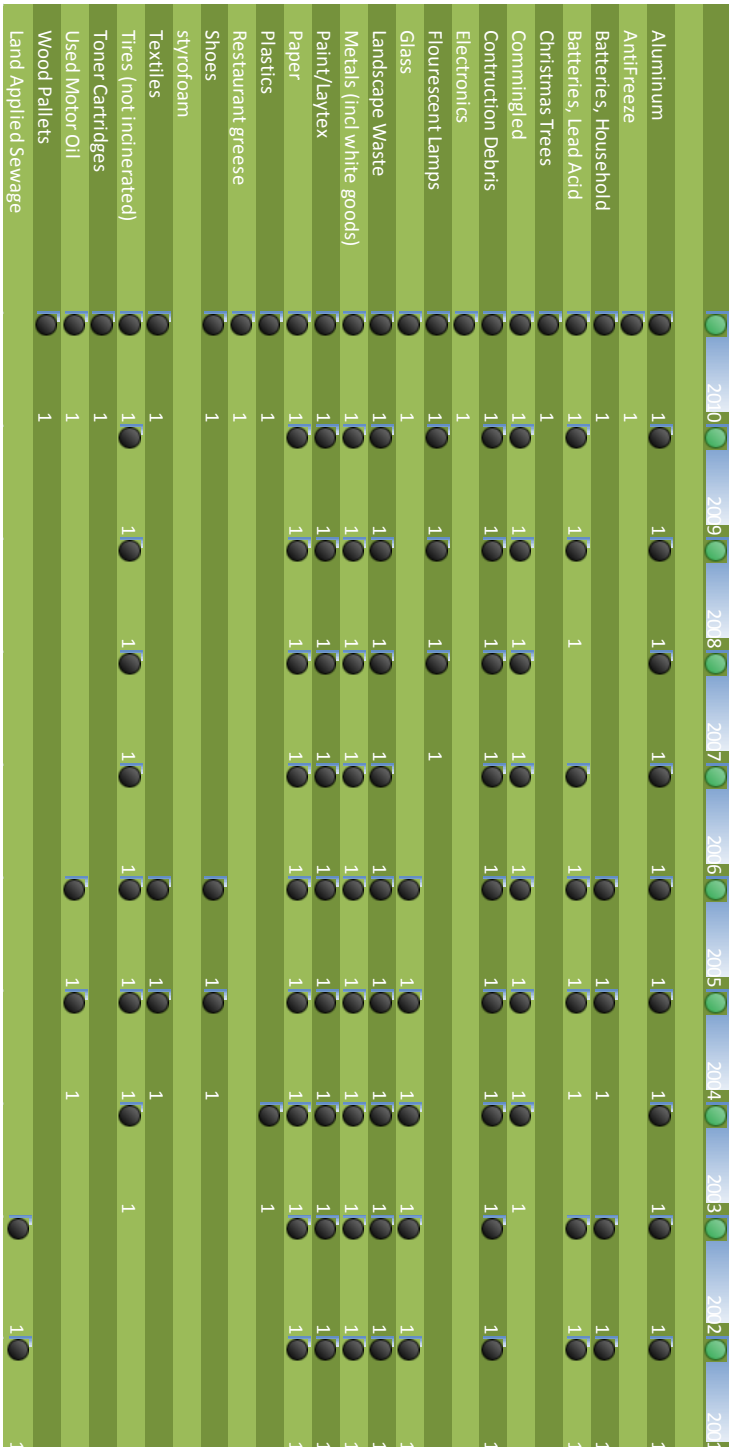
Municipal Solid Waste - McHenry County

	Materials Collected	
	Traditional Recyclables	Other Recyclables
2010	Aluminum, Batteries (Household), Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods/computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail),	Electronics, Fluorescent lamps, Toner cartridges, Used motor oil, Antifreeze, Styrofoam, Wood pallets, Restaurant grease, Textiles, Christmas trees, Shoes
2009	Aluminum, Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Landscape Waste, Metals (incl. white goods and computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail); Plastics, Tires	Fluorescent lamps
2008	Aluminum, Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Landscape Waste, Metals (incl. white goods and computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail); Plastics, Tires	None
2007	Aluminum, Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods and computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail), Plastics, Tires	None
2006	Aluminum, Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods and computers), Paint - Latex, Paper (incl. OCC, paperboards, newspapere, magazines, junk mail); Plastics, Tires	None
2005	Aluminum, Batteries (Lead Acid), Commingled Recyclables, Glass, Landscape Waste, Metals (incl. white goods and computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail); Plastics, Tires	Latex and oil-based paint, motor oil, shoes, clothing
2004	Aluminum, Batteries (Household), Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods/computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail), Plastics, Tires	Tennis shoes, clothing
2003	Aluminum, Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods and computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail), Plastics, Tires	None
2002	Aluminum, Batteries (Household), Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods/computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail), Plastics, Tires	Land-applied sewage from private septic systems
2001	Aluminum, Batteries (Household), Batteries (Lead Acid), Commingled Recyclables, Construction & Demolition Debris, Glass, Landscape Waste, Metals (incl. white goods/computers), Paint - Latex, Paper (incl. OCC, paperboard, newspaper, magazines, junk mail), Plastics, Tires	Land-applied sewage from private septic systems

Municipal Solid Waste - McHenry County from Illinois Annual EPA Survey

Year	Population	% Change Pop.	Total MW disposed (tons)	MW generation rate (pcd)	% Change MW disposed	Total MW recycled	Percent MW recycled	% Change MW recycled
2010	308,760	-3%	381,123	6.70	4%	157,014	41.00%	7%
2009	318,641	0%	366,959	6.31	-19%	146,837	40.00%	-11%
2008	318,641	1%	454,207	7.81	21%	164,728	36.00%	89%
2007	315,943	1%	374,212	6.49	-1%	86,944	23.20%	19%
2006	312,373	3%	376,880	6.61	17%	73,296	19.40%	-10%
2005	303,990	3%	320,971	5.79	-4%	81,318	25.30%	-37%
2004	296,389	4%	335,444	6.20	6%	129,112	38.50%	36%
2003	286,091	2%	316,903	6.07	-1%	94,759	29.90%	-13%
2002	281,165	5%	320,981	6.30	5%	108,373	33.80%	25%
2001	268,208	0%	305,708	6.30	0%	86,685	28.40%	0%

Technical Memorandum



Previous Plan
(15 Year Plan Update)

Implementation Status of 2007 Plan Update

	15-Year Update Recommendations	Implementation Status
Source Reduction		
2007-1	Increase public awareness of recycling and conservation programs through the monthly "Recycling Round-Up" column in the Northwest Herald Newspaper.	*Not Implemented.* "Recycling Round-Up" column no longer published. The Department has transitioned to providing this information on the Department's webpage, in press releases, on electronic signs and social medial. The Official McHenry County Green Guide, published annually by the Lou Marchi Total Recycling Institute at MCC is also widely available to county residents. The guide includes comprehensive recycling options for residents.
2007-2	Develop a "green" policies initiative to be adopted by the McHenry County Board that calls for environmentally friendly practices to be employed when feasible by McHenry County Government.	*Implemented.* McHenry County implemented green procurement policy in 2008.
2007-3	Encourage programs that concentrate on waste reduction as the first priority in solid waste management efforts.	*Implemented.* The McHenry County Schools Environmental Education Program (MCSEEP) provides programming to kindergarten through Grade 12 students incorporating the 4 R's (reduce, reuse, recycle and rot (compost). Multiple community outreach programs conducted promoting reusable bags, home composting, waste free lunches, green living, waste reduction for businesses and food scrap composting.
2007-4	Promote the pay-as-you-throw system as the basis for residential waste collection in all municipalities within the county.	*Partially implemented.* Volume based pricing included in the 5 incorporated franchise agreements implemented by McHenry County. The County has no direct involvement when municipalities renew solid waste removal contracts, but county franchise information promoted on website as example.
2007-5	Educate municipal officials on pay-as-you-throw techniques and provide other assistance as needed.	*Partially Implemented.* Staff has met with some village administrators, near the designated areas to discuss the county's franchised solid waste removal program. The program has been promoted and available on the Solid Waste Program website
2007-6	Educate commercial and industrial establishments, institutions, governmental agencies, and other non-residential entities on source reduction programs.	*Implemented.* MCDH met with food establishment operators to introduce food scrap recycling and composting; presented commercial waste reduction and recycling at workshop for industry sponsored by the Solid Waste Agency for Northern Cook County; developed flyers for County Green team; sponsored a contest for local schools to recognize source reduction and recycling efforts; and encouraged County Fair Association to implement recycling containers at annual county fair.

Recycling and Reuse		
2007-7	Pursue recycling and special waste disposal programs such as Household Hazardous Waste Collections and Used Tire Collections.	*Partially Implemented.* Regularly provide residents with information regarding the four (4) permanent household hazardous waste collection sites in Illinois, which are open to all Illinois residents; sponsored several single day collection events for electronics' alkaline and rechargeable batteries; met with Township Highway Commissioners regarding permanent electronic collection sites; promoted the Drug Enforcement Administration's National Take Back Initiatives; Algonquin Township Road District maintains a Partners in Waste Paint Solutions Program; five (5)local law enforcement agencies accept residential waste medications.
2007-8	Promote and encourage businesses that process recycled material and those that manufacture products with post-consumer recycled materials.	*Implemented.* Annual McHenry County Green Awards recognize waste reduction and recycling efforts of individuals, businesses, institutions and organizations. The Official McHenry County Green Guide, published by the Lou Marchi Total Recycling Institute and MCC promotes businesses that implement sustainable practices.
2007-9	Coordinate efforts with municipalities and the McHenry County Economic Development Corporation.	*Not implemented.* The original intent for this recommendation was to encourage business recycling in municipalities. MCDH will continue to explore this recommendation in the next plan update.
2007-10	The County Employee Recycling Committee should continue to promote the 3 Rs within county departments using incentives such as recognition awards and tools such as the intranet.	*Implemented.* The McHenry County Green Team maintains an intranet site regarding recycling for county employees, regularly promotes recycling through emails to employees and Earth Day recognition displays, expanded its Call2Recycle rechargeable and cell phone recycling collection containers, and sponsored a document destruction day for county residents.
2007-11	Continue the Reduce, Reuse, and Recycle Awards Program.	*Implemented.* The Annual McHenry County Green Awards recognize waste reduction and recycling efforts of individuals, businesses, institutions and organizations.
2007-12	Develop recycled product procurement policy for the county.	*Implemented.* McHenry County implemented a green procurement policy in 2008.
2007-13	Develop a recycling procedure for construction or demolition sites.	*Not Implemented.*
Disposal in Landfills		
2007-14	Create a forum for waste haulers to discuss solid waste issues and work toward greater accuracy and consistency in reporting annual hauling quantities.	*Partially Implemented.* Discussion on solid waste issues with licensed municipal waste haulers occurs daily with the Solid Waste Manager. No formalized forum established. Methodology for solid waste data collection will be evaluated in the plan update.
2007-15	Continue to implement source reduction, reuse, recycling, and composting programs to reduce dependence on landfilling.	*Implemented.* Regularly provide residents with information regarding the four (4) permanent household hazardous waste collection sites in Illinois, which are open to all Illinois

		residents; sponsored several single day collection events for electronics, alkaline and rechargeable batteries; met with Township Highway Commissioners regarding permanent electronic collection sites; multiple electronics recycling events held by a variety of groups and agencies throughout the county; participation by eleven (11) local law enforcement agencies in the Drug Enforcement Administration's National Take Back Initiatives; Algonquin Township Road District maintains a Partners in Waste Paint Solutions Program; five (5) local law enforcement agencies accept residential waste medications; multiple document destruction events held by organizations and banks in the community; electronics, CFS, batteries, and Styrofoam recycling offered by Environmental Defenders of McHenry County; multiple township and municipal recycling services including brush, paints, electronics, shoes, Christmas tree lights, clothing and used motor oil. A comprehensive list of recyclers and collectors provided in the Official Green Guide for McHenry County published by the Lou Marchi Total Recycling Institute at MCC.
2007-16	Secure landfill space to accept waste generated in McHenry County.	*Not implemented.*
2007-17	Encourage the development of transfer stations in McHenry County.	*Implemented.* The Virginia Road Transfer Station, which accepts municipal solid waste and a limited amount of landscape waste, began operations December 2009. One additional landscape waste transfer station, Peterson Pit Landscape Waste Transfer, began operations in 2011.
2007-18	Review and update the Guidelines for a New Solid Waste Disposal Facility in McHenry County as deemed necessary.	*Not implemented.*
2007-19	Verify that any proposed landfills in McHenry County are, at a minimum, designed, operated, and monitored in compliance with the most current RCRA Subtitle D regulations and other regulations subsequently adopted by the State of Illinois.	No sanitary landfills were proposed in McHenry County from 2007 – 2011.

20 Year Plan Update
(IEPA Form)

Print Form

Illinois
Environmental
Protection Agency

Bureau of Land
1021 North Grand Avenue East
Box 19276
Springfield, IL 62794-9276

FIVE YEAR MUNICIPAL WASTE MANAGEMENT PLAN UPDATE

The Agency has prepared this form to assist local governments with the five year updates of municipal waste (MW) plans. Although local governments may prepare and submit a more extensive document, the Agency will consider submission of this completed form to be the plan update required under the Solid Waste Planning and Recycling Act (SWPRA).

Attach additional labeled pages as necessary.

GENERAL INFORMATION

Local Government:	McHenry County Department of Health		
Contact Person:	Kristy Hecke		
Address:	2200 N. Seminary Avenue		
P.O. Box:			
City:	Woodstock	State: IL	Zip: 60098
Telephone:	(815) 334-4585	Plan Adoption Date:	2/18/1992
Re-Adoption Date:	9/3/2007	Plan Update Due:	2012

1. **Recommendation and Implementation Schedule Contained in the Adopted Plan**

   This information should be easily accessible in the plan's Executive Summary or Recommendations chapter. Briefly describe the recommendations and implementation schedule for each alternative in the adopted plan below.

   a. Source Reduction

   Refer to New Recommendations and Implementation Efforts pages 43 through 47 of the 2012-2016 McHenry County Solid Waste Plan.

   b. Recycling and Reuse

   Refer to New Recommendations and Implementation Efforts pages 43 through 47 of the 2012-2016 McHenry County Solid Waste Plan.

c. Combustion for Energy Recovery

Refer to Alternative Disposal Technologies pages 32 and 33 of the 2012-2016 McHenry County Solid Waste Plan.

d. Combustion for Volume Reduction

Refer to Alternative Disposal Technologies pages 32 and 33 of the 2012-2016 McHenry County Solid Waste Plan.

e. Disposal In Landfills

McHenry County does not have an active municipal sanitary landfill.

2. **Current Plan Implementation Efforts**

a. Which recommendations in the adopted plan have been implemented?

Refer to Appendix: Previous Plan 15 Year Plan Update; Implementation Status of 2007 Plan Update

Briefly describe which recommendations were not implemented and the reasons why these were not implemented.

Refer to Appendix: Previous Plan 15 Year Plan Update; Implementation Status of 2007 Plan Update

b. Which recommendations in the adopted plan have been implemented according to the plan's schedule?

Briefly describe which recommendations were not implemented according to the adopted plan's schedule, and attach a revised implementation schedule.

Refer to Appendix: Previous Plan 15 Year Plan Update; Implementation Status of 2007 Plan Update.

3. **Recycling Program Status**

Because the Agency's annual landfill capacity report includes data on each adopted plan's recycling status, information on your recycling percentages is not being requested on this form. This will avoid duplication of efforts.

a. Has the program been implemented throughout the county or planning area:

◉ Yes ○ No

b. Has a recycling coordinator been designated to administer the program?

◉ Yes ○ No If yes, when? 1992

c. Does the program provide for separate collection and composting of leaves?

◉ Yes ○ No

d. Does the recycling program provide for public education and notification to foster understanding of and encourage compliance with the program?

◉ Yes ○ No

e. Does the recycling program include provisions for compliance, including incentives and penalties?

◉ Yes ○ No If yes, please describe:

Residential Recycling Ordinance requires residents to separate mandated recyclables from other waste at the time of disposal or collection. Municipal Waste Hauler Licensing Ordinance requires annual licensing and data reporting for all persons or companies in the business of collecting or hauling discarded materials on a continuous and regular basis. Both ordinances identify resident and hauler requirements regarding recycling and contain penalties for ordinance violation.

f. Does the program include provisions for recycling the collected materials, identifying potential markets for at least three materials, and promoting the use of products made from recovered or recycled materials among businesses, newspapers, and local governments?

◉ Yes ○ No If yes, please describe:

The McHenry County Municipal Waste Hauler Licensing Ordinance requires all haulers to submit annual data on their municipal waste hauling and recycling service operations. Municipal solid waste haulers that provide regularly scheduled municipal solid waste collection service to residential dwelling units shall also offer, as an option, seasonal collection of leaves.

g. Provide any other pertinent details on the recycling program.

McHenry County facilitated a franchised solid waste removal services program for designated large scale unincorporated residential areas. The program includes a volume based pricing system, unlimited seasonal landscape waste pick-up, multiple bulk leaf collections, unlimited recycling and options for disposal of large items.

4. **Current Needs Assessment Information (optional)**

Depending upon the available resources, updated waste generation data, current municipal waste recycling and disposal information, and any other recent available data may be included; this information will not be required by the Agency.

a. MW Generated per year: 373986.36 ◉ Tons ○ Cubic Yards

b. MW Generation Rate: 6.65 pcd (pounds/capita/day)

c. MW Recycled/Year: 171798.05 tons

d. MW Incinerated/Year: 0 ◉ Tons ○ Cubic Yards

e. MW Landfilled/Year 202188.31 ◉ Tons ○ Cubic Yards

Time period for this information: 2012

5. **New Recommendations and Implementation Schedule**

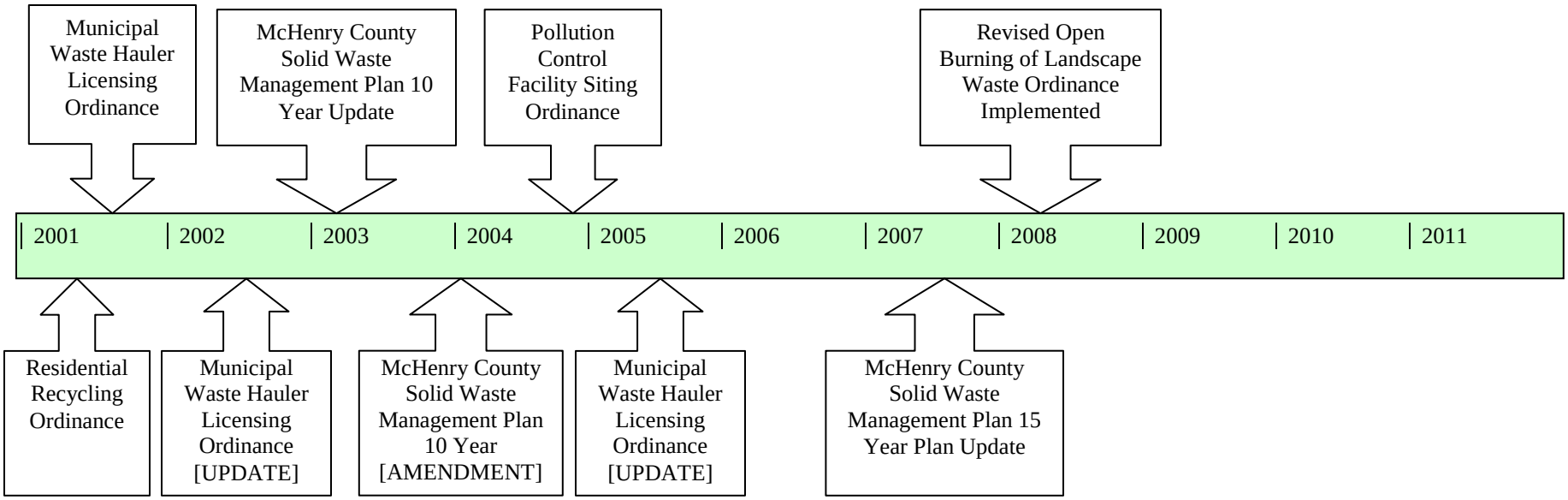
Due to political, fiscal, or technological changes, a local government may choose to recommend different waste management options for the review plan. It should be noted, however, that the recycling program requirements of the SWPRA must be followed. Discuss any new recommendations included in the revised plan, and the implementation schedule to be followed.

Refer to New Recommendations and Implementation Efforts pages 43 through 47 of the 2012-2016 McHenry County Solid Waste Plan

McHenry County Solid Waste Ordinances Timeline

McHenry County Solid Waste Ordinances Timeline

(2001 – 2011)



<u>Municipal Solid Waste Ordinances & Timeline</u>

- 2008 – Revised Open Burning of Landscape Waste Ordinance implemented
- 2007 – McHenry County Solid Waste Management Plan 15 Year Update Drafted
- June 2005 – Municipal Waste Hauler Licensing Ordinance [UPDATE]: *Modification of waste hauler appeals hearing process* ***Sec. 603***
- 2004 – Pollution Control Facility Siting Ordinance
- 2004 – McHenry County Solid Waste Management Plan 10 Year Update [AMENDMENT]: *Application for pollution control facilities to now include a county negotiated and endorsed host benefit agreement*
- September 2002 – McHenry County Solid Waste Management Plan 10 Year Update
- 2002 – Municipal Waste Hauler Licensing Ordinance [UPDATE]: *Waste hauler collection provisions adopted to include seasonal leaf collection*
- 2001 – Residential Recycling Ordinance: *Requires residents to separate recyclable materials from other waste*
- 2001 - Municipal Waste Hauler Licensing Ordinance: *Requires all solid waste haulers operating in McHenry County to be licensed and provide annual waste generation and recycling reports*

Legislative Update

Delta Institute

To: Kristy Hecke
From: Eve Pytel
Date: September 26, 2012
Subject: Anticipated Legislation

Technical Memorandum

Recent Legislation with Significant County Impact:
Representatives Karen May and Robyn Gabel have sponsored HB4986 that is now Public Act 097-0853. The Task Force on the Advancement of Materials Recycling Act was created to review the status of recycling and solid waste management planning in Illinois with the goal of creating recommendations for expanding reduction, recycling reuse and composting in a way that is environmentally responsible and protects public health and safety and promotes economic development. It should be noted that the task force will focus on county recycling and waste management planning, planning; current and potential policies and initiatives in Illinois for waste reduction, recycling, composting, and reuse; funding for State and local oversight and regulation of solid waste activities; funding for State and local support of projects that advance solid waste reduction, recycling, reuse, and composting efforts; and the proper management of household hazardous waste. The review shall also evaluate the extent to which materials with economic value are lost to landfilling, and it shall also recommend ways to maximize the productive use of waste materials through efforts such as materials recycling and composting.

The Task Force should be monitored as it there could be significant new requirements for county waste planning with respect to recyclables and especially composting.

More General Future Legislation

As local, county and state governments experience greater resource constraint there is a move toward extended product stewardship initiatives. Product stewardship refers to the concept of the producers of a material that has harmful or expensive end of life consequences funding the proper end of life disposal, recycling or refurbishing. The most recent successful example of this is the electronic recycling legislation requires electronic manufacturers to fund residential electronic recycling.

Illinois has a product stewardship discussion group that includes solid waste managers throughout the state that works in partnership with the Product Stewardship Institute to look for opportunities for extended product stewardship legislation to enable local governments to overcome the cost of waste and hazardous waste management. Recent successful examples include electronic recycling and mercury thermostat legislation. There is large interest in a

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paint program working in partnership with the paints and coatings industry to subsidize or fully fund paint collection. Additionally, this past year a plastic bag initiative was vetoed by Governor Quinn; however, the legislation could return in a modified form.

A nationwide scan indicates that the greatest opportunities for product stewardship legislation include: Mattresses, Paints, Sharps, Pharmaceuticals and Fluorescent Lamps. Additionally some states are advancing the concept of framework legislation that will result in potential programming for all products that fit criteria for product stewardship legislation.

Pending and Recent Product Stewardship Legislation Initiatives

Product	State
Mattresses	California
Mattresses	Connecticut
Plastic Bags	Illinois
Mercury Thermostat	Illinois
Paint	Illinois
Sharps	Maine
Fluorescent Lamps	Massachusetts
Paint	Minnesota
Batteries	New York
Auto Switch	New York
Carpet	New York
Fluorescent Lamps	New York
Paint	New York
Pharmaceuticals	New York
Pharmaceuticals	Pennsylvania
Batteries	Rhode Island
Fluorescent Lamps	Rhode Island
Mattresses	Rhode Island
Packaging	Rhode Island
Paint	Rhode Island
Paint	Vermont
Packaging	Vermont
Rechargeable Batteries	Washington
Paint	Washington
Pharmaceuticals	Washington
Sharps	Washington
Mercury Containing Devices	Wisconsin
Framework for product stewardship	Emerging Trend

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Deconstruction Retailing in McHenry County: An Initial Investigation

Deconstruction Retailing in McHenry County: An Initial Investigation
Marie Curatolo- November 15, 2012

Introduction

Deconstruction of buildings can offer substantial cost savings over demolition (1). Many parts of a building, including "doors, windows, plumbing and electrical figures, appliances, flooring, lumber and bricks" can be salvaged during deconstruction (1). However, in order for deconstruction to be feasible in any location, regional and market factors must be supportive enough to make the practice favorable over traditional demolition.

Assessing deconstruction market conditions for McHenry County is especially vital because of its implications for best management practices for construction waste. If the market is currently supportive, there is good reason to encourage deconstruction in the County because there would already be an opportunity to derive value from the waste in the existing market. However, without a strong current market, the County may choose to either take steps to develop it, or ship deconstructed materials to an already-developed market, which in this case would be Chicago.

This report provides an initial assessment of market conditions in McHenry County and Chicago. It also outlines two possible sets of management practices regarding salvaged materials from deconstruction: development of a local market in McHenry County, or access to an existing market in Chicago. Which of these sets to choose depends on conclusions drawn by the County about the status of the current market for deconstructed building materials in McHenry County compared to that in Chicago. This report is not intended to be a comprehensive guide to deconstruction marketing, but instead provides a jumping off point from which to direct further investigation.

Initial Assessment

Favorable market conditions for deconstruction include policies, economic factors, and a culture of support in the community (14). Other indicators of potential deconstruction success in an area include location near higher-income areas and/or the presence of for-profit architectural salvage businesses or non-profit building re-use centers (14). The market for deconstruction can be influenced by what types of buildings are available for deconstruction and the possible uses of the recovered materials. Households most likely to choose deconstruction and generate more reusable material have large homes and high incomes and are usually single-family structures instead of commercial properties or multi-family buildings (15). Furthermore, wealthy areas (particularly those with a high amount of households in a tax bracket receiving benefits for deconstruction) with high environmental/sustainability consciousness are more likely to engage in deconstruction (15). Table* below provides indicators of select drivers of deconstruction.

Deconstruction Driver	Indicator	McHenry County	City of Chicago
Recent immigrant population status	Percentage foreign-born population.	9.8% (19).	21.1% (21).
Homeownership	Percentage of population that are homeowners.	84.1% (19).	47.8% (21).

Housing stock age	Percentage of housing stock built before 1959.	20.7% (17).	68.2% (23).
Construction activity	Construction and renovation permits issued.	1,536 (11*).	2,502 (15).
Wealth	Median household income.	$76,482 (19).	$46,877 (21).
Population age	Percentage of people 25-60 years old.	50.0% (18).	51.1% (22).

Table*: Indicators of deconstruction drivers in McHenry County. Sources: 15.
*Note: This data source is not guaranteed.

Two more drivers include environmental consciousness and strength of the green building movement in the area, which may be indicated by the number of Green Party voters and the number of existing and pending LEED-certified buildings respectively (14). Other drivers may exist depending on the characteristics of the area in question, but an analysis based on an exhaustive list of all relevant drivers is beyond the scope of this report. It is certainly possible to add to this framework if the local conditions call for it.

For each of the indicators presented in Table* above, higher values are associated with more favorable market conditions for deconstruction material. Depending on the results of this initial assessment, McHenry County may choose to either develop its own market within the county, or look to access the market in Chicago. It is also worth noting that the two options are not mutually exclusive, nor does the County need to limit its analysis to the drivers above. Further discussion of these options is presented below.

Market Development Potential for McHenry County

Based on the above assessment, McHenry County has an advantage in the deconstruction materials market when it comes to home ownership and wealth. However, this might not be enough to drive a sustained market for salvaged building materials. While the demographics of the area may not be controllable, the County does have more of a say in the somewhat dichotomous profile of its housing stock.

The actual building stock of McHenry County is a somewhat unique mix of old and new, urban and rural. This character has influenced the building/housing stock in the area. The County contains various old and historic buildings and sites including “aging barns and silos, fieldstone foundations, one-room schoolhouses, cemeteries, and public squares” (9). In addition to its historic character, the County has experienced new growth and development, which has also affected the number, age, and type of buildings in the county. Table* below reflects this growth as indicated by an increase in houses built in the last few decades. The County’s proximity to the city of Chicago, nearby northwest suburbs, and the Illinois-Wisconsin border have been three strong geographical forces contributing to growth in the area (9). This growth is further highlighted by the 75% population increase from 1990 to 2010 (9). The upswing in houses built has been somewhat slower since 2000 (as indicated in Table*): Rapid growth has, to some extent, been counteracted by efforts to maintain the area’s rural character. The McHenry County Historic Preservation Commission has laid out a plan to “[e]ncourage retention of older structural features such as houses, outbuildings, bridges and fences to provide visual relieve and architectural diversity” (10). The plan characterizes suburban sprawl as a direct threat to the rural and historic appeal of the County and repeatedly emphasizes the

desire/intent to revitalize, maintain, or promote adaptive reuse whenever possible of historic sites/buildings (10).

House Built Date	Number of Houses	Percent of Total Houses
Built 2005 or later	6,939	6.0%
Built 2000 to 2004	16,416	14.3%
Built 1990 to 1999	27,456	23.9%
Built 1980 to 1989	14,849	12.9%
Built 1970 to 1979	17,050	14.9%
Built 1960 to 1969	8,325	7.3%
Built 1950 to 1959	9,635	8.4%
Built 1940 to 1949	3,552	3.1%
Built 1939 or earlier	10,569	9.2%

Table* Homes constructed by year in McHenry County. Source: 17.

Although it does contain some older housing stock and has showed a high growth rate in the recent past, McHenry County still may not be able to support the supply of material obtained from deconstructed buildings. Analysis of 20 Chicago suburbs did not include any municipalities in McHenry County as potential "hot spots" for deconstructed construction material demand (15). There are many ways in which the County can aim to change this should it choose to do so. Public sector best practices for promotion of building deconstruction include (15):

- Waste diversion requirements.
- Closure of landfills to construction waste.
- Recycling requirements at construction sites.
- Mandated salvage period for buildings being demolished.
- Collection of a deposit from permit applicants ensuring building debris management.
- Green building requirements for permit applicants.
- Consideration of building materials in waste management plans.
- Ordinances encouraging building for disassembly.
- Demolition deterrents (ex: demolition tax).
- Expedited permitting for deconstruction.
- Relaxed building codes and zoning laws, expedited local permitting, and reduced taxes and licensing to new deconstruction and resale businesses.
- Information provision and guidebooks for deconstruction projects.
- Demonstration projects showcasing deconstruction in action.
- Public funding/grants to develop reuse facilities.

Many of these practices may not be direct enough in addressing one of the largest barriers to deconstruction: the lack of sales outlets (1). The overall market for recovered materials is simply not as large or as well developed as it is for new construction materials (2). One of the most effective ways to link the supply of materials from deconstruction to the demand of its users is to partner the deconstruction services with the outlets themselves (1). These outlets are often referred to as "reuse stores" and serve as "the connection point between the two fundamental parts of the industry, deconstruction and reuse" (5). And there is good economic reason to try to connect reclaimed materials with reuse stores: According to

Brian Alterman, program manager for Habitat for Humanity's Reuse Store and deconstruction in Kansas City, "The demand from the customer base is there…If we can get the material on the floor, it will sell" (1). Furthermore, estimates from The Center for Economic Conversion suggest that there are ten resource recovery jobs for every one landfill job, so it makes even more economic sense to support deconstruction to the fullest extent possible (1). According to the Building Materials Reuse Association, firms that combine deconstruction with a reuse store employ on average 12% more full-time employees, and experienced higher revenue growth compared to reuse stores on their own (3).

The market for salvaged building materials has a lot of potential within the building and landscaping industries: Small contractors can find the specialty materials they need for unique or highly specified projects, and large contractors can save on material costs without sacrificing quality (2). Also, with the rise of the green building movement and the subsequent desire within the building and construction industry to achieve LEED (Leadership in Energy and Environmental Design) certification for their projects have motivated building industry professionals to seek out more reclaimed building materials (1). Buildings can earn points in LEED, which allots points based on environmental design towards different levels of certification, by using materials gathered in deconstruction (1). This provides a powerful incentive to consider recovered resources instead of raw materials. Reducing the amount of materials sent to landfills (in this case, would happen as a result of building demolition) is an important component in achieving LEED certification, and the managing body of LEED, the United States Green Building Council, has had a strong effect in promoting the use of deconstructed materials (2). The push from the green building movement is another reason (along with cost savings and access to quality building materials) for professionals in the building and construction industry to seriously consider partnership with deconstruction services. While lawn care and landscaping industries are typically not associated with green building, they still stand to benefit from low prices on quality materials such as bricks and stones (2). Appendix 1* contains a directory of various construction, carpentry, contracting, and landscaping enterprises in McHenry County that may be promising partnerships for deconstruction (6).

Items and materials reclaimed during deconstruction also can be sold to used furniture, arts and crafts, or antique retailers or donated to local charities (4). Artists, furniture makers, and "do-it-yourselfers" benefit from low-cost supplies, as well as unique or specialty materials (1, 2). Appendix 2* lists some antique shops and art/craft studios and shops in McHenry County that may be beneficial retail partners with deconstruction. In addition to local charities, Habitat for Humanity ReStore resale outlets sells donated "home goods, furniture, appliances and building materials" in an attempt to divert good materials from landfills (8). The accept individual, as well as corporate donations, at its 825 Habitat ReStore locations throughout the United States and Canada: The following table provides a directory of Habitat ReStore locations nearest to McHenry County. A full listing of all ReStores in Illinois can be reached at http://www.habitat.org/restores/directory/IL.

Elgin, Illinois	
Northern Fox Valley ReStore, HFH of 800 N State St Elgin, Illinois 60123	**Phone:** (847) 742-9905 Website | Email

United States

Addison, Illinois
DuPage HFH ReStore
869 S Rohlwing Rd (Rte 53)
Addison, Illinois 60101
United States

Phone: (630) 517-2080
Website | Email

Gurnee, Illinois
Lake County ReStore
3545 Grand Ave
Gurnee, Illinois 60031
United States

Phone: (847) 249-3160
Website | Email

Aurora, Illinois
Fox Valley HFH ReStore
4100 Fox Vly Ctr Dr
Aurora, Illinois 60504
United States

Phone: (630) 585-5508
Website | Email

Chicago, Illinois
Windy City HFH ReStore
2201 S Halsted St Lowr Level
Chicago, Illinois 60608
United States

Phone: (312) 563-0296
| Email

Rockford, Illinois
Rockford Area HFH ReStore
1020 W Riverside Blvd
Rockford, Illinois 61103
United States

Phone: (815) 713-3184
Website | Email

Joliet, Illinois
Will County HFH ReStore
200 S Larkin Ave
Joliet, Illinois 60436
United States

Phone: (815) 714-7100
Website | Email

Chicago Heights, Illinois
Chicago South Suburbs ReStore, HFH
180 W Joe Orr Rd
Chicago Heights, Illinois 60411
United States

Phone: (708) 755-1840
Website | Email

Peoria, Illinois
Peoria Area ReStore, HFH Greater
804 W Main St

Phone: (309) 676-8402
Website | Email

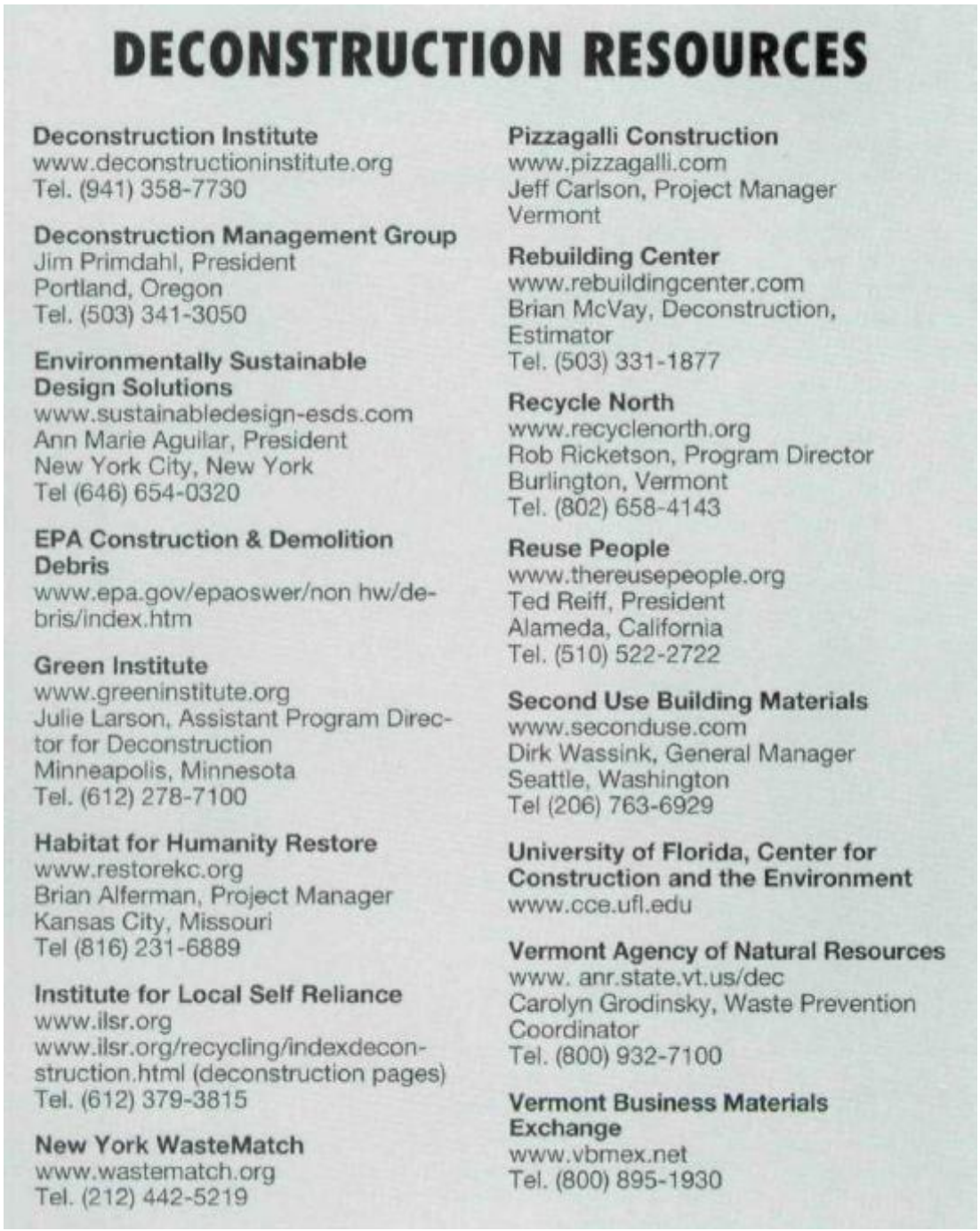
Peoria, Illinois 61606 United States	
Bloomington, Illinois McLean County Restore 1402 W Washington St Bloomington, Illinois 61701-4714 United States	**Phone:** (309) 454-6047 Website | Email

Table*: Habitat for Humanity ReStore locations near McHenry County. Source: 8.

Another viable option for retailing material from deconstruction exists in online networking. Individual items and parts can be auctioned on large sites like eBay, as well on more niche sites pertaining more specifically for resource recovery and recycling (4). Search terms such as “used”, “recycled”, “salvaged”, “antique”, or “junk” can also lead to some possible partnerships via telephone books, directories, or online search engines (4). Some websites related to resource recovery include (4):

- www.freecycle.org
- www.build.recycle.net
- www.sustainableabc.com
- www.earth911.com

Further resources relating to deconstruction can be found in the figure below: While some of these resources are not immediately relevant to McHenry County, they may still offer valuable knowledge or links to other partnership possibilities.



DECONSTRUCTION RESOURCES

Deconstruction Institute
www.deconstructioninstitute.org
Tel. (941) 358-7730

Deconstruction Management Group
Jim Primdahl, President
Portland, Oregon
Tel. (503) 341-3050

Environmentally Sustainable Design Solutions
www.sustainabledesign-esds.com
Ann Marie Aguilar, President
New York City, New York
Tel (646) 654-0320

EPA Construction & Demolition Debris
www.epa.gov/epaoswer/non hw/debris/index.htm

Green Institute
www.greeninstitute.org
Julie Larson, Assistant Program Director for Deconstruction
Minneapolis, Minnesota
Tel. (612) 278-7100

Habitat for Humanity Restore
www.restorekc.org
Brian Alferman, Project Manager
Kansas City, Missouri
Tel (816) 231-6889

Institute for Local Self Reliance
www.ilsr.org
www.ilsr.org/recycling/indexdeconstruction.html (deconstruction pages)
Tel. (612) 379-3815

New York WasteMatch
www.wastematch.org
Tel. (212) 442-5219

Pizzagalli Construction
www.pizzagalli.com
Jeff Carlson, Project Manager
Vermont

Rebuilding Center
www.rebuildingcenter.com
Brian McVay, Deconstruction, Estimator
Tel. (503) 331-1877

Recycle North
www.recyclenorth.org
Rob Ricketson, Program Director
Burlington, Vermont
Tel. (802) 658-4143

Reuse People
www.thereusepeople.org
Ted Reiff, President
Alameda, California
Tel. (510) 522-2722

Second Use Building Materials
www.seconduse.com
Dirk Wassink, General Manager
Seattle, Washington
Tel (206) 763-6929

University of Florida, Center for Construction and the Environment
www.cce.ufl.edu

Vermont Agency of Natural Resources
www. anr.state.vt.us/dec
Carolyn Grodinsky, Waste Prevention Coordinator
Tel. (800) 932-7100

Vermont Business Materials Exchange
www.vbmex.net
Tel. (800) 895-1930

Figure: Additional resources for deconstruction. Source: 1.

This paper does not present an exhaustive list of all possible partnerships for the deconstruction industry, and as McHenry County homes and businesses continue to increase and expand, more and more opportunities may arise. The existing opportunities for deconstruction and retail partnerships, coupled with the existing housing/building stock and growing population/home trend, supports the practice of deconstruction as an effective and value-deriving waste diversion tactic for use in McHenry County.

Chicago Area Market Access

As indicated in the initial assessment, Chicago displays higher indicators than McHenry County for several identified deconstruction drivers, which may indicate its advantage in sustaining a viable deconstructed materials market. Instead of focusing on developing the deconstruction market in McHenry County, it is also possible to use it as a centralized collection location and ship salvaged material to a more developed and better-understood market. The City of Chicago and nearby metropolitan area may provide more readily available retail opportunities than building up the market in McHenry County. There already were an estimated 100,000 residential contractors in the Chicago Metropolitan Statistical Area in 2003 (15). Contractors in the city applied for an average of 12,820 permits for each year between 2005-2007, during which time the number of permit applications increased by 20% (15). Figure* displays construction data for the City of Chicago for the years 2005-2007. The City of Chicago also already contains notable established for-profit salvagers: Architectural Artifacts, Salvage One, and Urban Remains (15).

		Total Records	Percent Total	Total Declared Value	Percent Total
2005	Building	3,063	26.90%	$3,940,749,584	65.81%
	Renovation	6,683	58.70%	$2,002,069,868	33.43%
	Wrecking	1,639	14.40%	$45,337,578	0.76%
	Total	11,385		$5,988,157,029	
2006	Building	3,381	25.36%	$4,451,891,383	54.56%
	Renovation	8,498	63.74%	$3,664,546,849	44.91%
	Wrecking	1,454	10.91%	$43,519,480	0.53%
	Total	13,333		$8,159,957,711	
2007	Building	2,502	18.21%	$4,449,787,042	68.04%
	Renovation	9,868	71.80%	$2,021,306,402	30.91%
	Wrecking	1,373	9.99%	$68,747,046	1.05%
	Total	13,743		$6,539,840,491	

Source: City of Chicago Department of Buildings

Figure*: Building permits by type and year for the City of Chicago 2005-2007. Source: 15.

The market in the greater Chicago area has been analyzed to a much greater extent than it has in McHenry County. Prior analysis has suggested that Chicago has three “hot spots” with strong potential demand for used building materials. The spots contain “older, residential neighborhoods that have experience a round of new, mostly foreign-born in-migration” living in “small, brick bungalows” (15). Figure* displays a map with low, medium, and high potential demand for salvaged building material in the City of Chicago.

Figure 6: Chicago Community Areas with
High Potential Demand for Used Building Materials

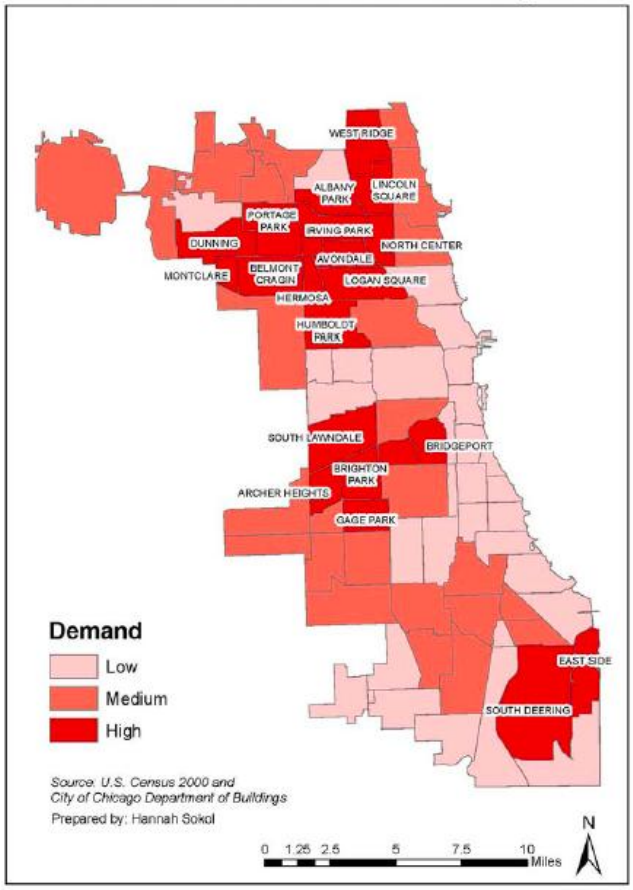


Figure*: Chicago community areas with potential demand for salvaged building materials. Source: 15.

Analysis of demand in the Chicago suburbs has been less extensive, though some nearby communities have been examined. Figure* displays low, medium, and high potential demand for salvaged materials in suburban municipalities outside of Chicago.

Figure 7: Suburban Municipalities with High Potential Demand for Used Building Materials

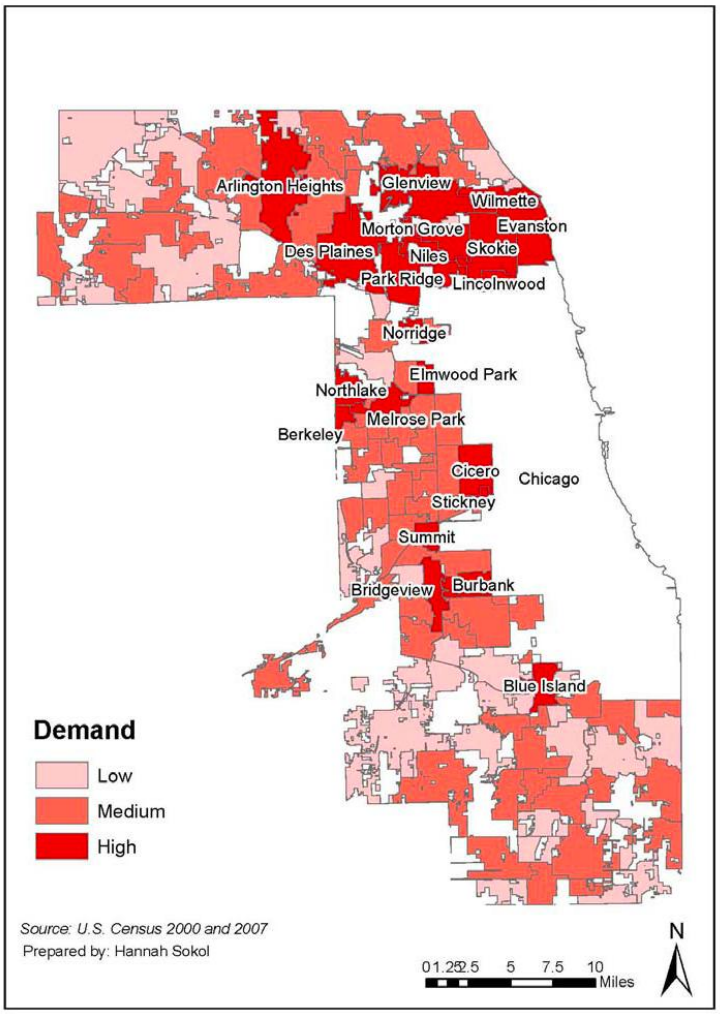


Figure*: Suburban areas with potential demand for salvaged building materials. Source: 15.

According to Figure* and Figure* above, there are several high demand areas in the City of Chicago on the north side of the city as well as the north and north and northeastern surrounding suburbs. These areas are the locations nearest to McHenry County with high potential demand for salvaged building materials. With demand predicted to increase in Chicago (15), it may be feasible and worthwhile for McHenry County to explore this proximate market.

One very prominent partner in tapping into Chicago deconstructed materials retailing would be the Rebuilding Exchange. Started in 2009, the Rebuilding Exchange has quickly become a national leader in promoting deconstruction and reuse of building materials and has created more than $2 million worth of materials for the public. This organization collects deconstructed material and houses it in its own retail warehouse. The Rebuilding Exchange would be an invaluable partner in accessing the Chicago market: Its very mission is “to create market for reclaimed building materials” (16). This is done in part by their “contractor forums, educational seminars with local and public experts, as well as speaking engagements around the region” (16). They also hold over a hundred public workshops annually (16). In addition to their

established market development efforts, the Rebuilding Exchange serves as a geographical “in” for McHenry County: In order to keep transportation costs low enough to make their sale commercially viable in Chicago, salvaged materials ideally should not take more than one hour to reach a reuse center (15).

With a viable existing market and a strong potential partner in the Rebuilding Exchange, successful retailing of salvaged building materials may be more attainable in the Chicago area than within McHenry County. Accessing the Chicago market could also be a short-term possibility while the market in McHenry County is further explored and developed. This report has provided an initial assessment of the market for deconstructed materials in both McHenry County and the City of Chicago and given options for either developing the local market or tapping in to another existing one. The resources given in this report are intended to facilitate either choice.

Appendix 1: Directory- Potential partners in the construction industry. Source: 6.

Organization Name	Address	Phone Number	Business Type
A & C Carpentry	14407 Perkins Rd., Woodstock, IL 60098	(815) 338-2903	Carpentry
Ashley's Carpet & Flooring	1112 Front St., Mc Henry, IL 60050	(815) 759-1200	Carpentry
Celske Carpentry	9117 Anthony Ln., Spring Grove, IL 60081	(847) 497-9331	Carpentry
Complete Carpentry	2412 Hyde Park Ave., Mc Henry, IL 60050	(815) 344-0424	Carpentry
Corporate Carpentry	5920 Beachway St., Cary, IL 60013	(847) 516-4500	Carpentry
Crystal Brite	3304 Crescent Ave., Mc Henry, IL 60050	(815) 363-0606	Carpentry
Custom Contracting Ltd. of IL	180 Detroit St., Cary, IL 60013	(847) 639-8400	Carpentry
Custom Finish Carpentry	1678 Cunningham Ln., Crystal Lake, IL 60014	(815) 356-7285	Carpentry
David R. Reichenbach	4515 Elmleaf Dr., Mc Henry, IL 60050	(815) 385-7660	Carpentry
Dean Steffen Construction	22417 Grange Rd., Marengo, IL 60152	(815) 568-6086	Carpentry
Duchemin Custom Carpentry	4304 South St., Mc	(815) 363-1639	Carpentry

	Henry, IL 60050		
Early American Woodshop	3316 W. Rt. 173, Richmond, IL 60071	(815) 678-6828	Carpentry
Esto Builders, Inc.	630 E. Kimball Ave., Woodstock, IL 60098	(815) 338-5813	Carpentry
Ferrero Custom Carpentry	6717 S. IL Route 31, Crystal Lake, IL 60014	(815) 477-8308	Carpentry
George Hiller & Son, Inc.	3909 Spring Grove Rd., Mc Henry, IL60050	(815) 385-1290	Carpentry
Gibco Construction	105 Municipal Lot Dr., Marengo, IL 60152	(815) 568-5858	Carpentry
J & D Carpentry, Inc.	P.O. Box 778, Mc Henry, IL 60051	(815) 344-9390	Carpentry
Jensen Carpentry	1605 Longview Rd., Algonquin, IL 60102	(847) 658-3759	Carpentry
Kadisak Tile & Carpet Co., Inc.	5002 W. Elm St., Mc Henry, IL 60050	(815) 385-7310	Carpentry
Kellenberger Daryle Builders	8211 S. Coral Rd., Marengo, IL 60152	(815) 923-2029	Carpentry
Ken Bredfeldt Carpentry	63 Beacon Bay, Mc Henry, IL 60050	(847) 359-1459	Carpentry
Kenny's Foor Covering	3812 N. Richmond Rd., Suite A, Mc Henry, IL	(815) 385-4069	Carpentry

	60050		
Kraftmasters Ltd.	P.O. Box 502, Spring Grove, IL 60081	(815) 814-4332	Carpentry
Lenny Szarek, Inc.	4014 Pioneer Rd., Mc Henry, IL 60050	(815) 385-8902	Carpentry
Leone & Moore Construction, Inc.	43 E Crystal Lake Ave., Suite 3, Crystal Lake, IL60014	(815) 788-8180	Carpentry
Lindwalt Construction Co., Ltd.	3806 Standish Rd., Marengo, IL 60152	(815) 568-7983	Carpentry
Mc Mill Development, Inc.	3705 Biscayne Rd, Mc Henry, IL 60050	(815) 344-2632	Carpentry
Quality Decks & Remodeling	5918 Nippersink Dr., Spring Grove, IL 60081	(847) 497-9331	Carpentry
Royal Mill Trim	Cary, IL 60013	(847) 516-8455	Carpentry
Sol Klein General Carpentry	20112 Hebron Rd., Harvard, IL 60033	(815) 943-4765	Carpentry
TAT Construction	9319 Glacier Rdg, Richmond, IL 60071	(815) 678-3413	Carpentry
Terry Zimmerman Construction	692 Dane St., Woodstock, IL 60098	(815) 338-5103	Carpentry
Todd Custom Carpentry	13143 County Line Rd., Harvard, IL 60033	(815) 943-1404	Carpentry
W D Construction	8265 Virginia Rd., Lake In	(847) 854-8667	Carpentry

	The Hills, IL 60156		
Weber Builders, Inc.	9516 N. Clark Rd., Richmond, IL 60071	(815) 675-2206	Carpentry
Woodcrafters Carpentry	717 Marawood Dr., Woodstock, IL 60098	(815) 334-8083	Carpentry
Affordable Flooring Ltd.	1690 S. Eastwood Dr., Woodstock, IL 60098.	(815) 337-0090	Carpet Dealer
American Carpet and Tile	20023 E. Grant Highway, Marengo, IL 60152	(815) 568-8615	Carpet Dealer
Century Tile & Carpet Supply	200 Washington St., Woodsdtock, IL 60098	(815) 337-0400	Carpet Dealer
Floor Store & More	9358 Virginia Rd., Lake In The Hills, IL 60156	(847) 658-6002	Carpet Dealer
Floor Systems, Inc.	1435 W. Algonquin Rd., Algonquin, IL 60102	(847) 658-6002	Carpet Dealer
Floring Werks	2508 N. US Highway 12, Spring Grove, IL 60081	(815) 675-9375	Carpet Dealer
Ginger Blossom	3016 Il. Rt 173, Richmond, IL 60071	(815) 678-4015	Carpet Dealer
Klemme's Floor Service	742 Oak St., Woodstock, IL 60098	(815) 338-4161	Carpet Dealer

Nuway Carpet Sales and Service	800 Doral Dr., Marengo, IL 60152	(815) 568-0440	Carpet Dealer
R L Kohl Floor Covering Contractors	746 Washington St., Suite D, Woodstock, IL 60098	(815) 338-1221	Carpet Dealer
A&J Construction, LLC.	008 Totem Trail, Mc Henry, IL 60050	(815) 814-1573	General Contractor
Berian Development	4218 Alex Ln., Crystal Lake, IL 60014	(815) 479-0101	General Contractor
Bourbon Street Ltd.	10017 Main St., Richmond, IL 60071	(815) 678-2957	General Contractor
Builders Unlimited, Inc.	5700 Mill St., Richmond, IL 60071	(815) 677-4900	General Contractor
Burley Remodeling	1415 Arabian Spur, Mc Henry, IL 60050	(815) 385-2496	General Contractor
Cornerstone Masonry Builders & Tuckpointing	4 Haddon Court, Lake In The Hills, IL 60156	(847) 669-3986	General Contractor
Diamond Builders & More Corp.	201 W. Maple, Mundelein, IL 60060	(847) 682-6686	General Contractor
Doherty Construction, Inc.	163 N. Valley Hill Rd. Woodstock, IL 60098	(815) 334-8300	General Contractor
Imagin Builders, Inc.	340 W. Rt. 120, Suite 101, Mc Henry, IL 60050	(815) 385-6680	General Contractor
J-2 Concrete, Inc.	P.O. Box 1194, Mc	(815) 363-9893	General Contractor

	Henry, IL 60051		
Kirk Contracting, Inc.	206 Valley Dr., Cary, IL 60013	(847) 516-6003	General Contractor
Krumpen Builders	10102 Williams St., Richmond, IL 60071	(815) 678-3011	General Contractor
Mardon Construction	801 Flagg Ln., Woodstock, IL 60098	(815) 338-7602	General Contractor
Mark I Construction	1001 Rail Dr., Woodstock, IL 60098	(815) 337-9422	General Contractor
McHenry Electric & Supply Co.	4012 W. Main St., Mc Henry, IL 60050	(630) 469-7510	General Contractor
PTL Construction	10519 State Route 120, Woodstock, IL 60098	(815) 338-0124	General Contractor
R.J. Dill Building and Development	11260 Hillsboro Dr., Huntley, IL 60142	(847) 812-2972	General Contractor
Robert L. Smith Construction Co.	782 Washington St., Woodstock, IL 60098	(815) 338-7388	General Contractor
Ryco Contracting Co.	1306 Paddock Rd., Spring Grove, IL 60081	(815) 675-6575	General Contractor
Schutz Construction	1402 Antuna Blvd., Woodstock, IL 60098	(815) 482-2449	General Contractor
Spring Bluff Industries	7705 Industrial Dr., Spring Grove, IL 60081	(815) 675-6183	General Contractor

Ted Diedrich Construction	311 Marawood Dr., Woodstock, IL 60098	(815) 338-7169	General Contractor
Threshold Construction	9209 Shadow Lane, Woodstock, IL 60098	(815) 236-9757	General Contractor
Tim Cote, Inc.	1075 Manito Trail, Algonquin, IL 60102	(847) 428-9050	General Contractor
Wenzel Construction	1390 S Eastwood Dr., Woodstock, IL 60098	(815) 338-6910	General Contractor
Wilkosz Contracting	Cary, IL 60013	(847) 516-1990	General Contractor
Woodridge Homes	71 W. Paddock, Crystal Lake, IL 60014	(815) 814-1212	General Contractor
Our Heritage Interiors	1713 Deerhaven Dr., Crystal Lake, IL 60014	(815) 455-1834	Interiors Contractor
B&M Lawn Care	2111 N. Queen Anne Rd., Woodstock, IL 60098	(815) 337-5777	Lawn Care
Evergreen Landscape & Design	3219 W. Algonquin Rd., Algonquin, IL 60102	(847) 854-1195	Lawn Care
Fred's Landscaping	3711 W. Algonquin Rd., Algonquin, IL 60102	(847) 658-3338	Lawn Care
Henry James Landscaping	Algonquin, IL 60102	(847) 854-9393	Lawn Care

Kaleidoscape	215 Indian Trail, Lake In The Hills, IL 60156	(847) 658-2302	Lawn Care
Lawn Pros Enterprise, Inc.	P.O. Box 46, Spring Grove, IL 60080	(877) 334-3260	Lawn Care
MCG Landscaping	412 Thunder Ridge, Lake In The Hills, IL 60156	(847) 489-7415	Lawn Care
Paradise Lawns	2245 Dawson Ln., Algonquin, IL 60102	(847) 658-8043	Lawn Care
Rayscape, Inc.	9355 Virginia Rd., Lake In The Hills, IL 60156	(847) 854-7717	Lawn Care
Stonegate Landscape & Nursery	2001 W. Algonquin Rd., Algonquin, IL 60102	(847) 658-5354	Lawn Care
Alexander Lumber Co.	201 Virginia Rd., Crystal Lake, IL 60014	(815) 459-1050	Lumber Retail
Alexander Lumber Co.	909 Front St., McHenry, IL 60050	(815) 385-1424	Lumber Retail
Hebron Lumber Co.	10105 Main St., Hebron, IL 60034	(815) 648-2471	Lumber Retail
Mc Henry Lumber & True Value	4508 Prairie Ave., Mc Henry, IL 60050	(815) 385-4600	Lumber Retail
Wolohan Lumber Co.	2050 S. Eastwood Dr., Woodstock, IL 60098	(815) 337-1937	Lumber Retail
Woodstock Lumber Co.	1101 Lake Ave., Woodstock,	(815) 338-0075	Lumber Retail

	IL 60098		
Cornerstone Masonry Builders & Tuckpointing Inc.	Huntley, IL	(847) 669-3986	Masonry & Tuckpointing
A Illinois Roofing Service	1319 Adams St., Lake In The Hills, IL 60156	(847) 658-0813	Roofing Contractor
Albers Exteriors, Inc.	1220 Greenridge Ave., Algonquin, IL 60102	(847) 458-9785	Roofing Contractor
Algonquin Weatherproofing	10019 Victor Pl., Algonquin, IL., 60102	(847) 854-1553	Roofing Contractor
Bud Ihrke Co.	508 S. Hubbard St., Algonquin, IL 60102	(847) 658-7833	Roofing Contractor
D C Taylor Co.	Algonquin, IL 60102	(847) 458-4901	Roofing Contractor
Excalibur Roofing & Sheet	10305 Wilmette Ave., Algonquin, IL 60102	(847) 658-8955	Roofing Contractor
Mega Builders Supply	427 S Harrison St., Algonquin, IL 60102	(847) 658-8989	Roofing Contractor
Pride Construction	1119 W. Algonquin Rd., Algonquin, IL 60102	(847) 658-8811	Roofing Contractor

Appendix 2: Directory- Potential partners in the antique and arts industries. Sources: 12, 13.

Organization Name	**Address**	**Phone Number**	**Business Type**
1905 Emporium	10310 N. Main St., Richmond, IL 60071	(815) 678-4414	Antiques

Abundance Antiques & Design	10002 Main St., Hebron, IL 60034	(815) 648-4112	Antiques
Antiques on Broadway	5614 Broadway St., Richmond, IL 60071	(815) 678-7951	Antiques
Auntie Libby's Cottage	10331 N. Main St., Richmond, IL 60071	(815) 678-7733	Antiques
Carriage House Antiques	21 E. Crystal Lake Ave., Crystal Lake, IL 60014	(815) 356-0240	Antiques
Colonial Antique Mall	890 Lake Ave., Woodstock, IL 60098	(815) 334-8960	Antiques
Country Church Antiques	8509 Ridgefield Road, Ridgefield, IL 60012	(815) 477-4601	Antiques
Embellish	5603 W. Broadway St., Richmond, IL 60071	(815) 678-2386	Antiques
Fox & Finch	5611 Broadway St., Richmond, IL 60071	(815) 678-4740	Antiques
Goody 2 Shoes	8511 Ridgefield Road, Suite A, Ridgefield, IL 60012	(815) 477-9121	Antiques
Grampy's Antique Store	10003 Main St., Hebron, IL 60034	(815) 648-2244	Antiques
J.W. Antiques	9911 Main St., Hebron,	(815) 529-0888	Antiques

	IL 60034		
Java & Junque	8503 Ridgefield Road, Ridgefield, IL 60012	(815) 477-0901	Antiques
Lloyd & Leota's Antiques	10103 Main St., Hebron, IL 60034	(815) 648-2202	Antiques
Mulligan's Treasures	5618 Broadway St., Richmond, IL 60071	(815) 678-4927	Antiques
Prairie Avenue Antiques	9936 Main St., Hebron, IL 60034	(815) 648-4507	Antiques
Richmond European Antiques and Restoration	5626 Broadway St., Richmond, IL 60071	(815) 678-4950	Antiques
Serendipity Shop	9818 N. Main St, Hebron, IL 60034	(815) 678-4141	Antiques
Solid Brass Fine Antiques	5509 Broadway St., Richmond IL 60071	(815) 678-4411	Antiques
The Store	9908 N. Main St., Hebron, IL 60034	(815) 678-7300	Antiques
Water Tower Antiques	9937 Main St., Hebron, IL 60034	(815) 648-2287	Antiques
Art Scape	27 Division St., Algonquin, IL 60102	(847) 658-4578	Art
Bill Stone Studio	203 N. Main St., Algonquin, IL 60102	(847) 658-2132	Art
Cozy Me Up	Crystal	(773) 259-	Art

	Lake, IL 60014	4855	
Creative Occasions	124 S. Main St., Algonquin, IL 60102	(847) 458-6240	Art
Embellish, Inc.	160 Lake Dr., Algonquin, IL 60102	(847) 802-8683	Art
Honeybrook Studios	331 S. Jefferson St., Woodstock, IL 60098	(815) 337-2658	Art
Migala Metal Designs LLC	606 W. Blackman St., Harvard, IL 60033	(815) 943-5909	Art
Northwest Area Art Council	100 W. Municipal Complex, Crystal Lake, IL 60014	(815) 356-3655	Art
O'Reilly's Stained Glass Co.	58 N. Williams St., Crystal Lake, IL 60014	(815) 444-1797	Art
Old Courthouse Arts Center	101 N. Johnson St., Woodstock, IL 60098	(815) 338-4525	Art
Splashed With Creativity	Crystal Lake, IL 60014	(815) 546-7143	Art
The Thoughtfulness Shop	104 Cass St., Woodstock, IL 60098	(815) 338-5651	Art

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Information based on questionable data source (removed from paper, but kept here just in case):

Data on new house construction building permits suggest that the rate of new construction has slowed in recent years: The following data refer to single-family new house construction building permits (11):

- 2000: 3269 buildings, average cost: $138,900
- 2001: 3627 buildings, average cost: $149,200
- 2002: 3943 buildings, average cost: $160,900
- 2003: 3644 buildings, average cost: $168,200
- 2004: 3347 buildings, average cost: $166,900
- 2005: 3136 buildings, average cost: $175,900
- 2006: 2357 buildings, average cost: $183,700
- 2007: 1536 buildings, average cost: $180,400
- 2008: 587 buildings, average cost: $197,800
- 2009: 287 buildings, average cost: $170,000

However, the following figure shows that many of the homes in McHenry County were built much more recently than most in the state (11). Even with this recent increase, the County still possesses a number of houses at every age that, if deconstructed, could help provide materials for the newer homes being built.

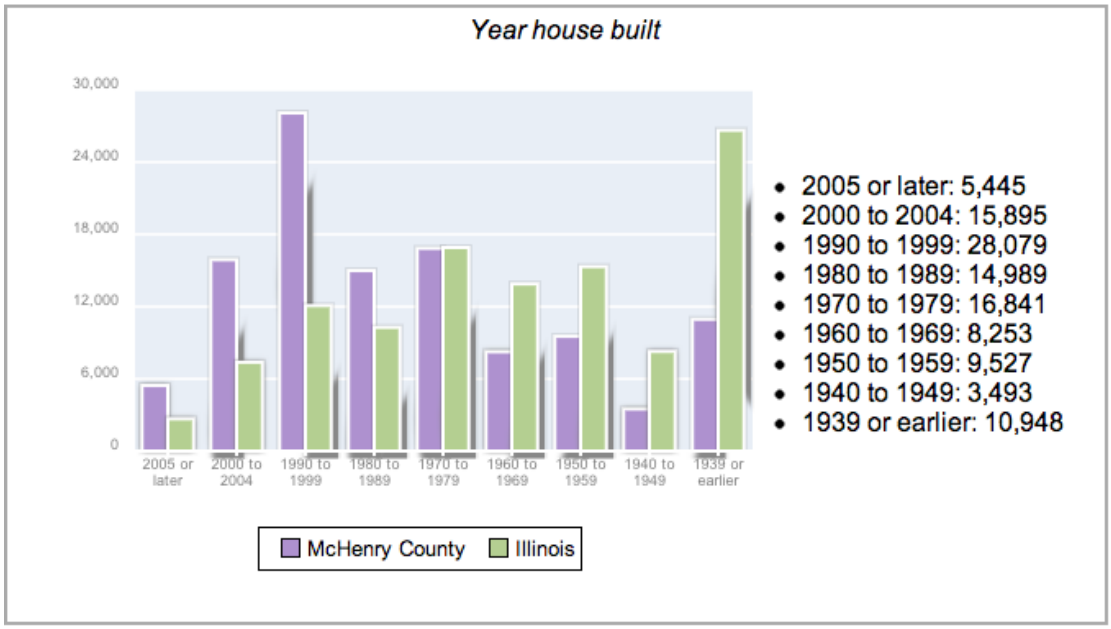

Figure: Homes constructed by year in McHenry County. Source: 11

Example Innovative Waste Reduction and Diversion Programs

Case Study: Biochar

Title: Thompson Timber TSY-Peak Biochar Pilot Project

Locality: Philomath, Oregon, United States of America

Description: When organic material is heated in a low or zero oxygen environment, the material is thermo-chemically transformed into a concentrated residue made of the carbon originally found in the biomass input. This residue is referred to as biochar when it is used in agriculture to increase soil fertility and moisture retention (6). Biochar is noted for its role in reducing greenhouse gas emissions by providing a means of carbon sequestration when it is stored in the ground: Roughly 80% of the carbon in biochar remains after 100 years in the ground (6). Some estimates say that as many as 3 billion tons of carbon could be stored in soil instead of released into the atmosphere (8).

Figure 1: Biochar from the TSY-Peak project. Source: 6.

A variety of biomass inputs can be used as feedstocks to form biochar. Some of the frequently used organic waste materials include "sewage sludge, animal manure, chicken feathers, straw, hulls, palm fronds, sawdust, and yard waste" (8). The best feedstocks are usually dry prior to the conversion process, such as wood waste or other dead plant materials, but sludge and animal waste can also be used, provided they are dried first (8). Research has also been conducted on corn stover (non-grain plant waste from corn production) and switchgrass as feedstocks (5). The variety and flexibility of available feedstocks means that agricultural waste, which would in many cases go unused, can be diverted from landfills and put to use (6). After it is gathered, feedstock is converted into biochar through a heating process called pyrolysis. This transformation also results in the production of gases and oils that can be combusted to generate energy (6).

With wood chips to spare and an interest in maintaining quality soils, Thompson Timber Company took on a project to run "a pilot-scale slow pyrolysis biochar system" (6). This project became known as the TSY-Peak Biochar Pilot Project and involved all of the capital and hardware procurement necessary to begin an on-site biochar generation process. As a case study, this project serves to speak to the "hardware, feedstock, inputs and outputs, economics, and greenhouse gas emissions" involved in biochar generation ventures (6).

What are they doing? This pilot project involved the creation and operation of a fully functional biochar generation system. The following figure* details the flow of materials and energy through a biochar generation system: The top half figure shows the flow of materials within the system

boundaries of a pyrolysis system for generating biochar, and the second half shows the energy flows with corn stover as an example feedstock (5).

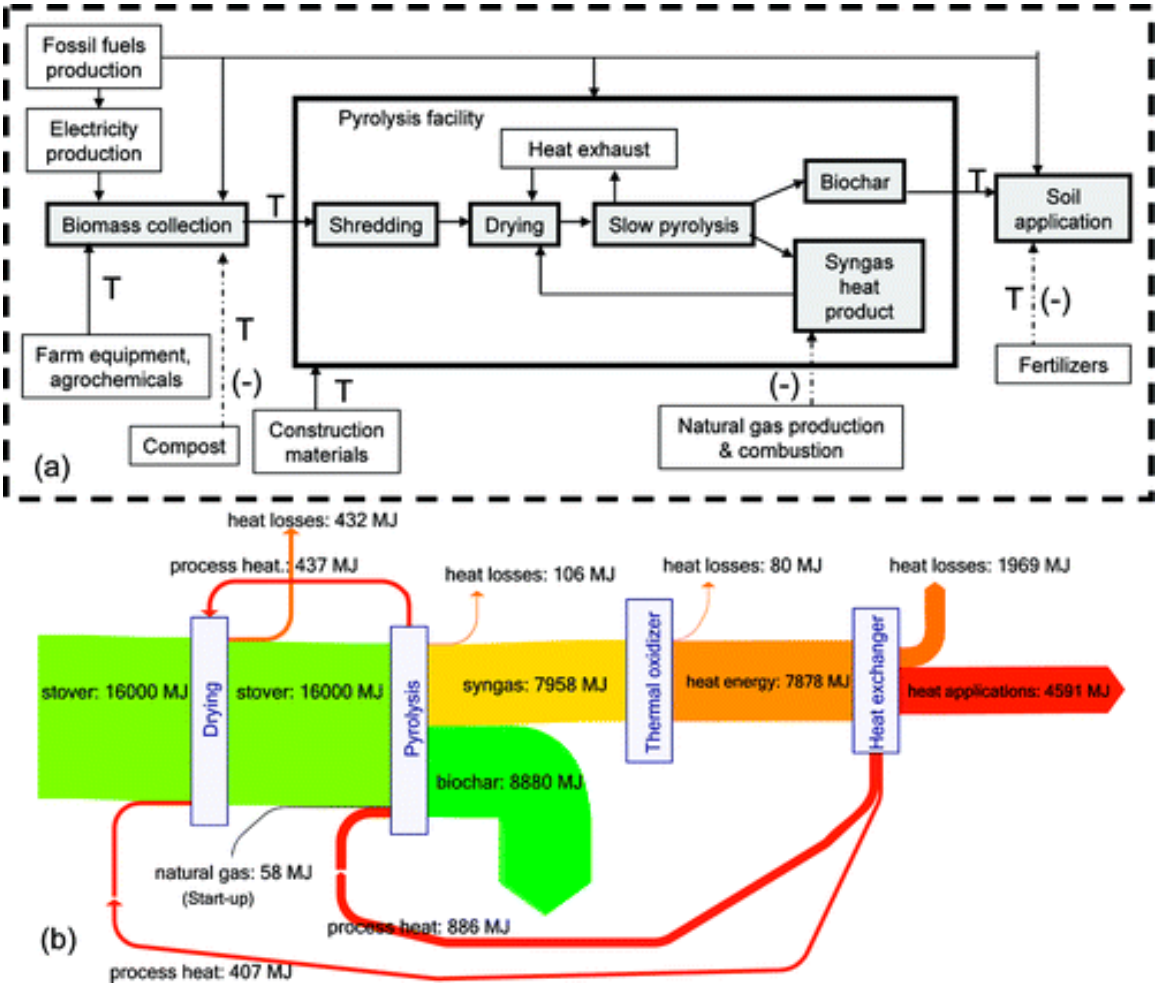

Figure 2: Material and energy flows through a biochar generation system. Dashed arrows indicate avoided processes. The letter "T" indicates transportation. Source: 5.

The TSY-Peak project adapted this model to create a system suitable to their needs. As feedstock, the system uses wood chips from Northwest forest tree species, and successfully produces biochar, as well as combustible gas. It was specifically designed to minimize bio-oil output. This system is shown in the following figure* (6):

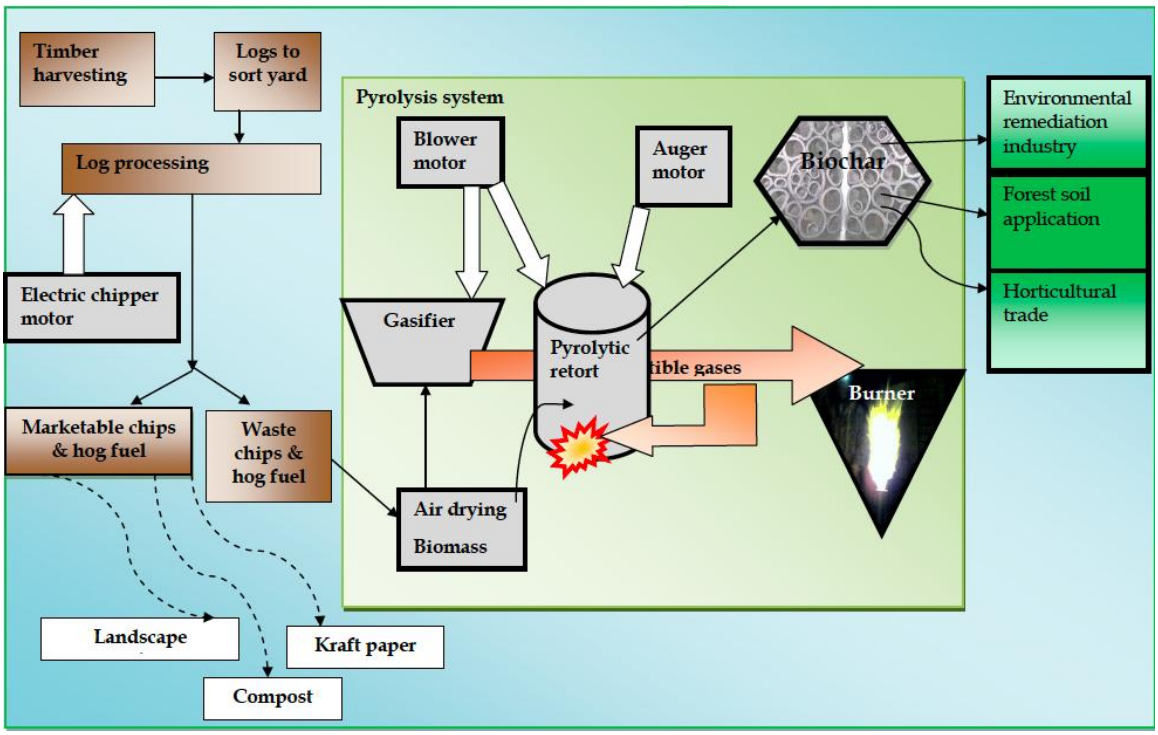

Figure 3: TSY-Peak system components. White arrows indicate the flow of materials. Black arrows indicate the flow of energy. Dashed lines indicate current uses of wood waste. Source: 6.

When did they start doing it? The project began in January, 2010 with the initial test phase starting in June, 2010 (6).

What are the results? The system is on track to produce 8.25 metric tons of biochar per year (6). The system runs, on average, twice a day and produces approximately 52 pounds of biochar for 320 pounds of wood material input (6). TSY-Peak operators currently plan to sell the biochar to universities for research, to apply it to Thompson Timber forestlands, and to sell it to other buyers for horticultural purposes (6). As discussed above, the biochar produced by this system can be used to increase soil fertility as an agricultural additive, as well as a tool in mitigating climate change due to its ability to sequester carbon. The operators are not currently using the waste heat produced by the system, but are exploring options for using it to dry feedstock and/or for small-scale energy generation (6).

What (and how much) is diverted? The TSY-Peak system converts an average of 320 pounds of biomass feedstock into biochar each time it runs. Of this feedstock, about 120 pounds are clean wood chips produced by the Thompson Timber Company throughout its operations. The remaining 200 pounds consists of hog fuel ("wood waste bark from log sorting and grading as well as other non-merchantable material" 6) also accumulated during timber operations. The Thompson Timber Company produces roughly 2 million metric tons of wood chips (which usually come from chopped-up unmerchantable logs), and 5,000 metric tons of hog fuel annually (6). While some of this waste is usable in the paper or landscaping industries, 6,000 metric tons of waste fails to meet size/quality standards and is thus suitable for biochar conversion (6). Currently, the TSY-Peak system, being a pilot project, only uses a very small portion of this waste (6). However, research in biochar startup is shifting towards finding a way to "scale up" the technology, either by designing large-scale facilities capable of converting greater amounts of biomass, or by creating small-scale mobile or single-farm conversion units (8).

What are the costs associated? The economic capital costs of the TSY-Peak system are relatively low due to the ability to use modified equipment from Thompson Timber's lumber yard. The initial capital costs are estimated at $59,000 with the following breakdown (6):

Fluidyne Pacific Class down-draft gasifier: $15,000
Pyrolytic retort: $13,000
Motors: $0 (repurposed lumber yard motors)
Labor: $31,000

Operation and maintenance costs are estimated at $33,324 per year (6):

Maintenance: $3,000
Labor: $30,000
Opportunity cost of feedstock: $324

Despite the low capital costs in this case, biochar systems usually face much higher initial capital requirements and are limited by the resources needed to sustain operation. This is a major challenge to the scaling up of biochar systems, especially when there are lower-cost waste management options (8). Capital costs are even greater when one tries to "scale up" the system: it costs $1.5 million to build a system that can produce one ton of biochar per hour (7).

Ecological costs are limited mostly to the material used in the hardware of the system and the electricity used in the pyrolysis process. The current system requires 0.17 metric tons carbon dioxide equivalent per metric ton of biochar, which is more than offset by the carbon sequestered by that same amount (6).

How is this funded? The Thompson Timber Company was approached by farmer/inventor John Miedema who was interested in developing the potential for biochar. Initially, the Thompson Timber Company, a family-owned forestry business, hired Miedema as a Director of Biomass Energy and agreed to fund his project (7). Miedema also allowed the Climate Trust who to use the TSY-Peak system as a case study for a California Energy Commission analysis, in order to help prove the market for biochar and hopefully attract investors (7).

Economic Benefits The biochar product itself provides multiple opportunities for capturing economic value. The biochar created by TSY-Peak averages between $1,600 and $4,000 per year in sales (6). Although current revenue is low, as a pilot system, its purpose has less to do with returning on investment and more to do with demonstration.

When added to soil, it can increase crop yields (8). Furthermore, biochar is marketable to larger companies such as Sunmark, who uses it in erosion control products (8). Other explorations in potential biochar markets have demonstrated it to be useful as a substitute for certain chemicals in potting media, as a substitute for green roofs, in storm water clean-up, and in phosphorus recovery in sewage lagoons (7). Biochar also provides ecosystem services which may be costly to perform otherwise, such as "restoration of degraded lands, reduction of methane and nitrous oxide emissions from soil, reduction of soil erosion, improving water and fertilizer use efficiency and soil microbial activity, [and] reducing fertilizer, pesticide, heavy metals and other contaminant runoff into waterways" (8). Also, as indicated in the first diagram above*, biochar production systems actually cut out a few agricultural waste management processes, which may have been expensive to implement (5).

Biochar production also did not incur many additional costs in the TSY-Peak project: There was no additional transportation cost because harvesting and transporting feedstock would have to take place anyway and thus is

not mandated by the biochar production. Transporting the biochar to the forest site also did not generate additional costs because logging trucks that used to return to the forests empty began transporting the biochar and to the forest for application (6). Biochar systems are also able to keep energy costs lower by combusting on-site the syngas and tarry oils produced during pyrolysis and using the energy to help power the process (5).

There also exists the opportunity to capture value from biochar production via the sale of carbon offsets in a carbon cap-and-trade system, which can help lower the tough initial costs of such a project (8). In the TSY-Peak case, each metric ton of biochar reduced carbon emissions by approximately 2.18 metric tons carbon dioxide equivalent (6). However, sale of emission reduction credits for the TSY-Peak project alone would not attract investors: Financing of the project will likely depend on commitment from a long-term buyer willing to pay for biochar, which may be a challenge to obtain in an uncertain, emerging market (6). However, the economic and ecological benefits have been strong motivators in maintaining support for the project as those involve continue to demonstrate its market (7).

Who leads this program? John Miedema is a commercial fisherman, organic farmer, and inventor who became interested in biochar as a way of making dairy operations more sustainable. He contacted Thompson Timber Company, who hired him as their Director of Biomass Energy and supported his efforts to generate his own biomass. Miedema worked in conjunction with researchers at the US Department of Agriculture and Oregon State University, and allowed Peter Weisburg of the Climate Trust to use the project as a case study for the California Energy Commission in order to evaluate if/how biochar production qualified as carbon offsetting (7).

Why was this practice selected for McHenry County? According to the 2007 Census of Agriculture, McHenry County is home to 1,035 farms, covering approximately 55% of its land (215,584 of its 391,040 total acres) (2,1). The top three most common types of farm by commodity were corn for grain (298 farms), beef cows (102 farms), and wheat for grain (92 farms) (2). Corn was also the largest single commodity by sales in 2007, with a value of sales of $66,250,000 (3). McHenry County also contains farms producing milk cows, hogs/pigs, sheep/lambs, broilers/chickens, corn for silage, and oats for grain (2). One common agricultural waste product associated with corn production is corn stover, which includes all parts of the corn plant above the ground except the grain itself (4). Biochar production provides a way of diverting this waste, along with wastes from other agricultural commodity production such as animal manure, from landfills and using it to create a product that benefits agriculture and opens the door for waste-to-energy opportunities.

Furthermore, the 2010 update of the McHenry County Land Use Plan contains the following agricultural goals:

- Preserve suitable land areas for agricultural and associated uses.
- Encourage soil conservation practices which will reduce soil erosion, improve water quality, and increase farmland productivity.
- Ensure agriculture is not threatened by or restricted by adjacent land uses in significant agricultural areas and recognize the value of Agricultural Protection Districts in preserving prime farmland (1).

Biochar production is consistent with these goals and is therefore ideologically, as well as practically, an appropriate innovative practice for McHenry County.

Case Study: Manure Sale

Title: City of Waco Sells Dairy Manure to Citizens (14).

Locality: Waco, Texas

Background/Motivation: McHenry County is home to a considerable amount of manure producing animals; specifically cattle and horses. In 2007, there were 199 farms containing 17,545 total cattle and calves in McHenry County (9). Table* shows a breakdown of number of farms by inventory of cattle in 2007:

Number of Cattle/Calves	Farms
1-9	57
10-19	32
20-49	45
50-99	33
100-199	11
200-499	13
500 or more	8

Figure 5: Number of farms by inventory of cattle and calves in McHenry County. Source: 9.

Also in 2007, there were 389 farms containing 3,821 total horses and ponies (10). Although there was no breakdown of farms by inventory of horses for McHenry County, the average number of horses per farm was less than 10 animals. According to these data for both cattle and horses, most farms in the county are relatively small, with fewer than 100 manure-producing animals per farm.

There is currently a growing increase in the use of manure as a source of energy (13). Manure can be combusted to generate energy directly, or methane from the manure can be captured burned to generate electricity. Energy generation from manure usually comes from anaerobic digestion systems that efficiently degrade organic material, with the added benefits of fewer odors than normal manure storage, pathogen reduction, and reduced cost for animal bedding (12, 13). Up until recently, most development of anaerobic digestion systems focused on large diaries with 500 or more cows, and looked to generate electricity to sell off-farm. Given that the typical investment in an anaerobic digestion system ranges from $400,000 to $2 million, it has historically been only economically feasible/profitable on operations with more than 300 animals. While some simpler systems have been investigated, they are still built for around 100-300 animals. Manure-to-energy practices does promise the societal benefits of reducing dependence on fossil fuels and creating a renewable source of energy, as well as benefits to farmers who can generate their own power, sell electricity back to the grid, or sell manure to other entities using it to fuel generation (13). However, not many farmers save enough on electricity to counteract the large investment in an anaerobic digestion system (13).

A more widespread and current use of manure is in direct application to the land as fertilizer. Approximately 5% of all US cropland is currently fertilized with manure, and half of that cropland is corn (13). Figure 1 demonstrates which types of crops received nutrients from manure in 2006 (13).

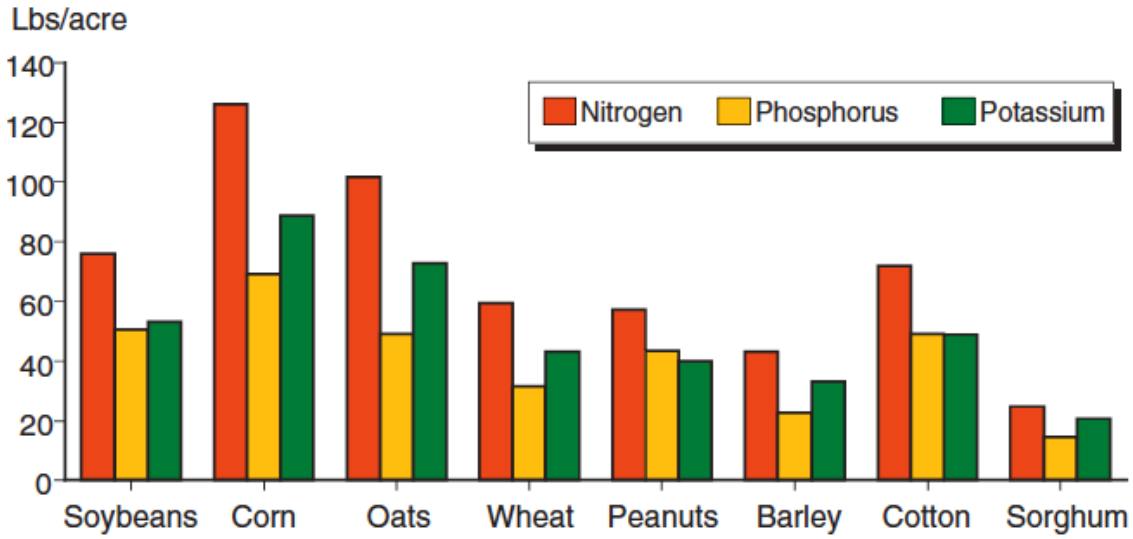

Figure 6: Manure application rates by crop. Source: 13.

Using manure as fertilizer can offset the amount of nutrients needed in commercial fertilizers (16). Manure is rich in nitrogen, phosphorus, potassium, and other micro-nutrients required by plants. It also enhances soil tilth, which leads to better water and nutrient retention.

Given that corn for grain is the most common type of farm, covers the most acreage, and yields the most bushels of material in McHenry County, it follows that waste management systems that benefit corn are worth examining. Manure as fertilizer could benefit corn production, in addition to local homeowner lawns and gardens in the area. Furthermore, the relatively small size of cattle and horse farms in McHenry County render manure-to-energy operations unfeasible in the near future. It can also be noted that systems and programs benefiting or promoting the use of manure as fertilizer do not necessarily interfere with the possibility of using it as an energy source if it becomes economically feasible in the future: Anaerobic digestion systems preserve most nutrients in the effluent left over after the process is complete (12, 16). This effluent can than be applied to crops as fertilizer in much the same way as manure (12). Recognizing the potential benefit that using manure for fertilizer has for McHenry County, this report profiles an innovative practice that could foster the growth of this practice.

Description/What did they do? A decade ago, the city of Waco, Texas purchased composted manure from nearby dairy farms from a commercial compost facility. The city then re-sold this manure compost to local homeowners for use on their gardens, lawns, landscaping projects, etc. on two select weekends. The city was able to purchase the compost by the cubic yard at a reduced price thanks to a rebate program funded by an EPA grant. Homeowners could then use the compost "in combination with inorganic fertilizers to balance nutrients, optimize plant growth, prepare areas for new plants or remove problem areas in lawns, flower beds, or gardens" (14). The compost sale became an annual project undertaken by the City of Waco.

When did they start doing it? The first sale was in February 2002. The sale occurred every year in the early spring for at least the next four years (14).

What are the results? Economically, the sale was not intended to actually profit: The city broke even. It had chosen to sell the compost at cost to homeowners because it wanted to provide "greater access to a valuable local resource that provides an alternative to inorganic fertilizers" (14). Homeowners also benefitted from access to a low-cost organic fertilizer for their home plant caretaking needs. From an ecological standpoint, the sale helped protect local water quality by moving manure away from sensitive watersheds in the area, and also promoted the use of organic materials instead of inorganic fertilizers (14). In addition to the social benefit of greater access to a desirable resource, the sale also involved education and community engagement in that it demonstrated how to "actively involve citizens in using a natural resource on their own land" (14). In the one year when all of the purchased compost was not bought by homeowners, the remaining material was donated to the local public works department, providing an additional social and economic benefit (14).

What is diverted/How much is diverted? In this case, the diverted material was dairy manure compost from a commercial compost facility located near two nearby watersheds (14). The citizens of Waco purchased approximately 1,200 cubic yards, by the bag or truckload, ranging from 1 cubic foot to 9 cubic yards per order. In the first five years of operation, the city sold all of the compost it had purchased every year except for one (14).

The compost itself is derived from the fresh manure collected at regional dairy farms. Composting manure instead of using fresh manure is a relatively common way of preparing manure for land application. It contributes more to the organic matter content of the material (15). Also, fresh manure, if over-applied can contribute to salt build-up or leaching losses. There is also a higher likelihood that viable weed seeds can be found in fresh manure, increasing weed plant problems where applied (15). Perhaps even more problematic are the pathogens transferable to humans that are found in fresh manure (15). The composting process generates heat that kills most weed seeds and pathogens, however some of the nitrogen content of the manure is lost as gas (15).

What are the costs associated? Costs associated with the sale included the bulk purchasing of composted dairy manure from the commercial composting facility. The City of Waco was able to purchase the material at $5 off the normal price due to the Texas Commission on Environmental Quality Dairy Compost Rebate Program funded by an EPA grant (14). The City kept labor expenditures low by recruiting as many volunteers as possible (college students, compost enthusiasts, etc.) to help in "collecting money from citizens who purchase material, directing traffic, and helping load the material", which are presumably activities that would incur labor costs if not performed by volunteers (14). Even though the sale did not make any money for the City, it also did not lose any money either: since the material was sold at cost and all of it was sold (in most years), the program was able to self-fund.

There are additional costs involved in the process of composting the manure. There are capital costs associated with the equipment, services, and materials needed to begin a composting operation (16). Labor costs, site improvement/maintenance costs, and the cost of moving the manure are all relevant as well (16). These significant cost factors depend on a lot of variables such as the amount of manure being composted, availability of equipment and land, and price of labor.

How is this funded? The City of Waco was the purchaser of the compost for the sale. Again, this cost was eventually covered, resulting in the City breaking even, by the citizens who purchased the compost. The City also received assistance from the Texas Commission on Environmental Quality Dairy Compost Rebate Program funded by an EPA grant (14). Costs associated with the composting process were covered by the private, commercial composting facility that sold material to the City of Waco.

Is there an economic benefit? While the City of Waco broke even on the sale of dairy manure compost, it may have captured economic benefit in the form of extra compost donated to their public works department (14). Also, local homeowners received the economic benefit of purchasing organic compost at cost.

In general, diversion of manure from disposal can be cost-beneficial: Costs avoided that would have been necessary if the manure had to be disposed of, such as hauling/trucking to waste disposal facilities, can be significant (8). There is also the notable opportunity cost incurred if the manure is not eventually sold to a paying customer. Cost scenario simulations for the composting of manure suggest that on-site composting is more expensive per cubic yard composed in operations with fewer animals (16). However, these scenarios do not take into account the possibility of access to a centralized composting operation. Some scenarios also reveal net annual savings on moderately sized farms: See the following sample scenario in figure 2* (16).

This facility has 40 horses and produces approximately 747 cubic yards of manure and bedding annually. The scenario assumes land for a compost site, water source and front-end loader are already available. The present average annual cost to haul manure & bedding to the landfill is $1,200 per month or $14,400 annually.

Total Capital (investment) Required: Site development, road grading, materials, watering system and detention system	$ 6,895
Total Annual Fixed Costs (7 year amortization):	$ 985
Total Annual Variable Costs: Labor for site and management, fuel, maintenance of loader & pump, other expenses	$ 8,970
Total Annual Costs:	$ 9,955
Cost per cubic yard composted (747 cu yd):	$ 13.33
Cost per finished cubic yard of compost:	$ 26.65
Cost of trucking compost to neighboring farm: ($65 per hour for truck, front end loader labor provider by compost operator)	$ 390
Estimated average annual savings:	$ 4,055

Figure 7: Sample scenario for composting manure. Source: 16.

Who leads this program? This program was operated by the Solid Waste Services department of the City of Waco, Texas. Christian Heger, who works in the Solid Waste Services department, provided information used in this report (14).

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Title: Take it Back Network – Mattress Recycling Program.

Figure 1: Take it Back Network. Source: 1.

Locality: King County, Washington, USA.

What are they doing? After hosting a Mattress Recycling Summit, the King County Solid Waste Division expanded it's Take it Back Network to include mattresses. This network creates a partnership including government agencies, businesses, repair shops, and non-governmental organizations that currently works to establish locations for the drop-off of electronics and fluorescent light bulbs. The website for the program directs consumers to businesses in the network that have pledged to ensure the proper recycling of accepted items and to recycle materials domestically or in developed nations only.

Figure 2: Mattresses diverted from landfill. Source: 1.

When did they start doing it? Take it Back Network was set to expand to include mattresses in December 2011.

What are the results? The inclusion of mattresses in the Take it Back Network is still a recent development, but results look promising. Mattresses contain steel, foam, cotton, wood and other fabrics and fibers that can be reused in a variety of other industries.

What is diverted? Mattresses each take up 20 to 40 cubic feet of space in landfills. In 2011, 90,000 mattresses weighing more than 3,000 tons were disposed of in King County. Diversion of mattresses not only captures value from their materials, but also frees up usable landfill space.

How much is diverted? Prior to the expansion of the network, Washington state's Correctional Industries was one of the few mattress recycling programs in the area: It recycled 700 tons of steel and 120 tons of foam from over 40,000 mattresses in 2011 alone. Again, this looks promising for the Take it Back Network.

What are the costs associated? Joining and using the network is free, but organizations that commit to recycling mattresses need to consider the costs of abiding by the terms specified in the membership agreement. It is currently cheaper to dispose of mattresses rather than recycle them.

How is this funded? Partner organizations are responsible for covering the recycling cost.

Is there an economic benefit? Businesses gain access to an existing network of consumers and other organizations. They can use their membership to demonstrate environmental responsibility and attract new customers. Also, there is no restriction on charging customers a fee for the recycling services provided by the partner organization.

Who leads this program? Alex Erzen, King County Solid Waste Division.

Sources: 1, 2, 3.

Mattress Recycling

Shoe Collection

Title: Hope4Hoopers Athletic Shoe Collection.

Locality: Portland, Oregon, USA.

What are they doing? Two former collegiate basketball players have set up a series of high-level basketball camps and clinics for children ages 8-18 and the price to participate is one pair of athletic shoes. Half of the shoes collected are donated locally to community programs supporting young athletes. The other half are shipped to the Philippines. More so than waste diversion, Hope4Hoopers aims to expand youth involvement in basketball and the life lessons that come with organized sport.

Figure 3: Hope4Hoopers camp near Portland. Source: 1.

When did they start doing it? May 2011.

What are the results? In the first nine months, the organization collected around 2,000 pairs of shoes. Their camps and clinics have been supported by other former basketball players and coaches. They also recently partnered with the Boys and Girls Club and Big Brothers Big Sisters organization in the Portland area.

What is diverted? Hope4Hoopers accepts gently-used athletic shoes that are in good enough shape that they can still be used to play basketball.

How much is diverted? From May 2011 to February 2012, about 2,000 pairs were diverted.

What are the costs associated? Costs associated include the price of court space, equipment, coaching staff, administration, and shipping/transportation.

How is this funded? The organization does not make profit and accepts direct donations. They also will accept a minimum donation of $10 instead of a pair of shoes as payment to attend a camp or clinic.

Is there an economic benefit? Traditional shoe midsoles last up to 1,000 years in a landfill. This takes up landfill space that costs money for municipalities. Youth sports organizations gain access to a wider talent pool, and young athletes experience a lower cost to play when they receive free shoes.

Who leads this program? Jared Mace, Founder and President, and Nathan Holthenrichs, Founder and Vice President.

Sources: 4, 5, 6.

Denim Recycling

Title: Cotton. From Blue to Green.

Locality: Although one of the partners in this project is Arizona-based, the product is distributed nationally.

What are they doing? Cotton fiber insulation manufacturer Bonded Logic teamed up with Cotton Incorporated (an organization of cotton growers, manufacturers, and retailers) in order to collect donations of used denim from a network of organizations across the country. Denim products are collected via corporate/organization-wide drives, a mail-in program, and partnerships with retailers and college campuses. Gathered denim is transformed into UltraTouch insulation containing 90% recycled denim. This insulation is then donated to Habitat for Humanity affiliates.

When did they start doing it? The program began in 2006.

What are the results? Since 2006, the program has gathered more than half a million pieces of denim and insulated 1, 322 houses. The UltraTouch insulation itself is more eco-friendly than fiberglass insulation. It also does not itch, so it is easier to handle. The insulation has great sound absorption and maximal thermal performance. The fibers are also treated to stop fire, fungus, mold, and bacteria. It does not contain any chemical irritants, airborne particles, or volatile organic compounds.

What is diverted? UltraTouch insulation is made of recycled denim used in a variety of clothing- commonly, in blue jeans. All zippers, buttons, and embellishments must be removed prior to production.

How much is diverted? Since the project began, 662,111 pieces of denim have been diverted from landfills. Buttons, zippers, snaps, and embellishments must be removed prior to treatment.

What are the costs associated? Associated costs include the cost of machinery, labor, and transportation involved in preparing the insulation. For those wishing to donate, costs come in the form of transportation to drop-off locations, or postage fees for mailing in donations. For corporate or business donations/collection sites, there is also an administrative element.

How is this funded? Production costs are covered by Bonded Logic, which sells the product for profit. Costs for donating denim are usually donated: This cost can be covered by retailers, etc. who choose to have a drop-off location on site where people are likely to visit with or without donations.

Is there an economic benefit? Those who donate can benefit from business partnership agreements where, for example, customers donate their old jeans and receive a discount on new merchandise. This could benefit the businesses themselves who can use it to push purchase of new product lines. The program also periodically gives grants to

architects, constructors, project developers, etc. to apply for grants of insulation to use in community-based green buildings.

Who leads this program? The program is a partnership between Bonded Logic and Cotton Incorporated.

Figure 4: Using recycled denim as insulation. Source: 10.

Sources: 7, 8, 9.

Food Waste Recycling

Title: San Francisco curbside residential food waste collection.

Locality: San Francisco, California, USA.

What are they doing? The City of San Francisco has provided every household, in addition to trash and recycling containers, a green 32-gallon cart for compostable organic materials, which includes yard trimmings and residential food waste. The City provides a weekly curbside pick-up service to collect this waste.

When did they start doing it? The collection started in 2000; Organics collection became mandatory in San Francisco in 2009.

What are the results? As of January 1, 2012, the collection serves 359,121 households with a 90% participation rate.

What is diverted? In addition to yard waste, the collection service accepts food scraps, meant, poultry, seafood, bones, and food-soiled paper. It does not accept cat litter, diapers, oil, or grease.

Figure 5: Collection containers for garbage, compostable waste, and recyclables. Source: 14.

How much is diverted? Approximately 150,000 tons of organic material is collected annually. About 20-40 tons of material goes to the East Bay Municipal Utility District for waste-to-energy generation. Whatever remains is composted.

What are the costs associated? Initial capital costs include those needed for the actual green carts themselves, as well as small, ventilated kitchen pails that the City also provided. Weekly pick-ups may incur additional labor and transportation expenses. San Francisco households pay roughly $24.76 per month for all curbside pick-up services (garbage, recycling, and organic materials). Bags for compost cost households $5 for 25 bags.

How is this funded? The City of San Francisco paid for the carts, kitchen pails, and transport of organic materials. The City charges residents for the pick-up service and residents are responsible for paying for their own collection bags at retail locations.

Is there an economic benefit? The City has been diverting material for waste-to-energy generation, which it plans to increase in the near future. The compost can also be used or sold as crop fertilizer or soil additive.

Who leads this program? The program is run by the City and County of San Francisco Department of the Environment as part of the City's zero waste diversion goal. It is run in partnership with the residential waste hauler Recology.

Sources: 11, 12, 13.

Paint Collection

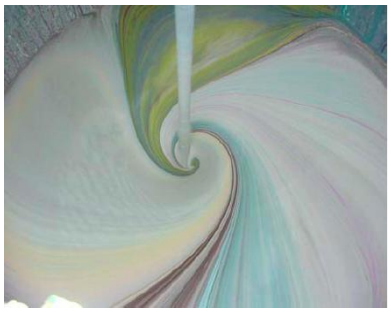

Figure 6: Recycled paint. Source: 16.

Title: Marion County curbside paint collection and free paint distribution.

Locality: Marion County, Oregon, USA.

What are they doing? The County provides curbside paint collection (up to 2 cans per week) for those areas where curbside recycling is available. While some types of paint can be used in waste-to-energy generation, latex paints are collected and brought to waste haulers' main offices where they are collected by crew from Marion County Juvenile Department's Alternative Programs. The crew also collects paint from paint manufacturers or other businesses with large volumes of waste paint, and 3-5 gallon plastic buckets from food manufacturers. All the paint is brought to a transfer station where it is combined in a vat, strained, and poured into buckets. The paint is then free for residents to take and use.

When did they start doing it? The program began in 2000.

What are the results? The free paint was originally distributed as a means to cover graffiti. When it was being collected faster than it could be used in graffiti removal, the County offered it to the public for household use. The paint is used both indoors and outdoors, and is thus suitable for a variety of projects. It is also used in community service projects.

What is diverted? They accept interior and exterior latex, acrylic, water-based, alkyd, oil-based, and enamel paints. Some other types of paints can be taken directly to transfer stations. Oil-based paints and stains are collected and processed through a waste-to-energy facility to generate electricity.

Figure 7: Paint is mixed and poured into buckets. Source: 16.

How much is diverted? Marion County recovers and redistributes 30,000-35,000 gallons of paint annually.

What are the costs associated? Associated costs come from the labor and transportation needed to collect the paint and buckets, as well as to mix, strain, and pour the paint to prepare it for sale.

How is this funded? Paint collection services are free of charge to residents; they are funded by Marion County.

Is there an economic benefit? Residents benefit from access to free multi-purpose paint, as well as free paint recycling. Businesses that have their paint collected also benefit from not having to pay for its disposal. Food manufacturers that provide the buckets do not need to pay for separate recycling or transportation to recycling facilities either.

Who leads this program? The program is run by Marion County Environmental Services.

Sources: 15, 16.

Community Composting

Title: Community Composting

Locality: Rhode Island, USA.

Description: An organization called ecoRI Public Works began a food-scrap collection program at Providence-area farmers markets to encourage community composting of residential food waste. They accepted vegetable and fruit scraps, coffee grounds and filters, eggshells, cardboard, and uncoated paper.

What are they doing? Each market has connected with local farmers to bring the food scraps back to their farms for composting into rich soil. There is no charge for the service.

Figure 8: Collecting food scraps. Source: 17.

When did they start doing it? October 2010.

What are the results? The result was a partnership with local farms and community organizations – like ecoRI.

What is diverted and how much is diverted? More than 20,000 pounds of food waste material have been diverted from the state landfill.

How is this funded? ecoRI Inc. is a registered 501(c)(3) tax-exempt organization with the IRS and a recognized nonprofit with the state of Rhode Island. They depend on the support of individuals, foundations and businesses that recognize the importance of environmental/social justice news delivered from an independent perspective. The Providence and Barrington program is sponsored due to the support of New Harvest Coffee Roasters. The Newport and Middletown program is due to the support of Newport Restaurant Group.

Is there an economic benefit? Economic benefits come in the form of community partnerships and community building, as well as education/advocacy.

Who leads this program?
Dave Fisher of ecoRI
401-338-1137
dave@ecoRI.org

Or

ecoRI Public Works manager Kevin Proft: kevin@ecori.org

Sources: 17, 18, 19, 20.

Paint Redistribution

Title: Community RePaint

Locality: United Kingdom

What are they doing? The community RePaint program collects reusable, leftover paint and redistributes it to individuals, families, communities and charities in need, improving the wellbeing of people and the appearance of places across the UK. No chemical or hazardous paints are collected.

When did they start doing it? Community RePaint began in 1993 and is supported and sponsored by ICI Dulux.

What are the results? What is diverted? How much is diverted? Paint is diverted from the waste stream. In 2011 the Community RePaint national network:

- saved 343,597 litres of paint, donated by householders and businesses, going to waste
- with a market value of over £1.5 million
- redistributed over 217,000 litres of paint to community groups, charities, voluntary organisations and people in social need.

Conversions:
343,597 litres = 90.61 US gallons
217,000 litres = 57.33 US gallons
£1.5 million = $ 1,958,140.65 approximately (10/22/12 exchange rate)

Figure 9: Paint collected for redistribution. Source: 23.

How is this funded? Resource Futures is an organization that campaigns on behalf of the network, responds to proposed legislation, submits funding bids for the network and develops links with the voluntary and community sector, local authorities, and the trade and retail industry, to reduce the cost of waste paint disposal and maximize the social and environmental benefits from paint reuse.

Is there an economic benefit? The paint is redistributed to individuals, families and communities in social need, providing environmental, social and economic benefits for stakeholders.

Who leads this program? Resource Futures is the environmental consultancy that manages the Community RePaint network. Resource Futures is based in Bristol with staff in Leeds, Oxfordshire, and Devon and has over 25 years track record in sustainability and resource management.

Resource Futures
The CREATE Centre,
Smeaton Road,
Bristol,
BS1 6XN
0117 930 4355

Sources: 21, 22, 23, 24, 25, 26.

Furniture Re-Use

Title: Furniture Re-use Network (FRN)

Locality: United Kingdom

Description: The Furniture Re-use Network (FRN) is the national coordinating body for 400 furniture and appliance re-use and recycling organizations in the UK that collect a wide range of household items to pass onto people in need. The FRN promotes the re-use of unwanted furniture and household effects for the alleviation of need, hardship, distress and poverty. They vary in size from small local charities to large social enterprises. Some are attached to housing associations, development trusts, and councils for voluntary service. The FRN works throughout the United Kingdom with the main concentrations in urban areas.

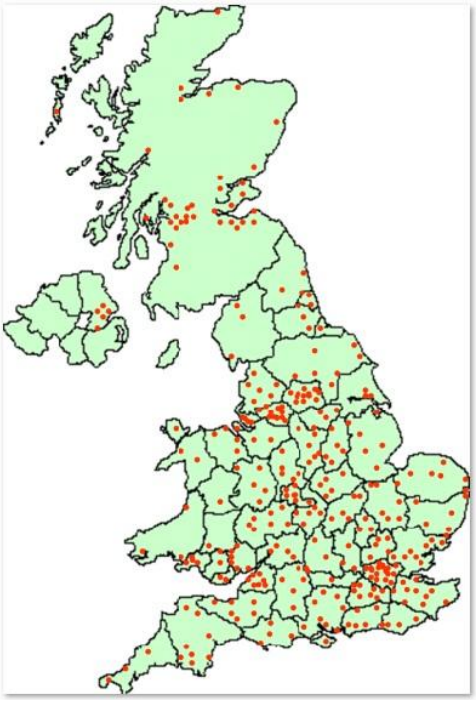

Figure 10: Network member locations. Source: 27.

What are they doing? The FRN works tirelessly to meet two main objectives: to provide safe, clean and affordable furniture and electrical goods to low-income households, and to support and develop local trainees, volunteers, and staff in their personal development. The types of furniture that they reuse typically include beds, sofas, tables, and chairs. Some of the projects also specialize in electrical goods such as washing machines and fridge freezers. FRN members operate the largest fridge collection service in the UK, collecting over 300,000 fridges a year. Up to 15% are re-useable and are passed onto low-income families.

When did they start doing it? The FRN was established in 1989.

What are the results? The FRN allowed for the reuse of 2.6 million items of furniture and electrical equipment. The projects also have the ecological benefit of stopping lots of good quality furniture ending up on landfill sites.

What is diverted? Furniture and electrical equipment from ending up in landfill sites.

How much is diverted? The FRN operations divert 90,000 tons of waste from landfills and save over 100,000 tons of carbon dioxide.

What are the costs associated? The organization works from 3 million square feet of space and runs 1,000 vehicles. All this is achieved on an annual turnover of around £80 million. The FRN employs over 3,000 staff, provides training for over 8,000 trainees, and supports over 10,000 volunteers.

How is this funded? The FRN is a registered charity and a registered company in the UK. Funding seems to come from grants, WRAP (a private company) and FRN membership (different levels and charges). WRAP works in England, Scotland, Wales, and Northern Ireland to help businesses, local authorities, communities and individuals

reap the benefits of reducing waste, developing sustainable products and using resources in an efficient way. Established as a not-for-profit company in 2000, WRAP is backed by government funding from DEFRA (Department for the Environment, Food and Rural Affairs), Scottish Government, the Welsh Government, the Northern Ireland Executive, and the European Union. WRAP is a private company limited by guarantee, registered in England.

Is there an economic benefit? The FRN employs over 3,000 staff, provides training for over 8,000 trainees, and supports over 10,000 volunteers. Furthermore, it helps around 750,000 low-income households saving them £330million. The projects are professionally organized with paid and voluntary staff who provide training and work opportunities to people who are looking to receiving this support.

The FRN has been working with furniture retailer IKEA over the past 3 years to develop and provide a solution for the re-use and recycling of IKEA customers' pre-used mattresses, upholstery, and large domestic appliances collected by IKEA through their national "Take Back" service when delivering new products to customers' homes.

Who leads this program?

The Furniture Re-use Network
FRN Office
48-54 West Street
St Philips
Bristol
BS2 0BL

t: 0117 954 3571
f: 0117 954 3570
Donations: 0845 602 8003

Craig Anderson
Chief Executive
0117 954 3564
07968 729208
craiga@frn.org.uk

Sources: 27, 28, 29, 30.

Shoe Recycling

Title: Shoe Recycling

Locality: 300 locations in the United States, Western Europe, Australia and New Zealand.

Description: Nike's Reuse-A-Shoe program collects old, worn-out athletic shoes for recycling, transforming them into Nike Grind, a material used in creating athletic and playground surfaces as well as select Nike products.

What are they doing? They accept up to 10 pairs of shoes to any Reuse-A-Shoe collection location, which can be found at all U.S. Nike retail stores as well as some global Nike locations, all U.S. Converse stores, and places like universities, athletic clubs, special events, and community recycling centers. Nike Grind includes three types of raw materials made from recycled athletic shoes and manufacturing byproducts: rubber from the outsole, foam from the midsole, and fabric from the upper fabric. These materials are ground up and used by select companies in sport and playground surfaces, as well as in numerous Nike apparel, footwear, and equipment products.

Figure 11: Reuse-A-Shoe recycling facility. Source: 31

When did they start doing it? Reuse-A-Shoe began in 1990.

What are the results? More than 1.5 million pairs of post-consumer shoes are collected for recycling each year. This is in addition to thousands of tons of manufacturing scrap material that is recycled. Since the program began, Nike has collected more than 25 million pairs of used athletic shoes.

What is diverted? The program accepts any brand of athletic shoes for recycling. Sandals, flip-flops, dress shoes, boots and other types of shoes are not accepted. They also don't accept shoes containing metal such as cleats or spikes, because these represent a safety hazard when ground into Nike Grind.

How much is diverted? 1.5 million pairs of post-consumer shoes are collected for recycling each year. The following list shows what part of the shoe and approximately how many pairs of athletic shoes, or the manufacturing equivalent thereof, generally go into making each type of athletic surface:

Outdoor basketball court (midsole foam): 2,500 pairs

Outdoor tennis court (midsole foam): 2,500 pairs

Full field or soccer pitch (outsole rubber): 50,000 - 75,000 pairs

Mini soccer field (outsole rubber): 10,000-20,000 pairs

Running track (outsole rubber): 75,000 pairs

Playground (outsole rubber): 2,500 pairs

Indoor wood basketball court (upper fabric): 2,500 pairs

Indoor synthetic basketball court (midsole foam): 2,500 pairs

How is this funded? Reuse-A-Shoe is a program of the Nike corporation.

Is there an economic benefit? Shoe recycling reduces Nike's environmental footprint and reduces the amount of shoes that end up in landfills. It aims to close the loop in their manufacturing processes. Nike Grind material can provide points toward LEED certification, depending the on the quantity used and the amount of other sustainable materials used in a project.

Who leads this program?

Nike's Reuse-A-Shoe program
Nike World Headquarters
One Bowerman Drive
Beaverton, OR 97005

Sources: 31, 32, 33.

Reference Links:

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21. http://www.communityrepaint.org.uk/faqs/

22. http://www.communityrepaint.org.uk/case-studies/

23. http://www.resourcefutures.co.uk/content/community-repaint

24. http://www.resourcefutures.co.uk/content/dulux-confirms-commitment-sponsor-community-repaint-0

25. http://www.dulux.co.uk/about/index.jsp

26. https://twitter.com/Comm_RePaint

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28. http://www.wrap.org.uk/

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30. http://www.environment-agency.gov.uk/business/topics/waste/32084.aspx

31. http://www.nikereuseashoe.com/

32. http://www.nikereuseashoe.com/using-nike-grind

33. http://www.nikereuseashoe.com/where-it-goes/recycling-process

R-201311-51-242

RESOLUTION

RESOLUTION ADOPTING THE FIVE-YEAR UPDATE OF MCHENRY COUNTY'S SOLID WASTE MANAGEMENT PLAN

WHEREAS, the Solid Waste Planning and Recycling Act (hereinafter called the "Act"), 415 ILCS 15/1 et seq., requires each county's solid waste management plan be reviewed and updated every five years, and any revisions be submitted to the Illinois Environmental Protection Agency (IEPA)for review and comment; and

WHEREAS, it is in the best interest of McHenry County residents to have a comprehensive and updated Solid Waste Management Plan; and

WHEREAS, McHenry County's Solid Waste Manager prepared the five-year update to the Solid Waste Management Plan that has been in place for 20 years; and

WHEREAS, the services of Delta Institute and a Solid Waste Advisory Committee were utilized in the development of the update of the Solid Waste Management Plan; and

WHEREAS, public input on the proposed plan was sought out through a community survey and public display of the document.

NOW, THEREFORE BE IT RESOLVED, by this County Board of McHenry County, Illinois hereby adopts the five-year update of the Solid Waste Management Plan (attached hereto and made part hereof); and

BE IT FURTHER RESOLVED, that the County Clerk is hereby authorized to distribute a certified copy of this Resolution to the County Administrator and the Public Health Administrator.

DATED at Woodstock, Illinois, this 5th day of November, A.D., 2013.

TINA R. HILL, Chairwoman
McHenry County Board

ATTEST:

KATHERINE C. SCHULTZ, County Clerk

ATTACHMENTS:

- McHenry County Solid Waste Plan (PDF)

STATE OF ILLINOIS)
SS
COUNTY OF MCHENRY)

I, Katherine C. Schultz, County Clerk within and for said County and State aforesaid, do hereby certify the attached to be a true and complete copy of Resolution No. R-201311-51-242 Adopting the five-year update of McHenry County's Solid Waste Management Plan

WHEREOF I have hereunto subscribed my hand and affixed the official seal of said County, at my office in Woodstock, Illinois this 5th day of November A.D, 2013 .

Katherine C Schultz
McHenry County Clerk